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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

COLORADO'S 'ISLAND COMMUNITY': IRRIGATION AND INDUSTRIAL  
AGRICULTURE IN COLORADO'S GRAND VALLEY, 1882-1920

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

BRADLEY FRANK RALEY

Norman, Oklahoma

2001

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COLORADO'S 'ISLAND COMMUNITY': IRRIGATION AND INDUSTRIAL  
AGRICULTURE IN COLORADO'S GRAND VALLEY, 1882-1920

A Dissertation APPROVED FOR THE  
DEPARTMENT OF HISTORY

BY

Donald J. Pisan

Robert L. Gurnell

Edwin Tapp

Carl H. Hurd

Robert L. Gurnell

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## **Abstract**

After the U.S. Army removed the Utes from Western Colorado, white settlers quickly moved in and settled the Grand Valley. Early residents realized that, to survive in the arid valley, they had to build an extensive irrigation infrastructure to support an agricultural economy. Ditch construction, however, lay outside the means of most Grand Valley residents, so the valley looked outward to find financing; first to private enterprise, then to state and federal reclamation.

This dissertation examines the relationship between this local community and the broader economy. Many historians have portrayed small towns as passive recipients of outside corporate influence, but this community recruited investors and government bureaucracies; always with an eye on protecting local autonomy. While the community did seek to control its destiny, topography and isolation kept the community aloof from economic development. The Grand Valley also attempted to recreate the industrial agricultural system of California's Central Valley, and so embraced available technology, especially in the fruit industry. Their devotion to pesticide eventually ruined orchards and perpetuated their existence as an Island Community.

## Introduction

### *Colorado's Island Community?*

The 1964 agricultural census revealed that Colorado's Mesa County had lost 205 farms since 1959 and the average farm size rose from 379 to 428 acres.<sup>1</sup> This echoed the twentieth-century decline of the family farm, but it was a surprising change for Mesa County. From its formation in 1882, small farmers had enjoyed an advantage in this small Western Colorado community. Early twentieth-century farmers profited from ten-acre orchards and large landholdings were limited. In 1900 the average farm size was only 84.4 acres, but in 1964 it was over 400 acres and climbing.<sup>2</sup>

This dissertation examines how the Grand Valley developed a thriving agricultural economy based on irrigation and fruit culture. It also looks at those factors that led to the decline of family farms in the valley. It traces the development of an "irrigation infrastructure" in this very arid valley and its impact on the community of Grand Junction. Instead being the story of

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<sup>1</sup>US Bureau of the Census, *Census of Agriculture, 1964: Statistics for the State and Counties of Colorado* (US Government Printing Office, Washington, DC, 1967), 230-1.

an inconsequential small town, the Grand Junction story tells us much about agricultural communities in the American West, their relationship to the broader economy, and their resident's perspective on nature and agriculture.

Colorado's Grand Valley is one of the most under studied portions of the state. Scholars followed the trails of explorers and miners, preferring to study mining communities, famous Colorado personalities, or such curiosities as Greeley's Union Colony. The Grand Valley lacked drama and aesthetic appeal. Even explorers and miners avoided the Grand Valley as barren and uninviting. It appears as a footnote to some of the state's more famous stories. The Meeker Massacre briefly highlighted the Grand Valley as a potential reservation for the defeated Utes. Other than that, the valley has lived in the shadow of more famous Colorado communities. Although ignored in the historiography, the Grand Valley is an important story in western community development and agriculture.

Scholarship on western agriculture has focused heavily on California. The Golden State's vast population and farm acreage make it immediately relevant to Western (and indeed American) history. By 1920, California had 117,670 farms,

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<sup>2</sup>Ibid.; *Twelfth Census of the United States, 1900: Agriculture* (Washington, D.C.: GPO, 1902), 269, *Fifteenth Census of the United States, 1930: Agriculture* (Washington, D.C.: GPO, 1932), 184.

with a staggering 29 million acres under cultivation.<sup>3</sup> Most agree that California family farms (if they succeeded at all) quickly gave way to large wheat ranches and land monopolization. As agribusiness dominated the Central Valley, however, horticulture allowed the family farm to survive. As Victoria Saker Woeste's study of the raisin industry demonstrates, even in California small farmers cultivated orchards between 5 and 50 acres.<sup>4</sup> Although the consequences of fruit cultivation fit neither the stereotype of Jefferson's yeoman farmer nor the equally misleading image of the struggling subsistence farmer before the famed "Market Revolution," it was nonetheless uniquely tailored to the small farms of the Grand Valley.

Equating small farmers with the family farm, however, is misleading. In California, small farmers profited and survived alongside agribusiness. They benefited from the huge investments in irrigation, distribution and marketing that constituted corporate farming in California. Horticulture was hardly an egalitarian industry. It required extensive capital and expertise to be successful.

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<sup>3</sup>*Fourteenth Census of the United States, 1920: Agriculture* (Washington, D.C.: GPO, 1922), 335.

<sup>4</sup>Victoria Saker Woeste, *The Farmer's Benevolent Trust: Law and Agricultural Cooperation in Industrial America, 1865-1945* (Chapel Hill, University of North Carolina Press, 1998), 40. She argues that California farm size has been greatly exaggerated by focusing on average farm size. When including *median* farm size, California had far more small farmers than previously understood.



Recent studies on California agriculture focus on the industrialization of agriculture.<sup>5</sup> Carey McWilliams was one of the first to argue that California farms were not family operations, but more accurately "factories in the fields."<sup>6</sup> McWilliams focused primarily on labor, but others also rejected the nostalgia of the family farm, noting that American agriculture was based more on capitalism than subsistence. This "industrialized agriculture" represented the culmination of several changes: specialization (or monoculture) and intensive farming, "the application of capital and technology to increase yields on existing land."<sup>7</sup> These combined concepts created an agricultural system that was more industrial than agrarian.

This focus on California has contributed much to our understanding of western agriculture. However, California was not the West. Stories of western agriculture that fall outside California's corporate farming have received less attention. California indeed casts a large shadow, both over the historiography and the nineteenth-century agricultural West.

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<sup>5</sup>Saker Woeste, *The Farmer's Benevolent Trust*, Steven Stoll, *The Fruits of Natural Advantage: Making the Industrial Countryside in California* (Berkeley, University of California Press, 1998), and Donald J. Pisani, *From the Family Farm to Agribusiness: The Irrigation Crusade in California and the West, 1850-1931* (Berkeley: University of California Press, 1984).

<sup>6</sup>Carey McWilliams, *Factories in the Field: The Story of Migratory Farm Labor in California* (Boston: Little, Brown and Co., 1939). In 1936 McWilliams and Herbert Klein first referenced "Factories in the Field" in the *Nation* and *Pacific Weekly*.

<sup>7</sup>Stoll, *The Fruits of Natural Advantage*, xiii.

This dissertation also speaks to the historiography of nineteenth-century communities. In 1967 historian Robert Wiebe argued in his influential *Search for Order* that most nineteenth-century American communities were isolated from the broader economy.<sup>8</sup> He described these small farm towns in romantic terms, where farmers "moved by the rhythms of agriculture: the pace of the sun's day, . . . the cycle of the seasons."<sup>9</sup> Residents valued thrift over accumulation, autonomy over economic advancement.<sup>10</sup>

These "island communities" fragmented under the onslaught of technological and transportation revolutions. Industrial America could not be stopped. Railroads brought outside markets, capitalists, and labor to small towns throughout America. In 1872, Henry W. Bellows noted that the railroad "pierced" small towns, "stringing them like beads on a thread, to hang around the neck of some proud city."<sup>11</sup> Historian Thomas Bender, while cautioning those who declare community dead, also sees a major shift in

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<sup>8</sup> Robert H. Wiebe, *The Search for Order, 1877-1920* (New York: Hill and Wang, 1967). Wiebe's book is more about the origins of bureaucracy, professionalism, and modernization, which he bases on this idea of community declension. Kenneth Cmiel, "Death and Amnesia: The vision of Modernity in Robert Wiebe's *The Search for Order*" *Reviews in American History*, 21 no. 2 (June, 1993), 352-368.

<sup>9</sup>Wiebe, *The Search for Order*, 2.

<sup>10</sup>In 1995, Wiebe returned to the declension of American communities in *Self-Rule: A Cultural History of American Democracy* (Chicago: University of Chicago Press, 1995), 144, where he argued that a twentieth-century centralized society replaced the nineteenth-century world where men "had daily verification in the only setting that really mattered--local life."

<sup>11</sup>Quoted in Thomas Bender, *Community and Social Change in America* (Baltimore: Johns Hopkins Press, 1982), 110.

community structure and meaning after 1870.<sup>12</sup> He notes that Gilded Age and Progressive Era communities became less geographically tied, less defined locally. Stanley Elkins and Eric McKittrick, though not naming their community as an island, also idealized the local autonomy of frontier settlers.<sup>13</sup> They argued that frontier exigencies forced communities to value democracy, equality, and autonomy—exactly the virtues destroyed by modernity in Wiebe's model.

Historians often fall into the nostalgia "trap," assuming that "in the good old days" individuals had more control over their lives and communities were more cohesive.<sup>14</sup> Wiebe certainly saw a more idyllic society before the railroad and markets fractured these small towns. Many scholars, however, disagreed with Wiebe's theory of declension, doubting that these "island communities" ever existed. Most communities were always economically connected to larger cities and hinterlands.

Lewis Atherton's *Main Street on the Middle Border* showed that midwestern communities sought, rather than

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<sup>12</sup>Bender, *Community*, 110.

<sup>13</sup>Stanley Elkins and Eric McKittrick, "A Meaning for Turner's Frontier," *Political Science Quarterly* 69 (1954), 321-53.

<sup>14</sup>Richard Hofstadter made this point in *The American Political Tradition and the Men Who Made It* (New York: Alfred Knopf, Inc., 1948), xxiv, where he wrote: "American history, presenting itself as a rich and rewarding spectacle, a succession of well-fulfilled promises, induces a desire to observe and enjoy, not to analyze and act. The most common vision of national life, in its fondness for the panoramic backward gaze, has been that of the observation-car platform."

avoided, railroads.<sup>15</sup> Railroads brought additional population, goods, and access to markets. Communities gave many companies free land as incentive to bring the road to their town. Don Harrison Doyle's work on Jacksonville, Illinois, asked how Americans formed communities in a "nascent capitalist society," instead of assuming a retreat from the market economy.<sup>16</sup> Doyle argued that boosters used the potential of economic growth to bridge social conflict within the community. Residents carried over recent Civil War animosities and squabbled over the economic future of the community. Doyle showed that, much like Grand Junction, locals all sought economic progress, they differed only over methods.

Robert Dykstra's work echoed Atherton, arguing that the cattle towns were inextricably linked to distant market forces.<sup>17</sup> These towns worked with state governments to maintain the flow of Texas cattle which constituted their livelihood. And, like Doyle, Dykstra found conflict was a normal part of any community's economic decision-making process.<sup>18</sup> Local farmers resented the cattle trade's potential impact on farmland and the health of local

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<sup>15</sup>Lewis Atherton, *Main Street on the Middle Border* (Chicago: Quadrangle Books, 1966), 4.

<sup>16</sup>Don Harrison Doyle, *The Social Order of a Frontier Community: Jacksonville, Illinois, 1825-70* (Urbana: University of Illinois Press, 1979), 3.

<sup>17</sup>Robert R. Dykstra, *The Cattle Towns: A Social History of the Kansas Cattle Trading Centers* (Lincoln: University of Nebraska Press, 1968).

livestock, and wanted the community to focus on a more stable agricultural economy.

William Cronon's work on Chicago demonstrates clearly that the interconnection between hinterland and core is strong, even if smaller communities identify themselves as separate from the urban center.<sup>19</sup> Cronon builds on the theories of Johann Heinrich von Thünen, a nineteenth-century German farmer who saw a complicated relationship between the countryside and the city.<sup>20</sup> Von Thünen argued that agricultural communities related to the urban core depending on their distance from the center and the types of crops they produced. He depicted those relationships in concentric circles. Those closest to the core produced the bulky and perishable goods that could easily be incorporated into the city's economy. Those circles further from the center harvested grains, raised livestock, or at the farthest edge, hunted and traded.<sup>21</sup> Although his model said little about the impact of geography on this equation, dealing with distance only, von Thünen's book, *The Isolated*

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<sup>18</sup>Ibid., 365

<sup>19</sup>William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton, 1992).

<sup>20</sup>Ibid., 48.

<sup>21</sup>Ibid.

State, presented a complicated relationship between country and city.<sup>22</sup>

Readers acquainted with the scholarship on western irrigation and agricultural communities will find some familiar stories in Colorado's Grand Valley. Farmers constructed an extensive irrigation infrastructure to facilitate agricultural growth. Since canals were expensive and returned little profit, community boosters struggled to raise the necessary capital. They convinced private investors to build part of their desired water system, then turned unsuccessfully to the state, and finally successfully to the federal Reclamation Service to complete the remaining canals.<sup>23</sup> They promoted the valley's potential for growth and enticed settlers and speculators to resettle there.

The Grand Valley's experience demonstrates some key departures from the typical irrigation saga. First, while many water projects required outside capital, most historians have portrayed local communities as unwitting pawns of eastern investors. Scholars, including most recently William Robbins, reassert Bernard De Voto's view

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<sup>22</sup>Johann Heinrich von Thünen, *Isolated State; an English edition of Der isolierte Staat* (New York: Pergamon Press, 1966).

<sup>23</sup> This was not a progression from private to federal reclamation and could have occurred in any order. In fact, private and public projects occurred simultaneously throughout the west. More Carey Act projects were built in the twentieth century than the nineteenth. This happens to be the order of reclamation policy in the Grand Valley.

that the West was a captive colony of eastern capital.<sup>24</sup> Robbins' update of the colonial thesis argues the influence was not merely one region controlling another, but instead capital and indeed the process of market capitalism itself.<sup>25</sup> Robbins contends that as capitalism moved across the trans-Mississippi West, it "destroyed as it created," and its emphasis on urban centers "destroyed much of the rural West that it had created in an earlier time under a different set of capitalist relations."<sup>26</sup>

Robbins is partly correct. In this study, I argue that the Grand Valley's devotion to the market economy led it to emulate California's Central Valley. This attempt mired the Grand Valley in an agricultural system ill suited to the valley's environment and position in the regional economy. But Robbins portrays western communities as passive captives of a global economy. He contends that "the celebrated freedom and autonomy of the West" existed only with the few who controlled capital.<sup>27</sup> This assumes that capital solely dictates investment and economic development, and that capital alone dictates community decisions. Certainly, few can deny that outside capital played a large role in western

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<sup>24</sup>William Robbins, *Colony and Empire: The Capitalist Transformation of the American West* (Lawrence: University of Kansas Press, 1994), and Bernard De Voto, "The West: A Plundered Province," *Harper's Magazine* no. 169 (August 1934), 577-597.

<sup>25</sup>Robbins, *Colony and Empire*, xii.

<sup>26</sup>*Ibid.*

communities, but this view minimizes community actors. In the Grand Valley, for example, local boosters manipulated and even exploited outside capital to construct their desired irrigation canals. They choose between corporate investors as they do government agencies, always seeking the best deal for their local needs.

A second difference in my story is that this small, remote community, modeled after California's Central Valley, attempted to develop an industrial, efficient and highly technical agricultural economy. Western communities like Colorado's Grand Junction followed the California model closely, attempting to emulate and compete with the Golden State's "factories in the fields." Irrigation was the first critical step required to create such an economy in an arid environment. Industrial agriculture, however, was not a "one size fits all" system. There are reasons it succeeded in California: easy access to population, markets, labor and water, as well as a temperate climate and abundance of arable land. Western Colorado, however, was another story. The Grand Valley enjoyed a beneficial climate and a plentiful supply of water, but lacked other assets necessary to become an agricultural powerhouse. In fact, the attempt by valley farmers to impose an industrial agricultural system contributed to their eventual decline.

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<sup>27</sup>Ibid., xiii.



One last difference is the impact of the combinations of geography, topography, transportation, and attractive resources on this community. Implicit in Wiebe's "island community" idea is that these communities autonomy broke down from outside rather than internal pressure. Locals preferred "traditional" business methods, but, as stated above the West is not the Central Valley. This study argues that some island communities existed, though rarely if ever by choice, and that geographical connections persisted well into the twentieth century. A key issue in any community's development is access to capital. Central Valley communities and businesses enjoyed a tremendous source of investment capital in California cities, and the valley's vast potential for industrialized agriculture attracted investors from all over the country. At the heart of the capital issue are two key variables: geography and attractive resource. While neither is individually determinative, together they decide much about a community's future.<sup>28</sup>

The example of isolated and remote mining communities is instructive. Once Colorado communities like Leadville and Telluride discovered valuable ores, their attractive

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<sup>28</sup>William J. Bauer, Jr., "Wiebe was right? Round Valley, California as an Island Community," presented at the 81<sup>st</sup> Annual *Southwestern Social Science Association* meeting, March 14-18, 2001, Fort Worth, Texas, and "Land and life on the Round Valley Indian Reservation, 1890-1929," (M.A. Thesis, University of Oklahoma, 2000).

resource brought in the capital necessary to extract, process, and transport the product. When the attractive resource was gold or silver, capital bridged mountains and canyons. For isolated and remote farming communities, however, the attractive resource made geography a much more daunting task. When the resource was perishable grain or fruit, communities struggled to attract necessary capital. Agricultural communities like Greeley, Colorado, however, enjoyed easy access to markets and capital. Even though they lacked a highly attractive resource, their proximity to Denver kept them from being island communities.

Imagine the relationship between investment centers like Denver and San Francisco and potential communities as the relationship between a magnetic compass and distant sites. Capital always looks for investment opportunities. The discovery of silver near Leadville, for example, quickly attracted capital from Denver: appearing like magnetic North to interested investors. To extract valuable ores, capital can build extensive roads and cross mountains and canyons. When a community's main attraction, however, is apples or alfalfa, the steep terrain between the two cities becomes more of a barrier, and does not as easily attract the attention of capital and investment. The remote community remains an island.

I argue that Grand Junction functions as an Island Community. That is not to suggest that Grand Valley residents, either in the nineteenth century or now, live lives cut off from the urban centers of Denver or Salt Lake City. Certainly trade goods, people, and information travel back and forth from Grand Junction and other communities in the Rocky Mountain West. The community's physical isolation, however, is quite real, and has discouraged capital investors from supplying the community with the level of capital necessary to meet their dreams of economic development.

Some have characterized the late nineteenth century as a time of scarcity; a fear of loss.<sup>29</sup> Throughout America people worried about disappearing buffalo, disappearing Indians and disappearing forests. Amidst industrial growth, the country was deeply unsettled by the decline of rural America and fears that the triumph of industry would undermine the nation's basic values. Frederick Jackson Turner's famous "frontier thesis" tapped into a strong sense of impending loss. Over the next decades Americans expended a great deal of effort rescuing Indian artifacts, setting up national parks to reserve "wild nature," and returning

farmers to the land. The "back to the land movement" of the early twentieth century attempted to restore this dying tradition of homesteading land as did the 1902 Reclamation Act which limited the water usage to a maximum of 160 acres. Americans everywhere feared modernity as they adopted it, romanticized the family farm even as they left it for the city.<sup>30</sup> It is in this context that settlers chose the Grand Valley. Nostalgic about rural America, fearful of urban centers, they hoped to create a better community in Western Colorado.

Grand Junction was typical of a certain kind of western community. Many scholars have looked at the aberrations of utopian settlements, founded on a desire to escape the market economy. Dean L. May's *Three Frontiers* examines three different farming communities in Idaho, Oregon, and Utah.<sup>31</sup> Mormon converts settled in the Arid West to escape the working-class poverty of industrial Britain's mills and mines. These people farmed first to protect their family, only secondarily for profit. Those communities draw our eye, perhaps because they are so unlike the usual

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<sup>29</sup>Many historians make this point, starting notably with Frederick Jackson Turner's famous thesis that lamented the passing of the frontier. See David M. Wrobel, *The End of American Exceptionalism: Frontier Anxiety from the Old West to the New Deal* (Lawrence: University Press of Kansas, 1993).

<sup>30</sup>Alfred Runte, *National Parks: The American Experience* Second edition, revised (Lincoln: University of Nebraska Press, 1987), Stephen Fox, *The American Conservation Movement: John Muir and his Legacy* (Madison: University of Wisconsin Press, 1981), Samuel P. Hays, *Conservation and the Gospel of Efficiency* (Cambridge, Massachusetts: Harvard University Press, 1959) and Wiebe, *The Search for Order*.

experience. However, most westerners accepted rather than rejected the market economy. For example, in Middleton, Idaho, May's third community, settlers unabashedly embraced modernity and capitalism.<sup>32</sup>

Western communities like Grand Junction sought the best of both worlds, reacting against the modern city without returning to subsistence farming. They founded their communities on the assumption that morality was important and connected to the economy, but not a goal in itself. Creating the "city on a hill" required a sound and profitable economic base, preferably without the smoky industry and the heavy reliance on immigrant labor. Grand Junction's founders romanticized the family farm and believed it would flourish in the right circumstance. No longer need a farmer be relegated to ignorance, poverty, and isolation; rather, he could be well educated and prosperous. But unlike the utopian reformers, Grand Junction's founders relied simply on capitalism, irrigation, and a forward looking populace to allow such a community to form.

Valley boosters built extensive irrigation canals, using private enterprise and then government reclamation. They opened thousands of acres to cultivation, hoping most would be used to grow profitable mountain fruits like

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<sup>31</sup>Dean L. May, *Three Frontiers: Family, land, and society in the American West, 1850-1900* (New York: Cambridge University Press, 1994), 280.

peaches, apples and pears. At first the Grand Valley was extremely successful. Farmers earned dramatic profits from the fertile valley soil. Land prices rose every year for almost thirty consecutive years. Local boosters hoped to sell Grand Valley fruits in Denver, Salt Lake City, and Los Angeles. But early success gave way to numerous problems. The fruit industry peaked in 1910 and then declined due to pest infestations, early frosts, and inept farmers. Chemical pesticides and fertilizers allowed fruit culture to survive, even as its importance to the local economy ebbed.

This dissertation is organized both chronologically and topically. Chapter One introduces the community of Grand Junction and traces the exploration and settlement of the valley. The surge of interest in Colorado all but missed the Grand Valley until well after statehood. Only after the so-called Meeker Massacre was this western portion of the state opened for settlement.

Chapter Two traces how residents in the Grand Valley and Colorado viewed agriculture, irrigation and community. Not all Westerners liked (or thought about) irrigation initially, but Grand Junction's settlers embraced irrigation as their only hope to sustain a viable community. They believed that bringing water to their arid lands would

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<sup>32</sup>May, *Three Frontiers*, 281-283.

promote fruit culture and a stable agricultural economy, making Grand Junction the envy of the rest of the state and even the West.

After discussing the "why" of irrigated agriculture, Chapter Three begins a three chapter chronology of the different phases of irrigation development in the Grand Valley. Here, I trace the valley's efforts to construct a privately funded canal built between 1882 and 1889. While the builders attempted to retain local control over the process, it soon became apparent that the local economy could not support such a project. The Grand Valley Irrigation Company (GVIC) reflected key issues in community development. Area boosters attempted to construct a canal ahead of, instead of in response to, population pressure. This doomed the company financially, since renting or selling irrigation water was not profitable. It also prompted local boosters to woo investors with the promise of great profits to be made by bringing water to valuable, but arid lands. The money raised constructed the ditch, but outside companies eventually lost their investment while locals retained ownership over both the water and land.

The GVIC opened up valuable lands close to the Grand River, but locals wanted a much larger project to water the land close to the foothills. Chapter Four follows the failed attempt to secure funding for the project from the

Colorado state government. Valley residents hesitated to embrace outside capital, understanding that companies big enough to complete the High Line canal could easily disrupt local autonomy and control over land and water. This fear made the state effort very attractive, but state reclamation died with the depression of the 1890s.

The failure of private and state government to construct the High Line shifted attention to the Federal Government. Chapter Five follows the community's efforts to convince the newly formed Reclamation Service to construct the canal. For residents who distrusted private corporations more than government, Federal Reclamation was the ultimate answer to irrigation development. Completing the project proved more difficult than expected, because a small group of locals consistently disrupted Reclamation plans with an unpopular and poorly conceived private project. The three different attempts at reclamation illustrate several points about water history. For local communities, the difference between public and private reclamation was largely semantic. Irrigation boosters and land owners all desired irrigation development, but distrusted any outside entity that would rob them of some semblance of local control. They recruited government engineers just as they did private investors. Rather than a logical progression of reclamation efforts, development was



a continuous negotiation between a local community and outside financing.

Chapter Six assesses the impact of thirty-five years of irrigation development on the valley. Farmers initially enjoyed tremendous success cultivating the valley's fertile soil with the cheap and plentiful supply of water. Land prices rose, farm size declined, and the fruit industry thrived. Fruit growers made tremendous profits from small plots of land. Beginning around 1910, however, the fruit industry in the valley took a turn for the worse. Increased irrigation elevated alkali in the soil, and late spring frosts prevented parts of the valley from producing orchards. Pests such as the codling moth were also a problem. Farmers relied heavily on lead arsenate which proved moderately successful against the moth but actually contributed to soil problems. Unwitting farmers eventually ruined numerous orchards and farm lots, rendering them unproductive.

## Chapter One

### *The Grand Valley: Colorado's Unlikely Garden*

On September 29, 1879, a small band of Utes attacked soldiers stationed at the White River Reservation in Western Colorado, killing Major Thomas Thornburg and thirteen of his troops. That afternoon the Indians killed twelve more people, including their inept agent, Nathan Meeker, and held his wife and daughter for twenty-three days. A Grand Junction resident later recounted how the "loathsome and brutal" Utes killed Meeker "with a barrel stave drove through his head, his body exhibited to his wife and daughters." <sup>1</sup>

While the White River Utes hoped for sympathy and assistance from neighboring bands, the Tabeguache and Southern Utes declined to join forces. Their anger spent, the White River band released their prisoners and awaited their punishment.<sup>2</sup>

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<sup>1</sup>Charles W. Haskell, ed., *A History and Business Directory of Mesa County, Colorado* (Grand Junction, CO.: Mesa County Democrat, 1886), 1. Haskell was undoubtedly repeating rumors surrounding the massacre and reflects the assumptions Coloradoans held concerning Ute "savagery."

<sup>2</sup>Marshall Sprague, *Massacre: The Tragedy at White River* (Little, Brown, 1956), ix, x, and Richard K. Young, *The Ute Indians of Colorado in the Twentieth Century* (Norman: University of Oklahoma Press, 1997), 29, and Carl Abbott, Stephen J. Leonard and David McComb, *Colorado: A History of the Centennial State* (Niwot: University Press of Colorado, 1994), 124.

The Meeker "Massacre," as it was known, frightened and infuriated Colorado's white population and justified state and federal officials decision to remove the Utes, ending their long occupation of the Western Slope. This opened the fertile lands of the Ute Reservation to White settlement, including a small valley near the Utah border called the Grand Valley.

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## **The people: The Utes**

Anthropologists believe the Utes first came to Western Colorado around A. D. 1000 and are the state's oldest residents.<sup>3</sup> Their original territory covered most of present-day Colorado and Utah, and parts of New Mexico and Wyoming, encompassing more than 130,000 square miles.<sup>4</sup> The Utes speak one of the Southern Numic branches of Uto-Aztecan, and are linguistically related to most of the Great Basin tribes.<sup>5</sup>

Ute bands flourished in these arid and semi-arid lands. Eastern bands (including the White River and Uncompahgre bands) benefited greatly from the rich environment of

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<sup>3</sup>Young, *The Ute Indians of Colorado*, 15.

<sup>4</sup>Sharon Malinowski, Anna Sheets, et al. ed., *The Gale Encyclopedia of Native American Tribes Vol. 2* (Detroit, Gale Research Inc., 1998), 38; Donald Calloway, Joel Janetski, and Omer C. Stewart, "Ute," in William C. Sturtevant, ed., *Handbook of North American Indians*, vol. 11, Warren L. D'Azevedo ed., *Great Basin* (Washington, D. C.: Smithsonian Institution, 1986), 336.

Western Colorado. Before white contact, they hunted buffalo, but in the Rocky Mountains, the Ute hunted deer, elk, antelope, and mountain sheep. These bands enjoyed access to a wider variety of game animals than other Native American groups. This abundance of game discouraged sedentary agriculture, so their only use for the Grand Valley was a winter refuge from mountain winters. Most bands did not build permanent structures, but instead used tents or teepees. Well after the creation of reservations in the late-nineteenth century, Utes resisted cultivated agriculture, preferring mobile subsistence routes where they rotated seasonally among favored hunting areas.<sup>6</sup>

Between 1650 and 1850, Utes separated into summer hunting groups identified by their chosen region (i.e. Uncompahgre). The Eastern Utes (Colorado) had contact with Spaniards in the 1600s and by the end of that century had obtained and included the horse into their culture. They traded extensively with Spanish settlements in New Mexico, selling Shoshone and Paiute women and children as servants.<sup>7</sup>

The tense relationship between Utes and the United States government began when the 1848 Treaty of Guadalupe-Hidalgo brought the Utes within the boundaries of the United

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<sup>5</sup>Callaway, Janetski, and Stewart, "Ute," 336.

<sup>6</sup>Ibid., 338, 337, 348 and David Rich Lewis, *Neither Wolf Nor Dog: American Indians, Environment, and Agrarian Change* (New York: Oxford University Press, 1994), 27, 45.

States. Between 1849 and 1878 the two signed numerous treaties, each agreement progressively reducing Ute lands to accommodate white settlement in Colorado. The 1868 treaty restricted the Utes to Colorado's Western Slope and established two agencies, the Los Pinos Agency near present day Montrose and the White River Agency in Northwest Colorado. The 1874 Brunot Agreement reduced Ute lands by half, opening the San Juan mining district to white settlement.

White River and Uncompahgre Utes resisted white encroachment. White settlers contributed to the tension, believing Utes wasted valuable lands and complained that Utes hunted illegally outside their reserve. Some Utes set forest fires to reduce underbrush and encourage animal habitats, further convincing whites that the presence of Utes was inimical to white settlement.<sup>7</sup> John Wesley Powell noted that the plentiful supply of game would allow these Indians to avoid farming indefinitely. Powell's answer was more white settlement to reduce the game population and eventually force Utes to choose "manual labor."<sup>8</sup>

Nathan Meeker, appointed to head the White River Agency in 1878, fully embraced the American vision of transforming

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<sup>7</sup>Young, *The Ute Indians of Colorado*, 21; Callaway, Janetski, and Stewart, "Ute," 354-55.

<sup>8</sup>Lewis, *Neither Wolf Nor Dog*, 44.

<sup>9</sup>Ibid.

Indians into farmers.<sup>10</sup> As the promoter for Horace Greeley's idealistic Union Colony, Meeker knew something about farming. He welcomed the opportunity to test his agrarian theories on the White River Utes. Soon after arriving at the agency, Meeker found the Utes unhappy with meager and spoiled rations. Convinced his predecessor was "soft" and that the Utes required strict oversight, Meeker envisioned irrigated agriculture, fruit culture, and even a timber industry. But first, he believed he had to stop Ute males from immoral behavior like gambling on horse races.<sup>11</sup>

Utes violated Meeker's idea of appropriate gender roles by daytime gambling instead of "laboring," and he believed the Indians were lazy. To Ute males, horses were integral to their view of wealth and status. The Indians resisted plowing land on which they grazed their horses. Meeker responded that they had too many horses and suggested they kill some.<sup>12</sup> He then plowed the Ute horse track to make way for a model farm. These actions enraged the Utes, and Meeker called in federal troops, precipitating the "massacre."

Ute fighters attacked the cavalry at Milk Creek, where thirty-seven Utes and twelve US soldiers died. Other Utes

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<sup>10</sup>Young, *Ute Indians*, 29.

<sup>11</sup>Sprague, *Massacre*, 146, Lewis, *Neither Wolf Nor Dog*, 45.

<sup>12</sup>Lewis, *Neither Wolf Nor Dog*, 46.

attacked the White River Agency, capturing three women, and killing Meeker and seven employees. After several days of fighting, the Utes recognized the limits of violent resistance and surrendered.<sup>13</sup>

The so-called "Meeker Massacre" affected the future of Colorado in numerous ways. Some thought the reputation of Interior Secretary Carl Schurz suffered for backing Meeker's appointment, though this is unlikely. The Utes paid the highest cost, including bands not involved with the massacre. They were forcibly removed from their lands. Meeker's death enraged white settlers and the rest of Colorado agreed, angrily demanding "The Utes Must Go!"<sup>14</sup> Government officials agreed, decreeing that all Utes be placed on a much smaller reservation. A commission initially considered settling the Utes on family farms near Grand Junction, where lots had already been set aside for Indian use. But upon further reflection the commission deemed these parcels unsuitable for the Utes. If the railroad chose to pass through the Grand Valley, observers claimed, the Utes would have to cede that land to whites. Others, led by Otto Mears, concluded that Grand Valley lands

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<sup>13</sup>Young, *Ute Indians*, 30.

<sup>14</sup>Abbot, Leonard and McComb, *Colorado: A History*, 124.

required irrigation. Doubting the Ute's desire or ability to irrigate, they thought the Indians better off in Utah.<sup>15</sup>

While the commission justified removal, white settlement and assumptions about Indian inferiority also influenced the decision. After removal, Colorado Senator Henry Teller demanded further punishment, reminding Congress "we are dealing with savages—brutal, bloody savages—and we should never deal with savages as we deal with civilized people."<sup>16</sup> Despite claims that the tribe resisted agriculture, Utes had adopted farming in many parts of Colorado. After 1873, many Utes understood that White encroachment would soon limit their hunting grounds, so nearly eighty families were already raising corn and wheat. Ouray, a Taviwac Ute, defended the White River band's altercation with Meeker, arguing they did not oppose plowing and farming but had objected to the agent's placement of the farms. Even some white observers like General Charles Adams agreed that Meeker's extreme agrarian idealism and

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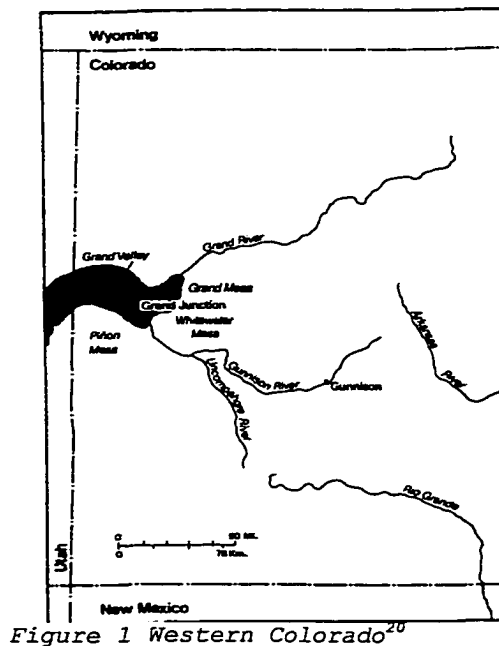
<sup>15</sup>Sprague, *Massacre*, 305; Abbott, Leonard and McComb, *Colorado: A History*, 124; Walker Wyman, "A preface to the settlement of Grand Junction," *Colorado Magazine* 10 (January, 1933), 24; James Warren Covington, "Relations between the Ute Indians and the United States Government, 1848-1900," (Ph.D. Dissertation, University of Oklahoma, 1949) 239; Georgina Norman, "White Settlement on the Ute Reservation, 1880-1885," (M. A. Thesis, University of Colorado, 1955), 17; *The Annual Report of the Commissioner of Indian Affairs to the Secretary of the Interior for the Year, 1881*. 47th Congress, 1st Session, House of Representatives, Ex. Doc. 1, part 5, p. 331; House, *Southern Ute Indians*, 53d Congress, 2d Session, 1894, Report No. 799, 2-3; Mark E. Miller, *Hollow Victory: The White River Expedition of 1879 and the Battle of Milk Creek* (Niwot: University Press of Colorado, 1997), x. Otto Mears constructed many of the toll roads connecting Colorado's mining camps to the rest of the state.

<sup>16</sup>Norman, "White Settlement," 13.



insistence on forcing the Utes to farm precipitated the attack, but Teller's viewpoint won out.<sup>17</sup>

The Utes existed on the fringes of the white world of Grand Junction. Newspaper reports often noted with interest visits by Ute stragglers and occasional threats of violence.<sup>18</sup> In 1886, with the help of Senator Teller, the state founded an Indian School in Grand Junction, which pleased some residents who, like James Layton, believed firmly that the government should "kill all the old Indians and educate the young ones."<sup>19</sup>



## The Place

The environment of the Grand Valley stood in sharp contrast to the rest of Colorado. Mountainous terrain limited connections to the rest of the state. In the absence of an attractive resource like gold or silver, this topography

<sup>17</sup>Lewis, *Neither Wolf Nor Dog*, 43, 48.

<sup>18</sup>*Grand Junction News*, October 28, 1882, p. 5.

<sup>19</sup>Layton, James "Statement," 1887 (BANC MSS P-L 318) The Bancroft Library, University of California, Berkeley.

<sup>20</sup>Kathleen Underwood, *Town Building on the Colorado Frontier* (Albuquerque: University of New Mexico Press, 1987), 10.

hampered settling this remote and isolated valley. The Grand Valley was more arid than the rest of a dry state, closer in precipitation to the deserts of Utah than to the mountains of the Central Rockies. The valley's arid environment repelled initial explorers and settlers.

The Grand Valley lies in the middle of the Colorado Plateau, which includes much of northern Arizona,



*Figure 2 Terrain in the Grand Valley<sup>21</sup>*

northwestern New Mexico, eastern Utah, and western Colorado. It is surrounded on the west by the Elk Mountains; on the north by the White River Plateau; and on the south by the San Juan Mountains. After the

Rocky Mountains formed, volcanic uplift exposed strata of limestone, sandstone, and shale. The region is topographically diverse, with flat-topped mesas, jagged rock formations, high country forests, and deserts. Mesozoic glaciers carved out the Grand Valley over 65 million years ago, creating the modern river system. Over time the Grand

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<sup>21</sup>Denver Public Library—Western History Photos. "Garfield Hill, Palisade, Colo.," photo by L. C. McClure between 1900 and 1910, ON-LINE 2000. Available: <http://gowest.coalliance.org/cgi-bin/imager?0007094>

River, which originates at Grand Lake high in the Rocky Mountains, continued to shape the valley.<sup>22</sup>

Early Grand Junction settlers assumed the valley soils were uniformly fertile, noting they only lacked water to be universally productive. In 1882, the *Grand Junction News* noted, "the soil is said to be very productive and nearly every kind of grain grows to perfection and fruit will grow equal to any section of the whole country."<sup>23</sup>

In 1903, United States Geological Survey engineer Gerard H. Matthes surveyed the valley for a potential government reclamation project. His report detailed the valley's geological origins, noting diverse rock formations from the Jurassic and Triassic eras. The area's geological complexity was not readily visible. The valley floor appeared "uniform and level." Upon further examination, however, level lands near the river gave way to "sharply eroded shale hills, in many localities presenting a topography characteristic of 'bad lands.'" <sup>24</sup>

Matthes reported the soil composition equally diverse, ranging from "adobe clays to light, sandy loams, with all

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<sup>22</sup>Tammy Stone, *The Prehistory of Colorado and Adjacent Areas* (Salt Lake City: University of Utah Press, 1999), 6.

<sup>23</sup>*Grand Junction News*, December 9, 1882, p. 1.

possible intermediary mixtures."<sup>25</sup> In general terms lands closer to the river contained the most clay while higher lands had more sand. Matthes also concluded that the valley contained a low percentage of alkali (sodium), which bode well for irrigated agriculture.<sup>26</sup> The valley's arable land, however, was far more limited than initially thought.

In 1905, the Bureau of Soils mapped the Grand Valley's soils and reinforced Matthes' conclusions.<sup>27</sup> Much land under the Grand Valley Irrigation canal was arable but with a higher clay content than sand, meaning irrigators would expend more effort preparing and cultivating the soil. Grand Valley soils were potentially fertile, though not without tremendous labor.

The most dominant feature of western Colorado is its aridity, but it has a large water supply. This paradox is explainable. The Grand Valley receives an average annual precipitation of 8.5 inches, compared to 19.2 for mountain

<sup>24</sup> Grand Valley—Board of Engineers Reports, 1903-1923, Matthes Report, April 4, 1903, p. 7, 8 (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>25</sup>Ibid. As any agronomist knows, soils are a complicated matter. In simple terms, soil particles range from fine gravel to clay. See Charles E. Kellogg, *The Soils That Support Us: An introduction to the study of soils and their use by men* (New York: Macmillan Company, 1951), 51. Higher clay content is more difficult to "work" or cultivate and requires more effort to get water to plant roots. Crop roots struggle to penetrate clay soil. Higher sand content increases water drainage, but decreases the nutrient level necessary to sustain plant life. Between sand and clay lie loam soils which provide the best environment for crop production. Adding organic material improves all soils by increasing plant nutrients, encouraging soil drainage and water retention.

<sup>26</sup>Matthes Report, 9. As chapter 6 demonstrates, this assessment was highly optimistic. Though Matthes warned of the consequences of inadequate drainage the valley experienced extensive problems with alkaline soils. Too much sodium in the soil "burn" crops by denying them access to water. Irrigation increases the alkali content by leaching the sodium from higher lands and raising sodium from lower soil levels.

towns like Aspen.<sup>28</sup> Pacific storms provide the bulk of Western Slope precipitation, while Gulf storms supply the eastern side of the Rockies. These storms cross the Grand Valley, but drop their precipitation on the west side of the Rockies.<sup>29</sup> These mountain snow and rainstorms supply the valley through the Grand and Gunnison rivers.

White settlers found Colorado attractive in the mid-nineteenth century, though their settlement was limited to the eastern plains and mountain mining towns. The discovery of gold near Pike's Peak in 1859 brought thousands of settlers to Colorado and the territory gained statehood in 1876. The Rocky Mountains discouraged white encroachment into the western slope except when fur or valuable ores offered enough incentive. Fur trappers worked the mountain streams early in the nineteenth century, though the region never became a dominant trapping area.

Western Colorado remained the domain of Utes, miners, and a few cattlemen. Its remoteness daunted visitors and delayed settlement. One only has to look at a topographical map to see the reason. Before the completion of the Denver and Rio Grande Railroad in 1882, reaching the Grand Valley from Denver required travel to Gunnison, then horseback or

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<sup>27</sup>J. Garnett Holmes and Thomas D. Rice, "Soil map, Colorado, Grand Junction Sheet" (United States, Bureau of Soils, Washington, D.C.: GPO, 1905).

<sup>28</sup>Stone, *The Prehistory of Colorado*, 9.

stage for seven to eleven days through Montrose and Delta. James W. Bucklin, an original white settler, remembered that (in 1882) the town was 150 miles from the nearest railroad station and 75 miles from the nearest Post Office. Travel between Gunnison and Grand Junction was a nine-day trip and "he was obliged to walk part of the way."<sup>30</sup> They purchased all their supplies in Gunnison and packed them to Grand Junction.<sup>31</sup> The mountains were rugged. The rivers were difficult and dangerous to cross.

This remoteness affected regional development. For years after statehood, Coloradoans hesitated to challenge the Utes for the Western Slope. The only incursions occurred with mining development in the San Juan Mountains and in the central Rockies near Leadville and Aspen. A few cattle ranches took root near Middle and North Parks, Kremmling, and Steamboat Springs.

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<sup>29</sup>Ibid., 7.

<sup>30</sup>*Progressive Men of Western Colorado* (Chicago, A.W. Bowen & Co., 1905), 147, and Bucklin, James W., "History of Grand Junction, Colorado : Grand Junction, Colorado," 1877 (BANC MSS P-L 320) The Bancroft Library, University of California, Berkeley.

<sup>31</sup>Haskell, *A History*, 4.

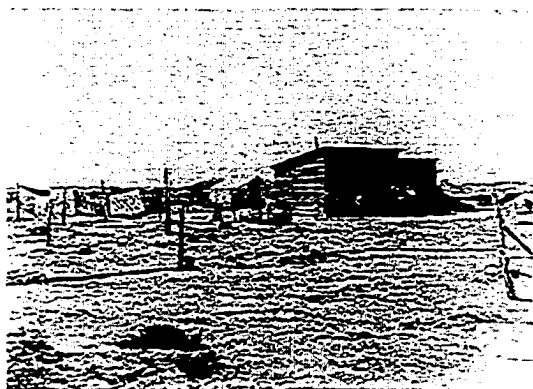


Figure 3 Grand Valley Homestead, 1913<sup>32</sup>

Not only was the valley remote, but it lacked aesthetic appeal for white settlers. The Grand Valley scenery paled in comparison to the more alpine beauty of the Rocky Mountains. Rugged mesas and brown arroyos characterized the Grand Valley, unlike the tall pine trees and grassy valleys of the Central Rockies. Many nineteenth-century Americans still carried their European preference for grand mountain peaks. The first national parks centered on dramatic landscapes like Yellowstone and Yosemite. Few admired deserts.<sup>33</sup> After all, when Stephen Long misnamed the Great Plains as "the Great American Desert," it was not a compliment. Deserts were devoid of resources, devoid of life.

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<sup>32</sup>"Waiting for water on the Grand Valley Project, Colorado. The home of B. B. Freeman and family, who had been waiting for water for six years. 1913." U.S. Bureau of Reclamation. Photo Archives. ON-LINE. 2000. Bureau of Reclamation Available: <http://www.usbr.gov/history/homestead.jpg>

<sup>33</sup>Alfred Runte, *National Parks: The American Experience*, Second edition, revised (Lincoln: University of Nebraska Press, 1987), 17-32.

Initial views of the Grand Valley were invariably negative. Most visitors spent little time there, pausing briefly for a night to water at the Grand. Most noted the lack of water and inhospitable terrain. The first European visitors were members of the Dominguez and Escalante expedition of 1776. They toured the Montrose and Delta area, then skirted the Grand Valley on their way to Utah.<sup>34</sup> Like all visitors to the valley, they noted the contrast between the arid desert and the large river. But like many to follow, they quickly moved on.

Nineteenth-century fur trappers explored the western slope but largely ignored the Grand Valley because its warmer climate made fur trapping unprofitable. Good trapping regions existed in the surrounding mountains, so many traders avoided the valley. In 1828, Taos trader Antoine Robidoux constructed a small fort and trading center at the confluence of the Gunnison and Uncompaghre Rivers. It served as a trading post until Utes burned it down in 1844. As the demand for beaver pelts declined, trappers left the area. With the economic lure gone, European incursions into the Western Slope stopped.

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<sup>34</sup> Abbott, Leonard and McComb, *Colorado: A History*, 33-34; Steven F. Mehls, *The Valley of Opportunity: A History of West-Central Colorado* (Bureau of Land Management, Cultural Resources Series Number 12, 1988), 9-10.



Early visitors found little in the Grand Valley attractive. John C. Frémont was the first official government explorer to travel through west-central Colorado. In 1806, Zebulon Pike explored eastern Colorado and the San Luis Valley. Stephen Long visited Colorado in 1820, but like Pike he confined his exploration to the eastern slope. In 1845, Frémont crossed the Rockies on his third tour of the west; ostensibly to survey the land, but he actually scouted the perimeter as war between the United States and Mexico loomed. His party traveled from Bent's Fort up the Arkansas River, crossed the continental divide at Tennessee Pass, and followed the White River to the Green. This route took him north of the Grand Valley into Utah. In 1848, Frémont returned to the Rocky Mountains on his fourth exploration to find a railroad route through the Rockies to the Pacific Ocean. This expedition ended in disaster when winter storms trapped his small party in the San Juan Mountains. Like the Donner Party, survival overpowered taboo, and several of Frémont's men resorted to cannibalism. Frémont survived the ordeal, but his career as "the Pathfinder" did not.<sup>35</sup>

In 1853, Secretary of War Jefferson Davis commissioned John William Gunnison to search for a route through the

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<sup>35</sup>LeRoy R. Hafen, *Colorado and its People: A Narrative and Topical History of the Centennial State*, (New York: Lewis Historical Publishing Co. 1948), 88.

Colorado Mountains along the thirty-eighth parallel. He hired some of Frémont's survivors as guides and set out for Western Colorado. He moved through the San Luis Valley, and crossed the Continental Divide at Cochetopa Pass, then descended into what was later named the Gunnison River valley. He followed the Gunnison River through the Black Canyon to the Grand Valley, where it met the Grand River. He commented that the deep and rapid Grand was difficult to cross. The group then traveled from the Grand Valley to the Green River, a stretch of land "crossed with great labor and difficulty," and "utterly valueless for occupation and settlement by civilized men."<sup>36</sup> Paiutes then attacked the party and killed Gunnison and all but four members of his party.<sup>37</sup>

In 1875, a year before statehood, portions of Ferdinand V. Hayden's survey team passed through the Grand Valley and found it hot, inhospitable, and dangerous.<sup>38</sup> Hayden's impression of the valley was hardly complimentary. He noted that most of the soil was "impregnated with alkali" and

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<sup>36</sup>Quoted in George L. Albright, *Official Explorations for Pacific Railroads* (Berkeley, University of California Press, 1921), 92.

<sup>37</sup>House, *Letter from the Secretary of War, transmitting A report relative to Captain Gunnison's Survey*, 33rd Cong., 1st Session., 1854, Ex. Doc. No. 18, 9, 10.

<sup>38</sup>Richard A. Bartlett, *Great Surveys of the American West* (Norman: University of Oklahoma Press, 1962), 95.

clay.<sup>39</sup> Although struck by the valley's aridity, he observed that the Grand River was the only non-alkaline source of water for the entire valley. Despite these negatives, Hayden believed that the upper part of the valley could be irrigated and farmed.<sup>40</sup>

In 1880, three visitors described the Ute Reservation as attractive to goats and mountain sheep. "For civilized man it is apparently about as valuable as would be a representative section of the Sahara. To parties contemplating a visit to this region, our advice would be, don't go."<sup>41</sup>

One settler recalled that trees and brush choked the river banks, hindering movement.<sup>42</sup> Away from the river the landscape became harsh. Even William Ellsworth Smythe, the indefatigable irrigation promoter, found the Grand Valley less than appealing. He noted that,

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<sup>39</sup>F. V. Hayden, "Ninth Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado and Parts of Adjacent Territories: Being a Report of Progress of the Exploration for the year 1875" (Washington, D.C.: GPO, 1877), 345.

<sup>40</sup>Ibid.

<sup>41</sup>Alvin T. Steinel, *History of Agriculture in Colorado: a chronological record of progress in the development of general farming, livestock production and agricultural education and investigation, on the western border of the great plains and in the mountains of Colorado, 1858 to 1926* (Fort Collins: The State Agricultural College, 1926), 504-5.

<sup>42</sup>Mabel Kiefer, early Grand Junction resident, quoted by Merton Nolen Bergner, "The Development of Fruita and the Lower Valley of the Colorado River from 1884 to 1937" (M. A. Thesis, University of Colorado, Boulder, 1937), 12.

To the eye of the traveler who has just come through the awe-inspiring scenery of the mountains and narrow upper valleys, nothing could be less promising than the brown waste of arid soil which he beholds upon approaching Grand Junction. The scene is one of utter desolation, for even sagebrush and mesquite are absent from large portions of the landscape. The roaring river hurrying down the slope seems to mock, with hoarse laughter, the unfruitful soil, which stretches away from its banks in silence and in sunshine.<sup>43</sup>

A. C. Peale, one of Hayden's geologists, wrote that the valley was "a dreary desert: the streams are alkaline and the soil soft and clayey."<sup>44</sup> Topographer Henry Gannett added that the few streams (other than the Grand River) were "strongly alkaline" and "vegetation is very scanty."<sup>45</sup> Early observers agreed, the Grand Valley was as barren and desolate as a desert; its only saving grace lay in the waters of the Grand River.

James Layton, who moved to Grand Junction in the fall of 1881, when the town consisted of "one log cabin," regarded the valley as "desolate indeed."<sup>46</sup> Once irrigation had tamed the valley, however, Layton believed that the residents would profit greatly from their earlier hardships. William Innes, who moved to the area in 1881, described the nearby ranches as "barren" until 1884, when irrigation added

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<sup>43</sup>William Ellsworth Smythe, *The Conquest of Arid America* (New York, Macmillan Co., 1905), 168.

<sup>44</sup>Ferdinand V. Hayden, *Ninth Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado and Parts of Adjacent Territories: being a Report of Progress for the year 1875* (Washington: Government Printing Office, 1877), 48.

<sup>45</sup>*Ibid.*, 345.

greenery.<sup>47</sup> James Bucklin described the valley as a "barren desert," with "not a tree, not a house, not a drop of water, not a green thing dotted the valley."<sup>48</sup>

The reaction of Edwin Price, the town's first newspaper editor, personified the negative reaction to Grand Junction's isolation. He described the trip as the worst of his life, dusty, long, and tiring. Spending the night in Delta (then a few rough buildings and tents), he awoke to gunshots from a nearby tent saloon. By morning Price was thoroughly discouraged, his resolve shaken. His worries lingered when he realized that he would travel the remaining distance to Grand Junction in an open wagon. "Over the dry, barren, adobe and rocky foothills, was the rockiest road imaginable. It was the dreariest landscape I had ever seen. I told my friend that I was ready to sell out for thirty cents." Once he reached the valley, however, he described it as the "promised land" and noted "the dreary barren ride of the day was forgotten as we feasted our eyes on this magnificent vision. My misgivings gave way to joy and hope. A few miles down the valley we saw the walls of new

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<sup>46</sup>Layton, James "Statement," 1887 (BANC MSS P-L 318) The Bancroft Library, University of California, Berkeley.

<sup>47</sup>Innes, William, "Farming in Grand Valley, Colorado. Grand Junction, Colorado," 1887 (BANC MSS P-L 288) The Bancroft Library, University of California, Berkeley.

<sup>48</sup>James Bucklin, "Founding the City of Grand Junction" *The Trail* 7 (July 1914), 23; Norman, "White Settlement," 27.

buildings in the course of construction and evidences of civilization."<sup>49</sup>

Western agriculture originally developed in the river basins and valleys of California and Colorado. Farmers avoided arid lands in the mistaken belief they were uncultivable, or correctly noting that the lack of water made the lands useless. By the late nineteenth century, however, myths of the Great American desert had eased, and many Americans believed the desert would bloom if watered. It is in this context that white land speculators viewed the Grand Valley.

Grand Valley settlers now saw potential in valley lands. Charles W. Haskell commented that the valley was uniquely suited for agriculture.<sup>50</sup> In 1881, J. A. Blauvelt described his arduous eleven-day journey from Gunnison to Grand Junction during winter snows. As he crested the hills overlooking the community, he remarked:

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<sup>49</sup>Edwin Price, "Recollections of Grand Junction's first Newspaper Editor" *Colorado Magazine*, 30 (July, 1955), 228-9.

<sup>50</sup>Haskell, Charles W., "Description of Grand Valley, Colorado : Grand Junction, Colorado," 1887 (BANC MSS P-L 319) The Bancroft Library, University of California, Berkeley.

Standing as we were far above the beautiful valley, and gazing down on its 50,000 acres of bottom and agricultural land with the Gunnison river coming in from the east and the Grand from the northwest, and at the junction a flourishing town where but a few weeks before not a mark of civilization was visible, was to us a grand panorama.<sup>51</sup>

Indeed, by 1882, a citizen's group from Gunnison demanded that Congress open up the former Ute Reservation, as "men and capital from all parts of the Union are about to come to this new Eldorado."<sup>52</sup>

### ***White settlement***

Between 1879 and 1881, white settlers waited impatiently for the federal government to open the Ute reservation. James Bucklin remembered living in Gunnison "awaiting the opening of the new land to the forces of civilization and exploitation."<sup>53</sup> A small party led by William McGinley twice attempted illegal access to the Grand Valley.<sup>54</sup> Soldiers returned them to Gunnison with warnings to stay out. General John Pope expressed disgust with the

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<sup>51</sup>Lois Borland, "Ho for the Reservation: Settlement on the Western Slope" *Colorado Magazine* 29 (January, 1952), 64.

<sup>52</sup>"Memorial of a committee of a mass meeting held at Gunnison, Colo., in favor of the late Ute Reservation being opened for settlement" 47th Congress, 1st session, United States Senate, Mis. Doc., no. 63, p. 2.

<sup>53</sup>James W. Bucklin, "Founding the City of Grand Junction" *The Trail* 7 (July 1914), 22.

<sup>54</sup>Haskell, *A History*, 3.

opportunistic white settlers so "unrestrained by common decency" that military force was necessary.<sup>55</sup>

On September 4, 1881, the bugler announced the opening of the reserve to white settlement.<sup>56</sup> By September 8 a small party explored the valley and selected potential ranch sites. After restocking their dwindling supplies in Gunnison, George Crawford, R. D. Mobley and several others returned with McGinley's party to plan the future townsite.<sup>57</sup> After staking out the new community they returned to Gunnison and officially incorporated the town on November 19.<sup>58</sup>



*Figure 4 First Town Company Building<sup>59</sup>*

Once the Ute reservation opened, settlers rushed in. Grand Junction was as much an instant town as any mining

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<sup>55</sup>Norman, "White Settlement," 21.

<sup>56</sup>Haskell, *A History*, 3.

<sup>57</sup>Haskell, *A History*, 4.

<sup>58</sup>Norman, "White Settlement," 25-26.



community. In a sense, it was a mining town, one whose founders were convinced that, with careful application of water, they could mine the rich soil of the Grand Valley for great profits. Within the first year the town boasted a bank, hotel, and newspaper.

George Crawford, a politician, land speculator, and town builder from Kansas, led the white settlers. Crawford first learned of the Grand Valley in 1876, while serving on the planning commission for the Philadelphia Centennial Exposition. His experience with prairie lands in Kansas helped him see the potential in such an arid valley. Nevertheless, he did not stake all of his hope in the valley but also invested in neighboring towns from Gunnison to the Grand Valley. He speculated in irrigation canals and land companies and was the president of both Grand Junction and Delta's town companies.<sup>60</sup>

Who were these settlers who chose the Grand Valley? James Bucklin recalled, with typical pioneer nostalgia, "the pioneers were all poor men but there was one thing that they had in abundance, and that was an unlimited and abounded faith in the town."<sup>61</sup> Judging the faith of these settlers in

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<sup>59</sup>Denver Public Library—Western History Photos. "Town Co's Office, Grand Junction," 1882, ONLINE 2000. Available: <http://gowest.coalition.org/cgi-bin/imager?10008711>

<sup>60</sup>*Grand Junction News*, October 28, 1882, p. 4, and November 11, 1882, p. 3. In fact, the lists of stockholders of the two town companies are nearly identical.

<sup>61</sup>Norman, "White Settlement," 29.

their community is difficult. Their economic status is clearer.

Not surprisingly, the town leaders were all men of means—businessmen who moved to the Grand Valley ready to make their fortune. The 1890 census recorded the “total true valuation per capita” for Mesa County as \$1,034.36, almost double that of neighboring Delta and Montrose counties. The census counted 4,260 people for Mesa County, and 2,294 for Grand Junction. Most were native born, white, and male. The county’s foreign-born population was primarily Western European and Canadian, with three people from China and eight from Mexico. Kathleen Underwood’s study of Grand Junction shows that the town’s demographics were typical for western frontier communities, beginning heavily male and slowly attracting women, families, and older settlers. She found a higher proportion of native-born residents and, by 1900, almost twice as many women as men.<sup>62</sup>

Like Crawford, many of the early residents came to the Grand Valley from a diversity of experiences. Some first came to Colorado mining towns and relocated to Grand Junction when that proved unsuccessful. C. W. Steele, for

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<sup>62</sup>*Eleventh Census of the United States, 1890: Report on Wealth, Debt, and Taxation, Part II* (Washington, D.C.: GPO, 1895), 21; *Eleventh Census of the United States, 1890: Report on the Population of the United States* (Washington, D.C.: GPO, 1895), 12, 78, 404, 437, and 613; Underwood, *Town Building on the Colorado Frontier*, 17-21.

example, moved to Colorado in 1880, and spent two years "engaged in mining."<sup>63</sup> But by 1882, he owned a ranch four miles east of Grand Junction and in 1887, boasted more than 1,000 fruit trees. Charles Haskell, editor of the *Mesa County Democrat*, served in the Navy, including a three-year stint in China. He came to Colorado and worked for years as a civil and mining engineer.<sup>64</sup> William Innes had lived in Canada and Illinois, and owned lumber businesses in Missouri and Wyoming. He moved from Gunnison, Colorado, to Grand Junction in 1881, opening a sawmill to supply the growing town. He invested in land and settled on a 480-acre ranch near town. Innes served as Mesa County's first sheriff.<sup>65</sup>

For all his town building and land speculation, George Crawford found a home in Grand Junction, where he lived until his death in 1891. His photograph shows a somber but handsome man with a mustache and trimmed beard. Crawford was typical of western promoters. He was politically adept and active in Kansas politics until he moved to Colorado. He helped found Fort Scott, Kansas in 1857, and served as president of the town company for twenty years.<sup>66</sup> While he

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<sup>63</sup> Steele, C. W. "Dictation. Grand Junction, Colorado," 1887 (BANC MSS P-L 282) The Bancroft Library, University of California, Berkeley.

<sup>64</sup>Haskell, Charles W., "Description of Grand Valley, Colorado : Grand Junction, Colorado," 1887 (BANC MSS P-L 319) The Bancroft Library, University of California, Berkeley.

<sup>65</sup>Innes, William, "Farming in Grand Valley, Colorado. Grand Junction, Colorado." 1887 (BANC MSS P-L 288) The Bancroft Library, University of California, Berkeley.

<sup>66</sup>Underwood, *Town Building on the Colorado Frontier*, 8.

knew of the Grand Valley, he saw the opportunity to relocate when visiting Gunnison in 1881.

Crawford's townbuilding experience prepared him for the Western Slope. He understood the needs of a fledgling community, and high on his list was a qualified newspaper editor. No town could grow unless it attracted settlers and investors. A newspaper could accomplish this best. Crawford attempted to lure William Pabor, a fellow town booster with experience in journalism and agriculture, but Pabor was unable to relocate. Instead, James W. Bucklin, Crawford's business partner, convinced Edwin Price to establish Grand Junction's first newspaper.<sup>67</sup>

Edwin Price moved from Denver to Grand Junction in 1882, and printed the first issue of the *Grand Junction News* in October of that year. He was born in Illinois where he learned the newspaper trade. His father was a successful merchant in St. Louis.<sup>68</sup> Price moved to Denver in 1876, where he worked for the *Denver Democrat*, and established the successful Merchant's Publishing Company. In 1882, he sold his Denver interests and moved to Grand Junction.<sup>69</sup>

James W. Bucklin, Crawford's business partner, came to Colorado from Illinois, after studying law at Michigan State

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<sup>67</sup>Walker Wyman, "Grand Junction's First Year" *Colorado Magazine* 13 (July, 1936), 135.

<sup>68</sup>*Progressive Men of Western Colorado* (Chicago, A.W. Bowen & Co., 1905), 577.

<sup>69</sup>*Ibid.*

University.<sup>70</sup> He practiced law in Denver for three years before settling in the Grand Valley. On February 28, 1882, Bucklin opened the first law office in the former Ute Reservation. In his first case he defended an "Indian arrested for stealing blankets."<sup>71</sup> Bucklin was active in the community and represented the area in the 1884 state legislature.

The town company planned the community with an eye for the future, setting aside lots for a library, city parks, churches, fair grounds, and public buildings. They were optimistic about the future, assuming that within twenty-five years their population would exceed 50,000.<sup>72</sup> When the *Grand Junction News* reported that the railroad was near the community, it warned residents to prepare for "the incoming tide of immigration, for it is on its way and will certainly take some of us unawares."<sup>73</sup>

While the community planned for the future, it could not mask its frontier character. For the first three months the town lacked either a store or saloon, but this changed quickly. One visitor observed that every other building on

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<sup>70</sup>*Progressive Men of Western Colorado* (Chicago, A.W. Bowen & Co., 1905), 147.

<sup>71</sup>*Ibid.*, 148.

<sup>72</sup>Norman, "White Settlement," 29.

<sup>73</sup>*Grand Junction News*, October 28, 1882, p. 5.

Colorado Avenue was a saloon, restaurant, or dance hall.<sup>74</sup> Most residents spent their time cutting and dragging logs for construction.<sup>75</sup>

Like other frontier communities Grand Junction was initially male dominated and violent. Though early settlers lived with "a dread and fear of a reappearance of the Utes," Indians were the least threat.<sup>76</sup> Most violence occurred either between locals or with cattle rustlers. The community was known as a "wild town" and the city marshal once crusaded for a ban on concealed weapons.<sup>77</sup> Residents later recalled a large gang of cattle thieves plaguing the town in the spring of 1882.<sup>78</sup> Frank Sibley, a nearby rancher, remembered rustlers firing weapons in town.<sup>79</sup> In 1889, John McKinney arrived in Grand Junction in what he called a "homemade bus drawn by two western broncos." He later remembered that many of the town males carried guns, "especially the cowboys and gamblers." The town was dirty, lacked sidewalks, and the townspeople hauled drinking water from the Grand River. Dirty irrigation ditches lined the

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<sup>74</sup>Wyman, "Grand Junction's first year," 135.

<sup>75</sup>Haskell, *A History*, 4.

<sup>76</sup>James H. Rankin, "The founding and early years of Grand Junction" *Colorado Magazine* 6 (March, 1929), 40.

<sup>77</sup>Wyman, "Grand Junction's first year," 133.

<sup>78</sup>Rankin, "Founding and early years," 42, and Haskell, *A History*, 6.

<sup>79</sup>Frank C. Sibley, "An experience at Grand Junction in the early Eighties" *Colorado Magazine* 13 (November, 1936), 231-33.

streets and "a few shade trees had been planted but they were too small to give any shade."<sup>80</sup>

The Grand River, while an important source of water for the community, was also a danger and impediment. A "raft and skiff served as bridge" until locals installed a flatboat with a rope cable in the fall of 1882.<sup>81</sup> In April 1882, Deputy Ben Scott and John Gordon were chasing rustlers across the river when their small boat capsized, and the two drowned.<sup>82</sup> The river's depth, speed, and steep banks caused numerous drownings over the years.

The valley's original reservation designation affected the town's history for years. Though the Ute never settled there, residents continued referring to the valley as the former Ute Reservation. The federal government initially balked at the town's name, preferring to call the post office "Ute," and the legal land description still bears the name.<sup>83</sup> The Township/Range are in relation to the Ute Prime Meridian, a constant reminder that this community was once something else.

As former Indian land, the valley was not open to entry under either the Homestead Act or Desert Land Act. Instead,

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<sup>80</sup>Letter from Jon McKinney to Mame McKinney, June 3, 1943, Terry Mangan Collection, Colorado Historical Society, Manuscript collection #739, Box 1. Ff 11, 1881-1943.

<sup>81</sup>Wyman, "Grand Junction's first year," 130.

<sup>82</sup>Borland, "Ho for the Reservation," 68, Haskell, *A History*, 6, and Rankin, "Founding and early years," 41.

farmers had to preempt the land, paying \$1.25 per acre.<sup>84</sup> Those proceeds were to go directly to the Ute Indians, then on reservations in Utah. This irritated white farmers who often wrote the newspaper complaining that their hard-earned money should not go to Indians who did not appreciate land ownership and lived outside the state.

By 1886, the community boasted two banks, a school, four churches, a multitude of businesses, and more than \$1 million in assets.<sup>85</sup> The Denver & Rio Grande Railroad located a maintenance shed there. The town had the appearance of permanence; brick buildings, sidewalks, and wide, tree-lined streets. The community had eight attorneys, six doctors, and one civil engineer. It could also boast organizations like the Masons, Odd Fellows, Knights of Honor and the Grand Army of the Republic. Grand Junction was established and ready to grow.

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When Colorado joined the Union in 1876, much of the state's valuable resources lay on the western side of the Rocky Mountains. The same mountain range that limited the transcontinental railroad, also limited access to the Western Slope. Some areas had little trouble overcoming the

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<sup>83</sup>Bucklin, "Founding the city of Grand Junction," 23.

<sup>84</sup>*Grand Junction News*, October 28, 1882, p. 4.

<sup>85</sup>Haskell, *A History*, 31, 45-6.



problem of remoteness. Mining communities like Leadville, Silverton, and Durango, all had the attractive resource of valuable ores. When gold or silver promised great profit, mountain passes were no serious impediment.

Not all communities, of course, had such appealing resources. Farming communities, such as Grand Junction, hoped that their agricultural potential would attract potential settlers. Once they established an agriculturally based economy, town founders hoped their community would continue to grow and attract other industries.

Grand Junction is an excellent example of late nineteenth-century town building. Town fathers built the town on commerce, land speculation, and noble ideals. Like other frontier boosters before them, they wanted to create the perfect city, one that lacked crime, high taxes, an immigrant population, pollution, and noise, but included unlimited economic opportunity. But unlike Greeley, Nucla, or even nearby Fruita, Grand Junction's founders did not intend to create a utopia in the desert. They dreamed of a profitable community, where land prices would increase and hard working entrepreneurs had access to profitable enterprises. Speculation and investment dominated the town's early life, and helped define the community.

The push to encourage settlement and provide water dominated the early years of Grand Junction. The town's

first 20 years was devoted to developing a stable population, agricultural industry, and water supply. Grand Junction was a town with a split personality. Town leaders wanted it to remain small, friendly and safe, but they also desired industry and economic development, which dictated a search for markets and capital. They sought local autonomy, yet advertised their town to outside investors. They hoped to attract the yeoman farmer, but boasted of each large land sale. It was a town dependent on its climate, though convinced that irrigation could make weather irrelevant. And, it was a town that believed it could live in both the past and present, taking the good from modern America while retaining the nostalgic past.

## Chapter Two

### *The Ideology of Agriculture in the Grand Valley*

In 1883, journalist and agricultural promoter, William E. Pabor wrote in the *National Farmer* that "fifteen years ago Colorado had no agriculture, and it was generally supposed that farming was an impossible thing in the regions lying along the base of the Rocky Mountains."<sup>1</sup> This changed in December 1869, he observed, when Horace Greeley and Nathan Meeker settled the Union Colony at Greeley. Since agriculture in Greeley required intensive irrigation, settlers had to construct a large canal. This forced the Greeley settlers to cooperate more than other western farmers. Pabor wrote:

"To this work the Greeley colonists applied themselves with vigor and with such faith in ultimate results that the labor and money were never wanting until the crowning hour of triumph arrived and water was flowing in an artificial channel far above the river bed in such quantities as would water thousands of acres of land given

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<sup>1</sup>Quoted in the *Grand Junction News*, October 27, 1883, p. 1.

over to sage brush and cactus, prairie dogs and jack-rabbits, from time immemorial."<sup>2</sup>

Once Greeley's settlers brought water to the arid landscape, Pabor recalled a dramatic transformation from "barren plain" to cultivated fields where "fruitful seed sprung up and waved emerald plumes in the balmy summer air." Land previously "utterly worthless for farming purposes" now produced grains and fruits in record numbers.<sup>3</sup>

Pabor believed that the next great agricultural boom would be in Colorado's Grand Valley. That valley held far more potential for farming than the eastern slope, he argued, with a warmer climate and abundant water. The "Government having removed its dusky wards [Utes] still further west" there remained no further barrier to white settlement: "now the early morning light of pioneerism is breaking over the valley, to be followed shortly by the bright beams of the rising sun of civilization."<sup>4</sup>

Pabor reflected Colorado's approach to irrigated agriculture. He romanticized the mythical family farm while simultaneously pursuing industrialized agriculture. He founded the community of Fruita as a temperance and irrigation community, but he first moved to the Grand Valley

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<sup>2</sup>Ibid.

<sup>3</sup>Ibid.

<sup>4</sup>Ibid, and William E. Pabor, *Fruit Culture in Colorado: A Manual of Information* (Denver, Co.: Pabor, 1883), 79.

as a representative of investment capital. He waxed poetic about irrigation in Eden, while extensively speculating in land. And, for Pabor, like so many others, this posed no conflict. After lauding the area's potential, he noted that area residents would now "consider the cost and profit of fruit culture under experienced management. . . ."<sup>5</sup> Pabor sought to combine scientific farming with the family farm.

In far Western Colorado agriculture was limited to mountain valleys, and the Grand Valley was one of the driest places in Colorado. Neighboring areas received enough rainfall to raise at least one crop of alfalfa, but Grand Valley's extreme aridity made it virtually impossible to raise crops without irrigation. Irrigation was more than just a critical issue; it alone enabled settlers to envision a community there. Grand Junction was, from its beginning, a community defined by irrigation.

In the 1870s settlers believed the Grand Valley held great potential for those who could develop its resources. Colorado settlement began in the mining camps, mountain valleys and accessible eastern plains. Farmers initially bypassed arid lands in the mistaken belief that they were barren. The Union Colony at Greeley was one of the first to challenge these assumptions. Farmers there utilized the waters of the Cache La Poudre River to construct and support

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<sup>5</sup>Pabor, *Fruit Culture*, 80.

their utopian community. Pabor began his Colorado farming experience as the Treasurer of the Union Colony.<sup>6</sup> He saw Grand Valley as the logical next progression in Colorado agriculture. It combined Greeley's beneficial climate with a plentiful supply of water.

Indeed, many pointed to the Grand River as a convenient and unending source of water for agriculture. It was an oddity in such a dry state, in fact, to have this much water. In 1887, the *Grand Junction News* noted that most of the state had more land than water, but "the Valley of the Grand need never apprehend any suffering from this source, since there is water enough in the Grand River alone to irrigate all the farming land in the whole state."<sup>7</sup> In 1905, the county commissioners claimed that the Grand River contained enough water to irrigate "more than one million acres. . . ."<sup>8</sup>

Early settlers also promoted the valley's climate as conducive to agricultural success, particularly the beneficial growing season, infrequent frosts, and moderate temperatures. One bragged that "the latest killing frost in spring for the past ten years was April 17th, and the

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<sup>6</sup>David Boyd, *A History: Greeley and the Union Colony of Colorado* (The Greeley Tribune Press, 1890), 390.

<sup>7</sup>*Grand Junction News*, August 6, 1887, p. 1.

<sup>8</sup>*The Fruit Belt of Mesa County, Western Colorado* (Board of County Commissioners for Mesa County, n. d.), 9.

earliest killing frost in fall October 15th. Hence the frosts in Grand valley never cause a failure of crops..."<sup>9</sup> William Pabor claimed that the western slope was a superior place to raise fruit, noting sarcastically that whole other areas claimed to have found the Garden of Eden, "we do not remember ever reading of frosts in June prevailing in Adam's first abiding place, though mention of the apple can be readily recalled."<sup>10</sup>

The valley also missed most of the thunderstorms and blizzards that plagued the mountain towns and eastern slope. The local paper often noted the absence of these storms with smug satisfaction. This lack of violent weather boded well for agriculture, since Grand Valley farmers would not face as much hail damage or blizzards as their counterparts elsewhere.

The valley's soils were also good, leading many to think it held the state's most fertile land. Reclamation engineer E. E. Sands went even further, noting that "the Grand Valley is not merely the best section of Colorado; nor is it simply the finest land in the United States. It is the richest soil and has the greatest productive power of

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<sup>9</sup>*The Grand Valley: Mesa County, Colorado. An agricultural and Horticultural Empire on the Sunset Slope of the Rockies* Compiled by Cameron and Bogan, Exclusive Dealers in Farm Properties, Grand Junction, Colo. (Grand Junction, Colorado; Daily Sentinel Print, 1902), 7.

<sup>10</sup>*Grand Junction News*, April 20, 1889, p. 1. Pabor wrote a series called "Fruit Culture in Western Colorado" that ran for several weeks. He used the column to not only promote fruit raising in the area, but also pushed his own community and land deals in Fruita.

any section in the whole world."<sup>11</sup> Hyperbole aside, early agricultural production proved the soil's potential. Although later settlers would discover pockets of alkali and clay, the land adjacent to the river was fertile enough to nourish a variety of crops. Of course, virgin soils often produce bumper crops until years of cultivation removed valuable nutrients.

Irrigation is commonly assumed to be an integral part of western agriculture, but it was not always so. Ten years before white settlement in the Grand Valley, land promoters in California downplayed the importance of irrigation, arguing that it was not a dominant feature of that state's agriculture.<sup>12</sup> As Donald Worster argued, many settlers approached the desert-like Central Valley in California as a place where God had not completed his creation by providing the water necessary for farming.<sup>13</sup> Donald Pisani's work on California irrigation demonstrates that many boosters hesitated to emphasize irrigation because farmers feared dependence on something other than nature.<sup>14</sup> Those from humid states often balked at the idea of tilling desert

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<sup>11</sup>Clarence A. Lyman, *The Fertile Lands of Colorado and Northern New Mexico* (Denver: Denver and Rio Grande Railroad, 1912), 82.

<sup>12</sup>Donald J. Pisani, *From the Family Farm to Agribusiness: The Irrigation Crusade in California and the West, 1850-1931* (Berkeley: University of California Press, 1984), 61-68.

<sup>13</sup>Donald Worster, *Rivers of Empire: Water, Aridity and the Growth of the American West* (Pantheon Books, New York, 1985), 97.

<sup>14</sup> Pisani, *From Family Farm to Agribusiness*, 54-77.



soil. They viewed dependence on irrigation as a weakness. Farmers, they often feared, would not gamble their crop and economic stability on artificial rain.

In the arid Grand Valley, however, farmers and boosters alike embraced irrigation as the only possible method to grow crops and establish a community. During all the disputes concerning canal construction and finance, few opposed the goal of irrigating the entire valley. Disputes arose over financing, external capital, and the best methods of irrigation, water rights, but few residents disagreed with irrigation itself. Residents understood that the arid soil was productive, but only with a consistent supply of water. This made agriculture and irrigation synonymous, so opposition to irrigation equaled opposition to farming itself. Dry farming was not an option in the valley.

In the Grand Valley, irrigation was part of a belief system that embraced a vision of ideal farm size, community, and local autonomy. Irrigation combined with population, the amount of arable land, and widespread land ownership reinforced the mythology of the family farm. The valley's remoteness kept the population below that of competing communities, which combined with the area's limited arable acreage precluded land monopoly. Most land in the valley required irrigation, which discouraged large landholdings. The climate and elevation allowed farmers to flourish on

small (5-10 acre) tracts by growing non-tropical fruits. Small orchards limited the need for external labor, while the high value fruits allowed a meaningful profit. For area promoters, irrigation was the key to sustaining an agricultural economy in an increasingly industrial nation. This was the option dreamed of by William Smythe and others: the irrigation community that included all the positive cultural advantages of cities, without the accompanying crime, pollution and overcrowding. In the Grand Valley, however, social reformers did not plan this ideal community, it was dictated by the land, soil and water. With its particular climate, available land, elevation, and proximity to markets and other cities, the community would not have to enforce farm size or residency. Private enterprise would take care of that.

From these factors arose an ideology that allowed the residents to explain their community to outsiders. This ideology elevated irrigation to something more than a farming technique. It became the underpinning for an entire community development plan. Irrigation would create a better community for the residents, even those who did not farm.

From initial settlement, Grand Valley promoters and farmers both saw irrigation positively. Perhaps it was the absolute necessity that forced this view, but from the

beginnings of the community, boosters always pointed to the availability of water as one of the reasons the community would flourish. For these early agricultural pioneers, irrigation allowed them to transform the barren valley into a viable agricultural economy. As the earlier chapters have shown, much of the community's initial efforts centered around attempts to irrigate the valley.

While some questioned God's placement of rich soils in arid lands, many in Colorado considered irrigation the most efficient way to farm. Farmers in the humid regions were forced to depend on nature's whims for rainfall. They risked floods or droughts that threatened their survival. Many also saw irrigation as a Godly task itself. After all, did not the first irrigation waters flow in the Garden of Eden? William Smythe suggested that irrigation was indeed Biblical, noting that "'A river went out of Eden to water the Garden,' says the Bible story."<sup>15</sup>

Others saw the very lack of water as proof of God's design. Aridity gave settlers the chance to prove themselves worthy of success (as if farming was not difficult enough under normal circumstances). As one writer suggested, "the universal adage that 'God helps those who help themselves' is peculiarly applicable to farmers, who

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<sup>15</sup>William Ellsworth Smythe, *The Conquest of Arid America* (New York, Macmillan Co., 1905), 42.

will help themselves to the water."<sup>16</sup> Of course, it also had the opposite meaning. Instead of trusting God/nature to care for crops, an irrigation farmer took control of watering his farm.

Grand Valley residents echoed these sentiments. A booster tract printed in 1902 suggested that "The Garden of Eden was irrigated by the waters of the rivers which flowed out of it." It later theorized that irrigation likely provided the five loaves with which Christ fed the multitudes.<sup>17</sup> All these allusions encouraged local residents to view their attempts to irrigate the valley as a continuation of this holy venture. In 1888 the *News* boasted that orchards, vineyards and fields now grew in "what was six years ago a wilderness."<sup>18</sup> In 1903 a promotional pamphlet compared the unsettled Grand Valley to a "Garden of Eden under a dry, barren waste, deserted by all vegetation save the ever despised sage brush." The junction of the two rivers, according to the writer, represented the battle between savagery and civilization. Turning water onto the barren land would force savagery to recede, "perhaps in time

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<sup>16</sup>*The Grand Valley: Mesa County, Colorado. An agricultural and Horticultural Empire on the Sunset Slope of the Rockies* Compiled by Cameron and Bogan, Exclusive Dealers in Farm Properties, Grand Junction, Colo. (Daily Sentinel Print, 1902), 7.

<sup>17</sup>*The Grand Valley: Mesa County, Colorado*, 7.

<sup>18</sup>*Grand Junction News*, November 10, 1888, p. 3.

to oblivion."<sup>19</sup> A 1905 brochure compared the development of agriculture in the Grand Valley to the Nile delta.<sup>20</sup> Another called the Grand River the "Niagara of Arid America," a "'God Given Guarantee' of prosperity for the industrious tiller of the soil in this 'Eden of the West.'"<sup>21</sup>

Area boosters clearly viewed irrigation as the process of transforming desert into garden. *The News* reprinted a notice from a Nebraska paper which said that the Grand Valley, like the rest of Colorado, was in its

natural condition....naked and barren. But wherever the irrigating ditches are, the scene changes, the bare and naked soil with scattering patches of sage, cactus, grease wood, and bare rock, give place to comfortable little homes, beautiful flower gardens, fruit trees loaded with the most perfect and delicious fruit, large fields of wheat, rye, oats, corn, alfalfa, timothy, clover, melons and all varieties of vegetables.

An Illinois reporter also noted that the difference between the two was the "greatest possible contrast" from barren desert to plush farmland, even though the two might be right next to each other. Irrigation not only allowed crops to grow, it transformed the desert (believed useless) into a productive garden fit for human residence.<sup>22</sup>

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<sup>19</sup>*Mesa County. A brief description of the resources and possibilities of Mesa County, Colorado* (Press of Pelton Art Printing Co., Grand Junction, Colo., 1903), 1

<sup>20</sup>*The Fruit Belt of Mesa County, Western Colorado*, 3.

<sup>21</sup>*The Grand Valley: Mesa County, Colorado*, 3.

<sup>22</sup>*Grand Junction News*, November 17, 1888, p. 1.

The task of Colorado agricultural boosters was to convince prospective farmers to choose their arid state as home. After all, why would someone choose Colorado over Iowa, if the Colorado farm cost more to make productive? The answer, according to irrigation defenders, was that while canals and reservoirs were initially expensive, the economic benefits far outweighed the initial investment. Irrigation would provide long-term financial success, stability, and predictability.

The first utility of irrigation was to increase land values and help boost the economy of the area. Promoters constantly pointed to the fact that irrigation transformed "worthless" lands into valuable agricultural tracts almost overnight. When describing the Grand Valley, William Pabor claimed that the land was "almost valueless, hardly worth the government price of \$1.25 per acre."<sup>23</sup> That same land jumped to nearly \$10 per acre when watered, and could conceivably rise to [according to Pabor] the point when farmers would willingly pay \$250 per acre. The *News* continued this drumbeat of economic progress by claiming that once irrigated, land in the Grand Valley would be worth a minimum of \$50 per acre, with some rising to the \$500

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<sup>23</sup>From *The National Farmer*, as quoted in the *Grand Junction News*, October 27, 1883, p. 1.

level.<sup>24</sup> The paper later quoted irrigation promoter William Ellsworth Smythe's statement that irrigation farmers "will live better and accumulate more money than any other farmers."<sup>25</sup>

The Denver & Rio Grande Railroad, an active irrigation booster in Colorado, argued that irrigated lands consumed less labor and resources and returned a greater profit than humid lands.<sup>26</sup> Crops grown on irrigated lands returned almost fifty percent greater yields than those grown by rainfall. The increased time spent preparing soil for water and drainage still cost arid land farmers less than humid land farmers lost to untimely rains.

Local boosters also argued that their irrigation community was a model for the entire state. The potential for irrigation to transform Grand Junction was even more true statewide. In 1889 the farm journal *Field and Farm* noted that Colorado was destined to become one of, if not the, richest agricultural states in the Union. "How can it be otherwise," asked the journal, when five million acres inside the state were "susceptible of growing crops" under irrigation?<sup>27</sup> In 1890 the *Grand Junction News* expressed concern that John Wesley Powell's irrigation survey might

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<sup>24</sup>*Grand Junction News*, December 15, 1883, p. 2.

<sup>25</sup>*Grand Junction News*, April 30, 1892, p. 3.

<sup>26</sup> Lyman, "The Fertile Lands of Colorado," 8.

impede Colorado's irrigation development by closing much of the arid public domain to settlement. The survey planned to withdraw lands from settlement until completion of a comprehensive water plan. Many westerners opposed Powell's survey since those withdrawn lands were unavailable to private enterprise.<sup>28</sup> The *News* conceded that much of the state required improvement and planning to farm, but worried that delaying settlement and irrigation would halt western development completely.<sup>29</sup>

The *Grand Junction News* conceded that mining was important to the state's economic success, but noted that agricultural production, because of the growth of irrigation, was catching up and even passing the economic output of the mines. All this, noted *News* editor Price, with less than fifty percent of arable land under cultivation.<sup>30</sup>

While California farmers downplayed the importance or efficacy of irrigation, Coloradoans embraced and even assumed that if the rest of the country could, it would choose irrigated farming over humid land farming. One Grand Valley promoter argued that had the Mayflower immigrants

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<sup>27</sup>*Grand Junction News*, January 12, 1889, p. 1.

<sup>28</sup>Donald J. Pisani, *To Reclaim a Divided West: Water, Law, and Public Policy, 1848-1902* (Albuquerque: University of New Mexico Press, 1992), 143-153.

<sup>29</sup>*Grand Junction News*, August 23, 1890, p. 4.

<sup>30</sup>*Grand Junction News*, January 16, 1892, p. 1.



landed on the Pacific coast instead of Plymouth Rock, eastern farmlands would still be uncultivated, at least until "land susceptible of irrigation" could be obtained.<sup>31</sup>

Promoters argued that irrigation was the most efficient and even scientific way to farm. Farmers in the humid regions were forced to depend on nature's whims for rainfall. They risked flood or drought every year, and rains could ruin crops if they occurred at the wrong time. Irrigation supporters pointed to the plains states of Kansas and Nebraska where, according to Colorado boosters, farmers who suffered drought "two years out of five" often left to seek assistance from other states.<sup>32</sup> Rain at the wrong time also made dirt and gravel roads treacherous or impassable, often at inopportune times. The *News* compared farming without irrigation to transportation by stagecoach when railroads were available, or using a candle instead of electric light. Instead of seeing irrigation as artificial rain, one writer contended that "rain is the poor dependence of those who cannot obtain the advantages of irrigation."<sup>33</sup> A constant and stable source of water allowed Colorado farmers to relax and added predictability to a normally precarious existence. One pamphlet proclaimed that any

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<sup>31</sup>*The Grand Valley: Mesa County, Colorado*, 9.

<sup>32</sup>*Agriculture by Irrigation in Colorado*, 6

<sup>33</sup>*Grand Junction News*, August 16, 1902, p. 1.

farmer who could recognize when his crop needed rain could easily learn to irrigate, "the man who can't, should stay away from an irrigated country."<sup>34</sup>

When the Colorado farmer sows his seed in the spring, he knows very nearly what the harvest will be.... when the harvest is at hand he fears no rain to spoil his 'down grain.' When his crop is gathered he loads it in his wagon, and finds in his neighboring town a market which pays as high prices as New York or Boston. Nowhere else is farming attended with so little risk; nowhere with so little labor; nowhere else does the farmer receive as great return for his labor and skill.<sup>35</sup>

Irrigation, according to area promoters, simplified farming in the arid regions, and made the individual farmer "absolutely the arbiter of his own fortune."<sup>36</sup> Then the farmer, not God, determined the watering schedule of crops. The very aridity that made irrigation necessary, also lowered the risk of rain spoiling planting and harvest. Boosters claimed that eastern farmers wasted a great deal of time waiting for rain, "and when it does come he has to wait for it to dry off again. His whole farm is watered at one time and frequently when it does not need it."<sup>37</sup>

The stable water source allowed farmers more control over production. The News called irrigation canals

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<sup>34</sup>*The Valley of the Grand: the Place for You.* The Chamber of Commerce, Grand Junction (Smith-Brooks Press, Denver, No date), 1.

<sup>35</sup>*Agriculture by Irrigation in Colorado,* 6

<sup>36</sup>*Field and Farm,* February 11, 1888, p. 1.

insurance policies against drought, while the valley's aridity protected farmers from flooding. Others called it a policy against crop failure.<sup>38</sup> Instead of relying on the rain, Colorado farmers simply opened headgates and flooded their fields. Promoters conceded that this water system came at a cost, but argued that a constant water supply and the guarantee of success more than paid for the outlay. Eastern farmers, they claimed, spent as much or more clearing farmlands as Westerners invested in canals.<sup>39</sup>

Grand Valley farmers did not assume that all arid lands were superior, of course, since access to water was crucial. This was one of the differences between the plains states and Colorado farmlands. Most believed, however, that the Grand Valley had more than enough water. A Chamber of Commerce bulletin published around 1904 argued that "a failure of farm crops from drought has never been known in the Grand Valley—and can never occur."<sup>40</sup>

Many in the Grand Valley avoided the issue of dry farming, reluctant to condone or promote a form of agriculture that did not rely on irrigation. But the

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<sup>37</sup>*Grand Valley: Mesa County, Colorado*, 8. This idea was repeated in most of the irrigation promotional bulletins. See also, *Agriculture by Irrigation*, p. 3, and *Irrigated Fruit Lands in the Antlers-Silt District of the Grand River Valley* (Colorado Springs, Colorado, 1910), foreword.

<sup>38</sup>*Grand Junction News*, August 16, 1902, p. 4, and *Government Lands, Fruit Lands*, 1.

<sup>39</sup>*Agriculture by Irrigation in Colorado*, 3.

<sup>40</sup>*All about Grand Junction and the Grand Valley, Colorado* (Issued by the Chamber of Commerce, 1904. Museum of Western Colorado Research Library), 19.

subject was hard to ignore since most Great Plains farmers did not irrigate. In 1905, the *Grand Junction News* conceded that many farmers on the plains had enjoyed great success without irrigation. The *News* further cautioned that while dry farming might be necessary in some areas that lacked access to water, irrigation remained the safest and most profitable method of farming.<sup>41</sup>

Colorado-wide periodicals, however, entertained more interest in dry farming. Of course, agriculture in the state's eastern plains more closely resembled Nebraska than Grand Junction. *Field and Farm*, for example, revealed the animosity between irrigators and dry farmers. Land and water companies viewed dry land farming as a direct competitor. If a farmer could raise crops without irrigation, why pay the cost of irrigation? Irrigators feared that dry farmers could produce crops for market at a lower cost, and that they would lose the money they had had invested in expensive canal systems.<sup>42</sup>

Their fears were groundless. Grand Valley residents did not have to fear dry farming. Aside from a few experiments in the early 1880s, aridity precluded any serious attempt at dry farming. Some farmers successfully grew crops without irrigation, but only crops like wheat and

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<sup>41</sup>*Grand Junction News*, August 5, 1905, p. 2.

barley, which were no threat to those growing fruit or vegetables.

Not only was irrigation a good way to encourage agriculture, many Grand Valley residents believed that it also benefited to the earth. In their zeal to promote irrigation and community, they quickly repeated any anecdotal evidence of irrigation's positive impact on the environment. Some assumed that plowing and irrigating lands increased the natural rainfall, resulting in a more hospitable agricultural setting.<sup>43</sup> Many Coloradoans warned that this was a faulty assumption, understanding the cyclical nature of droughts and wet seasons.

Farmers repeated many supposed benefits from irrigation. One, ironically, was that increased irrigation raised the water table, reducing the need for further irrigation.<sup>44</sup> Other claims for irrigation's benefits were simply anecdotal and may have been more connected to factors other than irrigation. For example, *Field and Farm* reported that irrigated fields had fewer instances of the chinch bugs that plagued farmers in Iowa and other humid regions.<sup>45</sup>

Irrigation boosters also appealed to the growing concern for efficiency. Water used to raise crops was a

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<sup>42</sup>*Field and Farm*, June 9, 1888, p. 8, April 28, 1888, p. 3, March 31, 1888, p. 5.

<sup>43</sup>*Field and Farm*, February 18, 1888, p. 1.

<sup>44</sup>Charles Barton, *Colorado as an Agricultural State*, 14.

better use than letting it be wasted down stream. After all, what use was water that flowed past fields and orchards? As a booster pamphlet proclaimed, "the water of the mountain streams, which for ages has been running to waste, is being conducted to the fertile soil."<sup>46</sup> In 1889, the *News* complained that "if valuable land was running off in vast quantities to the sea there would be a general concern at the loss, but people watch with indifference as the great rivers of this coast flow on to the deep incessantly."<sup>47</sup>

Many Colorado promoters claimed that irrigation improved the soil. In 1889, the *Grand Junction News* proudly quoted a writer from the *Economist* magazine who argued that many states could and should irrigate. While part of the reason was a more predictable growing season, it also contended that irrigation improved the soil, calling it "the cheapest and best of all manures."<sup>48</sup> A Grand Valley pamphlet claimed that irrigation was the "best known fertilizer, as it carries an abundance of decomposed matter to every particle of the soil and enriches it by replenishing all the elements essential for perfect vegetation." "Natural" rainfall, on the other hand, was essentially distilled

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<sup>45</sup>*Field and Farm*, April 21, 1888, p. 3.

<sup>46</sup>*All about Grand Junction*, 9.

<sup>47</sup>*Grand Junction News*, February 16, 1889, p. 1.

water. It only added moisture to the soil thereby allowing crops to absorb and deplete all the "nutritive properties of the soil and render it barren."<sup>48</sup>

Henry Michelsen, the vice president of the Colorado Forestry Association, concurred. He agreed that irrigation helped the soil, and added that many of the benefits were indirect. Irrigation allowed farmers to grow more crops beneficial to soil health, crops that added to instead of depleting soil fertility.<sup>50</sup> This logic seems curiously circular since most of those crops were also grown in more humid regions and would conceivably improve the soils there as well. Michelsen seemed to argue that arid lands were superior to humid lands because irrigation allowed farmers to replicate humid region farming.

Politicians echoed this viewpoint. In 1897, James Wilson, President McKinley's Secretary of Agriculture visited and toured the Grand Valley. The local newspaper later recorded that Secretary Wilson pointed to the "excellent qualities of our soil and the value of irrigation for the enrichment of it." Wilson claimed that Western farmers enjoyed a great advantage over those in the South because the light rainfall of western states enabled the

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<sup>48</sup>*Grand Junction News*, April 27, 1889, p. 1.

<sup>49</sup>*The Grand Valley: Mesa County, Colorado*, 8.

soil to "add to and retain the salts and fertilizing qualities so valuable to the plant and the tree, while the excessive rainfall of the southern states washed away and carried off these valuable properties and left the soil impoverished."<sup>51</sup>

Another editorial from the *Orange Judd Farmer* continued this argument, but further explained how soils evolved. All soils, the editorial stated, came from decomposed rocks. The most decomposed soils supported crops and allowed water to drain, but in humid regions the rainfall dissolved the minerals and carried them out to sea.<sup>52</sup> As a result, Eastern states were left with worn out soil that soon became useless for sustaining agriculture.

This optimistic view of the effects of irrigation on the natural environment was more wishful thinking than good science. Indeed, much of it came from enthusiastic boosters trying to convince prospective settlers that the Grand Valley was a superior farming region to the San Luis Valley, eastern Colorado, or even California's Central Valley. Farmers later learned that irrigation leached more nutrients from the soil than it replaced. Rainfall undoubtedly does some harm, especially in flooding, but it did not hurt the

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<sup>50</sup>Henry Michelsen, in *Can the farm and ranch products of Colorado be doubled, and if so, what would be the effect on the business of Denver?*, by the Union Pacific Land Company (Omaha, Nebraska, 1900), 3.

<sup>51</sup>*Grand Junction News*, August 21, 1897., p. 5.



soil in the manner imagined by these nineteenth-century Coloradoans. First, humid regions experience less erosion from flash flooding simply because the plentiful moisture insures that the soil is anchored by plant life. Arid or desert lands lacking plant cover erode very quickly in flash floods. Second, while some of the soil's beneficial minerals come from the type of rocks, more comes from the decaying plant life, of which the arid lands have less.

Furthermore, irrigation has more effects than Grand Junction's settlers would have admitted or known. The introduction of a steady supply of water into soils that are not prepared for it causes unseen consequences. Water tables rise, bringing salts and alkali to the surface that make agriculture more difficult if not impossible. Unlined irrigation canals further the leaching process, often bringing unwanted and poisonous minerals into the fields.<sup>53</sup>

Irrigation also allowed Coloradoans to argue that small-tract farming was largely superior to large landholdings. *Field and Farm*, a Colorado agriculture publication, argued that only those state residents who cultivated a few acres would prosper in the future. According to the farm journal, "the great error of American

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<sup>52</sup>*Grand Junction News*, March 20, 1897, p. 1.

<sup>53</sup>Drainage problems continued to plague reclamation projects. In 1965, the Soil Conservation Service noted that irrigated lands required a great deal of management to avoid these problems. *Water and Related Land*

farming has been in big farms. Not one fifth of the soil of the farming districts is made to produce, and four acres in every five lay dormant from this mistaken farm policy." This policy, they argued, came from the greed that encouraged Americans to own as much land as possible. As a result, farmers acquired more debt than land and their agricultural production declined. While some parts of the country might require large landholdings for survival, irrigation made such farms inefficient and unnecessary.<sup>54</sup> The model, argued the journal, was the Greeley colony, where aridity and group settlement dictated small tracts. Farmers had to plow deeply to protect plants from the elements, and few could cultivate more than 25 acres. As a result, "all have good houses and fine horses and cattle, and many have liberal bank deposits."<sup>55</sup> The message was clear: farm few acres well, or many acres poorly. A 1910 report prepared by the Agriculture Department echoed this sentiment, arguing that while farmers could profit from large farms, smaller plots offered the greatest efficiency and yield.<sup>56</sup>

In the Grand Valley, land monopoly was not a significant problem. Most valley lands were of little use

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*Resources: Colorado River Basin in Colorado.* Cooperative study by Colorado Water Conservation Board, and the United States Department of Agriculture (Denver, Colorado, May 1965), 167.

<sup>54</sup> *Field and Farm*, March 10, 1888, p. 3-4.

<sup>55</sup> *Field and Farm*, March 10, 1888, p. 3-4.

<sup>56</sup> C. W. Beach and P. J. Preston, *Irrigation in Colorado* U. S. Department of Agriculture, Office of Experiment Stations—Bulletin 218 (Washington, D.C.: GPO, 1910), 44.

for grazing or stock raising. To be productive, they required extensive improvements and irrigation. The only incentive to hold extensive tracts of land was for speculation.

In fact, the valley encouraged irrigation and also made small farms more efficient than large, particularly since most would grow fruits and vegetables.<sup>57</sup> In 1885, a Fruita farmer argued that the valley needed small industrious farmers more than large investors. These small farmers, argued the writer, could not succeed on eastern farms because the land was not productive enough. Here, without much capital, those same farmers could flourish on small plots.<sup>58</sup> In 1890 the *News* remarked that small farms were the community's present and future since "if a man can get as much profit by farming 20 acres as he can by farming 100, is it not best to farm but the 20?"<sup>59</sup> The *News* then listed several landowners with fewer than fifty acres, noting that they were all among the valley's most prosperous farmers. The *Grand Valley Star* concurred, stating that their editor "has always advocated ten or twenty acres tracts as

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<sup>57</sup>*Grand Junction News*, December 16, 1882, p. 1.

<sup>58</sup>*Grand Junction News*, July 18, 1885, p. 1.

<sup>59</sup>*Grand Junction News*, March 22, 1890, p. 1.

sufficient land for those desirous of engaging in fruit growing."<sup>60</sup>

Obviously the valley's climate and altitude allowed farmers to succeed on far smaller plots than elsewhere in Colorado. The main reason was fruit cultivation. In 1890, the *News* boasted that the valley contained the largest orchard in the state, 25,000 trees on 160 acres of land.<sup>61</sup> In eastern Colorado, 160 acres planted to corn, wheat or hay was a paltry farm. But high dollar fruit crops allowed small farmers the chance to make sizable profits off a few acres. Many farmers in the Grand Valley owned between 5 and 20 acres.

The community used the small land argument as a lure for prospective settlers. Noting that the public lands were filling up with farmers, valley boosters often noted the advantage of settling in a place like Grand Junction, where families could enjoy a prosperous family farm connected to a growing community.<sup>62</sup>

Many hoped that irrigation communities would prove superior to other agricultural or mining communities. Boosters believed that small farms were not simply more economical, but also socially beneficial. A promotional

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<sup>60</sup>*Grand Valley Star*, January 9, 1890, p. 1.

<sup>61</sup>*Grand Junction News*, May 10, 1890, p. 1.

<sup>62</sup>*Grand Junction News*, November 23, 1889, p. 1, and November 30, 1889, p. 1.

tract pointed out that areas like Grand Junction enjoyed a more family-friendly setting because of the increased population density. Fewer acres for supporting a family meant more families could live close together and develop institutions "not usually found in other agricultural sections."<sup>63</sup>

Early in the town's history, a letter to the *Grand Junction News* pointed out the social reform possibilities of an irrigated community. The letter argued that western communities offered substantial choices for young men who wanted a career, education and family. In the east, the letter writer sneered, "They learn Greek and Latin at great expense, are too good for the honors of a professional career. Rich young men are not as ambitious as the not rich. To such men the ideas of farming as a career would seem ludicrous."<sup>64</sup> Here in the Grand Valley, argued the writer, young men could pursue wealth in farming. He could also pursue intellectual improvements, since irrigation permitted more leisure time for contemplation and learning. Grand Valley was on the crest of a new wave that would combine farming with other valued parts of civilization.

I believe that the next ten years will see a great change in all this. I believe that farming will demand its share of patrons who are from the

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<sup>63</sup>*Government Lands, Fruit Lands*, 3.

<sup>64</sup>*Grand Junction News*, January 27, 1883, p. 2.

highest ranks of culture and intellect. I believe that this high flown nonsense that manual labor is incompatible with education and only suited to ignorance, must be done away, and that men must come to see that the farmer is not only the most independent, but also should be the best educated man.<sup>65</sup>

This idea did not originate in the Grand Valley. For many years, irrigation promoters had envisioned an ideal community based on irrigated agriculture. William Ellsworth Smythe, among many others, believed the agrarian lifestyle to be superior to the industrial cities. He noted, however, that western agricultural communities lacked many amenities enjoyed by larger cities. Farmers were isolated and lonely, far from libraries, theaters and other institutions that made city life inviting. Cities, on the other hand, were dirty, racially divided, loud, and dangerous. Irrigation promised to combine the best of both worlds into the ideal community. A Grand Valley promotional tract noted that:

Nothing will take the various social distempers which the city and artificial life breed out of a man like farming, like direct and loving contact with the soil. It draws out the poison. It teaches him patience, and restores the proper tone to his system.<sup>66</sup>

Smythe envisioned a form of agriculture in which people lived in small towns and farmed small lots on the perimeter. Irrigation would allow smaller farms to focus on more lucrative crops such as fruits and vegetables. The smaller

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<sup>65</sup>Ibid.

plots would allow farmers to live in town and participate in community events and institutions. Smythe also believed that hydropower would allow water to power the community, making these towns almost self-sufficient.

Greeley's Union Colony was a good example of a model town. William Pabor attempted to recreate that experiment with his own town of Fruita, down the road from Grand Junction. He organized the town along Smythe's idea. The community surrounded the town park, with the orchards and small farms on the outskirts.<sup>67</sup> From the beginning, Pabor intended Fruita to be more than a town. He owned all the lots and imposed his temperance beliefs by declaring the town dry.

While Grand Junction's pioneers wanted to create a good city, their intentions were not utopian. They were not trying to withdraw from industrial America but in fact wanted to bring the rest of the country to the Grand Valley. They fully embraced the capitalist market and worked hard to connect the valley to distant markets. They wanted to create a commercial town that specialized in agriculture. Some may have feared too much growth, but few if any desired to keep Grand Junction isolated. These were not idealists who wanted to retreat from America and begin a commune in

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<sup>66</sup>*All about Grand Junction*, 18.

the wilderness. They genuinely believed they could create a community that would draw the rest of Colorado to them.

They did, however, believe that their community combined the best of all worlds. Like many nineteenth-century Americans, residents of the Grand Valley believed that agriculture was a superior vocation. They quoted George Washington's statement that "Agriculture is the most healthful and the most noble employment of man."<sup>68</sup>

From the earliest days of the settlement, farmers speculated that the arid, warm valley would be perfect for fruit cultivation. In the inaugural edition of the *News*, editor Price noted that "it is pre-eminently a fruit country. Altitude 5,000 feet. Only an inch of snow on one or two occasions last winter. There are but few windy days—the sunshine and warmth of the Pacific Slope prevailing." In 1882, Elam Blaine, one of Grand Junction's early citizens, introduced the first fruit trees to the area, successfully planting apple and peach trees.<sup>69</sup>

Blaine's success attracted D. S. Grimes, a Denver area fruit grower. Grimes predicted that Grand Junction was one

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<sup>67</sup>Fruita is still like this today. Visitors exit the interstate and find themselves driving in a circle until they choose a street.

<sup>68</sup>*All about Grand Junction*, 7.

<sup>69</sup>Steven F. Mehls, *The Valley of Opportunity: A History of West-Central Colorado* (Bureau of Land Management, Cultural Resources Series Number 12, 1988), 144.



of the great potential fruit growing regions in the state.<sup>70</sup> Grimes later attempted a large-scale commercial nursery for fruit trees. In late 1882, he purchased 640 acres between the Grand and Gunnison rivers and hoped to plant 200 acres that first year.<sup>71</sup> He failed because of a limited market and an inadequate water supply, but his attempt assured prospective settlers that "fruit culture," as it was called, had a great future in Grand Junction.

Grimes' experiment, added to the valley's excellent climate, convinced Grand Valley boosters that irrigated fruit could provide an excellent economic base to attract farmers. Residents embraced fruits so quickly that more experienced farmers warned them of planting too much of the wrong crop. Many farmers planted a little of every kind of non-tropical fruit they could. In the early stages of experimentation, they discovered that not all varieties grew well in the valley, nor were all as marketable.<sup>72</sup> D. S. Grimes also warned eager settlers that raising orchards differed significantly from growing wheat or other crops. The land needed extensive preparation and the soil often

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<sup>70</sup>*Grand Junction News*, October 28, 1882, p. 4, Mehls, *Valley of Opportunity*, 144.

<sup>71</sup>*Grand Junction News*, December 2, 1882, p. 1.

<sup>72</sup>Mary Rait, "Development of Grand Junction and the Colorado River Valley to Palisade from 1881 to 1931—Part I." *Journal of the Western Slope*, 3 (Summer, 1988): 30.

required planting other crops to improve the soil content for fruit production.<sup>73</sup>

Soon after Grimes' nursery attempt failed, William Pabor replaced him as resident fruit promoter. Pabor wrote a book on *Fruit Culture in Colorado* and believed that the Grand Valley's climate and access to irrigation gave it great potential for growing lucrative fruits like peaches, apples and pears. Pabor believed that the area's access to the San Juan mining district gave it the all-important markets to make fruit profitable.<sup>74</sup>

Pabor first came to the Grand Valley as an agent for the Colorado Loan and Trust interested in investing in the Grand River Ditch. Pabor immediately saw the potential of connecting the ditch to growing orchards, so he surveyed the valley for the best place to locate his farming community. In 1884, he formed the Fruita Town and Land Company and purchased 520 acres of land west of Grand Junction. He also purchased the necessary water rights and used his vast influence on the Grand River Ditch, to ensure an irrigation supply for his town. Pabor planted small orchards and then sold them to prospective settlers. In 1886, he sold a five-

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<sup>73</sup>*Grand Junction News*, February 2, 1884, p. 2.

<sup>74</sup>Mehls, *Valley of Opportunity*, 144.

acre lot for \$500 dollars, well above the going rate.<sup>75</sup> He assured prospective settlers that fruit promised a return around \$600 to \$800 an acre.

During the 1880s and into the 1890s, Pabor's dream of the idyllic fruit community continued. By the late 1880s, Grand Junction residents began to regard fruit culture as a potent economic force. The local paper often compared the valley's potential with the agricultural giant of California. (The Grand Valley constantly operated in the shadow of Denver to the east and California to the west, always trying to position itself as either the Denver of the Western Slope, or the Rocky Mountain answer to California). In 1889, the News asserted that the Grand Valley was a superior fruit producer than the entire state of California. The paper conceded that California was an attractive area for investors but claimed that not only did their lands not increase in value as fast as Colorado's, but California was "thousands of miles from market, while Grand Valley is within reach of the best markets in the West."<sup>76</sup> The paper further conceded that Colorado growers could not produce semi-tropical fruits like lemons and oranges but still claimed that a farmer who invested in Grand Valley land would return a profit greater than one in California.

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<sup>75</sup> Merton Nolen Bergner, "The Development of Fruita and the Lower Valley of the Colorado River from 1884 to 1937," (M. A. Thesis, University of Colorado, Boulder, 1937), 30-32.

Area boosters clearly deluded themselves if they believed that a small valley in remote Colorado could compete with California's central valley. A quick glance at the map demonstrated the stark differences between the remote small acreage of Western Colorado and the vast Central Valley with its access to coastal markets. However, many in the area clearly believed, correctly, that markets would determine the success or failure of the fruit industry.

Fruit growers and land speculators believed that their proximity to the mining towns of Western Colorado would provide them with a market for all time. In 1889, a Board of Trade circular claimed that access to Leadville and Aspen would take care of all the fruits, vegetables, and grains that the Grand Valley could produce. That past summer, according to the Board, the demand for area fruits was twice the supply.<sup>77</sup> In the event that the valley produced a surplus, it could be shipped to the Eastern Slope.

In 1890, the paper printed a letter allegedly from a Nebraska farmer who was quite impressed with the Grand Valley. He said that the plains states could grow an abundance of wheat and corn, but could not cover the cost of shipping. Grand Valley had the advantage of perpetual

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<sup>76</sup>*Grand Junction News*, June 29, 1889, p. 1.

markets in the mining communities: "Your near mining towns will always consume more than you can raise, at four times the price our eastern farmers get," wrote the farmer.<sup>78</sup>

Irrigation allowed Grand Valley settlers to cling to romantic visions of small agriculture. The combination of limited land area, lengthy growing season, and access to irrigation encouraged small farms. Locals attributed this to moral choices, but these factors were not ideological, but environmental.

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<sup>77</sup>*Grand Junction News*, November 16, 1889, p. 1. The paper reproduced the Board of Trade circular in this edition.

<sup>78</sup>*Grand Junction News*, February 18, 1890, p. 2.

## Chapter Three

### *Private Irrigation and the Grand Valley Irrigation Company*

Few enterprises within the arid West required outside intervention more than irrigation projects. Private irrigation companies routinely failed in the American West. In 1900 ninety percent of western canal corporations were thought to be in financial distress.<sup>1</sup> Often connected to land speculation ventures, private canal companies in Colorado and California succeeded in watering land adjacent to rivers but found more extensive projects nearly impossible to construct at a profit.<sup>2</sup> Private ditch companies often served struggling farmers who lacked capital, experience, and income to fund irrigation projects. Early settlers to Colorado's Grand Valley encountered this problem when they found agriculture virtually impossible without irrigation. When local capital failed to construct expensive canals, local boosters recruited and even

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<sup>1</sup>Robert G. Dunbar, *Forging New Rights in Western Waters* (Lincoln: University of Nebraska Press, 1983), 27.

<sup>2</sup>For the difficulties of private irrigation companies in the nineteenth-century American West, see Donald J. Pisani, *From the Family Farm to Agribusiness: The Irrigation Crusade in California and the West, 1850-*

exploited outside investors. The private canal companies in Colorado's Grand Valley, however, failed to return a profit primarily because promoters built the projects ahead of need, rather than responding to population pressures. Their major focus of constructing a canal opened more farmlands than the valley had farmers. Low population pressure depressed land prices and reduced potential revenue for the irrigation company, both in land and water sales. In the end, the local farmers gained ownership of a completed ditch built for them by outsiders.

Many western communities were highly risky ventures and Grand Junction was no exception. The remoteness and extreme aridity of the Grand Valley emphasized its speculative nature. While other neighboring communities could exist as cattle or mining towns, Grand Junction could not survive without irrigation. Community boosters needed irrigation canals to attract the population they so desired.

The community's most valuable natural resource was the seemingly unlimited water supply in the Grand River. That water did little good within the river's banks, however, and soon after settling the small community, Grand Valley settlers turned their attention to constructing irrigation canals. The town founders, like many nineteenth-century

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*1931* (University of California Press, 1984) 78-101, and *To Reclaim a Divided West: Water, Law, and Public Policy, 1848-1902*, (University of New Mexico Press, 1992) 104-108, and Dunbar, *Forging New Rights*, 24-28.

Americans, believed progress meant attracting a stable population and economic base. To do so, they firmly believed the valley's future lay in developing a strong agricultural economy. Yet, building private irrigation projects in the Grand Valley proved more difficult and expensive than initially expected.

Ostensibly, irrigation was a simple task. Some nineteenth-century irrigation projects utilized pumps, but most relied on gravity fed canals and ditches to transfer water from a nearby river to the prepared fields. They included a diversion dam and a main canal which diverted water to the highest part of the potential farmland. Farmers then built lateral, or smaller ditches to transfer the water from that canal to the farms. Irrigators drew water from the lateral by creating a small dam and then cutting small outlets in the lateral to divert a steady stream onto the land. In the most basic irrigating, the farmer simply flooded the intended acreage with a steady stream of water for several hours. More advanced and time consuming irrigation required preparing the field with small furrows to control the water flow.

This required cleared and relatively level land to assure an even application of water. Uneven fields required extensive leveling or the construction of more laterals to reach the high ground. Poorly prepared fields led to dry,



unirrigated portions of the land and other portions with too much water. This condition, in turn, required drainage ditches. Grand Valley lands were very attractive to irrigators because they did not require extensive clearing or leveling. Grand Valley farmers did not have to clear trees from farms since few trees grew on the valley floor. Farmers often leveled their fields by dragging a length of railroad iron between two teams of horses. An alternative was to connect two-by-eight planks in the form of a square. Horses then pulled the square across the field and evened the grade.<sup>3</sup> Lateral canals also required a great deal of work to clear weeds to keep them flowing properly. Irrigation often proved more difficult than expected, and many novices experienced great frustration before they learned to do it properly.

In the Grand Valley, private irrigation developed in four stages during the 1880s. First, farmers tried small, local, cooperative efforts aimed at irrigating land close to the river. Second, when that failed to open enough acres to irrigation, a local entrepreneur named Matt Arch raised \$200,000 to finance a more extensive canal. Arch succeeded in constructing part of the ditch, but had to recruit outside capital to continue construction. Third, he brought

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<sup>3</sup>*Grand Junction News*, March 28, 1885, p. 4. This came from an extensive article on leveling methods.

in the agricultural journalist and promoter named William Pabor, who gave Arch connections to Denver capitalists. One of these investors, T. C. Henry, then bought Arch out and finished the ditch. Fourth, even though Henry and Pabor completed the ditch, their company failed to make a profit and was eventually sold to the local farmers as a non-profit corporation.

All of the initial irrigation attempts were small cooperative projects designed to turn the Grand River onto adjacent land. In October 1881, before the U. S. Government formally opened the land to settlement, four men began digging the Grand Valley Ditch with picks and shovels.<sup>4</sup> They soon found it beyond their limited capital and engineering skills, but not all early projects failed. In March, 1882, a group of settlers led by J. P. Harlow and Patrick Fitzpatrick formed another company of twenty-one stockholders to build the Pioneer Ditch, which was completed by April 20th.<sup>5</sup> It was a small venture, six miles in length and only watered a few acres close to the river, but it proved that irrigation was possible in the region. This was the easiest canal to build and the most accessible land to irrigate. The initial canals were limited in size because

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<sup>4</sup>Davidson, "The Grand River Ditch: A Short History of Pioneering Irrigation in Colorado's Grand Valley," *Journal of the Western Slope*, 1 (Fall, 1986), 4.

<sup>5</sup>Charles W. Haskel, *A History and Business Directory of Mesa County, Colorado* (Grand Junction, 1886), 4-6.

of limited equipment and engineering expertise. This attempt also proved how expensive such projects could be. The original incorporated value was \$50,000, a steep price for such a small canal.<sup>6</sup> Irrigation had begun, but from this point forward it would be much more costly and difficult to water the remaining lands. The remaining project, the Pacific Slope Ditch, was constructed to provide domestic water to the town.

Canal construction occurred haphazardly during the region's early history, as it did in the rest of the state, primarily because Colorado's water law complicated Grand Valley irrigation development. The state chose the doctrine of prior appropriation to determine water rights.<sup>7</sup> This doctrine created legal headaches since the original laws did not require settlers to formally post their appropriations, and did little to address scarcity conflicts. To resolve this, in 1879 the Colorado legislature created irrigation districts and left the determination of water rights to

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<sup>6</sup>Davidson, "Grand River Ditch," 5.

<sup>7</sup>Western mining innovated "prior appropriation" over riparian water rights. The Doctrine of Riparian Rights, as nineteenth-century jurist James Kent noted, gave land owners an "equal right to the use of the water which flows in the stream adjacent to his lands. . . without diminution or alteration." Quoted in Dunbar, *Forging New Rights*, 59. This meant that property owners could use bordering water for any purpose as long as the owner did not alter the stream flow. This doctrine, while well suited to humid regions, was ill suited to the arid West. Miners in California adopted "prior appropriation" for distributing water rights, which recognized those who first legally claimed and used the water. This transformed water into a commodity which could be bought, sold, or even transported. For the development of western water law, see Donald J. Pisani, *To Reclaim a Divided West: Water, Law, and Public Policy, 1848-1902* (Albuquerque: University of New Mexico Press, 1992). Colorado fully embraced the prior appropriation doctrine. Article 16 of the Colorado State constitution states that "the right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied." See Dunbar, *Forging New Rights*, 87, and the full text is online at <http://i2i.org/SuptDocs/ColoCon/iscolocn.htm>.

district court judges. In addition, and most important for private irrigation companies, the state constitution left the regulation of water rentals to county governments, and an 1879 law left this oversight to county commissioners. This caused immense problems especially for foreign-backed irrigation companies which struggled to raise water fees over the objections of local politicians.<sup>8</sup>

These state laws most affected eastern slope development in more established counties. After all, the 1887 legislation that finally created water districts and the position of state hydraulic engineer, originated to settle conflicts on the Cache la Poudre River.<sup>9</sup> These conflicts arose between settled communities trying to "retrofit" existing water development with new legislation. In addition, these conflicts centered around too many farmers, not enough water. In the Grand Valley, however, they had more water than farmers.

Therefore Grand Valley water development occurred haphazardly, to be sure, but the valley lacked the kind of conflict experienced by eastern slope farmers. Until the state formed a water district in 1887, the farmers tapped the Grand without any state supervision and with little

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<sup>8</sup>Dunbar, *Forging New Rights*, 87-98.

<sup>9</sup>Ibid.

local planning.<sup>10</sup> Area ranchers desperately needed irrigation canals to make their lands productive, but few had the resources to construct anything of size. To fund their own fledgling operations, many worked as ranch hands in the Ouray area, or for the railroad.<sup>11</sup> As a result, early canals were substandard products to say the least. Spring floods washed out unreliable headgates and flooded farmlands.<sup>12</sup> The Pacific Slope Ditch, built to supply domestic water, often flooded parts of the town and was rarely clean. The *News* reported that the "irrigating ditches on Main street and Colorado avenue are literally reeking with filth. The question of health and decency aside, we ought to have pride enough in our city to be certain that we produce a good impression on visitors."<sup>13</sup> As was often the case with initial community development, boosters often exchanged planning and quality for expediency. Valley residents desperately needed a more stable and secure source of irrigation water.

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<sup>10</sup>Georgina Norman, "White Settlement on the Ute Reservation, 1880-1885," (M. A. Thesis, University of Colorado, 1955), 74. In 1883, the first Colorado State Engineers reports recommended that additional water districts be created including one to encompass the newly settled Grand Valley.

<sup>11</sup>Nancy Blain Underhill, "Treking to the Grand Valley in 1882," *Colorado Magazine*, 8 (Sept. 1931), 181; Norman, "White Settlement," 74. Since most landowners practiced a mixed agriculture, the terms "rancher" and "farmer" are often interchangeable. Those who raised livestock also grew a variety of crops, and farmers also supplemented their crops with a small herd of cattle, sheep, or hogs.

<sup>12</sup>Mary Rait, "Development of Grand Junction and the Colorado River Valley to Palisade from 1881 to 1931—Part 1" *Journal of the Western Slope*, 3 (Summer, 1988), 18. This was typical of early community ditch building. See Robert G. Dunbar, *Forging New Rights in Western Waters* (University of Nebraska Press, 1983), 20.

<sup>13</sup>*Grand Junction News*, March 3, 1883, p. 2.

Grand Junction's leaders believed that a large irrigation system would attract outside investment in their community, as well as future settlers. This influx of capital would also mitigate the isolation of an island community. The land farther from the river appeared rich, but had little value without water. They understood that the community had to attract investors or forgo the life-giving capital necessary for economic growth. The *Grand Junction News* editorialized, "all that the Grand Valley wants now is the capital to build one or two large ditches, and then we can show to the people of the state that the reservation is worth redeeming from solitude. With the water on our lands, Grand Valley will make a showing in the agricultural yields of the state that will surprise the people."<sup>14</sup> If they did not attract the eye of settlers and investors, the population and capital would go elsewhere, namely Colorado's eastern slope or the San Luis Valley.

While valley residents believed that irrigation would come soon, their optimism often overshadowed common sense and illustrated how desperately they desired good canals. In December 1882, the paper promised that by spring of the following year, workers would complete construction of a large ditch opening the entire valley to irrigation. From their vantage point, they believed that such a ditch

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<sup>14</sup>*Grand Junction News*, November 25, 1882, p. 2.

required only to bridge gullies, "which are but few," and open thousands of acres to farming.<sup>15</sup> While a laudable goal for valley farmers, this ditch was far more difficult from an engineering standpoint than the booster's knew. It would require the engineering and financial forces of the Reclamation Service to build, and would take much longer than four months to excavate. It demonstrated the optimism of the early promoters. With ingenuity and hard work, they believed they could transform the valley into a Garden.

Not only were they optimistic, but town boosters felt pressure to provide irrigation to the valley as soon as possible. Many in the late nineteenth century saw the economy in mercantilist terms.<sup>16</sup> In other words, there was a finite amount of capital and a limited number of opportunities. States or regions that received economic investment, did so to the disadvantage of other locations. Capital that went to the San Luis Valley, for example, was money taken directly from the Grand Valley. The *News* constantly referred to irrigating the entire valley as "the large ditch" and opined that the town "must take action to dig a large ditch in time to place the greater portion of the valley under water before spring is here," adding that

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<sup>15</sup>*Grand Junction News*, December 9, 1882, p. 1.

<sup>16</sup> Donald J. Pisani, *To Reclaim a Divided West*, 172-74.

the cost should not be that expensive.<sup>17</sup> Community building on the frontier was not without competition, and failure awaited the slow.

The community envisioned a bigger ditch from its earliest days. In December, 1882, while discussing the progress of the Pioneer and Pacific Slope ditches, the *News* assured the valley that "a new ditch, to be made by local effort, is under contemplation; it is to head farther up the river, and will embrace a much larger scope of land, and extend further down the valley." The Greeley paper noted that Grand Junction had two small ditches, "but needs a much larger one." In November 1882, the *Denver Republican* predicted that within a few months promoters would build a large canal on the north side of the valley because the "prosperity of the valley" depended on it.<sup>18</sup>

In January, 1883, Matt Arch, a young entrepreneur, bought the fledgling Grand Valley Ditch. A Western slope resident, Arch had previously owned a ranch on the Tomichi Creek area near Gunnison, so he had agricultural experience. The Grand Valley Ditch had been under construction since 1881, but progress had been slow. Arch renamed it the Grand River Ditch and sold 20,000 shares of stock at ten dollars

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<sup>17</sup>*Grand Junction News*, December 9th, 1882, page 2.

<sup>18</sup>*Grand Junction News*, December 9, 1882, p. 2; December 2, 1882, p. 1; December 16, p. 1; Norman, "White Settlement," 75.



per share. He planned to divert water from the Grand River about 14 miles above the town and build a ditch thirty-five feet wide and five feet deep that would thread through the north side of the valley.<sup>19</sup> Arch understood the importance of establishing irrigation in the valley. "This ditch," he said, "will place a very large amount of land under irrigation, and make glad the hearts of many pre-emptors who have taken up land in the upper part of the valley. This will set at rest the many doubts about getting water on our land, and give new confidence to the people." Undoubtedly, this meant that land speculators sitting on dry land finally knew their land would be valuable, both for farming and for resale. Arch also knew that this ditch would benefit the entire valley. True to the town's optimism, Arch promised that the ditch would pass the townsite in time for the next crop season.<sup>20</sup>

Arch wanted more from the ditch than just irrigation. He designed several dramatic "drops," hoping to make the canal both aesthetically pleasing and a source of power. The drops would feed water wheels to power mills and other small industries, while also allowing locals to transport heavy timbers and presumably trade goods.<sup>21</sup> Arch himself

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<sup>19</sup>Rait, "Development of Grand Junction," 18.

<sup>20</sup>*Grand Junction News*, January 6, 1883, p. 2.

<sup>21</sup>Haskell, *A History*, 71, *Grand Junction News*, March 24, 1883, p. 1.

planned to build a flour mill on one of the drops. He also expected the falls to create pools, which the *News* thought would make excellent fishing holes, should "the company allow boats on the ditch." Arch also hoped the canal would lure young lovers to walk along it under the Colorado moon.<sup>22</sup> This appealed to town promoters, who liked the idea that the irrigation canal could offer an aesthetic attraction to the valley.

The valley watched with interest as Arch began constructing his ditch. In January 1883 the *News* reported that 25 teams of horses and nearly 50 men were at work on the ditch and Arch had enough money to extend the canal twelve miles below the town.<sup>23</sup> However, the task at hand proved more difficult than expected. The size and length of the canal created problems. Occasionally workers blasted through shale ridges with dynamite. The floor of the Grand Valley contained numerous small ravines and gullies common in a land of little rain. To cross them, Arch built flumes while he used horse-drawn excavators to dig the main canal. He also had to re-survey a portion of the canal when workers realized that their first survey had the ditch running uphill.<sup>24</sup>

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<sup>22</sup>*Grand Junction News*, April 26, 1884, p. 3.

<sup>23</sup>*Grand Junction News*, January 20, 1883, p. 2.

<sup>24</sup>Davidson, "Grand River Ditch," 4.

Arch also faced a labor shortage. The new town of Grand Junction had attracted many settlers, but those first on the scene were family men, interested in opening their own businesses. Typical settlers were those like S. G. Crandall, whose family moved to town. One opened the first bank, while another launched a mercantile store.<sup>25</sup> Others created hotels, restaurants and other businesses. Those who settled on the outskirts were often too busy trying to get their farm underway to work for Arch. In other words, settlers were not necessarily laborers, and the transient labor force worked on the incoming railroad and was not available for irrigation ditches. This frontier town required prospective settlers to have enough capital to move to such a distant and remote community. Arch hired men and teams from Utah to keep construction going. In its May 5 issue, the *News* noted that Arch had imported a crew from Springfield, Utah, that included forty teams, wagons, scrapers and plows.<sup>26</sup> The rest of the workers came from landowners who needed the ditch completed before their land could be utilized. They worked for living expenses and hoped the canal would be completed soon.<sup>27</sup>

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<sup>25</sup>Haskel, *A History*, 8.

<sup>26</sup>*Grand Junction News*, May 5, 1883, 2.

<sup>27</sup>Rait, "Development of Grand Junction," 18.

Arch was a capable promoter and understood the importance of maintaining community support. In February, 1883, he toured the ditch with local reporters. While the subsequent newspaper story was upbeat, it was obvious that Arch faced opposition within the community. Few disagreed with the goal of irrigating the valley, but many chose not to invest their money in a ditch venture widely considered impossible. Recognizing this, Arch invited the newspaper to witness his progress, and the *Grand Junction News* reported that the ditch was progressing nicely and the community should rally behind it.<sup>28</sup> Price noted that those who wanted town lots to increase in value should support the Grand River Ditch, as only a strong agricultural base would help Grand Junction grow. He also warned that Arch's project was the best chance the valley had for a professional and competent canal system. Need he remind residents of the poorly constructed and polluted ditches already built? No, for Price it was clear that the community needed to rally behind the Grand River Ditch Company.

Struggling to maintain funding, Arch turned to another agricultural promoter to assist in developing the ditch. William Pabor, a noted Colorado promoter, town builder and agricultural journalist had recently relocated to the Grand Junction area in search of land for fruit growing. Pabor

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<sup>28</sup>*Grand Junction News*, February 24, 1883, p. 2.

immediately saw the benefits of the Grand River Ditch and invested. As the author of two books on Colorado agriculture, Pabor well understood the need for irrigation. Beyond that, however, Pabor specifically needed the ditch in the Grand Valley to water his new town venture, Fruita. He attempted to sell small orchard-sized lots with a water right from the Grand River ditch included.

Pabor was an excellent choice to assist Arch in completing the canal. Not only was he interested in the valley's agricultural development, he was a seasoned journalist and promoter. In fact, he was far more successful at those jobs than at farming. Pabor's attempt to farm in Greeley, Colorado, had ended in bankruptcy, with the loss of his land and farm.<sup>29</sup> In addition to his experience as an irrigation promoter, Pabor had connections to Denver capital. He first visited the Grand Valley as an agent for the Colorado Loan and Trust Company.<sup>30</sup> Not surprisingly, Pabor became one of the Grand River ditch's most prominent and vocal promoters. He wrote a weekly column in the paper advocating investment in irrigation and his fruit lands. The News noted that Grand River Ditch

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<sup>29</sup>David Boyd, *A History: Greeley and the Union Colony of Colorado* (The Greeley Tribune Press, 1890), 390.

<sup>30</sup>Haskell, *A History*, 73; Kathleen Underwood, *Town Building on the Colorado Frontier* (University of New Mexico Press, 1987), 12-13; Steven Mehls, *The Valley of Opportunity: A History of West-Central Colorado* (Bureau of Land Management, Cultural Resources Series Number 12, 1988), 144; Morton Nolen Bergner, "The

Company manager Matt Arch was to "have one of the best five acre fruit tracts adjoining the town [Fruita]. Mr. Pabor is to select for him."<sup>31</sup> Pabor's influence continued far beyond his connection with Arch. In February, 1884, when the Company's board met to discuss the direction the canal should take, it came as no surprise that the board voted unanimously to extend the ditch to Fruita. At the same meeting, William Pabor was elected Secretary and General Manager.<sup>32</sup> Irrigation and land development were linked hand in hand. If the ditch succeeded, it meant financial success for all landowners under the ditch.

*Grand Junction News* editor Edwin Price did not work for the ditch company directly, but he served as a public defender for Arch and Pabor. As newspaper editor and area landowner, he sent the message to prospective settlers that the Grand Valley was the best place to settle. The ditch's completion would increase both land values and agricultural production. But, beyond playing the role of booster and promoter, Price obviously felt that the community was at a critical juncture in its young history. How many more failed efforts could the area absorb before settlement and

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Development of Fruita and the Lower Valley of the Colorado River from 1884 to 1937" (M. A. Thesis, University of Colorado, 1937), 14.

<sup>31</sup>*Grand Junction News*, December 22, 1883, p. 3.

<sup>32</sup>*Grand Junction News*, February 2, 1884, p. 3.

investment simply moved on to neighboring towns or states?

In the March 24 issue, he editorialized that:

In the face of all this what remains for the people of Grand Junction? Here are the facts as they are today: 1st. The Grand River Ditch or nothing. 2nd. two-thirds of the entire work completed and all owned by men who propose to stay in this valley. 3rd. The necessity of completing an enterprise which will endure as long as there is any productiveness in this soil or sunshine over head.<sup>33</sup>

Price exaggerated the ditch's progress, but only slightly. By the time he wrote, workers had finished twenty-two miles of the ditch. What remained was to construct flumes across the ravines and to build frames for the "drops" or small falls. The ditch would not carry water without these fixtures, but ranchers could now see a possibility of water reaching their land. Price's assertion that the ditch was "all owned by men who propose to stay in this valley" reflected more of an appeal to locals to support the ditch than it accurately reflected ditch ownership. It was one last rallying effort to get the valley behind the ditch before the canal company looked elsewhere for funding. Irrigation, he felt, was the key to the community's success, and he hoped that local landowners would be the main beneficiaries. Price argued that "to the

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<sup>33</sup>*Grand Junction News*, March 24, 1883, p. 1.

people of this valley it [the ditch] will be the purse of Fortunatus in which will always lie a shining coin."<sup>34</sup>

Arch and his ditch faced further difficulties when impatient landowners below town met to develop their own ditch company.<sup>35</sup> In December, J. E. Walls and other farmers had incorporated the Independent Ranchmen's Ditch Company, but they did not begun construction until the spring.<sup>36</sup> Worried that the Grand River Ditch would not reach their land soon enough for the season's crops, they pushed to build the Independent ditch. They planned that the ditch leave the Grand River just west of town, right below the confluence of the Grand and Gunnison rivers, run parallel to the river bank, and provide irrigation for land right next to the Grand River.

Faced with the competing ditch and mounting discontent, in March, 1883, Arch and his backers scrambled to maintain public confidence in their project. The *News* rallied to Arch's defense, attacking the rival ditch builders claiming the valley would be better served if everyone pitched in on the Grand River Ditch instead of building smaller, cheaper and less extensive ditches. This was a quick fix that would not serve the community's long-term interests, observed the

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<sup>34</sup>*Grand Junction News*, March 24, 1883, p. 1.

<sup>35</sup>*Grand Junction News*, March 10, 1883, p. 3.

<sup>36</sup>Davidson, "Grand River Ditch," 8.



*News*, and would simply divert precious money, labor and resources away from the all-important Grand River Ditch.<sup>37</sup>

The *News* then reported that if Arch's ditch did not pass the townsite in time for spring planting, those ranchers were authorized to use land above town rent-free for that season.<sup>38</sup> Price then encouraged local farmers to plant their spring crops as "Matt Arch's ditch will go through *sure*."<sup>39</sup> At the end of the month, however, the paper admitted that the ditch company was selling bonds to raise additional capital. Details were sketchy, but the *News* reported that "a certain party has taken the \$30,000 dollars of bonds now issued, and has contracted to take the remainder of the \$75,000 as fast as they are issued." This arrangement, editor Price assured his readers, "insures money enough to push matters to completion." The valley soon would learn that outside investors were now funding their ditch.<sup>40</sup>

While Price, Pabor, and other Arch supporters had selfish reasons to promote the Grand River Ditch company over the Independent Ranchmen's, many of their points were valid. The Independent, much like the earlier Pioneer ditch

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<sup>37</sup>*Grand Junction News*, March 24, 1883, p. 1.

<sup>38</sup>*Grand Junction News*, March 10, 1883, p. 2.

<sup>39</sup>*Grand Junction News*, March 17, 1883, p. 2.

<sup>40</sup>*Grand Junction News*, March 31, 1883, p. 2.

were small, and very small projects would not open up the valley to commercial agriculture.

Arch's financial backing, however, proved inadequate. In the spring of 1883, he turned to local businessmen and ranchers for additional money. The ditch did little good unfinished, and the potential gain was great. However, as many would find out, that investment paid off only in land, not in water. Construction of the canal itself turned little or no profit. In March, Arch led a tour of Missouri businessmen interested in investing in the ditch.<sup>41</sup> He took the day to show the ditch's progress, and pitched the potential of the irrigated valley to prospective investors. According to the newspaper report, the tour was cursed from the beginning. Roads to the ditch were impassable, which made the trip uncomfortable. Added to that, William Pabor, in an attempt to convince the businessmen to invest, entertained them with overly optimistic visions of the Grand Valley's future.<sup>42</sup> These visions did not convince the visitors, and his constant barrage of fantastic predictions irritated them. The businessmen expressed polite interest, but refused to invest.

On May 16, 1883, however, the community watched approvingly as Arch opened the headgate on the Grand River

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<sup>41</sup>*Grand Junction News*, March 24, 1883, p. 1.

and turned water into the ditch for the first time. The town's leading citizens celebrated with plentiful food and spirits. "Governor" George Crawford, the town patriarch, spoke to the assembled "jolly" crowd, which watched as Arch directed the workers to turn the water into the canal.<sup>43</sup> The paper described the ditch builder as so "quiet" and "undemonstrative" that a stranger would have been unable to pick him out of the crowd. To those in attendance, however, his accomplishment seemed a giant step for the valley. Gunnison's reporter observed that the "roaring waters" began their journey through the Grand Valley, "a former desert, but soon to bloom equal, if not superior to, that of Salt Lake City."<sup>44</sup> Price remembered that as they drove back to town, they passed over the ditch, paused, watched the advancing water, and "left it creeping down the valley bringing with it the prosperity that shall know no end."<sup>45</sup>

The celebration masked the fact that Arch's ditch only carried water four miles, far less than the intended length of twenty four miles. Arch lacked sufficient funding to complete construction, much less to maintain such a ditch. In July the News noted that the company would have new management, but added hopefully that this change would not

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<sup>42</sup>Davidson, "Grand River Ditch," 12.

<sup>43</sup>*Grand Junction News*, May 19, 1883, p. 3.

<sup>44</sup>Norman, "White Settlement," 77.

delay its completion.<sup>46</sup> Details were not disclosed, but it was clear that the company was in financial trouble. By August, 1883, Arch could no longer pay his workers or feed the work animals.<sup>47</sup>

Arch's trip to Denver the previous March had been to discuss the ditch's financial woes with Pabor's old company, Colorado Loan and Trust, whose president and founder, Theodore C. Henry, was deeply interested in irrigation development. Locals, and even Price, believed that Henry's involvement in the ditch company occurred late in August after Arch's financial problems became too much to overcome with local assistance. More likely, however, was that Arch had maintained contact with Colorado Loan and Trust since he brought Pabor into the company. During the March meeting, Henry bought \$30,000 worth of bonds in the company, with the promise of purchasing more when they became available.<sup>48</sup> Arch hoped this amount would finance completion of the canal, allow him to repay his debts, and retain control of the company. Instead, late summer found Arch still attempting to build the trickier portions of the canal without incoming revenue. Faced with mounting debt, Arch sold his interest in the company to Henry for \$200,000 and

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<sup>45</sup>*Grand Junction News*, May 19, 1883, p. 3.

<sup>46</sup>*Grand Junction News*, July 21, 1883, p. 2.

<sup>47</sup>Davidson, "Grand River Ditch," 14.

left the Grand Valley.<sup>49</sup> His experience with the Grand River Ditch did not sour his interest in irrigation, however, since soon thereafter the *News* reported that Arch was the main contractor on a "big ditch" near Montrose.<sup>50</sup>

The two dominant personalities in Grand Valley irrigation, Henry and Pabor, brought varied experiences and backgrounds to the valley. T. C. Henry, as he was known to most Coloradoans, was a very controversial promoter. He moved to Colorado after several years of land speculation and promotion in Kansas. Henry supposedly took credit for introducing winter wheat to the plains, but he promoted the idea after Kansans discovered its effectiveness.<sup>51</sup> He then moved to Colorado, where he was involved in promoting irrigation throughout the state. In fact, he was connected to irrigation systems in some way in all four of the state's major river valleys. He either financed or managed three canals on the Poudre and Platte rivers; three more on the Arkansas River; four canals in the San Luis Valley and two in Western Colorado.<sup>52</sup> Henry became synonymous with irrigation development in late nineteenth century Colorado, in fact, he was dubbed the "Father of Irrigation" by some.

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<sup>48</sup>*Grand Junction News*, March 31, 1883, p. 2.

<sup>49</sup>Davidson, "Grand River Ditch," 14.

<sup>50</sup>*Grand Junction News*, September 22, 1883, p. 2.

<sup>51</sup>James E. Sherow, "Marketplace Agricultural Reform: T. C. Henry and the Irrigation Crusade in Colorado, 1883-1914" *Journal of the West* October 1992: 51-58.

T. C. Henry, it appears, was a strange mix of idealistic reformer and speculative promoter (which may be redundant). From all accounts, his dealings in Kansas were solely devoted to land speculation, but when he moved to Colorado, he blended social reform with irrigation, arguing that access to water should not be limited to the wealthy, or to large farming interests. He attempted to build mutual stockholding companies to transfer the control of the water to the farmers who used it. Henry believed fervently in the market system and irrigation companies that could make him a profit, but he also wanted to extend some local control to the farmers who relied on the water.

Henry moved to Denver in the early 1880s and quickly presented himself as an agent of the Travelers Insurance Company, of Hartford, Connecticut. While he had some connection to that company, the nature of this was always controversial. In 1883, he organized the Colorado Loan and Investment Company and began investing money in irrigation companies throughout the state, including the Grand River Ditch Company. His dealings in the Grand Valley mirror Henry's involvement with three other ditch companies. Each were unfinished, foundering and in need of capital. He issued bonds based on the stocks of the companies, then marketed the bonds to eastern investors. The money he

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<sup>52</sup>Sherow, "Marketplace Agricultural Reform," 52.

raised from bond sales went into constructing the canals. It was a circular investment deal, all perched precariously on the potential value of the land surrounding the ditches. However, when his own capital ran thin, construction ground to a halt, and the value of the stocks and bonds fell. When this happened, his investors grew angry and demanded their money back. Henry turned to the Travelers Company for more capital. The company grudgingly agreed, but insisted on exerting more control over their investment.

Upon witnessing the ditch companies first hand, including the Grand River Ditch, Travelers management attempted to exclude Henry from overseeing any of their investments. Henry then filed a lawsuit against the insurance company, citing breach of contract. The legal wrangling continued for years, ending finally with the judge deciding in Henry's favor. Neither party gained much from the ruling. Travelers sold their irrigation systems to a syndicate in 1892, though not for much of a profit. The court awarded Henry a small restitution, but not enough to clear his debts. He continued his effort to build the perfect irrigation company, this time focusing on the Fort Lyon canal in the Arkansas valley.<sup>53</sup> This effort ended as had his earlier ones, with his mismanagement resulting in

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<sup>53</sup>Sherow, "Marketplace Agricultural Reform," 55.

the local irrigators taking steps to wrest control from Henry.

T. C. Henry soon found it difficult to raise money for any of his investments. Investors distrusted his management skills, and local promoters soon doubted his ability to produce results. He attempted to raise money for a few more projects, but found resistance everywhere. News of a Henry-backed project provoked local protests throughout rural Colorado. In 1914, Henry died with more debts than assets. His efforts to reform irrigation had succeeded only despite him. While many in Colorado eulogized him as the father of irrigation, most regarded him as an intrusive and corrupt speculator.

With Arch out of the Grand Valley, William Pabor took the reins of the Grand River Ditch Company and assured valley residents that his loyalties lay in Grand Junction, not in Denver. He began writing a weekly column that promoted the valley's agricultural potential. In September, Pabor announced that he would allow local workers to complete the ditch. This was no small matter, crowed the *News*, as the canal required extensive carpentry work alone. The necessary fluming, according to Pabor, would require "338,000 feet of lumber and 300 piles to complete it."<sup>54</sup> The company, the *News* announced, had solicited bids to



furnish the lumber and the canal engineer had already made a trip to Marshall Pass to find the red cedar necessary for the piles. Pabor evidently had friends in the Denver & Rio Grande railroad as well, since that company sent a pile driver for the ditch company's use.<sup>55</sup> Farmers would win both ways: by making a good wage working on the ditch, and then again when their farmland soared in value and productivity.

In October 1883, the *News* announced a large land transaction with important implications to the development of the Grand River Ditch. William Pabor, a trustee for the Colorado Loan and Trust company, purchased 640 acres of land ten miles down the valley for \$5,000.<sup>56</sup> He used this land to develop his own irrigation community, Fruita. Soon after purchasing this land, Pabor added a lateral to the Grand River Ditch to extend the canal to the Big Salt Wash and cover the lands near Fruita. The *News* estimated that the canal addition would cost nearly \$10,000 for the earth work alone and would cover nearly 12,000 acres of land.<sup>57</sup> The success of Pabor's own land development was now linked directly to the success or failure of the Grand River Ditch. In fact, three members of the ditch company board, William

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<sup>54</sup>*Grand Junction News*, September 15, 1883, p. 3.

<sup>55</sup>*Grand Junction News*, September 29, 1883, p. 3.

<sup>56</sup>*Grand Junction News*, October 27, 1883, p. 2.

Pabor, T. C. Henry and H. J. Aldrich, were also principal investors in the town of Fruita.

With Pabor's management and Henry's financing, construction on the Grand River Ditch continued. Earthen canals, however, were prone to seepage and leaking, and the Grand River Ditch was no exception. In 1884, the managers watched cautiously as water crept through the newer part of the ditch. The paper noted the ditch's progress was as tentative and guarded as that of an infant's. The water "bubbles up in places sixty feet away from the ditch and seems to penetrate the banks that are in place more readily than those that are made. The shale there is very open and filled in with alkali which dissolves readily. Mr. Harper [one of the ditch engineers] thinks it will settle down and stop leaking in a few days." They went on to note that in some places the ditch had simply sunken in, reminding the observers of a miniature chasm.<sup>58</sup> To remedy this, the crew was forced to "puddle" those seeping spots, which entailed soaking the ground until the soil settled and no longer leaked. In addition, the canal had difficulty handling flood waters and washed out in spots, so overflow channels had to be cut out. All of this added to the construction costs of the canal.

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<sup>57</sup>*Grand Junction News*, November 3, 1883, 2.

T. C. Henry left the construction to Pabor but managed the financial portion of the company from Denver. Valley residents viewed Henry as a wealthy investor and believed the ditch's financial problems were past, but he was more a promoter and financier than a man of wealth--he had very little money of his own.<sup>59</sup> When he assumed ownership of the Grand River Ditch, Henry inherited all the financial difficulties from Arch. The ditch remained incomplete and returned no income. The company's debts were mostly in bonds, which had no value unless the ditch became profitable. To achieve that end, Henry attempted to raise the price of water to the farmer. This was a logical step. He financed the irrigation system and charged for the delivery of water. Besides the construction costs, the ditch company also needed money for maintenance and operation.

Besides his financial difficulties, Henry and Pabor also faced another competitive ditch company. Angry with the higher costs and intrusive nature of the Grand River Ditch, local ranchers incorporated the Pioneer Ditch Extension on December 15, 1883, "with stock set at \$100,000 divided into 10,000 non-assessable shares at \$10 each." The new company aimed to extend the old Pioneer ditch for

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<sup>58</sup>*Grand Junction News*, April 26, 1884. Page 3.

irrigating and milling purposes. It provided an alternative to the "Big Ditch" for farmers closest to the river. Like Arch's battles the previous spring with the Independent Ranchmen's Ditch, this new company reflected valley discomfort with the Grand River Ditch.

These ranchers objected to the way the Grand River Ditch Company attempted to sell water rights. They believed that soon the ditch company would own both the land and water on the north side of the Grand River. For the protesters, it appeared that the ditch company had too much leverage on the farmers. If you owned land under the ditch, you needed access to the water to make your land profitable. However, the cost of the water right was more than the cost of the land itself. Critics contended that the ditch company would sell the water right for eighty acres for \$800 dollars, or "take a mortgage on your 160 acres for it. The result will be that in a short time they will own both the water and your farm."<sup>60</sup> This was a circular problem at its worst.

The *Grand Junction News* cautiously reported the conflict to the valley. As an instrument devoted to promoting the valley, the paper hesitated to alienate

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<sup>59</sup> James E. Sherow, *Marketplace Agricultural Reform: T. C. Henry and the Irrigation Crusade in Colorado, 1883-1914* *Journal of the West* 1992 31(4): 51-58.

<sup>60</sup> *Grand Junction News*, December 1, 1883, p. 2.

potential investors, but also attempted to assuage local fears. It first broached the subject by grudgingly printing a letter from J. A. Hall. The paper would not have printed it, but "Mr. Hall had the manhood to sign his name." The *News* also conceded that the letter represented valid concerns, but noted that it was also symptomatic of "that spirit of opposition to capital that always stands up before any large enterprise." Edwin Price was clearly troubled by the allegation, noting that Pabor and Henry were squeezing farmers with unfair pricing, the company "ought to be run out."<sup>61</sup> Price, however, clearly believed that capital and the Grand River Ditch Company were on the side of progress. That progress would undoubtedly and unfortunately produce winners and losers, but in the long run would benefit the valley more than hurt it.

After initially reporting the conflict, the *News* ignored the issue as much as possible. The last thing Price wanted was potential settlers in Kansas or Denver reading about impending class warfare in the Grand Valley. He returned to the issue obliquely at times, pointing out the importance of the ditch or other positives regarding irrigation. Two weeks later, for example, the *News* discussed the vast amount of arable farmland that would

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<sup>61</sup>*Grand Junction News* December 1, 1883, p. 2.

increase in value because of irrigation. "There is not an acre of level land under the present ditches that will not be worth \$50 in five years and some acres will be worth \$500." That, combined with a superior market and climate, insured prospective and current farmers sizable profits if they improved their land and invested in irrigation. Later in the same paper, he noted that water rental rates in California were as high as five dollars an acre. This, he noted, proved that the Grand River Ditch Company's price of two dollars per acre was more than fair.<sup>62</sup> The message was aimed not only at possible settlers, but also to irrigation's opponents within the valley.

When the rebels formed their own company, they organized it in a very different way from the larger Grand River Ditch. After all, they did not oppose irrigation, but management that might rob them of their land. Ranchers, led by J. A. Hall, the letter writer, agreed to perform a share of the labor required to finish the old ditch, a share that varied according to the amount of land a farmer had under ditch and the amount of water he used. It was exactly the kind of system they had expected from the Grand River Ditch Company. It was cheap, locally controlled and benefited only those who already owned land along the ditch. It did

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<sup>62</sup>*Grand Junction News*, December 15, 1883, p. 4.

not provide easy money for speculation, nor did it enrich urban capitalists.

The Pioneer Extension ditch was completed in the spring of 1884 and irrigated a small acreage near the Grand River.<sup>63</sup> Since the population of the area was still very small, most farmland lay under those small ditches. This helps explain opposition to the larger Grand River Ditch, since many small farmers questioned the need for a larger ditch. The small cooperative ditches provided adequate water to their lands without much expense or irritation. Farmers with lands near the river had little need to pay expensive water rates when they could easily tap the river through their small canals.

When spring floods wiped out the headgates of the Pioneer Extension and Mesa County ditches, however, these landowners realized the difficulty of relying on small cooperative ditches.<sup>64</sup> The high water also washed out the Pacific Slope Ditch, sent water into the streets of Grand Junction, and flooded several ranches.<sup>65</sup> The floods emphasized the need for a professionally constructed and

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<sup>63</sup>Davidson, "Grand River Ditch," 16.

<sup>64</sup>On January 31, 1884, the Pioneer Ditch Company changed its name to the Mesa County Ditch Company to avoid any confusion with the Pioneer Extension Ditch Company. The two shared a headgate, but remained separate corporations.

<sup>65</sup>*Grand Junction News*, June 7, 1884, p. 3.

durable source of irrigation water, and put the pressure on T. C. Henry and Pabor to complete the Grand River Ditch.

With the other ditches out of commission, Henry and Pabor pushed construction and completed the Grand River Ditch by early summer of 1884. Canal construction took longer than expected but was completed two years after it began. The canal ran twenty four miles from its headgate on the Grand River to the Big Salt Wash just west of Fruita. Its problems were far from over, but for the time being, water ran the entire length of the ditch. Despite finishing the canal, Henry seemed unable to make the ditch profitable. Therefore, he earned popularity within the Grand Valley, but just encouraged his critics in the Travelers Insurance Company as well as other former business associates regarding his management abilities.

Faced with this opposition and financial difficulty, on November 1, 1884, Henry sold his ditch shares to the Travelers Insurance Company. That company's management had objected to Henry's administration of their investment in several Colorado canal companies and had tried to remove him earlier. Gustavus F. Davis represented the insurance company in the valley and he hired Julius White to manage the company and to appease valley opposition. White joined the valley's most prominent citizen, George Crawford, in an effort to unify several small ditches into one comprehensive



irrigation system. Both felt that the existing system was simply too unorganized. Consolidating all these ditches under one management would mitigate conflict between irrigators over water prices and availability and focus the valley's efforts on agricultural growth. Crawford and White also felt that the best way to address the financial needs of the ditch companies and the comparative poverty of the water users was to sell water rights to users rather than charge an annual rental. The cost would be connected to the amount of land, one share equaled one acre's worth of water. After paying a one time fee, water users would then only pay an occasional assessment to cover ditch upkeep and improvement.<sup>66</sup>

This idea proved not only attractive to locals but also a workable solution to irrigating the valley. There were too many small irrigation projects in the valley to sustain and expand. If one ditch offered water at lower prices, it would cause animosity among the other farmers. The fact that the smaller ditches were cheaper to build, and could offer cheaper water, was irrelevant. Combining the canals under one Grand Valley system would, in the minds of the mediators, promote common purpose among the farmers. The plan's attempt to grant perpetual water rights also appealed to those who wanted to give water users a more stable

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<sup>66</sup>Davidson, "Grand River Ditch," 20.

connection to their land. All users would share in the cost of maintaining the canals, but they would also have a vested interest in protecting the water source.

White and Crawford consolidated the ditches under one system. This success, however, did not result in profitability. The valley's agricultural production had scarcely begun. The Grand River Ditch Company took in a yearly income of \$3,500, but spent \$10,000 in expenses on upkeep and maintenance.<sup>67</sup> Part of the slowness to profit came from the decision of many farmers to plant fruit trees. Fruit trees required several years to reach maturity and produce fruit. Farmers also lacked access to market to make sizable profits.

The growing seasons of 1884 and 1885 eased some of the difficulties. Precipitation was so plentiful that throughout the state people speculated that the state's climate was changing because of increased settlement. Conflicts over ditches in the Grand Valley eased as some residents wondered if irrigation was even necessary. If annual precipitation increased, even farmers in the most arid part of the state need not irrigate. Scientists warned that short term variations occurred frequently and did not represent any kind of substantive change in climate. The wet season of 1885 simply added to the farmer's hopes. In

April, the *News* noted that the unusually wet spring might make irrigation unnecessary until late May.<sup>68</sup> When May arrived, the valley's wet spring prompted the *Grand Junction News* to note that local farmers were forced to "sandwich in their planting between the many showers we have."<sup>69</sup> The article went on to note that unirrigated alfalfa was growing so well that one unfortunate horse who stumbled into a field of fresh alfalfa, was found dead and bloated within a half hour. This story implied that land in the Grand Valley was so rich it could produce crops dangerous to animals.<sup>70</sup> How could this not promote settlement in the Grand Valley?

The valley's conflict over water did not disappear; it simply went into remission, reappearing occasionally. Local papers, true to form, hesitated to mention any conflict that would make the valley appear less attractive. Conflict, however, was never far from the surface. During the spring of 1885, for example, the paper reported that a Denver judge had been called to adjudicate a difficulty between the Travelers Insurance Company and the Mesa County Ditch Company.<sup>71</sup> Evidently, the insurance company had attempted

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<sup>67</sup>*The Grand Valley Irrigation Company, Current Events*. 2 no. 5 (June 1984), 1.

<sup>68</sup>*Grand Junction News*, April 18, 1885, p. 3.

<sup>69</sup>*Grand Junction News*, May 2, 1885, p. 4.

<sup>70</sup>This story might have over exaggerated the growing potential in the Grand Valley, but described a condition where cattle or horses could ingest too much protein too quickly. As a result, the protein turns into a gas (actually ferments) which causes bloating and even death in the most serious cases.

<sup>71</sup>*Grand Junction News*, April 18, 1885, p. 2.

to fill in the Mesa ditch where it had crossed Travelers' property lines. The water users threatened violence if this continued and the ditch company attempted to stop Traveler's agents from altering their water flow in any way. Local farmers viewed this as a clear example of an external company intruding on the rights of small landowners.<sup>72</sup> The judge ruled that the insurance company was within its legal rights and ordered the Ditch company to stop interfering. Travelers' agents declined to enforce the judicial order. They realized that while legally sanctioned, they lacked public support. The *News* noted wearily, "There is too much water here, too much work to do to spend time in ugly fights."

By 1888, the consolidation of the ditch systems was complete and successful, but the economic operations of the Grand River Canal system were not. One manager attempted to deepen the canal to add to the water supply. This succeeded, but failed to help the financial problems. And, in contrast with the wet years of 1884 and 1885, the summer of 1888 was long, dry and hot. Grand Junction's claim to unlimited water was put to the test. The ditch manager increased the amount of water diverted from the Grand. These efforts failed to provide the languishing ditch company with the one thing its backers had sought since

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<sup>72</sup>Norman, "White settlement," 78.

1883: profit. An advertisement in the local newspaper in December noted that there would be "no opportunity to work out assessments, or payments on contracts on the Grand River Canal system. All persons in arrears on assessments or contracts, must pay the same in cash immediately."<sup>73</sup>

Grand Valley farmers fought an uphill battle. Irrigation boosters had built canals in anticipation of what land could be farmed successfully, rather than to supply existing farmers. As a result, the valley had more water and irrigated land than farmers, a trend common throughout the state.<sup>74</sup> As the *News* constantly observed, the valley had a great need for more farmers. The 1890 census reported that only 7.54 percent of Mesa County's population owned farms. Of the 1,920,000 acres in the county, only 13,798 were under irrigation.<sup>75</sup> While this may have represented planning for the future, it made paying for existing projects difficult, if not impossible. Land speculators could not profit off their land, since the availability of land kept prices down.

Farmers themselves recognized that there were not enough producing farms under the ditch. They assumed,

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<sup>73</sup>*Grand Junction News*, December 22, 1888, p. 2.

<sup>74</sup>*Third Biennial Report of the State Engineer to the Governor of Colorado, for the Years 1885-1886* (Denver, 1887), 217.

<sup>75</sup>*Eleventh Census of the United States, 1890: Report on Agriculture by Irrigation in the Western Part of the United States* (Washington, D.C.: GPO, 1894), 100.

however, that the problem lay with the Traveler's Insurance Company monopolizing and speculating in land. They assumed further that the company intended eventually to control all the land by squeezing the small farmers out. The company responded to these accusations, stating that they only owned 4,000 acres in the entire valley. It was also clear that the Traveler's company was incensed by this accusation, chiefly because it assumed a concerted conspiracy to defraud the farmers. In fact, the company claimed that its possibility of making money off the ditch company was "not alluring."<sup>76</sup> Its only hope to recoup any of its investment was from the sale of lands under the ditch. The *News* echoed this sentiment, arguing that the insurance company had made a sizable investment in the valley with little hope of return.

The ditch company was, in fact, deeply mired in an investment that required continuous capital outlays while generating little or no revenue. James Bucklin, a local attorney and original settler, told an interviewer in 1887 how expensive irrigation was, that the original ditch had cost around \$250,000.<sup>77</sup> As Price noted in July, 1888, the

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<sup>76</sup>*Grand Junction News*, February 23, 1889, p. 1.

<sup>77</sup>Bucklin, James W., "History of Grand Junction, Colorado : Grand Junction, Colorado," 1877 (BANC MSS P-L 320) The Bancroft Library, University of California, Berkeley.

canal had never made money.<sup>78</sup> Henry and Pabor had continued to put money into the project, often between 10 and 25 thousand dollars annually, but it had only returned \$3,500. On top of that, the county commissioners still demanded that the company pay property taxes. In an interview with Price, the ditch manager admitted that the only reason the bondholders continued to invest money for ditch improvements was to salvage a portion of their investment.

Finally, in 1888, a district court named a receiver to liquidate the Grand River Ditch Company, and Travelers Insurance Company, the major stockholder, purchased the company outright at a public sale. The company then changed the name to the Grand Valley Canal Company, which became a subsidiary of the Travelers Insurance. In the space of two years, the Grand Valley had gone from having some local authority over their irrigation affairs, to watching economic control and decision making shift to Connecticut.

The change in ownership failed again to change the company's financial problems. The main problem was that the ditch was not capable of consistent operation. Farmers continually failed to pay their annual assessments to maintain and operate the ditch. The News printed a notice from the ditch superintendent that warned: "There will positively be no opportunity to work out assessments, or

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<sup>78</sup>*Grand Junction News*, July 21, 1888, p. 2.

payments on contracts on the Grand River Canal system. All persons in arrears on assessments or contracts, must pay the same in cash immediately."<sup>79</sup> Since the ditch company could not make the necessary repairs, it failed to produce consistent irrigation water. This, of course, did not solve the problem; it merely exacerbated it. Farmers were not making money off irrigated lands, and so were less than eager to put more money into the corporation.

Desperate to raise revenue, the canal company tried to get the farmers to pay for maintenance and operation. In 1889, the company's agent, F. C. Goudy, announced a plan to raise the annual assessment to one dollar per acre, per year.<sup>80</sup> The proposal included a clause that permitted the company to assess additional fees in case of severe damage to the canal. The agent assured farmers that the company would only charge enough to repair the ditch and that the assessments would not go to defray salaries.

The farmers reacted to this proposal with disdain. They too were struck by the irony that the company, unable to secure payment from the farmers, decided to raise the rates. After all, if the farmers were unwilling or incapable of paying the previous rates, why would the company believe that farmers would pay more? Up until then

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<sup>79</sup>*Grand Junction News*, December 22, 1888, p. 2.



the company had failed to provide irrigation water for an entire season. Those under the ditch doubted their assessments would actually produce water and wondered what would prevent the company from asking for more money if the assessment failed to repair the ditch.

In 1890, the already complicated trail of ownership became even more convoluted when T. C. Henry sued to challenge the public sale of the ditch. Although forced out of the company in his earlier conflict with the insurance company, he wanted to recover his investment and felt that the company still owed him money. Henry and some of his business partners sued the Grand River Ditch Company, the newly formed Grand Valley Canal Company, the Travelers Insurance Company, and Gustavus F. Davis, who had managed the company since Henry left. The case was moved to Denver for a change of venue, and sat pending in the district court for two years.<sup>81</sup>

When the judge finally issued his ruling, he found for Henry and the plaintiffs and voided the public sale of the ditch company. The judge removed Davis as ditch administrator and ordered all the property and assets that once belonged to the Grand River Ditch Company be returned to the company. He designated Frank W. Loveland as

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<sup>80</sup>*Grand Junction News*, February 8, 1889, p. 1.

receiver, leaving Loveland with the task of reselling the company to recoup the cost of the bonds issued during the canal's construction phase. If proceeds of the sale still did not match Henry's claim, then the Traveler's Insurance Company had to furnish the remainder.<sup>82</sup>

T. C. Henry returned to the valley in an attempt to recoup his investment. He recognized that the ditch had to be expanded, but he also knew that the financial cloud over the company made existing operations difficult and precluded adding new laterals. His return met with understandable disquiet in the Grand Valley, since the litigation and construction difficulty surrounding the Grand Valley Canal system had caused a great deal of frustration among area farmers and business leaders. The community also worried that the subsequent resale of the ditch company would cloud water rights. What, for example, would happen to those rights purchased since the insurance company's involvement? Normally, reported the paper, those rights would be repudiated.

To add to the discomfort, the ditch was still in disrepair and the company lacked \$2,000 in assessments, though the receiver was authorized to accept labor in lieu of cash. The *Grand Junction News* advised the farmers to

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<sup>81</sup>*Grand Junction News*, July 9, 1892, p. 1.

take that opportunity and make the ditch operational. It was "worse than folly to wait in the belief that there will be money forthcoming from the purchaser to repair with," noted Price.<sup>83</sup>

The farmers, however, hesitated to pay any money into a ditch company yet to furnish a consistent supply of water, much less make money. So, this circular problem persisted. The ditch needed money to provide a consistent supply of water to the farmers. The farmers needed the water to increase their agricultural production, but did not want to pay more than absolutely necessary for that water. Edwin Price related that a Colorado farmer whose land lay under one of the larger, and more expensive, canals in the state indicated that he hoped to petition the legislature to ensure that water costs be maintained at an affordable one dollar per acre. Price turned away from the conversation "sick at heart." That farmer's canal, he noted, was now going bankrupt because it lacked "the patronage sufficient to maintain it." Price found it indefensible that Colorado farmers already received irrigation water in greater quantity and at lower cost than any other state in the American West, yet refused to pay anything for that water.<sup>84</sup>

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<sup>82</sup>*Grand Junction News*, July 9, 1892, p. 1, and August 20, 1892, p. 4.

<sup>83</sup>*Grand Junction News*, March 4, 1893, p. 4.

<sup>84</sup>*Grand Junction News*, March 25, 1893, p. 1.

Despite this criticism, local farmers continued to resist paying their dues. On April 15, 1893, the *News* reported that the court appointed receiver, Frank Loveland, had raised the assessment rates to \$1.25 per inch of water, payable in four installments spread throughout the summer.<sup>85</sup> The farmers would receive no water, however, until at least the first payment of \$.30 per inch was paid in cash. Price told farmers that the increased rate was because of their own intransigence and reminded them that refusal to obey a court order could result in large fines and even imprisonment. The farmers, however, feared losing more money than they gained as they faced an angry Denver judge. In a meeting organized to discuss the ditch problems, one farmer said he was not likely to pay his assessment because he assumed most of his neighbors would not. His logic was murky, but he felt that if a portion of the ditch farmers paid their assessment, then their share of the total repair cost would double from \$1.25 to \$2.50. If even less paid, the individual share would climb from there. He and most of his neighbors hesitated to band together and fix the ditch. Instead, they hoped that "since so large a number of men were unable to meet the demands of the receiver on such short notice, it would be necessary to ask the court to

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<sup>85</sup>*Grand Junction News*, April 15, 1893, p. 4.

modify the order."<sup>86</sup> The meeting had several surreal moments, including one speaker who noted that some farmers wanted to ignore the court completely and settle the conflict with rifles. At another time, a Mr. Slocumb "didn't know that he had any opinion," but stood up to criticize the town of Grand Junction for some unknown reason. He was followed by Mr. Page who criticized Mr. Slocumb for criticizing the town!<sup>87</sup>

Some farmers were extremely frustrated with the ditch situation, but cooler heads proposed alternatives. First, they collected money to hire an attorney to protect their interests in Denver. They wanted to protect their water rights and resolve the conflict. Loveland came to Grand Junction to speak with the resistant farmers, trying to assure them that he wanted to help them resolve their dilemma. He promised to talk to the judge, but failed to modify the court ordered increase in assessment fees.<sup>88</sup> The farmers were back to their original dilemma; pay the assessments and hope they would get water in the canal, or refuse to pay and hope to avoid contempt charges before the ditch sold quickly to a wealthy buyer who would make the necessary repairs.

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<sup>86</sup>*Grand Junction News*, April 15, 1893, p. 1.

<sup>87</sup>*Grand Junction News*, April 22, 1893, p. 3.

<sup>88</sup>*Grand Junction News*, April 29, 1893, p. 5.

In the same issue of the paper where he criticized the farmer's desire to get water for nothing, Price concluded that the only possible alternative for Grand Valley farmers was to buy the ditch themselves.<sup>89</sup> Rumors flew that the ditch would be sold to another outside conglomerate which might not recognize the existing rights, and might even raise water and assessment rates. Price thought that purchasing the canal and running it themselves was the only sure way local farmers could control their land and water.

In May the Panic of 1893 devastated the Colorado economy. Mines in the Aspen, Pueblo and Leadville districts closed as the price of silver plummeted. By July, state officials estimated that the Panic displaced 45,000 Coloradoans, with "435 mines and 377 businesses closed" by July.<sup>90</sup> As historian James Wright noted, the impact on agricultural employees was hard to measure as farm workers did not show up in the unemployment statistics. Farmers, however, were hurt by the loss of valuable mining markets, as well as the national drop in prices. While this undoubtedly affected Grand Valley irrigation development, locals mentioned it rarely, if ever. Grand Valley's agriculture was in its infancy, so the decline of established markets was not as critical then as it would be

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<sup>89</sup>*Grand Junction News*, March 25, 1893, p. 1.

later. In addition, the local economy was heavily buoyed by land speculation, and speculators could only hold on and ride out the depression.

Meanwhile, another battle was brewing in the Denver courts between T. C. Henry and his former lawyer, John P. Brockway. In June 1893, Brockway, who now represented the former canal directors, sued Henry for control of the ditch. Apparently, Henry failed to pay Brockway for his legal services. Brockway forced Henry to surrender the company stock, financial books, official seal, and an additional sum of money. On top of that, Frank Loveland weighed in against Henry with a attachment for over \$1,500 for performing the service of receiver.<sup>91</sup> T. C. Henry was finally forced out of the Grand River Ditch for good, though he haunted further projects into the next century.

Once Brockway won ownership of the canal company, he quickly turned to the local farmers with a proposal to sell them the ditch. Grand Junction residents were shocked by this turn of events, and initially doubted the legitimacy of the lawyer's claim. By November, 1893, it was clear that Brockway owned the canal company free and clear and that his proposal to sell the ditch was legitimate. The lawyer returned to the Grand Valley, offering the company to the

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<sup>90</sup>James Edward Wright, *The Politics of Populism: Dissent in Colorado* (New Haven: Yale University Press, 1974), 167.

farmers for \$50,000. The farmers were to form a company, to be named the Grand Valley Irrigation Company, that would be managed by a board of directors, selected by the stockholders, who owned the water rights. Brockway was convinced that he had offered a genuine solution to the farmer's problems. He called the proposition an "American plan" that would allow the farmers to govern themselves as they saw fit.<sup>92</sup> The farmers deliberated for a short time, then accepted Brockway's offer with minor changes. Brockway received \$40,000, payable in a 20 year, 6 percent mortgage; 360 acres of land and two Grand Junction city lots.<sup>93</sup>

The newly formed GVIC included all of the combined ditches: the Independent Ranchmen, Mesa County, Pioneer Extension and Grand River. The company divided its shares among the water users based on their contract under the previous system. Each water user's contract was assessable for maintenance and operations fees. Those fees could be adjusted by a company vote. Since the water users essentially owned the company, it became a non-profit entity charged with delivering water to its users.<sup>94</sup>

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<sup>91</sup>*Grand Junction News*, June 17, 1893, p. 3.

<sup>92</sup>*Grand Junction News*, November 18, 1893, p. 4.

<sup>93</sup>Department of the Interior, *Second Annual Report of the Reclamation Service* (Washington, D.C.: GPO, 1904), 225.

<sup>94</sup>Davidson, "Grand River Ditch," 24.



Given the difficulty experienced by the managers and owners of the Grand River Ditch Company, it is surprising that the GVIC flourished under the water user's control. The same farmers who resisted any payments when under external control, paid between \$1 and \$2.24 per inch of water in assessments between 1894 and 1902. The revenue allowed the ditch company to repair damages to the system caused by severe flooding in 1896. For several years thereafter, the canal company spent nearly \$30,000 rebuilding the headgate and several flumes, as well as extending the canal to reach Fruita. By 1902, the Reclamation Service noted that the canal irrigated about 25,000 acres and had progressed from a bankrupt corporation to one that served its stockholders well.<sup>95</sup>

In 1894, the National Irrigation Congress met in Denver and discussed the development of irrigation in the state. The initial efforts, they said, were cooperative ventures funded by local farmers who pooled their resources and labor to irrigate those lands closest to the river.<sup>96</sup> The next step came when the farmers realized those lands farther from the river were also valuable and should be irrigated. These capital-intensive ventures required the formation of corporations and the practice of charging for water

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<sup>95</sup>*Second Annual Report of the Reclamation Service, 226-7.*

delivery. Charles Barton, the pamphlet author, admitted "it is undoubtedly true that the highest interest of farmers is in the ownership of their own canals; but it is also a fact that the great canals, which have required millions of capital to construct, would never have been built if the sale of water rights had not been permitted."<sup>97</sup>

Irrigation development in the Grand Valley followed this formula, though with a different ending. The first irrigation projects were cooperative efforts and remained close to the river. While this satisfied existing farmers, community boosters felt that to attract settlers, the area had to build a more extensive irrigation system. Incapable or unable to invest in the project themselves, locals played on the greed of outside investors and assured them that constructing a large ditch would result in a large return. Local farmers watched as canal corporations financed the larger ditch, but ended up owning the system as the investors lost their money. Investors initially tried to cover construction and maintenance costs by renting water to individual users. As has been noted above, making a profit this way was difficult, if not impossible to accomplish in nineteenth-century Grand Valley. Building ditches ahead of settlement meant fewer water users to support canal

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<sup>96</sup>National Irrigation Congress, *Colorado as an Agricultural State: the Progress of Irrigation* (Denver, 1894), 10.

companies. And farmers simply did not make enough or constitute a large enough block to generate the kind of revenue envisioned by Henry or the Travelers Insurance Company. Outsiders only profited when they bought land under the ditch, which many did. Since so many locals already speculated in land, companies like the Travelers could not buy enough land to cover their investment in the ditch company.

The newly formed GVIC conceded profit and simply tried to bring in enough revenue to maintain the canal. This certainly made the local farmers happy, since it allowed them to construct a canal far beyond their combined financial ability, while keeping water affordable. Town boosters gained a canal they could use to lure prospective settlers, while local farmers retained control over their land. Land speculators benefited since their lands were now irrigable at a reasonable rate. Those who invested in the company, however, lost since their investment capital financed the canals critical construction phase, but never realized the kind of return they hoped from the canal company.

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<sup>97</sup>Ibid., 10.

## Chapter Four

### *"Hope on, Hope Ever:" State Reclamation and the High Line Canal*

With the Grand Valley Canal system, Valley boosters had successfully enticed outside investors to finance an important canal. While this canal was enough irrigation to water existing farms, it would not facilitate the kind of agricultural economy the community needed to compete with other regions. And while Grand Valley held little similarity to the size and breadth of California's agricultural economy, locals wanted to replicate the Central Valley. To do so, more irrigation was necessary.

With the Grand Valley Canal system near completion, area boosters launched a campaign to construct a "High Line" canal to irrigate the remaining farmland north of the river. Many legal problems remained unresolved, and lateral additions remained unfinished on the existing system. The first ditch provided important irrigation to 55,000 acres of valley land, but more land lay unproductive above it.<sup>1</sup> What the valley needed, promoters argued, was a High Line canal

that would exit the Grand just outside the Hogback canyon and skirt the bluffs to irrigate the thousands of acres below. Grand Junction boosters remained convinced that their key to attracting settlers, businessmen, and capital depended on supplying cheap irrigation to all the arid lands of the valley. They knew very well that prospective settlers, choosing between a more accessible part of the American West, could only be swayed by the availability of lands already under irrigation.

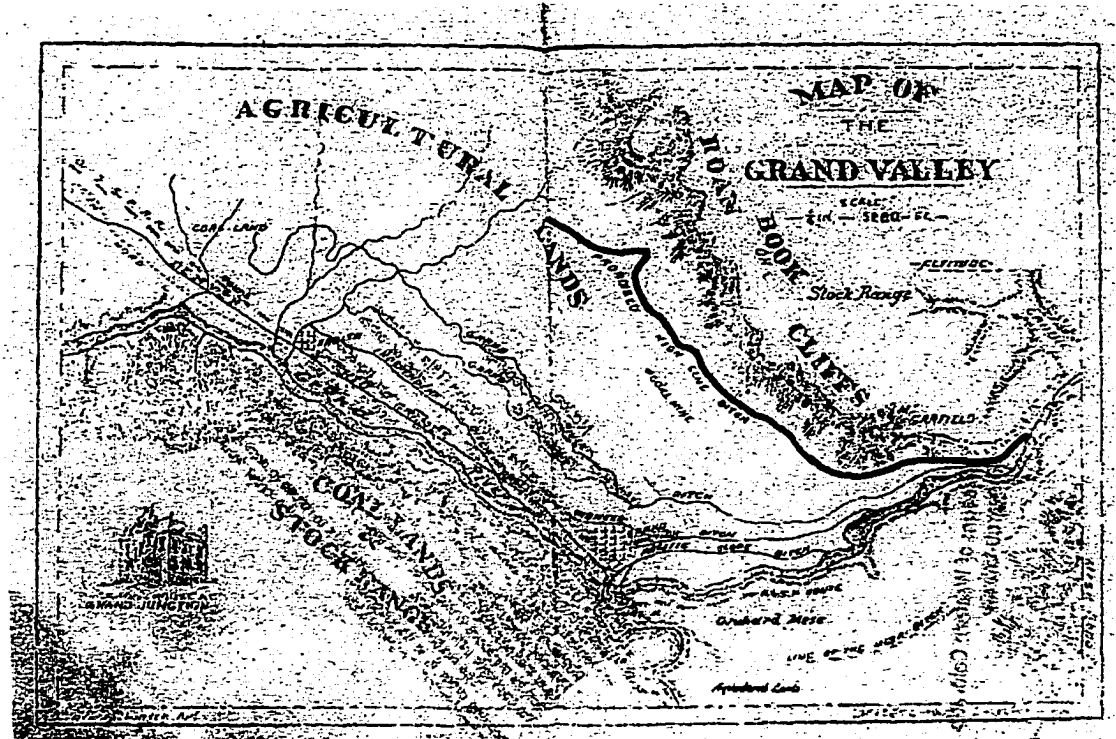


Figure 1: Grand Valley Map. Dark line shows the proposed High Line Canal.

<sup>1</sup>Project History, *Grand Valley Project*, NARA Rocky Mountain Region, RG 115, Records of the Bureau of Reclamation. General Administrative and Project records, 1902-1919, Entry 3, Box no. 326, 30.

The Valley's experience with private irrigation made many suspicious of private capital's ability to construct the larger ditch. Boosters spent the next twenty years looking for a way to build the High Line that would maintain local autonomy and land ownership. When the Colorado state government experimented with public reclamation projects, valley residents jumped at the chance, believing that since the state would not require profit, it would respect local interests. This assumption was misguided, since the state certainly would have intruded on water rates and rights, but locals initially believed the state government to be a benign force. Once the state refused to fund the project, however, the valley rejected state reclamation and chose to wait for bigger pockets.

Boosters discussed a high level ditch from the early days of Grand Junction. In 1883 the *Grand Junction News* asked:

where is the company that wants to make a heavy investment? An investment that may require a half million [dollars] or more. Right here in the Grand Valley is the finest opportunity in the world for such a venture. The great Grand River Ditch, which is second to only two ditches in the state, covers a magnificent territory, but really only touches the outer edge of the valley. Back of [that] lies four times the area of land under it, on which no water can be placed without a monster ditch."<sup>2</sup>

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<sup>2</sup>*Grand Junction News*, September 22, 1883, p. 2.

The first proposals had the canal stretching into Utah, making it an interstate ditch system.<sup>3</sup> Five years later, in 1887, the paper renewed its call for the bigger ditch, stating that it would "cover 200,000 acres of the finest land in Colorado, and the Grand River could furnish the water and scarcely miss it. This would furnish a pre-emption right for 1250 settlers. . . Let us have the high-line canal by all means."<sup>4</sup> Despite the fact that no company had profited from building irrigation canals in the valley, the paper proclaimed that "there is no better investment today in all Colorado than the building of this canal would be for the man with the money and the brains to risk it."<sup>5</sup> If the farmers did not take this opportunity, the paper warned, then other interest might step in and complete the ditch without heeding local needs.

Irrigation ventures rarely profited from water sales. The real money was in land speculation. Those irrigation companies that controlled the land as well as the ditch made handsome profits for their investors. As the GVIC experience had shown, this was a difficult issue in the Grand Valley. Locals controlled most of the small valley

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<sup>3</sup>*Grand Junction News*, November 16, 1889, p. 1.

<sup>4</sup>*Grand Junction News*, September 10, 1887, p. 2

<sup>5</sup>*Grand Junction News*, August 24, 1889, p. 1.

making it difficult for any outside company to profit from land speculation.

In 1890, the average farm size in Mesa County was 152 acres.<sup>6</sup> This was substantially smaller than some other Colorado counties, but the nature of farming in the Grand Valley made large landholdings impractical. Without hired help, valley farmers could improve and farm at most 50 acres. This average demonstrates that in 1890, many locals owned what amounted to several farms. This is further substantiated by the fact that over half of the farm acreage in the county was unimproved.<sup>7</sup>

Many believed the valley desperately needed more irrigation. One resident remembered that when he arrived in 1889, "Very little land was under cultivation in the valley as only one ditch had been taken out of the Colo. River. The early settlers preferred to locate on small streams where ditches were more easily constructed."<sup>8</sup>

Local boosters claimed that the land above the existing Grand Valley Canal was some of the richest in the country. The possibilities for wealth lay not just with those who built such a canal, but with those who turned that fertile

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<sup>6</sup>*Eleventh Census of the United States, 1890: Report on the Statistics of Agriculture in the United States* (Washington, D.C.: GPO, 1895), 126.

<sup>7</sup>*Ibid.*, 201.

<sup>8</sup>Letter from Jon McKinney to Mame McKinney, June 3, 1943, Terry Mangan Collection, Colorado Historical Society, Manuscript collection #739, Box 1. Ff 11, 1881-1943.



land into productive fruit orchards. The *News* offered the example of an elderly fruit grower in the valley who had spent ten dollars an acre for his ten acre orchard in 1884. After clearing the land and planting fruit, he received an offer of five hundred dollars per acre in less than five years. Price wrote "what Mr. Olds has done for his little ten acre farm, is possible to be done with every acre of land in this valley."<sup>9</sup>

Outcomes like that experienced by Mr. Olds and perhaps even greater prosperity awaited those settlers if the High Line canal opened up land above the existing canal system. Community leaders also liked the financial gain a large irrigation canal would bring into the valley. The operation would employ thousands and add untold amounts of money to the local economy.

The proposed and oft-discussed High Line canal added a myriad of problems not faced by the smaller Grand Valley Irrigation Company (GVIC). The GVIC was a gravity canal which simply diverted the river above prospective farmlands. This "weir section" diversion was technologically simple. Since they did not need to dam the entire river, workers constructed wooden hollow "cribs," or boxes and floated them diagonally into the river. Once in place, they filled the boxes with rocks until they sank. This crude technology was

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<sup>9</sup>*Grand Junction News*, November 23, 1889, p. 1.

effective, but disposable. Workers dynamited the diversion each fall and rebuilt the simple weir in the spring.<sup>10</sup>

The High Line, however, could not simply divert the Grand River into a higher elevation canal to water the upper lands. The topography of the valley precluded such a simple gravity canal as the diversion point up river would place the canal's origin well within the Hogback canyon. That meant either tunneling through the canyon wall, building an extensive flume out of the canyon, or pumping the water uphill. Each of these options added greatly to the ditch's cost. This "monster ditch" required far more advanced engineering skills than previously used in the valley. The *Grand Junction News* admitted that building this canal promised to be far more difficult than previous attempts, noting that the length and engineering problems would raise the cost per acre well above local farmer's financial ability.<sup>11</sup>

The first option for financing was to attract private capital capable of building the High Line canal. The Grand Valley, however, had a mixed experience with private irrigation. Private capital constructed the Grand River

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<sup>10</sup>Phone interview with Phil Bertrand, GVIC Superintendent, November 29, 2000. California miners first used kind of simple dam technology, though many of their diversions were much bigger. Cribbing and rock-fill dams were unstable and ultimately replaced by earthen embankment dams. But for the purposes of the GVIC, this cheap and easy dam was used until replaced by a permanent concrete structure in the mid 20th century. See Donald C. Jackson, *Building the Ultimate Dam: John S. Eastwood and the Control of Water in the West* (Lawrence: University of Kansas Press, 1995), 35.

Ditch, but with tremendous difficulty and delay.

Litigation, bankruptcy, multiple investors, and repeated infusions of capital turned a small ditch into a ten year project. Valley residents did not want to repeat this with the High Line canal.

The valley faced even more problems with the High Line than the GVIC. Like the first ditch, boosters hoped to build another irrigation ditch ahead of population pressure, rather than wait for market forces to demand more land under ditch. This meant creating even more irrigated land without the farmers to settle it. The existence of the GVIC complicated matters, since much of the land under that completed ditch remained uncultivated. Why should locals finance a larger project when farmers had not fully utilized the irrigation at hand? Additionally, most of the land under the proposed new ditch was useless without water, so it attracted speculators. Valley boosters understood that landowners did not have to irrigate. They could simply wait for the value to increase, then sell their land. It was difficult to tie funding of the ditch to prospective farmers.

Given its painful history with private reclamation, the valley watched with great interest as Colorado experimented with state funded irrigation projects. In the late 1880s,

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<sup>11</sup>*Grand Junction News*, March 8, 1890, p. 1.

many Coloradoans believed the state had a severe water problem. It received substantial winter precipitation in the mountains, most of that water left the state during heavy spring runoff.<sup>12</sup> State legislators also worried that an inconsistent water supply encouraged prospective taxpayers to settle in other western states.<sup>13</sup> In addition, from 1889 to 1895, Colorado's eastern plains experienced severe drought that displaced hundreds of farmers, many of whom could easily be relocated to irrigated farms.<sup>14</sup> An obvious solution was to locate several reclamation projects at the base of the mountain range, storing the precipitation for agricultural use. State reclamation supporters disagreed over whether to focus their reclamation efforts on the eastern base of the Rocky Mountains to preserve the runoff for the more populous Front Range, or to spread the projects around the state.

Colorado's discussion about state reclamation coincided with the national debate over the future of western water. In 1888, congress approved the Irrigation Survey to be administered by John Wesley Powell, the famous scientist and director of the US Geological Survey. Powell's survey hoped

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<sup>12</sup>Donald A. MacKendrick, "Before the Newlands Act: State-sponsored Reclamation Projects in Colorado, 1888-1903" *Colorado Magazine* 52 (Winter, 1975), 2.

<sup>13</sup>Donald J. Pisani, *To Reclaim a Divided West: Water, Law, and Public Policy, 1848-1902* (Albuquerque: University of New Mexico Press, 1992), 214.

<sup>14</sup>Ibid.

to quantify available reservoir sites, measure the volume of western rivers, expand the topographical surveys, and generally add to the scientific understanding of reservoirs and hydrology. As historian Donald J. Pisani has shown, Powell's ideas on irrigation are often misunderstood by historians and others who see him as the father of federal reclamation.<sup>15</sup> Instead, he opposed centralized control and advocated state control over water rights and administration. Many in Colorado disliked Powell and resented the Irrigation Survey. Powell saw the Survey as a scientific tool to give local states the information necessary to develop their own water resources. Many westerners supported federal reclamation, but more importantly, Powell rejected the doctrine of prior appropriation, and instead preferred water be used within the basin of origin. This would instantly imperil countless western irrigation projects designed to reclaim otherwise arid lands. The *Grand Junction News* spoke out harshly against Powell's Survey, noting that he was welcome to survey the topography, but stay away from determining the fates of arid lands.<sup>16</sup>

In 1888, the same year congress approved Powell's Irrigation Survey, Governor Alva Adams convened a convention

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<sup>15</sup>Ibid., 143-53.

of concerned citizens to find a solution to this water question.<sup>17</sup> Western states were deeply divided between advocates of state reclamation, and those who favored federal intervention. Adams believed the federal government would construct reservoirs and leave the canals and administration of water issues to the states. The convention concluded that reclamation should be left up to the federal government and that the state legislature should encourage the United States Congress begin such a process. Governor Adams was unwilling to wait for federal reclamation. The state had a \$400,000 surplus in its Internal Improvement Fund—proceeds from sales of state lands—and Adams thought reclamation was a perfect use of that money. Congress had ruled that proceeds from state land sales must be spent on internal improvements and in 1889, the state supreme court ruled that reservoirs qualified.<sup>18</sup> The state legislature followed Adam's lead and appropriated funds to survey two possible diversions on the eastern slope of the Rockies; one in Arapahoe County, and the other on the Arkansas River near Canon City.<sup>19</sup>

In 1889 the state legislature appropriated ten thousand dollars to construct a state ditch in the Arkansas Valley

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<sup>16</sup>*Grand Junction News*, August 23, 1890, p. 4.

<sup>17</sup>*Ibid.*, 213.

<sup>18</sup>*Ibid.*, 214.

near Canon City. The state called on the state prison in Canon City for labor. This addressed two state issues. First, it would help the state retain present and future settlers. The second seemingly unrelated issue, was that of prison rehabilitation. Prison officials and others worried that the lack of a prison work system left convicts confined, solitary and susceptible to mental illness. American prisons often sold prison labor, but found this practice unpopular when it competed with free labor. Prison officials considered reclamation and road building excellent ways to profit from prisoners without offending advocates of free labor.<sup>20</sup> Clearly, however, corrections officials were motivated by more than altruism. The warden claimed that this canal would not only furnish the convicts with work, but revenues from water rentals could generate between \$50,000 and \$100,000 annually for the state coffers.<sup>21</sup>

State Canal Number One, as it was called, was built during a time when Colorado's politics were dominated by a populist majority in the legislature and a populist governor. These reformers saw state reclamation as an excellent way to thwart private monopolies and provide

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<sup>19</sup>MacKendrick, "Before the Newlands Act," 3.

<sup>20</sup>Elinor Myers McGinn, *At Hard Labor: Inmate Labor at the Colorado State Penitentiary, 1871-1940* (New York: Peter Lang Publishing, 1993), 65.

<sup>21</sup>Pisani, *To Reclaim a Divided West*, 216.

reasonably priced water to private citizens.<sup>22</sup> If successful, more state reclamation projects undoubtedly would crop up across the state.

Future state reclamation tantalized Grand Valley boosters as a perfect solution for their own High Line canal. Construction began on State Canal Number One in the spring of 1890, and, by the end of the year, workers had completed a lengthy tunnel that funneled the Arkansas River to the state lands near Canon City. Given this apparent success, the Eighth Colorado General Assembly (1891) decided to expand state reclamation by authorizing five reservoirs one each in Custer, El Paso, Saguache, Chaffee, and Las Animas counties.<sup>23</sup>

More important for the Grand Valley, in February 1891, the *News* reported that Senator F. W. Smith had sponsored a bill for the Western slope version, called either "State Canal Number Two" or the "Mesa County State Ditch." The text for Senate Bill No. 292 read in part: "a bill for an act to construct, maintain and operate a State ditch in Mesa county, Colorado, and for the use of unemployed convicts in constructing the same: that it be amended by adding to Section 11 the following: ` to be paid out of the income

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<sup>22</sup>Ibid., 218.

<sup>23</sup>MacKendrick, "Before the Newlands Act," 4.



from said ditch, upon the order of the Board of Penitentiary Commissioners." <sup>24</sup>

This second state ditch differed greatly from the Canon City project. Its only similarity was the use of prison labor. Unlike its eastern-slope counterpart, the Mesa County ditch was not financed through the Internal Improvement Fund. That fund had dwindled with the depression of the 1890s, and the state hesitated to appropriate more money for construction. Instead, it authorized the sale of water certificates, bearing seven percent interest to finance the construction. These certificates, according to the legislation, were to be "receivable by the State of Colorado as cash for water." <sup>25</sup> The state would provide prison labor to excavate the ditch, but all other costs would have to be financed by the citizens of the Grand Valley. The other major difference was land ownership. The state owned most of the land near Canon City but none in the Grand Valley. After completion, the state would retain ownership of State Ditch No. 2 and would receive all revenue generated by the canal. <sup>26</sup>

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<sup>24</sup>*Senate Journal of the General Assembly of the State of Colorado*, Eighth Session, Wednesday January 7, 1891, Gazette Printing Company, 776 and *Grand Junction News*, February 14, 1891, p. 1, and Mary Rait, "Development of Grand Junction and the Colorado River Valley to Palisade from 1881 to 1931—Part 2" *Journal of the Western Slope*, 3 (Autumn, 1988), p. 39.

<sup>25</sup>Colorado. *Laws Passed at the Eighth Session of the General Assembly* (1891), 336. Colorado, Senate, Special Committee on State Canal No. 1, *Report*, 1895, p. 77 (hereinafter cited as *Senate, Canal Report*).

<sup>26</sup>*Grand Junction News*, February 14, 1891, p. 1, and January 2, 1892, p. 2, and the *Grand Valley Star*, April 25, 1891, p. 2.

Grand Valley residents initially responded to the state ditch effort with enthusiasm. Both the *Grand Junction News* and the *Grand Valley Star* consistently promoted the effort. They lauded the state representatives who worked to make the High Line a reality. The *Star* argued that valley residents viewed any costs as solid investments in the community's future.<sup>27</sup> The *News*, a Republican paper, supported the ditch at the same time as it condemned Populism as political heresy. Whatever the political motivation, local boosters saw the High Line ditch as of primary importance to the continued growth of the Grand Valley.

State Canal Number One raised the issue of competition between the remote and under-populated but water-rich Western Slope and the more populous Eastern portion of the state. Grand Valley supporters had always waffled between promoting the Western Slope as an alternative to the crowded and busy East, or hoping to take over the state's economic lead. They often bragged that their region retained the vast majority of the state's valuable natural resources; it just needed comparable population support. Most of the mines, coal deposits, and water were in the western half of the state, though the eastern portion retained the population and political power. Nevertheless, western slope

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<sup>27</sup>*Grand Valley Star*, April 25, 1891, p. 2

residents resented state money going to reclaim land on the Eastern slope when perfectly good arable land lay unused in the Grand Valley. Grand Valley residents also believed that any population or economic increase in the San Luis or Arkansas Valley was that much subtracted from the Grand Valley. As the *Grand Valley Star* wrote, "the Grand Valley is essentially an agricultural region...[with] ... an abundance of land and more than enough water at hand to irrigate all in sight. What is principally needed is an influx of farmers and fruit growers who will cultivate this land and make use of the natural resources to make it bloom."<sup>28</sup>

Grand Valley boosters soon talked of the state ditch as a certainty, but the proposal immediately drew opposition from Eastern slope landowners who feared the project would draw settlers away from irrigation developments on their side of the Rockies.<sup>29</sup> Meanwhile, construction on State Ditch No. 1 ran into problems. Promoters hoped the canal would save the state money, but the ditch project progressed at a snail's pace and its price rapidly grew. In addition, the state's budget surplus had turned into a deficit. This added to the construction woes of State Ditch No. 1 and raised questions about the Mesa County project.

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<sup>28</sup>*Grand Valley Star*, May 9, 1891, p. 5.

Grand Valley residents were, of course, very interested in this entire debate. In the effort to secure state funding, one Grand Valley resident took a prominent interest in the proceedings. Charles Caswell emerged as the next influential promoter in the tradition of Arch, Pabor and Henry. He was a local judge and irrigation promoter who owned land under the Grand River ditch and also served as an agent for the Ditch Company.<sup>30</sup> Caswell, born in Strafford, New Hampshire in 1851, came to Colorado in the early 1880s after hearing of the discovery of gold at Leadville. After pursuing gold mining in Leadville, he went to the Middle Park area of Colorado, where he continued mining. Caswell had graduated from Dartmouth College in 1874, and was admitted to the bar in 1877, though he desired to be a mining king rather than a lawyer. His failures in mining, however, forced him to practice law in Middle Park and then again in Grand Junction, when he moved there in 1885. For the next twenty years, Caswell practiced law on the Western slope, during which time he served as chief counsel for the Grand Valley Irrigation Company. He attracted the attention of his peers, for in 1906, less than a year before his death, he accepted a position on the State Supreme Court.<sup>31</sup>

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<sup>29</sup>Pisani, *To Reclaim a Divided West*, 217-218.

<sup>30</sup>*Grand Junction News*, December 12, 1891, p. 1.

<sup>31</sup>*The Daily Sentinel*, "Charles F. Caswell Passes from Earth," Thursday, November 21, 1907, p. 1.

Prior to his judgeship, however, Caswell took a prominent role in promoting irrigation in the Grand Valley. He also pushed for state funding of the high line ditch in western Colorado. A Denver paper interviewed the Judge in early 1891, asking him if valley residents were as interested in the state ditch as they seemed. Caswell compared the residents to someone adrift at sea, desperately signaling to a nearby ship for help. "Does the captain conclude that he is over-doing the matter and don't want to be picked up as badly as he pretends?" asked Caswell. He went on to criticize the state's plan to have ranchers finance construction by borrowing against their land. "Under that plan," Caswell argued, "their mortgages would mature before the ditch would be completed. Then we should have a monopoly on our hands, to be sure."<sup>32</sup>

Caswell's concerns were valid. The valley's farmers had struggled to make a living in this remote part of the American West for almost ten years. Their prospects of funding a major project were slim. After all, had they been able to finance the project, there would have been little need for state reclamation. Residents had successfully irrigated as much of the valley as they were able, but only amidst conflict and dissension.

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<sup>32</sup>*Grand Junction News*, December 12, 1891, p. 1.

The Grand Valley still had the state's assurance of prison labor. In May, 1891, the paper reported the visit of D. H. Nichols who represented the Penitentiary Board, the state body in charge of constructing the ditch.<sup>33</sup> Nichols assured the city that this project was humane for the prisoners, calling constant confinement a "crime against humanity."<sup>34</sup> Nichols was also in town to get \$1,500 from the city council to finance a preliminary survey. This survey would keep the matter progressing while valley residents tried to raise the fifty-thousand dollars in water certificates and form a cooperative irrigation company to manage the irrigation and land issues. The valley also had to construct secure barracks to house the convicts.

Nichols and the Penitentiary Board completed their preliminary survey by June, 1891, and pronounced the project not only possible, but more economical than the state canal under construction near Canon City. The Penitentiary Board saw state reclamation as a great benefit to the prison system. Projects constructed with prison labor insured a steady flow of appropriations to the State Prison system. Nichols encouraged Grand Valley residents to invest in the

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<sup>33</sup>*Grand Junction News*, May 2, 1891, p. 4, and MacKendrick, "Before the Newlands Act," p. 5.

<sup>34</sup>*Grand Junction News*, May 2, 1891, p. 4.

ditch, assuring them that this excellent investment would lure capital into the area.<sup>35</sup>

During the summer and fall of 1891, Grand Valley irrigation boosters tried hard to raise the necessary \$50,000 in water certificates. T. C. Clayton, a concerned landowner, urged his neighbors and friends to invest in the ditch. He reminded them of the community's difficulties attracting private capital in the past. If the state did not build the ditch, Clayton doubted that the project would be constructed at all. He also reiterated that the land under the proposed ditch was worthless without water. The investment would pay off in water rentals and increased land values when the canal was completed. Finally, Clayton appealed to the community fear of external control or excessive land speculation by arguing that valley should own as many of the water certificates as possible. After all, if they did not purchase the water rights, outsiders might do so. It would be easier if some rich capitalist paid the \$50,000 necessary to get the ditch going, but that person could then charge as much as he desired for valley water.<sup>36</sup>

By the end of July, the paper reported that nearly half of the fifty thousand dollars had been raised, though in pledges rather than cash. Price reiterated many of

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<sup>35</sup>*Grand Junction News*, June 27, 1891, p. 1.

Clayton's arguments for the ditch and urged the farmers not to delay. He reminded them that the ditch would take some time to build, and Price also argued that those under the ditch would be better off selling part of their land in order to get water on the rest. The success of small twenty-five acre farms under the Grand Valley Irrigation system, he noted, proved that farmers need not go into debt to reclaim 160 acre tracts.<sup>37</sup>

The enthusiasm of valley residents toward the state ditch crested in the fall of 1891. In October the promoters announced that they had accumulated \$50,000 in subscriptions necessary to continue the ditch. In other words, they had some assurance that if the project continued positively, that money could be raised. Yet this was only a partial victory. As the paper noted, the initial investment was only a part of the cost of the ditch and the farmers had to be prepared to come up with more in the future. This reminded many of the continuous struggle to finance the Grand River Canal, and some began questioning the benefit of using the state to build the High Line. It was clear to many that the legislature was not going to finance the

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<sup>36</sup>*Grand Junction News*, July 4, 1891, p. 1.

<sup>37</sup>*Grand Junction News*, July 18, 1891, p. 1.



construction (as they had on the State Canal Number One), so many looked again to private funding.<sup>38</sup>

Both the *News* and the rural *Grand Valley Star* initially tried to keep the valley supportive of the state effort. The *News'* Price admitted that the state was unlikely to fully fund the canal, but pointed out that the valley had "no kick coming in state appropriations" as they had already received \$40,000 to build bridges over the Grand River. He also argued that the state's offer of convict labor was worth nearly a half million dollars. Others besides Price hoped that the state canal would be built. Grand Junction Town and Improvement Company president and longtime area resident, M. L. Allison, declared that he had 60 acres of dry land under the proposed ditch that he would gladly give to the people who would make the ditch a reality.<sup>39</sup> The *Grand Valley Star* concurred with the *News* on the ditch's benefits. In November the *Star* argued that the venture would vastly enrich the state, contending that "fully 75,000 acres of land will be opened to productiveness, which will greatly increase the assessed valuation of the state."<sup>40</sup>

The state's reluctance to finance the ditch, however, caused serious problems for State Canal Number Two. If the

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<sup>38</sup>*Grand Junction News*, August 26, 1891, p. 4, and October 31, 1891, p. 1.

<sup>39</sup>*Grand Junction News*, October 31, 1891, p. 1.

<sup>40</sup>*Grand Valley Star*, November 14, 1891, p. 7.

state did not provide the money, then the valley would have to find the capital elsewhere. Senator Smith, who sponsored the original canal legislation, gathered a group of "eastern capitalists," along with local Judge and irrigation booster, Charles Casewell, to finance ditch construction.<sup>41</sup> Smith assured the valley that this was not a repeat of the Traveler's Insurance Company's involvement in the original Grand Valley Ditch. These outside investors were not speculators waiting for others to construct the ditch. Their capital would be used to house, feed, and guard the convict labor, and would allow the area to build the ditch in a timely fashion. In exchange, the farmers would cede half their land to the investors to gain water on the remaining half. Completion of the ditch would invite additional capital, and the entire valley would contribute. The *News* said that when these investors helped develop the fruit lands, smelters, manufacturers and other businesses would follow.<sup>42</sup>

For supporters, this mix of private and public reclamation was the best of both worlds, and was in fact superior to the original state plan. It retained the cheap prison labor supplied by the state, but allowed private

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<sup>41</sup>*Grand Junction News*, October 31, 1891, p. 1, *Grand Valley Star*, October 31, 1891, p. 7, and November 7, 1891, p. 4.

<sup>42</sup>*Grand Junction News*, October 31, 1891, p. 1, and December 5, 1891, p. 1.

capital to finance the construction portion which removed the burden from the state's taxpayers. In fact, if the ditch could be completed rapidly, the additional taxable property would add to rather than draw from the state's coffers. The original state plan called for farmers to go into debt to pay for future water that might not arrive for years.

The very presence of outside capital raised objections in both Grand Junction and Denver. Local farmers and businessmen, like T. C. Clayton, worried that whoever paid for the ditch would control water in the valley. Many farmers also objected to surrendering half their land to pay for a ditch scheme, especially when the possibility still remained that the state might pay the entire tab. Denver newspapers accused the "syndicate" of eastern capitalists of trying to use state reclamation to "steal" Mesa County lands.<sup>43</sup>

The Democratic *Grand Valley Star*, however supported the syndicate, arguing that it looked like the valley's only way to pay for the ditch. While understanding opposition, the *Star* argued that "there is nothing more certain that our inability to comply with the provisions of this bill upon

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<sup>43</sup>*Grand Junction News*, January 28, 1893, p. 1, Pisani, *To Reclaim*, 218-19.

our own resources and capabilities."<sup>44</sup> The syndicate might not be the optimum plan, but valley boosters knew they lacked the financial ability to construct the high line on their own.

Meanwhile, eastern-slope opposition began to solidify. Some saw the increased tax argument as specious at best. In the words of the senate report, such logic would "be equally as good a reason for the state to construct anything whatever that would be taxable."<sup>45</sup> In fact, all the economic areas developed privately, argued the Committee, would return as much in taxes as the state ditch, without the outlay of state money. The state, under that logic, should invest in farming and any other taxable business. The committee further objected to state ownership of the ditch after construction, which would include maintenance.<sup>46</sup> As a result, the state would be burdened by managing the Grand Valley's canal with little actual profit.

The Senate also took issue with the economic arguments of the canal's defenders. Their report criticized State Representative M. V. B. Page, who claimed that valley land, even unimproved, was so highly prized for fruit-growing that it sold for \$250 per acre. Instead, the committee found

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<sup>44</sup>*Grand Valley Star*, October 31, 1891, p. 2.

<sup>45</sup>Colorado, Senate, Special Committee on State Canal No. 1, *Report*, 1895, p. 76 (hereinafter cited as *Senate, Canal Report*).

that even improved lands were selling closer to \$100 per acre.<sup>47</sup> In addition, opponents pointed to the inconsistency of Grand Valley irrigation boosters. Only half the land already under ditch was being cultivated. How could the valley attract the necessary farmers for the thousands of acres under the state ditch when it could not use all the water provided by the existing irrigation ditch? If the state ditch was successful, it would triple the available farm lands. If "three times the quantity of good land now in the Grand Valley under water is thrown on the market, the price of land must fall."<sup>48</sup>

Spring of 1892, however, renewed hope for some that the state would fund the ditch. In January, the headline, "The Ditch Goes!" reported that Governor Routt signed the contract to complete the ditch.<sup>49</sup> Price confidently boasted that the state ditch would make "all other Grand Valley accomplishments pale in significance. Where now lies a barren waste—dreary, useless, forbidding to behold—soon are to be orchards and gardens, which will challenge as well the admiration and competition of the world."<sup>50</sup> In a moment of magnanimity, Price declared that if possible, the same

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<sup>46</sup>Senate, *Canal Report*, 76-77.

<sup>47</sup>Senate, *Canal Report*, 82.

<sup>48</sup>Senate, *Canal Report*, 84.

<sup>49</sup>*Grand Junction News*, January 30, 1892, p. 1.

convict labor should be used to turn the Gunnison River into the Uncompahgre valley and that the Grand Valley would be glad to share her abundant water with the "parching lands of the eastern slope."<sup>51</sup> The *Star* expressed doubt that the canal would ever be completed and bemoaned the state government's myopic vision. If only the state officials would recognize the increased value to the state's coffers, they would surely approve it.<sup>52</sup>

The *Star* claimed that valley residents were strongly behind the project; that they alone seemed to understand fully the issues at hand; that all that was "necessary to render Grand Valley the richest, fairest and most prosperous of the valleys of the entire west, is an abundant, sure and reliable supply of water. . . the ditch will supply."<sup>53</sup> Most observers quickly realized that Grand Valley residents supported any proposal that offered to pay for the construction and leave control and ownership to locals. Throughout the valley's search for an irrigation infrastructure, locals resisted when asked to dip into their own pockets.

Pleased with the compromise of public labor and private capital, the Grand Valley moved on to attracting and

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<sup>50</sup>*Grand Junction News*, January 30, 1892, p. 4.

<sup>51</sup>*Grand Junction News*, January 30, 1892, p. 4.

<sup>52</sup>*Grand Valley Star*, January 23, 1892, p. 2.

securing the outside investors necessary to complete the ditch. In March, several locals toured the prospective site with three Crouse brothers from Utica, New York, who were interested in investing in the canal. According to Price, the brothers were very impressed with the soil and climate of the area, which they termed "charming," and were optimistic about the area's economic potential. The one negative note (at least reported by the *News*) was the recognition that getting the water out of the canyon was going to be expensive. It was not impossible, assured Price, but a difficult engineering problem.<sup>54</sup> When the investors traveled through Denver on their way home, however, they told a *Denver Republican* reporter that they had serious reservations regarding the current plan. They admitted that the ditch would benefit the valley and even the state, but did not think it would justify the tremendous investment. Nevertheless, they assured the reporter that they hoped to find a way to undertake the project.<sup>55</sup>

The *Grand Junction News* and other ditch supporters had remained behind the state effort for more than a year. The obvious hesitance of the New York investors convinced

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<sup>53</sup>*Grand Valley Star*, January 23, 1892, p. 2.

<sup>54</sup>*Grand Junction News*, March 19, 1892, p. 8, and *Grand Valley Star*, March 19, 1892, p. 3.

<sup>55</sup>*Grand Junction News*, March 19, 1892, p. 4, and April 2, 1892, p. 1. The April 2, 1892 *News* also reprinted an article from the *Aspen Era* that dared the Grand Valley boosters to name a Colorado irrigation canal built with foreign capital whose administration had been even satisfactory to the people under the ditch.

supporters, however, that the state ditch plan was more of a hindrance than help to their goal of irrigating the valley. The *News* argued that "state officials seemed to be flattering themselves that they were curtailing the encroachments of a gigantic monopoly. Maybe so. But one thing is very evident to us in Grand Valley--they have "knocked out" the most helpful and hopeful enterprise we ever expect to see projected in our county."<sup>56</sup> As long as the state ditch was in the planning stage, private companies were precluded from developing the ditch on their own. The valley's conundrum was clear. They were unsure they could attract the private capital necessary to construct the High Line, nor were they sure that the state ditch plan could be met. Both required outside capital, and valley boosters increasingly worried that the state's involvement complicated the financing issue.<sup>57</sup>

The prison labor issue became one of the key issues in dispute. Price argued that the original legislation had not intended that the water users pay the cost of managing the prisoners. That lay on the state, just as it did when the convicts were in the Canon City prison, or working on the State Canal No. 1. The additional cost of housing, feeding and clothing the prisoners negated the benefit of prison

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<sup>56</sup>*Grand Junction News*, April 9, 1892, p. 4.



labor.<sup>58</sup> Moreover, prison labor was not the panacea the Penitentiary Board claimed. As the *Grand Junction News* noted later, penal labor did not operate the same way free workers did. Prison regulations prevented them from working early in the morning or late in the day. As a result, one editor estimated that prison labor was worth about one-fourth that of free labor.<sup>59</sup> Convict labor might be beneficial to the prisoners and the Penitentiary Board, but it appeared less than economical for the Grand Valley.

The state senate agreed. Prison labor presented serious logistic problems. By law, those serving life terms could not be used for such a project, so short term prisoners were required. The average period of incarceration was two years, so frequently prisoners would have to be escorted back to the penitentiary for release, using more guards and money. If used in a lengthy construction project on the other side of the Rockies, this shuttle would be almost constant.<sup>60</sup> In addition, detaining prisoners in a temporary prison was problematic at best. According to the senate, most of the recent escapes were by convicts working on State Canal No. 1, which as everyone

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<sup>57</sup>*Grand Junction News*, April 9, 1892, p. 4.

<sup>58</sup>*Grand Junction News*, April 9, 1892, p. 4.

<sup>59</sup>*Grand Junction News*, January 28, 1893, p. 4. The *News* quoted A. R. Frisbie from the *Canon City Record*. The Senate Special Committee repeated this in their report. See "Report of the Special Committee," 82.

<sup>60</sup>Senate, *Canal Report*, 81.

agreed, was right at the penitentiary's front door. Preventing escape in the Grand Valley seemed even more daunting. Grand Junction refused to support a project which threatened to increase the criminal population.

Meanwhile, the entire state reclamation effort was under attack. The state's surplus had disappeared with the 1893 depression, so a justifiable experiment quickly became financially irresponsible. The state engineer's office was responsible for constructing all the state projects, but it had budget problems of its own.<sup>61</sup> Construction on the first state canal moved slow, too slowly for critics. The *Grand Junction News* noted that the state engineer had admitted that if canal construction continued at its current rate, the project would take 40 years to complete.<sup>62</sup>

While Price and others became disenchanted with state reclamation, they were also frustrated with private irrigation. The *News* editorialized that current state law effectively prohibited private investors from profiting off canal companies.<sup>63</sup> They were undoubtedly frustrated with the High Line canal and remembered the difficulty of building the Grand River Ditch, but they missed the real issue, that most of the canal projects in the Grand Valley

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<sup>61</sup>*Grand Junction News*, January 14, 1893, p. 1, and Pisani, *To Reclaim a Divided West*, p. 221.

<sup>62</sup>*Grand Junction News*, July 16, 1892, p. 1, December 10, 1892, p. 4.

<sup>63</sup>*Grand Junction News*, April 9, 1892, p. 4.

had been built ahead of need. How could they profit? When irrigation canals were constructed to attract population, the only profit would come from land, not water. Price, as he had during the GVIC conflict, reserved part of his criticism for Colorado farmers, who, he observed, enjoyed the lowest water rates in the American West. As he noted, "We want someone to put up the money to build the ditch, but we want them to furnish water for nearly nothing when the ditch is complete. The whole state of Colorado has a notion that water carriers have no right to a fair compensation."<sup>64</sup>

Price was not the only one to blame state irrigation laws for the lack of development. Representative Page, one of the state ditch supporters, argued in the State Senate that "no capitalist, unless he is insane, will put a sum of money such as is required to construct this canal, into an enterprise of this kind." The only way investors could hope to profit from irrigation, argued Page, was to secure all the land under the ditch. This was nearly impossible in the Grand Valley, as speculators had already gained title to much of the land and would not sell until the ditch was completed.<sup>65</sup>

While many in the Grand Valley distrusted the state effort, they still hoped that the state plan could be

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<sup>64</sup>*Grand Junction News*, April 16, 1892, p. 1.

enacted. Henry Rhone, a prominent businessman, became the loudest Grand Valley proponent of the state ditch. During the 1892 summer he encouraged his neighbors to consider what Rhone thought was the only viable plan to construct the High Line canal. The prison would furnish 200 men as soon as the Grand Valley constructed the barracks. All that remained was for the valley's residents to form a corporation or "state ditch co-operative construction company." The company would raise \$250,000 by selling 25,000 ten dollar shares. The stock would be assessable at ten percent per year for the first five years, then for as much as necessary to complete the ditch after that. Rhone argued that this plan allowed the farmers under the proposed ditch to retain all their lands and make a little money off of their investment, as the ditch company bonds would pay 7%.

Of course, many in the Grand Valley had experienced something very similar to this when trying to complete the Grand River Ditch system. Very few farmers wanted to once again invest their own money or, even worse, mortgage their land on the promise of a profitable ditch somewhere in the future. Rhone's suggestion held the possibility of another protracted construction with the company continually turning to the farmers for more capital. Who would benefit from keeping their entire tract if the ditch construction brought

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<sup>65</sup>Senate, *Canal Report*, 83.

long term debt? The opposition also pointed out that the state ditch in Canon City was proceeding at a snails pace with no end in sight. If the Grand Valley pursued the state ditch, it could conceivably wait ten years or longer for water.<sup>66</sup> In October, the city council reported that the state ditch fund only had a balance of \$1.65 after factoring in all the costs associated with organizing a ditch that had yet to break ground. At this rate, noted Price, the state ditch would cost twelve times the price of a privately built ditch.<sup>67</sup>

By 1893, opposition to the state ditch plan was solid. Farmers and business leaders felt that this melding of private and public reclamation would result in a protracted, debt-ridden, and litigious project. Price and others demanded that the state either fund the entire construction effort, or get out of the way. It was imperative that the state not just "start" the ditch, but actually furnish water. From that point, valley residents would take over management. "In other words, give us [\$]1,000,000 or nothing. . . It is the earnest wish of our people that the state either build this ditch with all possible dispatch, or that it get out of the way and give somebody else a

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<sup>66</sup>*Grand Junction News*, July 16, 1892, p. 1.

<sup>67</sup>*Grand Junction News*, October 1, 1892, p. 1. This became a common criticism of the state ditch. Price continually argued that the state ditch would take much longer and cost four to five times as much as a private project.

chance."<sup>68</sup> In April the paper "bid a final adieu to State Ditch No. 2." Senator Smith, who submitted the original legislation, bowed to valley pressure and killed the ditch effort when it became clear that the state's plan would only complicate and lengthen the process.<sup>69</sup>

For the Grand Valley, State Ditch No. 2's demise was bitter sweet. What first appeared as an attractive way to finance the High Line canal had turned into a nightmare. Instead of a way to avoid outside control and dependence, the ditch had become the worst of all options, with locals financing construction costs at the same time they deferred to state and private capital. While the state proposal was insufficient, however, the valley still faced the difficult question of how to finance the canal.

The failure also highlighted the valley's difficulty in developing a highly industrialized agriculture in a remote valley. The state senate report restated the point, listing the valley's disadvantages: "obvious reasons are bad water for domestic use; remoteness from market and high rates over mountain railroads, both costly to construct and operate." But the report added that "If Grand Valley with its river, soil and climate could be moved across the range into the

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<sup>68</sup>*Grand Junction News*, January 14, 1893, p. 1, January 28, 1893, p. 1.

<sup>69</sup>*Grand Junction News*, April 1, 1893, p. 1, MacKendrick, "Before the Newlands Act," p. 5, and Steven F. Mehls, *The Valley of Opportunity: A History of West-Central Colorado* (Bureau of Land Management, Cultural Resources Series Number 12, 1988), 143.

Platte valley, or even into the Arkansas Valley, every acre of it would be worth three times as much as it is where it is situated."<sup>70</sup>

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<sup>70</sup>Senate, *Canal Report*, 84.

## Chapter Five

### *The Dream of Federal Reclamation*

Failure of the state reclamation experiment left valley irrigation boosters with limited options to water the remaining arable lands and attract prospective farmers. They favored private enterprise, but the economy of the 1890s was unkind to private investment in general, and irrigation companies routinely failed throughout the west. Grand Valley residents hoped a private company would invest millions in the ditch project, while still maintaining the valley's autonomy. In the meantime, Colorado and the entire west experimented with alternative funding for irrigation projects. California's Wright Act (1887) funded canals by selling bonds on lands within an irrigation district. Colorado debated a similar law for years and finally passed it in 1901, though it did little to alleviate the financial difficulties of Grand Valley residents. The federal Carey Act (1894) provided states public lands if they, or designated private companies, irrigated and settled them.



But the Grand Valley's scattered settlement patterns made a Carey Act project a difficult, if not impossible option.<sup>1</sup>

Finally, the Newlands Reclamation Act (1902) offered valley irrigation boosters a viable option for building the High Line ditch. Many saw the federal government as less of a threat to local autonomy than private capital. The valley had learned from two important phases in the GVIC's development. The construction phase demonstrated that irrigation companies (in the Grand Valley at least) could not make money off water alone. They also saw that profit-driven projects forced corporations to value stockholders over valley residents. The second phase, once farmers owned the company, showed that cooperative ventures could be successful. The government, they assumed, needed no profit, and in fact would construct a project more like the cooperative phase than the corporate one. In other words, they sincerely believed the government could build a project for construction costs and allow the Grand Valley to guarantee their economic future.

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<sup>1</sup>In an attempt to encourage land settlement, particularly in his own state, Wyoming Senator Joseph M. Carey pushed legislation to promote reclaiming arid lands for agriculture. His act promised arid states up to one million acres from the public domain if they irrigated and settled the land. The states were required to accept the legislation, supervise construction of irrigation projects, set land and water prices, and deliver the reclaimed land to settlers in 160 acre lots. Farmers received cheap land (fifty cents an acre), but paid a per-acre charge for water rights and construction costs. Wyoming, Colorado, Idaho, and Utah accepted the legislation, but the Act failed to promote irrigation development. The Act was far more successful in the twentieth century. As Donald Pisani observed, the "Carey Act could work only if the land to be reclaimed was segregated and reserved *immediately*," and early Grand Valley settlement had already taken much of the available land. Donald J. Pisani, *To Reclaim a Divided West: Water, Law, and Public Policy 1848-1902* (Albuquerque: University of New Mexico Press, 1992), 260.

In 1912, after ten years of surveys, delays, and lobbying, the Reclamation Service approved the Grand Valley Project. Between 1902 and 1912, however, valley boosters vacillated between confidence and defeat. Once Congress passed the Reclamation Act, government engineers assured Grand Junction that the Reclamation Service wanted to build their high line canal. At the same time, however, T. C. Henry and others tried to convince valley farmers to pursue an irrigation district plan. They distrusted government intrusion and believed the district plan would best protect local water rights and individual farmers. Reclamation officials did not want to compete with private enterprise, so they deferred to the local interests, even though a majority of the valley wanted the Reclamation project. In addition, once the Reclamation Service withdrew land for the potential federal project, they assured that they, and only they would build the high line. For ten years, the valley rode the roller coaster, always wondering if they would have a government financed and built irrigation project, or watch a private irrigation district plan fail.

With the state ditch effort tabled, valley residents looked again to private enterprise to construct the High Line canal. Every year or so, a new private scheme appeared in local papers, each promising to build the ditch to the

satisfaction of the local farmers, and each promising that the ditch would be completed in a reasonable time. But as Price noted in an 1896 editorial, valley residents were so suspicious of private capital that few outside capitalists dared invest in the valley. The editor reminded the valley that despite their distrust, private capital constructed railroads, electric lights, and even irrigation ditches. Price further noted that most of these capital ventures lost money, partially because "others have made poor investments, but chiefly because our people have not shown a friendly spirit and have as a rule treated the men who own the money with suspicion. . . ." <sup>2</sup> If the valley ever hoped to attract the capital necessary to build the High Line ditch, Price noted, residents would need to be more hospitable to prospective investors.

While investors, both local and external, proposed numerous schemes to water the upper lands, two alternative ditch companies actually attempted to water the lands above the GVIC. The *News* backed a proposal by John E. Price, a businessman from Denver, to construct the canal privately using electric pumps to raise the water into the High Line canal. F. M. Burger began construction on the ditch in 1892 and installed the pumping plant and completed five miles of

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<sup>2</sup>*Grand Junction News*, November 14, 1896, p. 4.

canal.<sup>3</sup> A year later, Burger sold the ditch to Benton Canon and Charles Steele, two longtime Grand Junction residents. In 1894 John Price purchased the project and proposed to expand the ditch to furnish water to those farmers above the Grand Valley Irrigation system. This plan would construct a dam with a hydroelectric power plant in DeBeque Canyon which would furnish more than enough power to run the pumps. The proponents of the Electric Power Ditch plan claimed pumping the water would cost half the amount required to construct a gravity fed canal. In addition, the electricity produced would allow Grand Junction and surrounding communities to attract manufacturing plants.<sup>4</sup>

The other project, the Smith and Struthers ditch, began as a steam powered pumping operation, hoping to provide irrigation water to Palisade, a fruit-rich part of the Grand Valley.<sup>5</sup> When the builders realized most of the land they hoped to cover with water could be irrigated with gravity ditches, they abandoned the pumps and instead attempted to water the lands on the north side of the Grand. Ditch builders diverted water from the Grand River inside Hogback canyon, ran it through a ditch on the south side of the

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<sup>3</sup>Department of the Interior, *Second Annual Report of the US Reclamation Service, 1902-03* (Washington, D.C.: GPO, 1904), 298.

<sup>4</sup>*Grand Junction News*, July 16, 1892, p. 1, and November 14, 1896, p. 4.

<sup>5</sup>*Grand Junction News, Annual Edition*, 1896, p. 1, and Mabel B. Eyer, "Historical Notes on Pallisade Area," Museum of Western Colorado (Grand Junction), 6.

river to the edge of the canyon, then transported it across the river in an inverted siphon toward the High Line canal area. The ditch could only carry a small amount of water and was abandoned soon after completion.<sup>6</sup>

Between 1896 and 1902, Grand Valley residents relaxed their focus on building the High Line canal. The depression and drought of the 1890s did not devastate the area but certainly dried up much potential investment. And, despite booster's claims, valley farmers did not lack irrigation water; in fact, the area had more land under ditch than farmers. Even the *Grand Junction Democrat* admitted in 1886 that the community would struggle constructing the High Line canal until it settled the lands already under irrigation.<sup>7</sup> In 1899, when the area attracted a sugar beet factory, the paper estimated that the valley had over 50,000 acres of land under ditch, while only a third of that land was actually cultivated.<sup>8</sup> While this was probably optimistic, the valley did not lack for irrigated land.

Clearly the shortage of capital was the biggest barrier to constructing the High Line canal. The same problems of attracting outside capital to build an unprofitable ditch

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<sup>6</sup>Wm. Joe Simonds, *The Grand Valley Project* (Washington, DC: Bureau of Reclamation History Program, 1994), 5.

<sup>7</sup>Project Histories, Grand Valley, 1913-1914, p. 30; General Administrative and Project records, 1902-1919, Entry 3.; Records of the Bureau of Reclamation, Record Group 115; 30. NARA Rocky Mountain Region, Denver, Co.

that had plagued the GVIC, made the bigger ditch nearly impossible. Expecting the farmers under the proposed ditch to finance the operation was more fantasy than reality. Most of that land was unimproved, uncultivated, and unprofitable without water. It was also clear that despite increased land values, the valley lacked the attractive resource necessary to draw capital.

Even with these impediments, between 1893 and 1903, the valley considered the formation of irrigation districts as another possible way to finance the ditch. In 1887, California's Wright Act allowed municipalities to finance water projects by levying bonds on property.<sup>9</sup> The law allowed fifty landholders to create a local irrigation district. After creating the district, all eligible voters could vote on bonds and district officials. The financing of the project would be connected directly to the local landowners. In a sense, this forced those who benefited most from a reclamation project to pay for its construction and maintenance. Instead (at least in theory) of relying on outside capital, local communities could build irrigation

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<sup>8</sup>*Grand Junction News*, February 4, 1899, p. 1.

<sup>9</sup>Robert G. Dunbar, *Forging New Rights in Western Waters* (Lincoln: University of Nebraska Press, 1983) 33, 68, Pisani, *To Reclaim a Divided West*, 102-3, and *From the Family Farm to Agribusiness: The Irrigation Crusade in California and the West, 1850-1931* (Berkeley: University of California Press, 1984), 250-282, and Donald Worster, *Rivers of Empire: Water, Aridity and The Growth of The American West* (New York: Pantheon Books, 1985), 108.

projects as municipal projects by taxing the users, just as they built roads, bridges and schools.

Initially, this seemed the perfect solution to problems in the Grand Valley. If valley residents financed the operation themselves as a local public project, they could avoid the entanglements of either a state or private capital project. In a paper presented to the Western Colorado Academy of Sciences, Horace Hall, an irrigation engineer, articulated the support of the Wright Act in Colorado.<sup>10</sup> He argued that private capital often did a poor job of constructing necessary irrigation projects because capitalists did not cooperate and built competing structures instead of combining their capital to serve the public good. He pointed to the GVIC as a good example of failed private funding. While they succeeded in constructing the canal, after all the money and effort expended in building the system, the farmers still had to come up with an additional \$50,000 to take control of their own ditch. Allowing private enterprise to dominate public concerns, Hall argued, gave far too much power to capital. Hall also felt the Wright Act would help communities like Grand Junction combat the problem of land speculation, since the district could force landowners to finance irrigation regardless of whether they cultivated their land or not.

Wright Act proponents hoped to reduce land speculation, encourage irrigation projects in less affluent areas, and retain local control over both water and land. Since all land within the district was assessable, there was a distinct disadvantage to holding unimproved lands. If a landowner had to pay taxes on all his holdings, he was far more likely to sell off unused portions rather than wait until the value of the land rose. In fact, sitting on unimproved acres could result in a tax bill greater than the value of *unused* land.<sup>11</sup> The law also hoped that securing the bonds to farmland would keep interest low, thus enabling more communities to build projects. And, finally, irrigation districts hoped to retain control over both water rights and project decisions. Government projects brought the possibility of altered water rights, while private projects reduced local control over ditch decisions.

While many in Western Colorado initially embraced the Wright Act, not all found it as visionary as Hall. The *Grand Junction News* and editor Edwin Price became early opponents of the plan. In 1893, as the Colorado legislature considered a similar law, irrigation promoter, William Ellsworth Smythe visited Grand Junction. In an interview

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<sup>10</sup>*Grand Junction News*, July 14, 1894, p. 1.

<sup>11</sup>R. P. Teele, "Notes on the Irrigation Situation" *Journal of Political Economy* 13 (Dec 1904—Sept 1905), 241.



with the *News*, Smythe attempted to dissuade the valley from pursuing that kind of financing.<sup>12</sup> Public financed projects, he warned, rarely worked. Smythe argued that they lacked any kind of economic pressure to stay within a budget. As the budget grew, the project would return to the community for more money, resulting in more expensive water.

While Price disagreed with Smythe's assessment of public versus private financing, he too found the Wright Act a distasteful method of building irrigation projects. Price consistently opposed irrigation projects that threatened private landownership. The Wright Act created irrigation districts with enforcement powers. A private ditch company could force payments by withholding water, but as the GVIC had demonstrated, when multiple farmers refused to pay, the company often lost that leverage. Under the Wright Act, a farmer could conceivably lose title to his land if he failed to pay his taxes. It seemed irresponsible to build public projects by indebting local residents. Price argued that valley residents opposed bonded debts "which promise to hang like a mill stone about their necks for a period of fifteen or twenty years, and the difficulty of meeting a state interest every year."<sup>13</sup> As all Grand Valley residents understood, irrigation projects were risky ventures,

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<sup>12</sup>*Grand Junction News*, April 15, 1893, p. 3.

regardless of the financing method. Saddling local farmers with more debt on a project that may or may not succeed, felt Price, was bad public policy. The Wright Act's popularity in California stemmed from concern over land monopoly. The valley lacked the large disparity between large and small landowners, so much of the pressure for such a law was absent. Price also disliked forcing local communities to finance irrigation projects whether they benefited from the project or not.

After a decade of failed private projects, the first three years of the new century brought two new opportunities for Grand Valley irrigation boosters. In 1901, the Colorado legislature passed the Irrigation District Act, allowing the formation of districts using the California model.<sup>14</sup> The legislature had always valued irrigation development, and since the failure of State reclamation, it seemed a good way to stimulate irrigation projects that allowed private enterprise to work inside a municipal political context. The next year, the US Congress passed the Newlands Reclamation Act, providing for federal financing and construction of irrigation projects. The Reclamation Service's first annual report reported that the Grand Valley was a favorable site for reclamation and recommended the

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<sup>13</sup>*Grand Junction News*, February 20, 1897, p. 1.

Reclamation Service consider constructing the High Line canal into Utah.<sup>15</sup>

The Wright Act arose out of a California context where irrigation, agriculture and population were already well established and irrigation projects dated back to the 1870s. Western Colorado, however, not only lacked adequate population but also had yet to establish consistent markets for its produce. Nor was land monopoly the issue in the Grand Valley that it was in California.<sup>16</sup> For remote Western Colorado at least, the main problem was not monopoly or litigation, but raising sufficient funds to build desired irrigation projects. As a result, it reacted to nonexistent problems, failing to solve the main impediment to reclamation in the valley.

Federal reclamation gave Grand Valley residents hope their long awaited High Line canal might finally be constructed. The News told the valley that government officials ranked the Grand Valley high on the list of potential projects. In February, the paper reported that Secretary of the Interior E. A. Hitchcock had requested the

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<sup>14</sup>Pisani, *To Reclaim a Divided West*, 103.

<sup>15</sup>Department of the Interior, *First Annual Report of the US Reclamation Service, June 17 to December 1, 1902* (Washington, D.C.: GPO, 1903) 152.

<sup>16</sup>As Victoria Saker Woeste's work on the raisin industry demonstrates, horticulture dramatically lowered the median farm size in California. In the Grand Valley at least, only irrigated and improved lands held value for too long, so the valley's arid climate mitigated against land monopoly. See *The Farmer's Benevolent Trust: Law and Agricultural Cooperation in Industrial America, 1865-1945* (Chapel Hill, University of North Carolina Press, 1998).

previous year that the Geological Survey study the Grand Valley for a possible project.<sup>17</sup> The Geological Survey had already examined the entire state for irrigable sites. That report, written by A. L. Fellows, noted there were very few locations along the Grand River suitable for irrigation. One of those few sites, he concluded, was the Grand Valley, where a proposal included diverting the river to the "uplands of the western part of Colorado and the eastern part of Utah."<sup>18</sup>

Having two options (irrigation district and federal reclamation) also complicated the community's attempt to water the rest of the valley. For much of its young history, Grand Junction had attempted to maintain some semblance of local autonomy while also promoting a stable agricultural economy. Their experience with private capital made valley leaders leery of relying too much on external financing, yet many valley residents firmly believed the canal was necessary to maintain their economic future. Modern readers might not understand a community finding the federal government less intrusive than a private company, but many in Grand Junction clearly believed this. The federal government used local labor and pumped money into the local economy. More important, however, since the

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<sup>17</sup>*Grand Junction News*, February 1, 1902, p. 1.

government project did not have to show a profit, it was less likely to abandon the project. After watching private projects experience bankruptcy and failure, the appeal of the Reclamation Service was as much stability as financing.

For the next ten years a majority of farmers who favored federal reclamation battled T. C. Henry and a small but dedicated minority who favored the district plan. Both sides believed their plan would best protect the valley's interests, and maintain the valley's control of water and capital.

### ***Federal Reclamation***

The following September Gerard H. Matthes, an engineer from the Geological Survey, arrived in Grand Junction to study the region for a possible reclamation project. Accompanying the federal engineer was Addison J. McCune, a former resident of Grand Junction and future Colorado State Engineer.<sup>19</sup> (McCune initially supported the proposed federal project, though he later promoted a competitive private venture). Matthes concluded that the Grand Valley was a western rarity; it had a "superabundance of water,"

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<sup>18</sup>Department of the Interior, United States Geological Survey, *Water Resources of the State of Colorado* (Washington, D.C.: GPO, 1902), 127.

<sup>19</sup>Simmonds, *The Grand Valley Project*, 9, and Department of the Interior, *Third Annual Report of the U.S. Reclamation Service, 1903-04* (Washington, D.C.: GPO, 1905), 69.

more than enough to supply the valley's irrigation needs.<sup>20</sup> In fact, he noted, the water was so abundant that valley farmers irrigated in "a wasteful manner without fear of shortage."<sup>21</sup> Matthes supported a Grand Valley project, but argued the Utah extension was too expensive.<sup>22</sup> The survey limited the proposed project to irrigate approximately 600,000 acres within the Grand Valley. All involved agreed that the valley needed the High Line canal, and that private means were inadequate to accomplish the task. On July 2, 1902, the Department of Interior withdrew nearly 400,000 acres of the valley's public land from settlement. After completing his survey, Matthes reduced the acreage to 230,000, since the rest fell outside an affordable project.<sup>23</sup>

Frederick Newell, the director of the fledgling Reclamation Service, told the *Denver Republican* that those who expected immediate construction would be disappointed. Projects of this magnitude, he warned, required extensive study and preparation before actual construction could

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<sup>20</sup>Grand Valley—Board of Engineers Reports, 1903-1923, Matthes Report, April 4, 1903, p. 1 (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>21</sup>Ibid.

<sup>22</sup>Ibid., 64, and the Hydrographic Branch of the United States Geological Survey agreed with Matthes conclusion. See George Wisner to F. H. Newell, June 10, 1903, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>23</sup>*Third Annual Report of the U.S. Reclamation Service*, 69.

begin. The *News* relayed this article to Grand Valley residents, admitting this was undoubtedly true at other potential sites, but hardly applied to the High Line canal, where water rights were unquestioned, and both the need and quantity of water were obvious. The booster ethic so dominated the *News* outlook that they viewed any bad news regarding the government project as misinformation. For many in the valley, the Reclamation Service was the valley's last chance.

The road to federal reclamation, however, had many obstacles. The Reclamation Service, after all, was a new and evolving agency struggling to find its role in western water development. The Newlands Act granted to the federal government oversight of public lands, but left water rights to the states. In addition, the Service constantly had to insure government projects did not supplant viable private ones, nor encourage rampant land and water speculation.<sup>24</sup> At the local level, valley residents had to negotiate between private and government reclamation, with the constant problem that each threatened the existence of the other.

Valley farmers watched the proposed project experience delay after delay. Even though the valley had the assurance that the Reclamation Service saw the area as a prime site

for reclamation, as Newell had warned, the project would wait until extensive surveys were completed. Just as the government canal seemed a certainty, however, T. C. Henry returned to the valley to spearhead an effort to build the ditch under the new irrigation district law. Henry teamed with Fruita's Kiefer brothers and former Grand Junction resident Addison McCune, to form a district encompassing the entire proposed High Line canal. While most farmers wanted a government project, the irrigation district backers also had support. In August 1903, the *News* announced that the promoters had twenty signatures on their petition and were well on their way to forming an irrigation district.<sup>25</sup>

Henry's return to the Grand Valley caused a tremendous stir in the area. Once welcomed as the answer to the valley's water needs, many now regarded the Denver financier with suspicion. They blamed him for the difficulty completing the Grand Valley Irrigation ditch, and wondered if they really wanted to entrust the economic future of the valley to someone who had cost the local farmers innumerable delays and difficulties building ditches much smaller than the proposed high-line. In addition, some residents, including the *News*, were furious that Henry's latest scheme might interfere with the government effort. Even the mere

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<sup>24</sup>See Pisani, *Water and the American State*, forthcoming.



mention of the irrigation district project could convince the Reclamation Service to take its project to any one of the other possible sites throughout the arid West.<sup>26</sup> In fact, the Reclamation Service's Second Annual Report noted that

"various citizens of Grand River Valley have urged that construction of a High Line canal may best be left to private enterprise. . . Pending the consideration of the matter, and some united effort on the part of the citizens, it has not been deemed advisable to take further action."<sup>27</sup>

Henry responded in a letter to the local paper that he had the valley's best interest at heart. He reminded them he had already contributed a great amount to the valley's irrigation development and was not merely trying to scuttle the reclamation plans. Henry claimed that if the Grand Valley was capable of building the ditch without his help, then he would take his money elsewhere.<sup>28</sup>

The skepticism that greeted T. C. Henry and his fellow promoters was firmly seated in the valley's experience with private irrigation. After all, the valley watched as Henry and others attempted to construct a much smaller project assuming that simply irrigating arid lands would create enough revenue to cover the cost of construction and

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<sup>25</sup>*Grand Junction News*, August 1, 1903, p. 1.

<sup>26</sup>*Grand Junction News*, August 6, 1904, p. 4, and July 2, 1904, p. 1.

<sup>27</sup>*Second Annual Report of the U. S. Reclamation Service*, 250.

maintenance. As the *News* editorialized, the valley needed more than simply water in a canal; it needed a large population of farmers to settle on the new lands.<sup>29</sup> The paper doubted Henry's claims that the new lands could be sold for up to \$100 per acre, noting plenty of land remained uncultivated under the existing ditch system. Why would incoming settlers pay such exorbitant rates when cheaper land already was under ditch? The *News* understood the area wanted to build irrigation ditches ahead of population pressures, but they could not rely on land values and farmers to cover the costs.

Their concerns were well founded, as the Reclamation Service reluctantly put the Grand Valley Project on the back burner, stating it would not compete with private enterprise in the valley. In December the local paper gloomily reported that Reclamation's first project in Colorado would be the Uncompahgre project for nearby Gunnison.<sup>30</sup> Only when and if private efforts failed to raise sufficient funds, would the Reclamation Service step in.<sup>31</sup> The Reclamation Service's third annual report stated "it is not proposed that any work shall be done on this project [in the Grand Valley] so long as it is under serious consideration by

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<sup>28</sup>*Grand Junction News*, August 29, 1903, p. 1.

<sup>29</sup>*Grand Junction News*, August 15, 1903, p. 1.

<sup>30</sup>*Grand Junction News*, December 26, 1903, p. 7. Also see Simmonds, *Grand Valley Project*.

local capitalists." The only good news for valley reclamation boosters was the remark, "it is thought, however, that the project is a very worthy one, and the board of consulting engineers and the district engineer have recommended that, if it is impracticable for private capital to handle the situation, the Reclamation Service should again take hold of the project."<sup>32</sup>

In fact, Henry's interference cost the valley dearly. Reclamation engineers saw the Grand Valley as an optimum project site and wanted to proceed with construction immediately. In a 1904 letter to Frederick Newell, District Engineer A. L. Fellows called the Grand Valley Project the "most attractive project in this state at the present time" and urged approval as soon as possible.<sup>33</sup> But Newell recognized that the problems were more complicated than simply waiting out a private ditch effort. Colorado had contributed a little over \$400,000 to the Reclamation Fund, but the proposed projects in that state would cost nearly six times that amount. As Newell well understood, the Service had to protect itself from critics in other states where the proposed outlays were much lower than their

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<sup>31</sup>*Grand Junction News*, July 2, 1904, p. 1.

<sup>32</sup>*Third Annual Report of the U. S. Reclamation Service*, 70.

<sup>33</sup>A. L. Fellows to F. H. Newell, October 19, 1904, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

contributions to the Fund. The Grand Valley was caught between local competition and national politics.

Valley promoters had few choices. If they opposed Henry and his irrigation district scheme, they insured its failure. The very existence of the district plan, however, could delay a government project indefinitely. There was no guarantee when (and for the district critics it was when, not if) the district plan failed, the Reclamation Service would still be interested or able to build the project. The Reclamation Fund was already tapped by existing projects, and delays opened the possibility that economic or political forces could make federal reclamation untenable. The Grand Valley experienced a similar fate with the State Canal project. The 1890s depression drained the state surplus and political opposition to state funded projects further doomed the project. Grand Valley boosters understood well that despite the potential for irrigation in the valley, irrigation projects were never guaranteed.

The *Grand Junction News* and others who had supported and lobbied for a government canal were furious at Henry's latest gambit. They renounced both McCune and Henry as "knockers" who were placing personal gain ahead of the community's best interest.<sup>34</sup> Why, asked the *News*, would anyone turn down the government's offer to construct such a

difficult canal when private enterprise had failed repeatedly? The government canal would cost less to individual farmers and would irrigate more land. The only plausible explanation was that McCune and Henry wanted to hold valuable lands hostage until their value skyrocketed. "No selfish motive," said *News* editor A. C. Newton pointedly, "should stand in the way of a larger benefit to a larger number of people."<sup>35</sup> Those who wanted the private project should, at least, wait until the government plan had been eliminated before pursuing the district plan.<sup>36</sup>

This encapsulated the western dilemma regarding land speculation and community development. How does a community encourage individual economic advancement while also maintaining a concern to local interests? Community leaders in the Grand Valley clearly believed that any private interest threatening this government project was disloyal to the rest of the community. Most of the community supported the government project. A 1903 petition submitted by valley residents in support of the Grand Valley project lists over 600 citizens from housewives and librarians to merchants and farmers.<sup>37</sup>

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<sup>34</sup>*Grand Junction News*, April 15, 1905, p. 7.

<sup>35</sup>*Grand Junction News*, July 2, 1904, p. 1.

<sup>36</sup>*Grand Junction News*, July 18, 1903, p. 1.

<sup>37</sup>Forwarded to Reclamation from Senator Henry Moore Teller, February 26, 1903; Box 305, Folder 931-5; Petitions for preliminary surveys, Grand River Project, 1903; General Administrative and Project records,

Henry later remembered the situation differently. In a 1909 address to the Trans-Mississippi Congress, he claimed Newell had written privately in 1903 that Reclamation would "probably not undertake the construction of works which can be built equally as well by private enterprise," and would not, unless shown new information, approve the project.<sup>38</sup> He further claimed Newell explicitly encouraged private enterprise to develop the valley.

Farmers and valley residents also feared that delays might result in the valley losing its appropriation right to the water itself. If Henry and McCune succeeded in filing on the land served by the canal, they could tie up the water rights for years. While most assumed there was more than enough water in the Grand River for all, few wished to watch upstream developers gain additional rights while Grand Junction waited for a government canal. The *News* nervously noted each diversion upstream at Glenwood, and once commented that the Fort Collins area was planning to divert part of the Grand's headwaters to the Eastern slope.<sup>39</sup> Any delays threatened the government project's very existence.

Henry and the Kiefers succeeded in forming the district, though this only complicated the ditch question.

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1902-1919, Entry 3; Records of the Bureau of Reclamation, Record Group 115; NARA Rocky Mountain Region, Denver, Co.,

<sup>38</sup>Theodore C. Henry, "The Reclamation Service versus the state of Colorado: and address delivered at Denver, August 18, 1909 before the Trans-Mississippi Congress," (Smith-Brooks Press, Denver, 1909) 5.

While in California districts included local communities, the Grand Valley district was limited only to lands not owned by the government or already irrigated by other means. This limited the potential acreage to 30,000 acres, half of what the government canal would water. More important, by limiting the lands included in the district, it also severely limited the potential tax base for the project. While the district could sell bonds, their backing was tenuous at best. As some observers noted, the entire idea of the water district was to distribute the cost of irrigation beyond just those who used the water because even town lots appreciated when irrigation projects were built nearby.<sup>40</sup> Otherwise, the district was simply a formalized version of earlier private efforts that placed construction costs on the farmers.

Even T. C. Henry was dismayed by the omission of government lands. In a letter to the paper, he claimed the state law in no way precluded the admission of government or other private lands. In fact, he claimed that had he known this prior to the district's formation, he would never have become involved. While he noted the district did not limit private capital from investing profits from land sales, what land would they sell? The government lands were open to

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<sup>39</sup>*Grand Junction News*, November 26, 1904, p. 5.

preemption already, and few other lands remained in the district. Even Henry noted that a private interest would be "foolhardy" to "invest half a million dollars in a canal to water unoccupied government lands and take the chances of selling the water."<sup>41</sup> Henry was speaking from experience as he had earlier that year attempted to recruit outside capital to purchase the district bonds. In July, 1904, he and Frank Kiefer met with a representative from a Chicago finance company to survey the potential ditch, but failed to convince him to invest.<sup>42</sup> In many ways, the existence of two options weakened both. The Reclamation Service hesitated to construct a project that could be built by private capital, and private enterprise failed to get full support from the populace with the government waiting in the wings.

The unfavorable formation of the district and Henry's failure to secure outside financing forced him to rethink his involvement in the High Line venture. In another letter to the paper in September, 1904, Henry encouraged the Reclamation Service to construct the canal.<sup>43</sup> He admitted the exclusion of the government lands made him very skeptical of his ability to recruit investors. He assured

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<sup>40</sup>Teele, "Notes on the Irrigation Situation," 241.

<sup>41</sup>*Grand Junction News*, November 14, 1903, p. 1.

<sup>42</sup>*Grand Junction News*, July 30, 1904, p. 1.



local residents he wanted the High Line built even if he did not profit from it. For the first time Henry expressed awareness that his involvement in the valley was not popular, admitting he had been unable to garner local support.

Henry's letter rejuvenated the reclamation boosters in the valley, who met the next month to form a water users association, required by the Reclamation Service. A. L. Fellows, a reclamation engineer, met with farmers and explained that the organization worked similarly to an irrigation district as it combined all the farmers into one organization to deal with the government.<sup>44</sup> Unlike irrigation districts, however, a water users organization did not have the authority to levy taxes or enforce contracts. Any binding contracts would have to be made between the individual farmer and the Interior Department.

The irrigation district supporters, however, refused to disappear. A. J. McCune wrote to Newell soon after the Water Users' Association formed, requesting the government stay out of the valley until the district plan had clearly failed. McCune reflected the criticism he and Henry had received in the valley, noting that those "who are trying to

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<sup>43</sup>*Grand Junction News*, September 17, 1904, p. 1, 7.

<sup>44</sup>A. L. Fellows to F. H. Newell, October 8, 1904; Folder 962 Miscellaneous Grand Valley Project through 1910; Records of the Bureau of Reclamation, Record Group 115; NARA Rocky Mountain Region, Denver,

build under the district plan. . . have the good of the community at heart as much as those who are opposing us."<sup>45</sup> The district plan, he argued, was still viable and the valley could raise the bonds necessary for the project, but only if the government did not hold on to the territory for a future project. He assured Newell that he personally owned no land under the proposed ditch, but admitted his wife owned 30 acres that would be watered by the project. His motive, however, was to find the project that could be completed quickly for those farmers waiting for the water. A. P. Davis responded for Reclamation, expressing surprise that any pro-district sentiment remained in the valley.<sup>46</sup> He assured McCune that Reclamation had no intention of blocking a district funded project and admitted it would be years before the Reclamation Fund would allow construction.

Despite McCune's optimism, the irrigation district movement proved a mere distraction, always jeopardizing the government project, but never collecting enough capital to construct the ditch on their own. Some construction companies and small investors showed interest, but none were big enough to carry it through. During the winter, the rest

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Co. Fellows told Newell that the irrigation district promoters had long since given up hope of raising money through the district law. See also the *Grand Junction News*, October 8, 1904, p. 1, and October 22, 1904, p. 1.

<sup>45</sup>A. J. McCune to F. H. Newell, Nov 23, 1904, Folder 962 Miscellaneous Grand Valley Project through 1910; RG 115; NARA Rocky Mountain Region.

of the valley eagerly anticipated the government's announcement that the Grand Valley Project would be constructed. The *News* continued to lobby for the effort, sometimes by simply pointing to the government's efficiency in similar projects. W. S. Wallace, a local farmer and member of the Grand Valley Water Users' Association, visited the reclamation project underway on the Truckee River in Nevada. "Talk about the government being slow," observed Wallace, "no other agency can push things as they are doing on that ditch."<sup>47</sup> If the Reclamation Service decided to build the High Line canal, Wallace was convinced it would be operational by 1906. The message was clear: the federal government was more trustworthy for reclamation than private enterprise.

In fact, there were two battles here. Within the Grand Valley, reclamation supporters attempted to dissuade Henry and McCune from blocking the government project. It seemed obvious to valley residents that private enterprise was incapable of building the big ditch and a majority of citizens wanted the government to build the High Line. However, they had to convince Newell and the Reclamation Service. The *News* urged Henry to honor his previous letter

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<sup>46</sup>A. P. Davis to A. J. McCune, November 26, 1904, Folder 962 Miscellaneous Grand Valley Project through 1910; RG 115; NARA Rocky Mountain Region.

<sup>47</sup>*Grand Junction News*, October 1, 1904, p. 2.

and bow out of the High Line issue. In a meeting on the ditch issue, several residents confronted Henry and asked him why he doubted that the government project would succeed. One quoted Arthur P. Davis, head of the Reclamation Service, saying McCune's claim that private interest had not abandoned the High Line canal was a "piece of news" to him as he had been assured the way was clear for the government project.<sup>48</sup>

F. H. Newell seemed irritated with the Grand Valley Project boosters. In an inter-departmental letter, he reminded Davis "these people" had to be reminded there was no money to construct the project at the present time.<sup>49</sup> In addition, he noted that Grand Valley vacillation over the private project had delayed the government project in the first place. In May, 1905, Newell had communicated all of this to irrigation promoters, telling W. S. Wallace, secretary of the Grand Valley Water User's Association that "there appeared . . . to be a strong sentiment in the Valley favoring construction by private enterprise" under the Irrigation District law.<sup>50</sup> In fact, Newell reinforced many valley resident's fears when he saw constructing a project

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<sup>48</sup>*Grand Junction News*, April 22, 1905, p. 4, and A. P. Davis to A. J. McCune, November 26, 1904, Folder 962 Miscellaneous Grand Valley Project through 1910; RG 115; NARA Rocky Mountain Region.

<sup>49</sup> F. H. Newell to A. P. Davis, July 12, 1905, Folder 962 Miscellaneous Grand Valley Project through 1910; RG 115; NARA Rocky Mountain Region.

<sup>50</sup> F. H. Newell to W. S. Wallace, May 10, 1905, National Archives Microfilm Publication: No. 96, Roll 49.

at this time "not advisable" since the project did not have the support of the entire valley.<sup>51</sup> To add insult to injury, the Reclamation Service had to withdraw (temporarily) from the valley, the Interior Secretary had approved the construction of other projects. This would further drain the Reclamation fund and leave the Grand Valley out in the cold.<sup>52</sup>

Reclamation officials and engineers continued to communicate this message to valley residents, but few wanted to listen. Newell did not handle this process well. Local boosters wanted to use the government project to attract settlers and investors. Reclamation's inability to make a clear decision complicated the matter.

The News believed the Grand Valley Project construction was imminent, and all these rumors were simply misinformation. In 1906, the News claimed Newell had promised them that while there were too many proposed reclamation projects to build them all, the Grand Valley project was in the "first class" of canal schemes.<sup>53</sup> It was true that the reclamation fund was insufficient to build the project but, according to Newell, there were few barriers to an eventual completion. In fact, as reclamation engineer J.

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<sup>51</sup> Ibid.

<sup>52</sup> Ibid., 2. Newell restated this position to L. M. Miller, President of the Grand Valley Water User's Association in a letter dated June 3, 1905.

H. Quinton wrote to Charles Walcott of the U. S. Geological Survey, Grand Valley residents had been repeatedly informed by three different Reclamation sources that the Grand Valley Project could not proceed until the Uncompahgre project began paying money into the Reclamation Fund.<sup>54</sup>

The Reclamation Service was still interested in the valley, a fact proven in June when a group of high ranking officials visited Grand Junction, including Interior Secretary James R. Garfield, Utah Senator Reed Smoot, and General Land Office Commissioner Richard Ballinger. Local boosters, eager to impress the delegation, hinted that the new canal should be named the "Garfield Canal" in honor of the guest.<sup>55</sup>

Two main reasons kept the Reclamation Service from approving the project. First, the early frenzy of project construction had exhausted the Reclamation Fund. The Service's *Fifth Annual Report* noted that the water users association had been created, but the Reclamation Fund lacked the money to construct the project.<sup>56</sup> Second, the federal government was reluctant to compete with private enterprise. After all, one justification for the

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<sup>53</sup>*Grand Junction News*, June 17, 1905, p. 8.

<sup>54</sup>J. H. Quinton to Charles D. Walcott, September 11, 1906, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>55</sup>*Grand Junction News*, June 29, 1907, p. 2.

Reclamation Act was to build the projects private efforts could not.

In November, 1907, Newell outlined Reclamation's conclusions in a report to Secretary Garfield on the Grand Valley. E. E. Sands, the project engineer, estimated the cost at two million dollars to irrigate 50,000 acres, or about \$40 per acre.<sup>57</sup> Newell also warned the Secretary that Grand Valley residents continued to believe project construction was imminent. D. W. Aupperle, of the Grand Junction Chamber of Commerce went to Washington believing the Reclamation Fund contained more than enough money to begin construction. Instead, Newell argued, the Fund was fully committed to current projects. In fact, there was no guarantee that all approved projects would be completed, much less new proposals. The director suggested that construction funds for the Grand Valley might be available by 1911. The project was promising, however, and Newell recommended that the Service continue with location surveys and even gradually acquire rights of way. Even though the project was far from construction, he argued, the time spent in surveys would limit future problems. Newell ended his briefing by suggesting that the Service had two alternatives

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<sup>56</sup>*Fifth Annual Report of the U.S. Reclamation Service*, (Washington, D.C.: GPO, 1907) 114.

<sup>57</sup>F. H. Newell to James Garfield, November 5, 1907, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

for the Grand Valley: move forward with surveys, explaining to the residents the funding difficulty, or withdraw completely from the valley and leave the canal to private means.<sup>58</sup> The Secretary concurred with Newell's assessment.

Later that month, the Interior Department sent its proposition to Grand Valley residents.<sup>59</sup> Reclamation boosters faced their ultimate fear that Henry's private irrigation scheme would run the federal government out of the valley. In other words, the Grand Valley had to choose between T. C. Henry and the Reclamation Service. On November 14, citizens and farmers met to discuss the two options. The meeting was "largely attended" and those present voted unanimously for the Reclamation plan.<sup>60</sup> D. W. Aupperle, in his account to Newell, counted seven hundred in attendance, none of whom raised any question or hesitation against the government plan.<sup>61</sup> The next day, Sands sent a message to Supervising Engineer, I. W. McConnell, restating the "emphatic desire and prayer" that the Interior Secretary "proceed at once . . . to begin surveys and acquisition of rights of way, preparing detailed plans for the work, with a view of its construction at the earliest possible date, as

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<sup>58</sup>Ibid., 4.

<sup>59</sup>Simmonds, 11.

<sup>60</sup>E. E Sands to I. W. McConnell, November 15, 1907. Folder 259: General Plans, Estimates, to Dec. 31, 1903. RG 115; NARA—Rocky Mountain Region, and Simmonds, 7.



soon as funds are available."<sup>62</sup> Secretary Garfield replied that "the Reclamation Service will now proceed as rapidly as possible in accordance with the proposition made."<sup>63</sup>

Reclamation approved \$50,000 for the project, opened a Grand Junction office, and appointed E. E. Sands as Chief Engineer. Both the valley and Reclamation had spoken in favor of the Grand Valley Project, which brought the project one step closer.

This did not exorcise Henry from the valley. In 1909, the local newspaper wryly reported that Henry had, once again, voiced his intention to build the High Line Canal. The News suggested that "long after the government has completed the big ditch and the fertile acres beneath it are bent with ripening fruit, we predict that T.C. will still be filing."<sup>64</sup> Henry finally left the Grand Valley for good, though his resentment toward the Reclamation Service continued. As of 1909, he still believed that the government had inappropriately intruded on the valley's local affairs and saw the Reclamation Service as a tyrant imposing its will on private capital and community leaders.

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<sup>61</sup>D. W. Aupperle to F. H. Newell, November 14, 1907, Folder 375, Grand Valley Water Users' Association through 1910. RG 115; NARA—Rocky Mountain Region.

<sup>62</sup>E. E. Sands to I. W. McConnell, November 15, 1907. In fact, Newell received numerous reports of the meeting, from Sands, Aupperle, and from W. S Wallace, the secretary of the Grand Valley Water Users' Association who also submitted the meeting minutes.

<sup>63</sup>Simmonds, 11.

<sup>64</sup> *Grand Junction News*, July 31, 1909, p. 5.

Local farmers would have supported his private plan, he claimed, but for government agents who "insinuated dissatisfaction among the people, and at the same time slyly inciting the shibboleth, 'Government water, free!'" After such propaganda, Henry claimed, the community became suspicious of private capital which in turn made capitalists leery of investing in the valley. Henry seemed oblivious to the distrust he himself engendered over the GVIC and saw himself a victim of a tyrannical government. He ended his presentation on reclamation in Colorado with the statement: "*Delenda est Carthago!* (Carthage must be destroyed!)"<sup>65</sup>

Henry returned to the valley in 1911 as a visitor, speaking to farmers in Fruita about the government project. To illustrate the antipathy some felt toward Henry, D. W. Aupperle wrote to Newell about the reappearance of their "old friend." Aupperle asked Newell for any rebuttal information he could use to support the government project, but wryly noted that it was not a high priority, "for I think we can hit him with a club if it becomes necessary."<sup>66</sup>

Henry's absence from the valley did not assure success, and in fact his name was used for years to threaten the federal reclamation project. For example, during a bitter

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<sup>65</sup> Henry, "The Reclamation Service versus the State of Colorado," 14.

<sup>66</sup>D. W. Aupperle to F. H. Newell, January 30, 1911; Folder 375 Grand Valley Water Users' Association. 1911 & 1912; RG 115, NARA—Rocky Mountain Region.

temperance vote, the *News* claimed that the saloon owners had threatened to recall Henry to sabotage the High Line canal if the city decided to prohibit alcohol (Henry denied such allegations).<sup>67</sup> For the next four years, residents rode a roller coaster of rumors regarding the government canal. On one point, Henry was correct. The Reclamation Service's interest in the valley discouraged private capital from investing in the valley's irrigation infrastructure. Farmers and community leaders now turned their hopes completely on government reclamation.

During 1908, engineers began to survey and plot the course of the canal. Secretary Garfield visited the area and repeated his support for the project but noted that the cash-poor Reclamation Fund would slow construction.<sup>68</sup> A. P. Davis echoed this, noting that the rights of way negotiations, especially with the railroad, could take years to resolve. That and financial problems made predicting a completion date "unwise."<sup>69</sup> In response, the Grand Valley Water Users Association proposed to raise two hundred thousand dollars from its membership to continue work in 1909 if the Secretary would match and promise to pursue the

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<sup>67</sup> *Grand Junction News*, March 20, 1909, p. 1, May 15, 1909, p. 1.

<sup>68</sup> Simmonds, 13.

<sup>69</sup> A. P. Davis to J. G. Thompson, January 15, 1908, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

project until at least half the lands were under ditch.<sup>70</sup> By October, the two groups had agreed on a tentative arrangement, pending an engineering report. E. E. Sands outlined the arrangement in a letter to Aupperle. The water users were to raise \$125,000 for cooperative work, including labor, that could be clearly "identified separately from the work done directly by the Reclamation Service."<sup>71</sup> Those cooperative efforts required the approval of the Interior Secretary. In response, Reclamation would allot matching funds to begin construction on portions of the ditch. Sands recommended that those funds be used to build the proposed 7,000 foot tunnel near Palisade, and various flumes, culverts, checks and lateral headgates along the canal, which Sands believed could be constructed with the cooperative labor.<sup>72</sup> Aupperle responded to the Interior Secretary that the Grand Valley Water Users Association had successfully raised subscriptions in the amount requested. All that remained was for the Interior Department to commit.<sup>73</sup> In December, the board of engineers recommended

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<sup>70</sup>Telegram from A. P. Davis to F. H. Newell, July 28, 1908, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>71</sup>E. E. Sands to D. W. Aupperle, October 5, 1908, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>72</sup>Ibid.

<sup>73</sup>D. W. Aupperle to James R. Garfield, October 15, 1908, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

that the project proceed as planned. The biggest remaining obstacle was securing rights-of-way in the Palisade area, where the proposed canal would damage several existing orchards. The orchard owners negotiated a settlement in which the Water Users Association would pay damages.<sup>74</sup>

In February, 1909, the *News* proclaimed that the Reclamation Service had approved a contract between the Water User's association and a group representing Palisade farmers. The agreement detailed rights-of-way and damages due farmers once the canal cut through their orchards.<sup>75</sup> Association Secretary, D. W. Aupperle visited Washington to finalize the deal and reported the good news back to Grand Junction. For the next couple of months, the local paper assured residents that government men were poised to begin construction. In fact, in March Supervising Engineer I. W. McConnell secured permission to begin construction on areas not under negotiation.<sup>76</sup> While many acted as if the contract signing meant the project was assured, it simply meant that the project investigations could continue. Valley residents had heard enough stories about assured

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<sup>74</sup>Simmonds, 14.

<sup>75</sup>*Grand Junction News*, February 27, 1909, p. 1; Simmonds, 14; Telegram from Morris Bien to Reclamation Service, Denver, Co, February 23, 1909, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>76</sup>Simmonds, 15.

irrigation to know that no project was assured until the water flowed on to fields.

On May 4, their fears were realized when Davis telegraphed the Grand Junction office to cease construction immediately, a decision that shocked the Grand Valley as well as many reclamation officials.<sup>77</sup> D. W. Aupperle telegraphed Davis looking for an explanation. Davis replied tersely: "unable to give reasons for order."<sup>78</sup> Many in the valley assumed that Henry's interference caused the delay. Aupperle wrote Newell before the delay, assuring him that fears of interference with private enterprise were "all 'rot'. There is no 'private enterprise' here to be interfered with and we don't want any private parties interfering with our Government project."<sup>79</sup>

Acting Director Arthur P. Davis wrote Secretary Garfield to defend the Grand Valley Project. Davis claimed that the Grand Valley was a near perfect project location, that "no other point is known in the reclamation states where an irrigation project presents more favorable features

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<sup>77</sup>Telegram from A. P. Davis to the Reclamation office in Grand Junction, Colorado, May 3, 1909. Folder 259 General Plans, Estimates, 1909; RG 115; NARA—Rocky Mountain Region, and Simmonds, 15.

<sup>78</sup>Telegram from A. P. Davis to D. W. Aupperle, May 6, 1909; Folder 375. Grand Valley Water Users' Association. Thru 1910; RG 115; NARA—Rocky Mountain Region.

<sup>79</sup>D. W. Aupperle to F. H. Newell, March 30, 1909; Folder 375. Grand Valley Water Users' Association. Thru 1910; RG 115; NARA—Rocky Mountain Region .

from a physical point of view."<sup>80</sup> He also expressed deep reservations about the "alleged desire of certain private interests to now construct the project," noting their lack of prior progress. Davis also reiterated that private construction would be delayed because most land owners had decided to wait several years for the government project rather than wait for corporate reclamation. The one real problem, noted Davis, was the empty Reclamation Fund. That said, the Service was committed by the February contract to spend those matching funds, and Davis recommended that they proceed as planned.<sup>81</sup>

This latest delay set off a heated debate within the valley over who was at fault. A rumor circulated that the C. C. Mangenheimer Construction Company, currently building another canal in the valley, was angling to build the canal privately and so had played a part in the delay. Mangenheimer responded quickly, assuring the valley the company was not responsible for the delay, but if the Reclamation Service decided to abandon the project, it stood ready to step in.<sup>82</sup> And, in fact, it contacted the Water

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<sup>80</sup>A.P. Davis to James R. Garfield, May 5, 1909, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>81</sup>Ibid.

<sup>82</sup>C. C. Magenheimer to Interior Secretary, November, 15, 1909, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

Users Association with an offer to build the canal.<sup>83</sup> The community erupted, angry that yet again a private interest was interfering at a vulnerable time. The *News* articulated these fears, assuring its readers that it in no way opposed private capital constructing any project in the valley "with the exception of the *High Line*. The *High Line* is a project that the people believe and *The News* believes that they believe rightly, can only be constructed feasibly, economically and well by the *federal government through the Reclamation Service*."<sup>84</sup> The paper recounted the short history of the government attempts and reiterated that any delays further complicated the project and endangered its completion.

Further internal correspondence reveals another surprising source of opposition to the Grand Valley project. Supervising Engineer McConnell wired Davis asking if the suspension was permanent. Davis did not know the long-term status but said that the Interior Secretary had suspended work on the project after several visits from Colorado Senator Henry Teller who "strongly condemn[ed] the action of the Government in taking up work at Grand Junction."<sup>85</sup>

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<sup>83</sup>*Grand Junction News*, May 22, 1909, p. 3, Simmonds, 15.

<sup>84</sup>*Grand Junction News*, May 29, 1909, p. 6.

<sup>85</sup>A. P. Davis to I. W. McConnell, May 6, 1909, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.



Davis seemed frustrated, noting that he had reminded Garfield that the Service was under a contract with the valley, but received no satisfactory response. He ended his letter with the somber, "It is not clear how the work at Grand Junction can be stopped with honor to the United States, but perhaps the lawyers may find some way."<sup>86</sup>

McConnell wired Davis a week later, "I fail to understand why Senator Teller or anyone else should be interested in blocking the expenditure of funds in the State when there is such small chance of any other method of development."<sup>87</sup>

Teller left the GOP in 1896 when the party endorsed the gold standard, and spent his entire career defending state's rights.<sup>88</sup> He was always suspicious of federal reclamation, though he initially encouraged construction in the Grand Valley. In 1903, he told Newell that he would "very much appreciate anything that may be done looking to the promotion of this enterprise."<sup>89</sup> Why he singled out the Grand Valley project is unclear. By 1909, however, private reclamation was making a comeback in western states, thus giving a Colorado politician like Teller a credible

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<sup>86</sup>Ibid.

<sup>87</sup>Telegram from I. W. McConnell to A. P. Davis, May 11, 1909, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>88</sup>Donald J. Pisani, *Water and the American State, 1902-1933*, forthcoming, chapter 3, 8.

alternative to government involvement in irrigation. Reclamation officials, such as McConnell, suspected Teller was acting as an attorney for a private company trying to build the canal.<sup>90</sup>

For the next several months, the valley watched anxiously as the project hung in limbo. The Project Engineer, E. E. Sands, sympathized with the farmers, noting that the Reclamation Service was as much in the dark as the valley.<sup>91</sup> Davis echoed this sentiment, noting to Aupperle that he had little idea of the Secretary's direction on the project.<sup>92</sup> He had encouraged Garfield to visit the valley on his next trip west to look over the prospective project, but could not guarantee the visit.

The valley's problems were much deeper than a reluctant Interior Secretary. In late May, Davis revealed to Sands that the Justice Department was scrutinizing the entire arrangement between the water users association and the Reclamation Service.<sup>93</sup> In June, the Attorney General ruled

<sup>89</sup>H. M. Teller to F. H. Newell, April 23, 1903, Folder 962. Miscellaneous Grand Valley Project through 1910; RG 115; NARA Rocky Mountain Region.

<sup>90</sup>I. W. McConnell to A. P. Davis, May 11, 1909; Folder 259 General Plans, Estimates, 1909; RG 115; NARA—Rocky Mountain Region

<sup>91</sup>*Grand Junction News*, June 5, 1909, p. 1.

<sup>92</sup>A. P. Davis to D. W. Aupperle, May 12, 1909, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>93</sup>A. P. Davis to E. E. Sands, May 19, 1909, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

the attempt to finance portions of the project without the Reclamation Fund was illegal. Secretary Ballinger reassured the valley that once the contract was renegotiated, construction could continue.<sup>94</sup> That was the good news. The bad news was that the project was once again delayed and in limbo.

Despite the delays, irrigation boosters in the Grand Valley continued to see the Reclamation Service in a positive light. Given their vote the previous year to wait for the government project, the valley could not afford to vacillate between private and public funding. In addition, they worried that any negative publicity coming out of the valley would harm the future project. Reclamation officials had clearly supported the project, so valley locals did not see them as the impediment. In July, the News editorialized that the service was the "most spirited and progressive bureau in American civil service. The foul and debasing clutch of the job seeking politician has never been able to get a grasp on its workings."<sup>95</sup>

Despite outward faith in the Service, the newspaper kept a wary eye on Washington, and local boosters began to look quietly at alternatives for the government ditch. In

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<sup>94</sup>Telegram from Richard Ballinger to D. W. Aupperle, November 27, 1909, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

<sup>95</sup>*Grand Junction News*, July 31, 1909, p. 3.

September, while the valley waited for a visiting Ballinger to update the project, the Fruit Belt Power Company offered to construct the ditch, "if the government decides not to undertake work on the Grand Valley project this year or for a number of years."<sup>96</sup> Most private capital plans only profited if land values increased dramatically and the company sold all the available land. This proposal, prescient of future reclamation policy, would finance the canal by providing electric power to the entire valley. It also had the potential of avoiding the canal's difficult engineering and legal problems. Not only would it supply power to the valley, it would utilize that power to pump the water to the necessary elevation. It would also allow the ditch builders to avoid Palisade, thereby also eliminating the rights-of-way issues, and the expensive tunnel.

While some locals looked cautiously at alternative plans, most boosters clearly saw the government as their last best hope, and waited anxiously for Interior Department approval that would make all the other discussions moot. The News announced that the Palisade farmers considered accepting the government's offer for damages. The government proposed to use the right of way of the Stub

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<sup>96</sup>*Grand Junction News*, September 18, 1909, p. 1.

ditch, a previously failed attempt at the High Line canal.<sup>97</sup> For the rest of 1909, and well into 1910, rumors of imminent construction returned.<sup>98</sup> One rumor was that Congress would pass a special act authorizing the Interior Department to accept money from Palisade Irrigation district, overriding the Attorney General.<sup>99</sup>

Reclamation officials, meanwhile, continued to survey and discuss the project. Most reports concurred with local fears about private projects. One 1910 report concluded that irrigating the approximately 50,000 acres above the Grand Valley Canal was "of such magnitude that private capital avoids it."<sup>100</sup> The report further observed that 39 percent of that land was patented, making it ill advised for a Carey Act project, while the large amount of unpatented land discouraged the development of an irrigation district.<sup>101</sup> The only feasible builder, the report concluded, was the Reclamation Service.

While the valley waited anxiously for the project's approval, word came of another threat to Grand Valley water. Eastern slope farmers, wanting to add a stable water supply

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<sup>97</sup>*Grand Junction News*, October 2, 1909, p. 1.

<sup>98</sup>*Grand Junction News*, January 22, 1910, p. 1, July 9, 1910, p. 1, December 24, 1910, p. 1.

<sup>99</sup>*Grand Junction News*, February 5, 1910, p. 1.

<sup>100</sup>Report submitted to Director, US Reclamation Service, September 17, 1910, 6. Project Engineer, J. H. Miner, (National Archives Microfilm Publication No. 96, roll 49); Project Histories and Reports of Reclamation Bureau Projects; Records of the Bureau of Reclamation, Record Group 115; National Archives Building, Washington, DC.

to their fertile lands, sought to divert part of the Grand River over the Continental Divide. On July 30, 1910, the paper reported that Eastern slope irrigation companies had secured water rights to the headwaters of the Grand River.<sup>102</sup> Western slope residents rallied behind attorney N. C. Miller to oppose the project before it began. Miller objected to the court's granting eastern slope companies conditional decrees for Grand River water. A conditional decree gave petitioners rights to water before they had the ability to convey the water to their land.<sup>103</sup> Once the water was used, the conditional decree was perfected and made absolute. Miller contended that conditional rights should only be granted to petitioners with legitimate and timely access to the water, not to just anyone who wanted to tie up valuable water rights.

The court ruled quickly on Miller's petition. In January, 1911, the Grand County District judge ruled that the Eastern slope company's claim on Grand River water was legitimate.<sup>104</sup> The company had made a claim on water on the Williams Fork of the Grand River in 1902, and so had established legal priority. Their recent move to expand

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<sup>101</sup>Ibid, 6.

<sup>102</sup>*Grand Junction News*, July 30, 1910, p. 1.

<sup>103</sup>Daniel Tyler, *The Last Water Hole in the West: The Colorado-Big Thompson Project and the Northern Colorado Water Conservancy District*, (Boulder: University Press of Colorado, 1992), 475.

<sup>104</sup>*Grand Junction News*, January 14, 1911, p. 4.

their ditches was logical. The *Grand Junction News* reacted somberly, first hoping that the ruling would be struck down on appeal, then warning local farmers not to delay in securing appropriation rights for the valley. The next month, western slope farmers found a formidable ally in their water fight, when US Attorney General George Wickersham informed the local court that the government project would be imperiled by the Intermountain Water company's attempt to take water from the Grand river.<sup>105</sup>

The impending intra-state squabble over water further encouraged irrigation boosters to push for the government canal. The fears that upstream development could threaten the valley's water supply seemed more real than ever. During the summer of 1911, negotiations continued between the Interior Department and local users. In May, three supervising engineers released their report on the conflict. It took, however, until August for any progress in resolving the disputes that held back the project's approval.

On August 4, 1911, the representatives of the Palisade farmers and Grand Valley Water User's Association met with officials of the Interior Department.<sup>106</sup> Frank Goudy, representing the Palisade interests, urged Interior to consider the compromise proposition that included the water

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<sup>105</sup>*Grand Junction News*, February 12, 1911, p. 8.

users association footing \$50,000 of the \$75,000 cost of the right of way.<sup>107</sup> D. W. Aupperle, representing the Water Users Association, agreed and suggested that the department move ahead on the canal. Goudy, however, also requested a time extension to secure the full agreement of the Palisade landowners. The farmers exact stance was unrecorded, but the newspaper accounts reveal a disagreement between the landowners and those who wanted the government canal to proceed. In several accounts, the Deputy United States Attorney threatened to begin condemnation suits on those lands under the proposed right of way.<sup>108</sup> The Water Users Association, anxious for the project to begin quickly, offered to step in and cover some of the costs to landowners under the right of way.

Anxious to clear the only barriers for the government project, the Water Users Association, as well as the Palisade attorneys, attempted to get the farmers to agree to an arbitration committee. The negotiations were not settled in 1911, but the valley did receive good news when the Reclamation Service Supervising Engineer, R. F. Walter,

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<sup>106</sup>*Grand Junction News*, August 5, 1911, p. 1.

<sup>107</sup>Goudy first appeared in the valley as the court-appointed receiver of the Grand Valley Ditch, now as part of the law firm, Goudy and Twitchell. See E. E. Sands to F. H. Newell, October 12, 1909; National Archives Microfilm Publication: No. 96, Roll 49.

<sup>108</sup>*Grand Junction News*, August 12, 1911, p. 1, and September 16, 1911, p. 1.



visited Grand Junction in December.<sup>109</sup> While locals were hesitant to speculate on the meaning of his visit, it seemed like a positive step.

The negotiations between the varied interests proceeded at glacial speed. In August, 1912, the paper reported that the contract had been delayed yet again because a flaw had been found in the contract.<sup>110</sup> The details of the flaw was not disclosed, but the language reveals the level of frustration. Reclamation finally began construction on the canal in 1912, though the final details of the rights-of-way contract remained unsettled.<sup>111</sup>

The Grand Valley finally saw the end to the seemingly interminable delays in their coveted project. While never the panacea predicted by boosters, the additional irrigable acreage helped solidify the area as a major western slope agricultural producer. It also illustrated the difficulty incurred in trying to negotiate between local interests, as well as finding themselves as a pawn in national reclamation politics.

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<sup>109</sup>*Grand Junction News*, December 30, 1911, p. 1.

<sup>110</sup>*Grand Junction News*, August 3, 1912, p. 1.

<sup>111</sup>Simonds, "The Grand Valley Project," 16.

## Chapter Six

### *The impact of irrigation on the Grand Valley*

The Reclamation Service first delivered water to the Grand Valley in 1915. The high line canal was finally a reality. Local residents were now convinced that the valley's economic future was assured. Irrigation, however, affected the valley both positively and negatively. Access to cheap water allowed the development of a small but vibrant fruit industry. The ample water supply allowed valley farmers to cultivate most of the valley. Irrigation spurred land speculation far beyond the initial years, and the promise of great profits from orchards encouraged many prospective farmers to relocate to the Grand Valley. This also encouraged farmers to succeed with small (often ten-acre) farms.

Not all changes were positive. The promise of easy money from raising fruit encouraged inexperienced or lazy settlers. These orchardists tended their trees badly, over-irrigated, and reduced the value and quality of Grand Valley fruit. Their overuse of water increased the water table, flooded orchards with harmful minerals, and in some parts of the valley, precluded any crop growth. Less experienced

fruit growers also allowed pests and diseases to take root, which harmed the industry valley-wide.

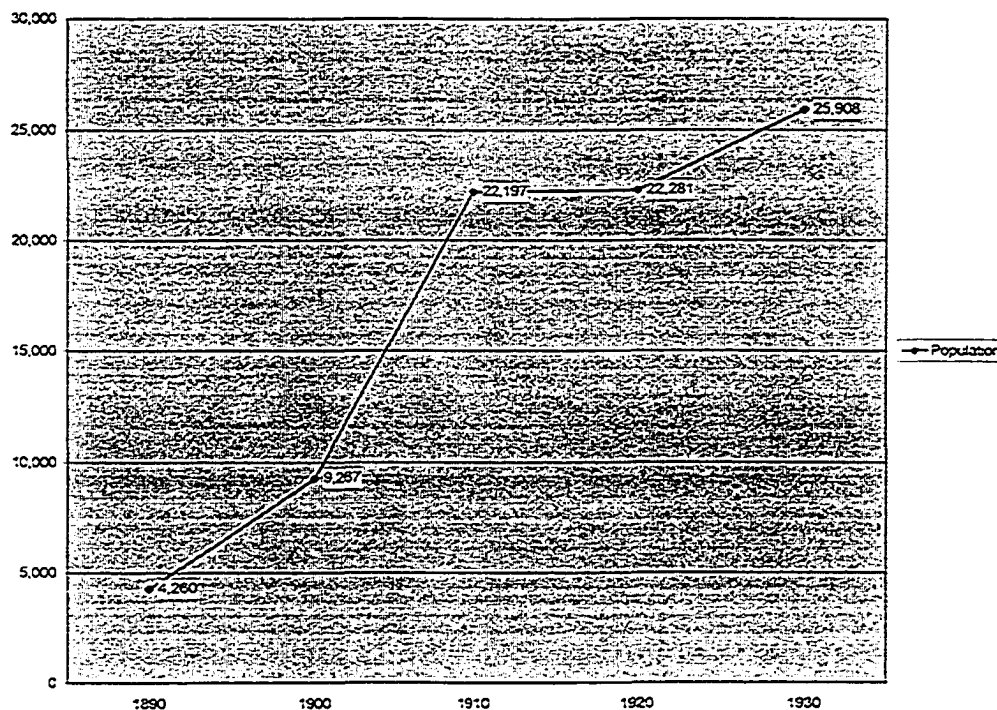


Figure 1 Mesa County Population<sup>1</sup>

### Land Values and Land Speculation

Real estate was a favorite for nineteenth century investors.<sup>2</sup> There were the gambler types who bought lots and then waited for the town to grow and raise property values. There were also permanent residents who invested in more than their business or farm. Most western settlers

<sup>1</sup> *Thirteenth Census of the United States, 1910: Population* (Washington, D.C.: GPO, 1913), 203; *Fourteenth Census of the United States, 1920: Population* (Washington, D.C.: GPO, 1921), 290; *Fifteenth Census of the United States, 1930: Population* (Washington, D.C.: GPO 1932), 332.

<sup>2</sup> Paul Wallace Gates, *Landlords and Tenants on the Prairie Frontier: Studies in American Land Policy* (Ithaca: Cornell University Press, 1973), 49. Defining the difference between speculator and farmer is often

purchased land with an eye to resell when the price was right, and this practice was not limited to wealthy capitalists. Clerks, laborers, farmers, and storekeepers all invested in land.<sup>3</sup>

In Grand Junction, for instance, the town's first newspaper editor, Edwin Price, also sold real estate. He used his paper to promote the town, cashing in on the increased value of the land. The town's founder, George Crawford, speculated in Grand Junction as well as the competing towns of Delta and Montrose. In this way, he benefited regardless of which town succeeded. Many farmers speculated in land to raise capital to build homes, improve land, or buy equipment. Then many bought several hundred acres of land, improved part of it, hoping to sell the remainder. The News noted that many early settlers bought the 160 acres allowable but found that it was too expensive to improve and irrigate. This "is a very sensible thing to do," wrote the editor, "and the sooner they realize the fact, the better off they will be financially."<sup>4</sup>

Western land speculation occurred in recognizable patterns. First settlers claimed extra land and then sold

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difficult. As Gates argued, westerners used it to describe eastern capitalists who purchased large amounts of land, even though most westerners also speculated in land.

<sup>3</sup>Ibid., 50.

<sup>4</sup>*Grand Junction News*, April 14, 1888, page 2.

it for a quick profit to the next wave of farmers.<sup>5</sup> Those who held lands waiting for future value from farmlands generally had to compete with the wide availability of land and made less. Irrigation, however, inflated land prices beyond the initial settlement stage.<sup>6</sup>

In the Grand Valley, the limited acreage, access to water, and potential value of farmland extended the speculative boom. The first settlers were limited under the preemption law to 160 acres, which many claimed. The prospect of irrigation development and fruit culture spurred land speculation for the next thirty-five years. And, since the main goal of settlers, especially those closest to the river, was to develop orchards, farm size plummeted. In the Grand Valley, however, the speculative boom lasted for thirty years before land values leveled. This boom resulted from increased irrigation development and to the valley's ability to raise mountain fruits.

The 1890 census showed that farmlands in Mesa County totaled a value of \$1,429,860 or an average of \$29 per acre.<sup>7</sup> The county compared favorably to the rest of Colorado, but was not at the top. (See Table 1) Land

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<sup>5</sup>Allan and Margaret Bogue, "Profits' and the Frontier Land Speculator," *Journal of Economic History* 17 no. 1 (1957), 3.

<sup>6</sup>Roy Robbins, *Our Landed Heritage: The Public Domain, 1776-1970* 2d ed., rev. (Lincoln: University of Nebraska Press, 1942), 326.

<sup>7</sup>*Eleventh Census of the United States, 1890. Report on the Statistics of Agriculture* (Washington, D.C.: GPO, 1895), 201.

values increased sharply, peaking in 1910 at an amazing \$159 per acre.

1890			
	Value of land and buildings	Acreage in farms	Average value per acre
Mesa	\$1,429,860	48,680	\$29
Arapahoe	\$17,650,180	437,433	\$40
Weld	\$4,403,490	272,918	\$16
Jefferson	\$7,775,890	368,781	\$21
	\$9,104,540	171,304	\$53

Table 1 Colorado Farm Values by County, 1890: Mesa County compared to state's other agricultural counties.

Land values in Mesa County increased, doubling from 1890 to 1900. Other Colorado counties showed the effect of the 1890 depression, with most county's values dropping substantially from 1890 to 1900. Assuming some rebound in value toward the end of the decade, the true impact is even more impressive. In the Grand Valley, however, land values continued to rise. The valley survived the depression and many failed irrigation projects. The GVIC, while successfully constructed, bankrupted many investors, some of them landowners. And the decade witnessed repeated attempts at the High Line canal, most notably the doomed State Ditch

effort. Nevertheless, land values fought state and national trends.

Another indicator of how locals and investors viewed the valley is in farm acreage. Not only did land values increase, but also the amount cultivated. As Table 2 demonstrates, farm acreage increased slowly during the 1890s and then more rapidly over the next twenty years.

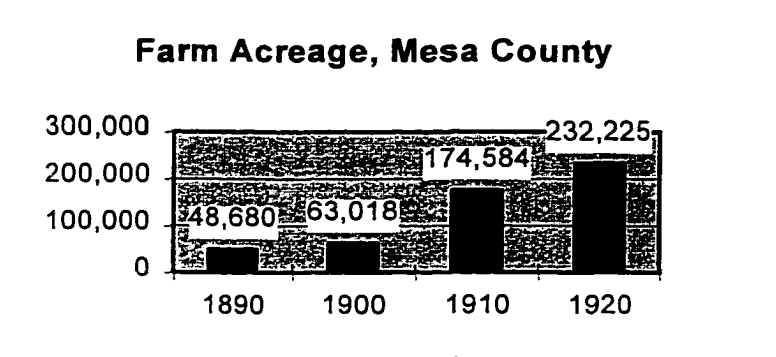


Table 2: Farm Acreage, Mesa County<sup>8</sup>

It is tempting to explain the constant increase in land values simply as a byproduct of irrigation. Mesa County was among the state leaders in irrigated acreage, with almost 94% of farmlands under irrigation, as opposed to the state average of 48%.<sup>9</sup> Clearly, successful farming in the area required irrigation. But irrigation is only one influence on land value. Other regions of Colorado also irrigated

<sup>8</sup>Ibid., and *Thirteenth Census of the United States, 1909 and 1910: Agriculture* (Washington, D.C.: GPO, 1913), 203, and *Fourteenth Census of the United States, 1920: Agriculture* (Washington, D.C.: GPO, 1922), 181.

<sup>9</sup>*Fourteenth Census of the United States, 1920: Irrigation and Drainage*, 148, 159.

heavily, notably the San Luis and Arkansas Valleys and the Greeley-Fort Collins corridor. These regions enjoyed a greater land area, better access to Denver markets, and a greater population, yet their land values remained more stable.

Instead, land values in the Grand Valley increased due to the combination of topography, elevation, climate, soil type, fruit culture, and access to water. All these factors allowed Grand Valley farmers to cling to small family farms, thus elevating the value of individual 5-20 acre farms.

### **Farm Size**

Late nineteenth-century western agriculture was dominated by California and Colorado, leaders in irrigation development. California historians often focus on the issue of land monopoly, which was clearly a dominant issue in the development of agribusiness. For example, California had wide disparity between farms of over 5,000 acres and a large number of 30-acre orchards.<sup>10</sup>

As we have seen, the Grand Valley is a markedly different place. For a variety of reasons, the valley never experienced land monopoly. It was largely uninhabited prior to Crawford and Bucklin's settlement. There were no land

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<sup>10</sup>Donald J. Pisani, *From the Family Farm to Agribusiness: The Irrigation Crusade in California and the West, 1850-1931* (Berkeley: University of California Press, 1984), 288.



grant issues, or preexisting ranches to compete with. Second, since the valley had originally been set aside as an Indian reserve, settlers approached it as a blank slate. Preemption laws limited them to 160 acres. Since the reserve was not open to homesteading, settlers had to pay the \$1.25 per acre up front, rather than proving up at a later date. The valley had much less of the "dummy entrymen" deceit of other parts of the west. The valley was too far from established markets, and without irrigation, too arid for grazing or ranching.

The statewide average farm size was 408.1 in 1920, an increase of more than 100 acres from the previous census.<sup>11</sup> This included extensive ranches in Eastern Colorado that grazed cattle over hundreds of acres. By contrast, Mesa's average farm size was 105.2, a remarkable figure for a county over 2 million acres.<sup>12</sup> This figure included the cattle grazing enterprises of nearby Collbran and Molina as well as the Grand Valley. Even with the larger farms of that area, the average farm size fell to less than the normal homestead amount.

In fact the average farm size between 1880 and 1920 reflected the growth of canals and the fruit industry. In 1890, with limited population and irrigation development,

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<sup>11</sup>*Fourteenth Census of the United States, 1920: Agriculture, 167.*

Mesa averaged 152 acres.<sup>13</sup> A closer examination reveals that the vast majority of the 321 farms lay in the 100 to 500 acre size. Only 4 farms were bigger, while only 13 consisted of less than 20 acres. Before extensive irrigation development and population, the fruit industry was also undeveloped, which made small acreages less valuable.

By 1900, Mesa boasted 747 farms with an average of 84.4 acres. Large farms dropped to 198, with only 6 over 500 acres. Fifty to 100 acre farms jumped from 45 to 248 and small orchard-sized lots exploded with 139 farms less than 20 acres. While it is clear from the local newspaper that very few orchards were over 50 acres, the 248 farms in that size category reflected robust land speculation. The county had 63,018 acres in farmland, only half of which was actually improved.<sup>14</sup> Farmers obviously bought more land than they improved, hoping the value would continue to increase.

Land values peaked in 1910, when the average farm size fell to 74.4 acres per farm. The number of farms more than tripled from 747 to 2,348. Eight hundred and eighty-three of those were less than 20 acres in size, with over 60

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<sup>12</sup>Ibid., 181.

<sup>13</sup>*Eleventh Census of the United States, 1890. Report on the Statistics of Agriculture*, 126

<sup>14</sup>*Twelfth Census of the United States, 1900: Agriculture* (Washington, D.C.: GPO, 1902), 269.

percent of the county's farms less than 50 acres.<sup>15</sup>

Irrigation and fruit culture dominated agriculture by this time. By 1920 the Grand Valley Project had opened thousands of acres in the valley, thus the increase in average farm size.

How does this compare to the rest of Colorado or to other western states? In Colorado, Mesa enjoyed the highest per-acre farmland values in the state even though it farmed a very small percentage of its land. The most heavily cultivated county in 1910 was Douglas, with between 60 and 80 percent of land farmed. Yet its average farm value was under \$25 per acre, well below Mesa county's \$159.

Another point of comparison is the state of Montana, where farmers used dry farming far more than irrigation. Fergus county, in central Montana, had a similar number of farms as Mesa in a much larger total area, but only irrigated 8.3% of its farms in 1910, as opposed to 94% in Mesa county, Colorado. Yet, land sold for only \$10 to \$25 per acre in Fergus.<sup>16</sup>

### **Crops grown.**

The farm size points to a tremendous growth in fruit culture between 1883 and 1920, but a deeper examination of

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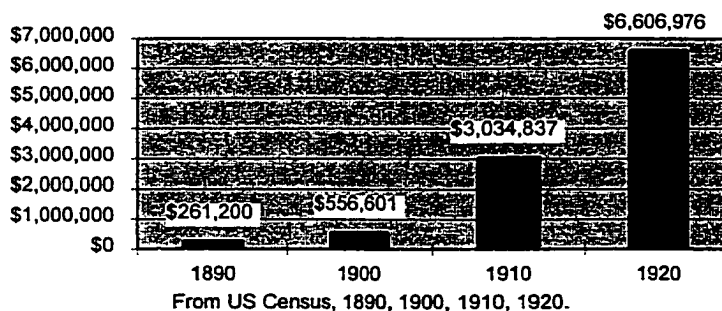
<sup>15</sup>*Thirteenth Census of the United States, 1909 and 1910: Agriculture, 203*

<sup>16</sup>*Thirteenth Census of the United States, 1909 and 1910: Agriculture, 227, 977.*

crop patterns is needed. How did irrigation development impact the diversification or specialization of agriculture in the Grand Valley?

Many historians would argue that monoculture came early to the American West, especially to California's Central Valley. This specialization was aided, in many cases, by irrigation. Mesa county farmers avoided monoculture even as they tried to emulate California's agricultural system. The valley's remoteness made specialization impractical. If farmers struggled to market their goods consistently, they were forced to grow a diversity of crops for survival. Monoculture existed in the Grand Valley, however, on very small orchards. Observers noted that small growers often only raised fruit.

**Table 3. Crop Values, Mesa County, Colorado.**



Despite the increased value of land in the valley, farmers struggled to profit from their efforts. This was common in fruit growing areas, since most fruit trees require several years before they are productive. The 1890

census reveals that of the \$261,200 worth of crops, only \$4,606 came from fruits. The limited agricultural products sold came primarily from fodder crops. The 1900 census shows that the fruit industry was still in its infancy, only reporting a little over \$80,000 in orchard products.<sup>17</sup>

Crops	1910 Value	1920
Cereals	208,525	551,077
Other grains and seeds	11,872	217,381
Hay and forage	777,264	1,941,304
Vegetables	230,542	591,336
Fruits and nuts	1,733,163	3,118,127
All other crops	73,471	187,751
Total	\$3,034,837	6,606,976

The 1910 and 1920 census broke down crops by category, presenting a much clearer picture of crop diversification. By 1910, just as the land size and value suggested, fruit culture was the predominant choice for farmers. That continued into the 20s with fruit products making up nearly half of the valley's crop production. It is instructive to note, however, that the county did not simply become one-dimensional agriculturally. When agriculture increased, all types of crops increased, demonstrating that while fruit

<sup>17</sup>*Twelfth Census of the United States, 1900: Agriculture, 626*

production was very important to the valley, it was not its only form of agriculture. Hay and forage crops remained very important. This is not surprising since Western Colorado relied heavily on livestock, providing a consistent market for such crops.

### **Individual Stories**

Early settlers quickly found that Mesa County was adaptable to fruit culture. By 1891, orchards covered an estimated 1,500 acres of the county, and that number was increasing annually.<sup>18</sup> Some successful orchards were situated close to the Grand River, but most were on the higher mesa lands. During this early period, some farmers cultivated very large orchards. One of the largest in the valley was the eighty-acre Rose Brothers and Hughes orchard, which contained nearly 12,000 apple and peach trees. This orchard shipped an estimated 92,000 boxes in 1890. Near the Rose Brothers orchard, the Kiefer brothers had a 160-acre orchard.<sup>19</sup>

Nevertheless, most Grand Valley orchards were quite small. Most fruit growers arrived in the valley after initial settlement, and so purchased small acreages already set to orchards. The elevated land values prohibited large orchards and high fruit prices made small farms

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<sup>18</sup> Charles S. Crandall, *A Preliminary Report on the Fruit Interests of the State*, The Agricultural Experiment Station of the Colorado Agricultural College Bulletin No. 17 (Fort Collins, Co.: 1891), 18.

attractive.<sup>20</sup> C. W. Steele was productive on only 35 acres on a small orchard above Grand Junction. Steele described his orchard in the *Colorado Farmer*, noting that in 1889, three years after his first planting, he "had a full crop of peaches. Some of my trees yielded 100 pounds each, and brought 10 cents per pound, wholesale, for the best varieties." Steele had three crops after that, each bigger than the last.<sup>21</sup> In 1887, he claimed a \$10,000 profit from 4 years of fruit raising.<sup>22</sup>

R. W. Shropshire, a farmer who lived eight miles from Grand Junction, first planted his orchard in 1883 and by 1885 had 1,335 trees. In 1890, he enlarged his holdings to 60 acres. Shropshire reported that his Ben Davis apple trees produced nearly sixteen bushels of fruit per tree.<sup>23</sup>

The average bushel of peaches or apples contains between 40 and 50 pounds of fruit. The fruit was sold in boxes of 20 to 25 pounds, or two boxes per bushel. In Shropshire's example, each of his apple trees produced approximately 32 boxes of apples. W. S. Coburn, of Delta,

<sup>19</sup>Crandall, *A Preliminary Report*, 18.

<sup>20</sup>S. H. Thomson, and G. H. Miller, *The Cost of Producing Apples in Western Colorado: A Detailed Study, Made in 1914-15, of the Current Cost Factors Involved in the Maintenance of Orchards and the Handling of the Crop on 125 Farms in the Fruit Region of Mesa, Delta, and Montrose Counties* United States Department of Agriculture, Bulletin No. 500 (Washington, D. C.: GPO, 1917), 5.

<sup>21</sup>Crandall, *A Preliminary Report*, 18, 19.

<sup>22</sup>Steele, C. W. "Dictation. Grand Junction, Colorado," 1887 (BANC MSS P-L 282) The Bancroft Library, University of California, Berkeley.

<sup>23</sup>Crandall, *A Preliminary Report*, 19.

said his own seven-year-old Ben Davis apple tree produced almost 13 bushels, or 26 boxes. He sold those apples for \$4 per bushel (an amount he said was high) or a gross profit of \$50 from one tree.<sup>24</sup>

In the proceedings of the state bureau of horticulture, Coburn compared the profit margin of fruit to raising wheat. He argued that the most productive wheat farm produced 40 to 60 bushels per acre, resulting in 500 bushels for a ten-acre tract. If the wheat was good quality, and the farmer enjoyed a friendly market, he might gross \$450 from a ten-acre tract. Minus \$82.25 in expenses, ten acres of wheat yielded a profit of \$367.75.<sup>25</sup> A similar crop of alfalfa netted \$300.

Fruit culture, on the other hand, had the potential for tremendous profit. Coburn pointed to the example of Judge W. B. Felton's ten-acre orchard in Canon City. With an orchard of diverse fruits, he earned \$4,556.89, or \$455.68 per acre. In 1890, Coburn himself sold \$200 worth of plums, averaging \$12.50 per tree. Peaches were even more profitable. The next year, from four-year-old trees, he sold 113 twenty-pound boxes, receiving \$13.96 per tree. "Allowing 160 trees to the acre, one rod apart each way,

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<sup>24</sup> *Annual Report of the Colorado State Bureau of Horticulture for the year 1892*, (Denver, Co.: The Smith-Brooks Printing Co., State Printers, 1893), 184.



which is ample room, and we have the sum of \$2,233.60 profit per acre."<sup>26</sup> In 1889, the *Grand Junction News* noticed that one local farmer had sold \$500 worth of strawberries from his garden.<sup>27</sup> Another made \$380 selling strawberries at \$.19 per quart, though he claimed he could sell them for a dime more per quart in the mining camps.<sup>28</sup> In 1909, William Frey reported that one apple tree earned a profit of \$120 and his entire eighteen-acre orchard brought in over \$15,000.<sup>29</sup>

These kinds of profits, put into a contemporary context, show tremendous income from very small farms. According to the American Institute for Economic Research, \$100 in 1913 is the equivalent of \$1,682.83 in 1999.<sup>30</sup> If W. S. Coburn made over two thousand dollars profit from each acre of peach trees, ten acres would produce an annual income of \$22,336 from those ten acres alone. In 1999 dollars, that is close to \$375,876.53, a shocking amount of money from ten acres.

<sup>25</sup> *Annual Report of the Colorado State Bureau of Horticulture for the year 1892*, 182. Coburn claimed his estimates for expenses were very low: \$20 for plowing; \$11.25 for seed, \$10 for irrigating; \$20 for cutting and shocking; \$6 for hauling and stacking; \$15 for thrashing.

<sup>26</sup> *Annual Report of the Colorado State Bureau of Horticulture for the year 1892*, 183-4.

<sup>27</sup> *Grand Junction News*, June 22, 1889, p. 2.

<sup>28</sup> *Grand Junction News*, June 21, 1890, p. 4.

<sup>29</sup> Mary Rait, "Development of Grand Junction and the Colorado River Valley to Palisade from 1881 to 1931—Part 1," *Journal of the Western Slope* 3 (Summer 1988), 32.

<sup>30</sup> The American Institute for Economic Research's web site includes a cost of living calculator. See <http://www.aier.org/colcalc.html>

Of course, the accounts listed in local newspapers and extension reports tend to emphasize the highest profits, best prices and yields, and lowest expenses. But even if Coburn and his friends doubled their actual income, half of such profits was still a lucrative business and explains the appeal fruit lands had on prospective farmers.

That success continued through the decade. In 1893, Thomas Tonge, of the *Denver Republican*, outlined the fruit capabilities of the western slope for the State Horticultural Annual Report.<sup>31</sup> He reported that Mr. Shopshire had an orchard of 2,000 trees, Mr. W. H. Coffman around 1,500 trees, and Mr. J. S. Penniston, 1,500. Tonge said that near Grand Junction and Fruita the orchard acreage was close to 2,000, and estimated that the next season would produce around 60,000 boxes of peaches worth approximately 75 cents a box.<sup>32</sup>

In 1897, F. G. Withoft focused on the specialization of growing peaches in the valley and argued that locals had invested a tremendous amount of money in producing some of the state's best peaches. He estimated an average of 180 trees to the acre, totaling nearly 1,530,000 trees. At \$3 per tree, local farmers had invested four and a half million

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<sup>31</sup> Thomas Tonge, "Orchards of Colorado: A comprehensive Resume of the Fruit-growing Industry of the State," in *Annual Report of the Colorado State Bureau of Horticulture for the year 1892*, (Denver, Co.: The Smith-Brooks Printing Co., State Printers, 1893), 251-260.

<sup>32</sup> Tonge, "Orchards of Colorado," 256.

dollars in peach trees. Each tree bore from fifty to 200 pounds of fruit per year.<sup>33</sup> In 1910, one writer claimed that his son had earned more than \$10,000 from apples while speculating on the land, noting "though he planted these orchards to sell the land as I understand, he dislikes to dispose of them owing to the profits the orchards are yielding."<sup>34</sup>

The profits earned by successful orchardists reveal that many farmers made their living from fruit alone. The 1917 fruit survey revealed that the average size orchard in the valley was 8.8 acres.<sup>35</sup> Only one region, around Loma, had a high concentration of tenant farmers, implying that the owners operated most of the rest of the valley's orchards. But a majority of the orchards were 10 acres or less. The same survey noted "it is hardly possible, except in the best of fruit years, to make a reasonable profit from 5 acres of land, when it is all planted to fruit trees, and a bad year is almost disastrous." As prices and productivity fell, relying too heavily on a small orchard became increasingly risky. The survey writers concluded

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<sup>33</sup> F. G. Withoft, "Colorado Raises Fine Peaches" in *Annual Report of the State Board of Horticulture of the State of Colorado for 1897*, (Denver, Co.: The Smith-Brooks Printing Co., State Printers, 1898), 104-107.

<sup>34</sup> *The Colorado Fruit Grower: A Monthly Illustrated Magazine Published in the Interests of the Fruit Growers and Allied Interests of Colorado and the West* Vol. 5, no. 2, (February, 1910), 29.

<sup>35</sup> E. P. Sandstein, T. F. Limbocker and R. A. McGinty, *A Fruit Survey of Mesa County*, The Agricultural Experiment Station of the Colorado Agricultural College, Bulletin No. 223 (Fort Collins, Co: 1917), 9.

that "too many farmers grow fruit exclusively, and a year of poor prices or crop failure is disastrous to them."<sup>36</sup>

This was supported by a USDA report that found a correlation between a farmer's prosperity and diversification. This report found that, while farmers in Delta and Montrose counties grew potatoes, alfalfa, and raised livestock, Mesa County fruit growers did not. "Mesa County (Grand Valley) is very highly specialized, and devoted almost exclusively to fruit, differing in this respect from the other two counties."<sup>37</sup>

### **Negatives**

The Grand Valley had many attributes that were conducive to a healthy fruit industry: a lengthy growing season, plentiful sunshine, and warm winters, plenty of water. The fruit industry proved profitable for a short time and enriched some growers. By 1920, however, the fruit industry was in decline. Many factors led to this decline: climate and soil, pest infestations, untrained farmers, and, of course, the 1920's agricultural depression. Ironically, the very irrigation that made agriculture in the valley possible also contributed to the decline of the fruit industry.

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<sup>36</sup> Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 9, 51.

<sup>37</sup> Thomson and Miller, *Cost of Producing Apples*, 4, 10.

While the fruit industry grew rapidly in the late-nineteenth century, it is clear that the valley's agricultural industry was not fully developed. In 1888, *Field and Farm* noted that many Colorado farmers were poor even though they lived in a "farmer's paradise." Most farmers were consumers first and producers second. Instead of growing a diversity of produce to sell in local markets, they focused instead on crops for distant market.<sup>38</sup> In 1890 the *News* noted with frustration that while they produced "the finest fruit in the world--merchants right now are shipping in fruit for our home market." This was also true for vegetables, which led the writer to exclaim, "Either we haven't enough farmers, or they are farming too much, or they are indolent."<sup>39</sup>

From 1890, when most of the early orchards reached maturity, the fruit industry enjoyed tremendous success through 1910. This early success, however, began to see gradual problems. In 1897, A. V. Sharpe, the county's horticultural inspector noted that while most of the orchards were healthy, "there are not a few that are becoming quite badly infested with injurious insects."<sup>40</sup> This infestation was not simply a natural process but

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<sup>38</sup>Quoted in the *Grand Junction News*, November 10, 1888, p. 4.

<sup>39</sup>*Grand Junction News*, October 25, 1890, p. 4.

according to Sharpe, was exacerbated by lazy and negligent farmers. He observed an increase in the brown mite, which damaged pear, cherry and apple trees, and the coddling moth, which damaged young apple trees by boring into the buds and tender shoots.<sup>41</sup>

Despite warnings of dangerous pests, Sharpe remained upbeat about the fruit industry in Mesa County. He noted that the total acreage of orchards had grown to 5,300 and even with all the problems, "the fruit crop of the county has been one that may justly be termed a full crop, and, as a rule, the prices received have been quite satisfactory."<sup>42</sup>

Sharpe's report, however, signaled the beginnings of trouble in the fruit industry. The perception of easy profits from orchards attracted unqualified farmers. From the state horticulture reports, it is clear that many of them thought that raising fruit was an easy process. Perhaps they bought into the booster pamphlets that advertised a new Eden where money grew (quite literally) on trees.

In 1909 Henry Wallace visited the Grand Valley and was impressed with the fruit industry. He marveled at the "wonderful beauty and productiveness of its orchards . . .

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<sup>40</sup> *Annual Report of the State Board of Horticulture of the State of Colorado for 1897*, (Denver, Co.: The Smith-Brooks Printing Co., State Printers, 1898), 27..

<sup>41</sup> *Annual Report of the State Board of Horticulture of the State of Colorado for 1897*, 28.

with the heat of the sun beating into the hole in the mountains [the Grand Valley]."<sup>43</sup> Wallace also liked the social implications of the valley's agricultural system. "Farming is under ideal conditions from a social point of view when ten acres will support a family."<sup>44</sup> He noted, however, that the late frosts, insect pests, and high land prices, "all combined to offset these attractions to a certain extent."<sup>45</sup>

These unprepared or ill-equipped farmers did not understand how to use the hard earned irrigation supply. In 1906, the Agricultural experiment station returned to the Grand Valley to report on horticulture in the valley. O. B. Whipple observed far more problems with diseases and pest problems associated with fruit trees than Sharpe found in 1897. Whipple also criticized farmers for poor technique. He noted that many farmers complained of small peaches. Most had been damaged by a hard freeze during the 1904-05 winter and the farmers had failed to prune the trees properly. Some inexperienced farmers over-watered their trees during the planting process, and continued to apply too much water to their orchards as they matured. They also

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<sup>42</sup> *Annual Report of the State Board of Horticulture of the State of Colorado for 1897*, 28.

<sup>43</sup> Richard Lowitt and Judith Fabry, *Henry A. Wallace's Irrigation Frontier: on the Trail of the Corn Belt Farmer, 1909* (Norman and London: University of Oklahoma Press, 1991), 176.

<sup>44</sup> *Ibid.*

<sup>45</sup> *Ibid.*

failed to cultivate their trees. Cultivation allowed water to reach the roots quicker and helped retain moisture. When farmers did not cultivate, they instead flooded their orchards with too much water. This muddied the soil, preventing any work until it had dried. Once it dried, it was even harder to cultivate, requiring more water to keep the trees alive.<sup>46</sup> In 1910, Professor C. L. Smith echoed this concern, advising "less water and more harrowing." Another writer noted that like everything else, "the most beneficial thing may be used so as to be the most destructive," and concluded "with us on the western slope, where water shortage is unknown, it is our opinion that there are more orchards killed outright by the use of too much water rather than by not enough."<sup>47</sup>

In 1915, the USDA surveyed the fruit industry in Mesa, Montrose, and Delta counties. The survey revealed that Grand Valley farmers incurred higher costs than their neighbors, but also that they spent less time and effort on fundamental farming practices. Only 32 percent of Grand Valley farmers fertilized with manure, while 50 percent of Delta and 67 percent of Montrose farmers fertilized.<sup>48</sup>

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<sup>46</sup>Whipple, *Western Slope Fruit Investigation 1906*, 15, 16.

<sup>47</sup>*The Colorado Fruit Grower* Vol. 5, no. 2, (February, 1910), 17, 35.

<sup>48</sup>Thomson and Miller, *Cost of Producing Apples*, 15. This is also related to the intense specialization of Grand Valley fruit growers. Since they were much less likely to raise livestock, they did not have a ready supply of natural fertilizer on their property.



Grand Valley fruit growers spent less time addressing soil health, cultivating and planting cover crops far less than neighboring counties. While valley farmers spent less on traditional methods, they embraced pesticide spraying far more, averaging 5.28 sprays per season, as opposed to the 3.16 for Delta and 2.73 for Montrose.<sup>49</sup>

By 1915, observers noticed far more failures among fruit growers. This report first noted that the height of the fruit industry in the county was in 1907. Peaches sold for \$1.25 per box and apples and pears went for \$2.50. Real estate agents had little difficulty selling fruit land at \$1,000 or more per acre, since, as the boosters claimed, one good year could pay for the land. These opportunities lured many speculators and first time farmers to the valley, where they bought 5 and 10-acre orchards. These new farmers, either hoped that the fruit would grow itself or did not understand fruit culture. In any case, the quality of fruit dropped over the next few years, as did the prices. During the 1914 season, many fruit growers lost money and thousands of bushels rotted in the orchards. The next one did not improve as untimely frosts ruined much of the valley's orchards. When the Experiment Station writers entered the

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<sup>49</sup>Thomson and Miller, *Cost of Producing Apples*, 28.

valley, they found that many farmers were "sick of the fruit business and wanted to quit."<sup>50</sup>

From 1911 to 1915, the Grand Valley produced an average of 800,000 boxes of apples, 60,000 boxes of pears, and 1,150,000 boxes of peaches. This averaged to 135 boxes of apples per acre, 145 for pears, and 640 for peaches. The survey also questioned farmers on their costs and found that many did not know. But from those who did, they estimated that the peach growers had to net \$.40 to \$.50 per box to make a living. At this rate, the average peach grower netted approximately \$320 per acre.<sup>51</sup>

The specialized nature of Grand Valley fruit also contributed to these problems. The USDA estimated that costs to fruit growers were much higher in Mesa county than neighboring regions.<sup>52</sup> Grand Valley farmers paid \$.94 to produce each box of apples, while Delta and Montrose farmers spent \$.80 and \$.77 respectively. In addition, the specialization made weathering bad fruit prices much more difficult in Grand Junction than Delta and Montrose.

From 1910 to 1915, acreage under orchard decreased instead of increasing. Fruit surveyors estimated that at least 2,500 acres of orchards had been removed, chiefly from

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<sup>50</sup> Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 3.

<sup>51</sup>*Ibid.*, 14-15.

<sup>52</sup> Thomson and Miller, *Cost of Producing Apples*, 3.

bad prices, seepage, and neglect.<sup>53</sup> The 1917 survey found even more problems with over watering orchards. As the surveyors noted, "the tendency with many has been to let irrigation take the place of cultivation. This has resulted in leaching out of the soluble plant food and puddling the soil that it bakes and is hard to work. Then too, it has raised the water-table in many places so close to the surface of the soil that it is impossible for trees to live."<sup>54</sup> Surveyors estimated that heavy irrigation had raised the water table to within 10 feet of the surface.<sup>55</sup> Farmers irrigated frequently and for short periods instead of lengthy soakings. In some areas of the valley, the writers found that over irrigation had ruined the land for all crops. Some of the worst spots were so waterlogged that they could "mire a horse."<sup>56</sup> Ironically, this was most likely worse in the Grand Valley than neighboring fruit regions due to the cheap source of irrigation water.<sup>57</sup>

Irrigation had another unintended consequence. Many orchards were destroyed by the increase of "niter," (sodium, or alkali) in the soil, commonly referred to as "black

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<sup>53</sup>Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 14.

<sup>54</sup>*Ibid.*, 9.

<sup>55</sup>*Ibid.*, 8.

<sup>56</sup>*Ibid.*, 10.

<sup>57</sup>Thomson and Miller, *Cost of Producing Apples*, 24.

alkali."<sup>58</sup> The soil took on a black color when the moisture in the soil evaporated and left the salty remnants. Too much sodium in the soil effectively killed vegetation. The climate and soils of the Grand Valley contributed to this problem as did irrigation. Saline and alkaline soils proliferate in semi-arid soil where there is little or no organic material breakdown. Dry air, little rainfall, and prolonged sunshine encourages mummification of limited plant life instead of fermentation, or a breaking down of minerals.<sup>59</sup> Less precipitation meant poorly developed surface drainage, effectively trapping sodium in local soils when the water evaporated and left salts behind.<sup>60</sup> In addition, increased irrigation leached alkali out of canal beds and fields and passed the salts on to downstream farmers.<sup>61</sup> The increased water table also contributed by raising sodium from lower soil levels to the roots and surface.<sup>62</sup> Orchards and farms with poor drainage saw their

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<sup>58</sup>Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 12, and E. P. Sandstein, *Reclaiming Nitre Soil in the Grand Valley*, The Agricultural Experiment Station of the Colorado Agricultural College, Bulletin No. 235 (Fort Collins, Co: 1917), 3. An irrigation specialist suggested that the name "niter" came from the fact that the sodium in the soil existed both as sodium carbonate and sodium nitrate. In addition, the chemical symbol for sodium, Na, comes from the word Natrium, the old word for sodium. Dan Champion, Colorado State Extension Agent, Colorado River Salinity Control Project, Grand Junction, Co. Interview by author, 23 February, 2000.

<sup>59</sup>Sandstein, *Reclaiming Nitre Soil*, 3.

<sup>60</sup>Milton Fireman, "Salinity and Alkali Problems in Relation to High Water Tables in Soils," in James N. Luthin ed., *Drainage of Agricultural Lands* (Madison, American Society of Agronomy, 1957), 506, and Leon Bernstein, *Salt Tolerance of Fruit Crops* USDA Agricultural Information Bulletin Number 292 (Washington, D.C.: Government Printing Office, 1980), 2.

<sup>61</sup>W. P. Headden, *Alkalis in Colorado (Including Nitrates)*, The Agricultural Experiment Station of the Colorado Agricultural College, Bulletin No. 239 (Fort Collins, Co: 1918), 55-57.

<sup>62</sup> Fireman, "Salinity and Alkali Problems", 505.

fertile land turn unproductive very quickly as sodium burned up fruit trees and plants. Fruit trees, in fact, are more vulnerable to salinity than other crops, so the alkali was particularly damaging to Grand Valley growers.<sup>63</sup> In excessive amounts, sodium essentially parched the plants to death by stopping the roots from absorbing water.

The Experiment station was confident that land already poisoned by niter could be washed clean if the land was properly drained. But to prevent the problem, the Experiment station recommended planting cover crops between the fruit trees. This not only protected the soil from the baking sun, but also added plant life to enrich the soil and absorb some of the nitrate increase. State horticulturists found that alfalfa and clover worked best to protect orchards and was a "safe and rational way of overcoming niter accumulation . . . that every intelligent fruit grower should follow."<sup>64</sup>

The problem was even more complicated than early soil scientists understood. Sodium acted similar to a "seal" on the soil and inhibited the flow of water, and reduced the amount of water that roots absorbed from the soil.<sup>65</sup> Once irrigation and ground water deposited increased quantities

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<sup>63</sup>Bermstein, *Salt Tolerance of Fruit Crops*, 2.

<sup>64</sup>Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 12.

<sup>65</sup>Fireman, "Salinity and Alkali Problems," 507.

of sodium, that deposit limited the later flow of water through the soil. This undoubtedly led many farmers to increase their irrigation schedule as they observed their trees needing water. Not only did it not help, but the watering increased the sodium problem as well. In poorly drained orchards, the sodium soon rendered the soil barren.<sup>66</sup>

Later irrigation researchers discovered that calcium worked against the effects of the sodium to allow water to percolate through the soil.<sup>67</sup> If combined with adequate drainage and a clean supply of water, the sodium could be slowly leached out of the orchard. Additional vegetation (cover crops) acted similarly as the calcium, by breaking up the soil and allowing water to flow.<sup>68</sup> Once the soil was returned to health, it required active and informed farmers to prevent its recurrence.<sup>69</sup>

The valley's climate was conducive to fruit growing, but many orchards were vulnerable to late spring frosts. The Palisade area fared better because it was close to the mouth of DeBeque canyon, where consistent winds kept frosts to a minimum. Elsewhere orchards often lost partial or

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<sup>66</sup>Orson W. Israelsen, *Irrigation Principles and Practices* (New York: John Wiley & Sons, Inc., 1932), 390.

<sup>67</sup>Edward J. Williamson, "The Effect of Bicarbonate In Irrigation Waters on the Exchangable Sodium Status of the Soil" (M.S. Thesis, South Dakota State College of Agriculture and Mechanic Arts, 1953), 24.

<sup>68</sup>Email interview with Dan Champion, February 28, 2000.

entire crops to the cold. Between 1900 and 1915, farmers experimented with "smudge pots," using small fires or diesel heaters set in the orchards to keep trees from freezing. Experiment Station employees concluded that the limited benefit was not worth the cost.<sup>70</sup>

Here, too, better farmers enjoyed an advantage, albeit inadvertent. In the nineteen fifties, researchers discovered minor influences on frost, and found that cultivated soil, increased the temperature about 2°. <sup>71</sup> Those farmers, who irrigated indiscriminately, may have encouraged injurious frosts when watering in early spring, as did those who left mulch on the surface. Surface coverings lessened heat absorption during the day and made orchards more vulnerable to frosts.<sup>72</sup> While location determined frost probability, those farmers who worked their orchards carefully probably avoided some of the frost problems that hampered inept growers.

While all these factors contributed to the decline of fruit growing in the valley, none was more important than the proliferation of destructive pests and diseases. The coddling moth produced worms that attacked pear and apple

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<sup>69</sup> Israelsen, *Irrigation Principles and Practices*, 220.

<sup>70</sup> Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 19.

<sup>71</sup> Victor Ray Gardner, Frederick Charles Bradford, and Henry Daggett Hooker, Jr., *The Fundamentals of Fruit Production* (New York, McGraw-Hill, 1952), 448.

<sup>72</sup> Gardner, Bradford, and Hooker, Jr., *The Fundamentals of Fruit Production*, 446-47.

trees throughout the valley, while peach growers battled the twig borer.<sup>73</sup> Pear trees proved very susceptible to pear blight, a bacterial disease that destroyed many pear orchards as well. There was no cure for the disease. The only option was to cut off the infected branches before the blight spread. It was so easy to spread that manuals recommended that farmers disinfect their tools before pruning infected branches.<sup>74</sup>

Poor farming techniques also contributed to the spread of the pests and blight. Inexperienced or lazy fruit growers did not fight the coddling moth and twig bore as efficiently as possible, and this neglect encouraged the infestation. One orchard failed to spray at the correct time endangered neighboring trees as well. Horticultural specialists believed that over irrigation contributed to the development of the pear blight. Late spring frosts did not help, but frequent irrigation caused quick wood growth creating a perfect opportunity for the blight.<sup>75</sup>

The coddling moth was more than an inconvenience for fruit growers. One publication estimated that the pest

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<sup>73</sup>C. P. Gillette and George M. List, "Insects and Insecticides" The Agricultural Experiment Station of the Colorado Agricultural College, Bulletin No. 210 (Fort Collins, Co: 1915), 5. While interviewing a current fruit specialist with Colorado State Extension, he informed me that fruit growers still battle the coddling moth, despite all the gains in modern pesticides.

<sup>74</sup>Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 33.

<sup>75</sup>Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 33.



caused "a 40 percent loss to the apple crop of the world."<sup>76</sup> How the moth traveled to the Grand Valley is a mystery. Travelers might have carried them in with rotten fruit or in recycled wooden barrels used to store apples. However they arrived, the pest caused Grand Valley apple and pear growers tremendous cost and labor.

Most attention to the harmful application of pesticides and fertilizers has focused on the post World War II period. This attention is warranted, given the proliferation of powerful chemicals, which promised to vanquish pests and guarantee agricultural production. That dependence upon technology and science, however, began much earlier, when entomologists and agricultural specialists found lead arsenate an effective pesticide.

Farmers sprayed trees two or three times with an "arsenate of lead paste" to poison both the twig borer and coddling moth. There were other treatments, including a kerosene emulsion (oil spray), mixture of lime and sulfur, and even tobacco extracts. Lead arsenate was the most effective method known. Field entomologists found the arsenical pesticide almost 4 times as effective as any other. It was expensive, however, costing individual

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<sup>76</sup>*The Colorado Fruit Grower* Vol. 5, no. 2, (February, 1910), 6.

growers around \$200 per spray, and possibly dangerous.<sup>77</sup> One Colorado horticultural magazine warned that arsenic had to be sufficiently insoluble to avoid tree damage and added that effective and timely sprays were far more important than the number of applications.<sup>78</sup> The life cycle of the moths required multiple applications, and some growers sprayed eight or ten times a season.<sup>79</sup>

Orchardists first used lead arsenate as a pesticide in 1894 after entomologists argued it was the most "effective, practical agent against the codling moth and the least destructive to foliage and fruit."<sup>80</sup> By 1934, government researchers estimated that total United States usage of the pesticide totaled nearly 40 million pounds. American fruit growers and consumers noticed the problem of visible residue on pears and apples. In 1919, Boston's health department confiscated a shipment of western pears that had "heavy residues" of the pesticide. The British Government threatened to boycott American fruit after a 1926 incident

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<sup>77</sup> Gillette and List, "Insects and Insecticides," 5, and Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 32, 33.

<sup>78</sup> *The Colorado Fruit Grower* Vol. 5, no. 2, (February, 1910), 6, 31.

<sup>79</sup> Sandstein, Limbocker and McGinty, *A Fruit Survey of Mesa County*, 32, 33.

<sup>80</sup> Paul A. Neal et al., *A Study of the Effect of Lead Arsenate Exposure on Orchardists and Consumers of Sprayed Fruit* Public Health Bulletin No. 267 (Washington D.C.: US Government Printing Office, 1941), 1.

involving an American apple allegedly caused illness in an English citizen.<sup>81</sup>

A 1926 law required all fruit be wiped off before shipping to remove the arsenic, but the impact on consumers is difficult to ascertain.<sup>82</sup> A 1941 Public Health Bulletin determined that one survey of both consumers and orchardists revealed little if any health hazard from exposure to arsenate.<sup>83</sup> These findings, however, appear overly optimistic. It is plausible that spraying arsenate of lead on orchards proved harmful to growers and consumers. In *Silent Spring*, Rachel Carson noted that arsenic was the "environmental substance most clearly established as causing cancer in man."<sup>84</sup> (In the 1952 edition of *Fundamentals of Fruit Production*, the authors ended their discussion of arsenic poisoning in trees with the chilling statement: "The discovery and now current widespread use of insecticides such as DDT in place of the arsenicals promises to alleviate, if not eliminate, the arsenic toxicity problem."<sup>85</sup>) Carson then noted that heavy use of arsenical insecticides had the same damage potential as mining slag

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<sup>81</sup>Paul A. Neal et al., *A Study of the Effect of Lead Arsenate Exposure on Orchardists and Consumers of Sprayed Fruit* Public Health Bulletin No. 267 (Washington D.C.: US Government Printing Office, 1941), 2.

<sup>82</sup>Mary Rait, "Development of Grand Junction and the Colorado River Valley to Palisade from 1881 to 1931—Part 1," *Journal of the Western Slope* 3 (Summer 1988), 47.

<sup>83</sup>Paul A. Neal et al., *A Study of the Effect of Lead Arsenate Exposure on Orchardists and Consumers of Sprayed Fruit* Public Health Bulletin No. 267 (Washington D.C.: US Government Printing Office, 1941), ix-xi.

<sup>84</sup>Rachel Carson, *Silent Spring* (Boston, Houghton Mifflin, 1962), 50.

heaps and could easily poison not only the soil, but also drinking water and downstream reservoirs.<sup>86</sup>

It is fair to assume great environmental and human damage from this use of arsenic in the Grand Valley. The amount of lead arsenate used on fruit trees is truly astounding. One report observed applications "so heavy that the trees not only remained whitened all summer, but the 'ground under the entire head of the tree was so saturated with the arsenic as to appear mouldy white to a depth of 3 or 4 inches.'" <sup>87</sup> One Grand Valley fruit grower reported spraying his 23-year-old orchard 108 times. He doubled the formula, applied the pesticide seven times a season, and sprayed "until the water ran down the trees and saturated the bands, soaking the ground."<sup>88</sup>

While most early researchers dismissed arsenic's hazard to humans, they noticed that livestock were vulnerable to overdoses of the pesticide. Lead arsenate was not only applied to fruit trees, but also used to battle alfalfa weevil.<sup>89</sup> Its use on fodder crops introduced the poison to cattle, horses and sheep. In 1925, many researchers still

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<sup>85</sup> Gardner, et al., *The Fundamentals of Fruit Production*, 248.

<sup>86</sup> Carson, *Silent Spring*, 51.

<sup>87</sup> E. D. Ball, E. G. Titus and J. E. Greaves, "The Season's Work on Arsenical Poisoning of Fruit Trees" *Journal of Economic Entomology*, Vol. 3 No. 2 (April, 1910), 196.

<sup>88</sup> Ball et. al., "The Season's Work," 192.

<sup>89</sup> George I. Reeves, "The Arsenical Poisoning of Livestock" *Journal of Economic Entomology* Vol. 18, No. 1 (February, 1925), 83.

assumed that arsenic had positive applications, noting that farmers fed 20 to 30 grains of the substance to work horses to increase endurance.<sup>90</sup> Smaller animals, however, were more vulnerable. A fatal dose for sheep was estimated around 4 to 8 grains daily.<sup>91</sup> In 1921, a Logan, Utah county agent reported that a farmer had poisoned four horses after using lead arsenate at the rate of 12.8 pounds per acre.<sup>92</sup>

Large animals were fairly safe from arsenic poisoning. The pesticide, however, undoubtedly affected birds and mammals. Few observers thought to inquire about this danger, so evidence is limited. The correlation between body mass and vulnerability to poison, however, raises more than the possibility that birds and small mammals who fed on growing or discarded fruit ingested fatal amounts of poison.

The impact on the orchards, however, is clearer. By the 1950s, researchers understood that even though farmers sprayed the arsenate of lead on foliage and fruit, considerable amounts accumulated in the soil. Research found that some Utah orchards had up to 367.2 pounds of arsenic per acre in the first foot of surface soil. Too

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<sup>90</sup>Ibid., 84. Arsenic was also supposed to make the coat glossy and allow horses to "take on fat more readily."

<sup>91</sup>Ibid., 88.

<sup>92</sup>Ibid.

much arsenic led to root rot, premature ripening of fruit, and finally tree death.<sup>93</sup>

Though Grand Valley fruit growers certainly did not understand this at the time, their soil problems and pest treatments were related. Heavily alkaline soils increased arsenic poisoning, leading some to suspect that sodium reacted to the arsenic, rendering it soluble, and therefore absorbable to tree roots.<sup>94</sup> The alkali also slowed the movement of the arsenic through the soil, making it very difficult to leach away. Growers with alkaline soils sprayed more to preserve their limited fruit, while watering to save dying trees, all of which unwittingly hastened their orchard's demise.

Many observed the decline of fruit orchards in the Grand Valley, but most attributed this to market changes, pest infestations, alkaline soils, or frequent frosts. Instead, arsenic likely ruined many of the original Grand Valley orchards. Arsenic persisted in orchard soils, forcing fruit growers in Washington State to replace soil around trees. It remained in the soil, poisoning fruit trees for years to come. Rachel Carson noted that years after other pesticides replaced arsenic, tobacco crops

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<sup>93</sup>Gardner, et al., *The Fundamentals of Fruit Production*, 247.

<sup>94</sup>Gardner, et al., *The Fundamentals of Fruit Production*, 248. A recent study found that arsenate contamination enters plants through the same transporters as phosphorous (chemically similar to alkali) which causes a

contained increasing amounts of arsenic.<sup>95</sup> Grand Valley horticulturists report little problem with arsenic in the soil, but one specialist speculated that arsenic-saturated orchards were abandoned and later became suburban lawns.<sup>96</sup>

The poisons applied to orchards in the Grand Valley caused extensive damage. Poor drainage, heavy sodium content, and pest infestations all contributed to a high possibility of orchard failure. Farmers, especially those on substandard lands, undoubtedly observed that their trees needed watering and were being infested with pests. They increased their irrigation schedule, sprayed poison, and inadvertently killed their trees.

By 1915, the Grand Valley's fruit industry had peaked and was on its way down. USDA surveyors noted that almost all peach orchards directly around Grand Junction had been eradicated, and Fruita district had "lost much of its commercial importance."<sup>97</sup> Most of the orchards originally set near the Grand River were lost to seepage and alkali.<sup>98</sup> The peach industry now centered in the Palisade area where drainage was better and the regular breezes protected orchards from untimely frosts. The fruit industry continued

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certain fungi to enhance the uptake of both phosphates and arsenicals in plants. See J. M. Sharples, A. A. Meharg, S. M. Chambers and J. W. G. Cairney, "Symbiotic solution to arsenic contamination," *Nature* 404 (April 2000), 951-52.

<sup>95</sup>Carson, *Silent Spring*, 58.

<sup>96</sup>Email interview with Harold Larsen,

<sup>97</sup>Thomson and Miller, *Cost of Producing Apples*, 12.

in the valley, but dreams of a fruit empire gave way to the reality of producing fodder crops for Western slope ranchers.

Irrigation changed the Grand Valley in many ways. As boosters first imagined, diverting the Grand River to the fertile lands created wealthy speculators and, for a time, very wealthy fruit growers. The virgin soils produced spectacular crops of apples, pears, and especially peaches. The promise of these profits justified constructing Reclamation's Grand Valley Project to irrigate more of the valley's land.

This same irrigation, however, had many unintended consequences. As in other irrigation regions, adding water to the arid soil elevated the already high alkali content in the soil, and raised the water table on low-lying lands, drowning fruit trees and other crops. The water table also increased the soil's salinity, which led to the seemingly paradoxical situation of crops burning up while being over-watered.

Irrigation allowed the fruit industry to flourish, but only for a time. Pear and apple trees attracted the codling moth, which thrived in the dry, warm climate. Farmers, drawn by the technology of lead arsenate and harassed by the tenacity of the moth, sprayed pesticides

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<sup>98</sup>Thomson and Miller, *Cost of Producing Apples*, 12.



almost casually, up to 10 times per season. The arsenic, in addition to its human cost, destroyed innumerable orchards by poisoning the trees. Arsenic also interacted with the alkaline soils, rendering poorly drained orchards barren for years.

## Chapter 7

### *Conclusions*

Ute mythology contains a story that warns of human interference with nature. In it, Coyote—the Trickster—was traveling through the canyons and mesas of Ute country. The wise Hummingbird warned him that he would be tempted by beautiful blankets on the canyon floor ahead and that he should leave them alone. Coyote found the blankets and, after looking around for danger signs, concluded that Hummingbird had deceived him. He chose a beautiful, warm blanket and continued his journey.

After a short time, he noticed a rock rolling in his direction. The rock followed Coyote up hills, through ravines and over mesas. By this time, Coyote was terrified that the rock would kill him. He persuaded his friend, Deer, to destroy the rock, but Deer ended up with broken antlers and a headache. Hummingbird appeared and chided Coyote for ignoring his advice and told the Trickster that if he returned the blanket, the rock would leave him alone. Coyote was indignant, insisting that the blanket was his and he would not give it up. Hummingbird eventually relented and destroyed the stone. Then he turned to Coyote and said,

"I am very tired and sad that all this should have happened. And no doubt you will go on doing as you please and paying no heed to advice and making others get you out of trouble." Coyote laughed and said, "I always do as I please," as he ran off with his new blanket.<sup>1</sup>

This tale is interesting on many levels. It challenges the mythology of Native Americans as environmentalists, presenting an ambiguous message about meddling with nature. Instead of a clear punishment, the story suggests that while exploiting nature may have costs, it is also lucrative. Coyote was not destroyed by his arrogance; instead he profited. In that sense, it closely parallels the Bible's ambiguous Garden story.

This is a wonderful allegory for the Grand Valley. Settlers came to the valley with the hope of altering nature for their own benefit. When faced with the possibility that their actions might harm their own economic or physical well being, they chose more technology rather than less. But in the end, that technology allowed their enterprises to survive, though not thrive.

Often environmental histories talk of cataclysmic change that alters or destroys a part of nature. As many have discovered, nature is far more adaptable than many

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<sup>1</sup>Gail Robinson and Douglas Hill, *Coyote the Trickster: Legends of the North American Indians* (New York: Crane Russak and Co., Inc., 1976), 9-19.

environmentalists assume, and most stories about meddling with nature are like the Grand Valley. Introducing irrigation to the valley altered the environment in stunning ways but did not in any way destroy "nature." Settlers were unable to remake nature completely and transform a barren, arid, valley into a botanical garden.

Travelers to the Grand Valley today can recognize much of the community's early history. The community is still the largest on the Western slope. The ditches Arch, Pabor and the Bureau of Reclamation built still provide water to dry and thirsty lands. The valley is still well known for its peach orchards and the town celebrates "Peach Day" every September.

Agriculture, while still important to the valley, does not dominate the local economy. Those ditches provide more water for fodder crops like alfalfa than they do for peach, apple or pear orchards.<sup>2</sup> As Table 1 illustrates, fruit production diminished as the average farm size increased. Orchard acreage increased briefly in the post-war economic boom, but declined again by 1959. The fruit industry now is limited to the Palisade area. Visitors see small orchards throughout the valley, but as an industry, fruit is not substantial. The GVIC flows next to suburban housing

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<sup>2</sup>Thomas J. Noel, Paul F. Mahoney, and Richard E. Stevens, *Historical Atlas of Colorado* (Norman: University of Oklahoma Press, 1994), 21.

developments and is now the site of bicycle and jogging paths, perhaps in itself a testament to the declining importance of agriculture in the valley.

	Average farm size	Acreage in Fruit Production
1930	129.5	7,984
1940	159.3	7,140
1950	216.3	9,271
1959	379.8	7,017

Table 1 Agricultural trends, 1930-1960<sup>3</sup>

Much has changed about the valley's isolation as well. Instead of riding a train through Gunnison to Grand Junction, visitors now drive a four-lane interstate from Denver directly to the Grand Junction. What took several days now takes four hours. The community is home to high-tech industry and Internet companies as well as farmers and ranchers. It has benefited from a changing perspective on nature. Once "ugly" canyon lands and desert now attract mountain bikers, kayakers and campers.

Interstate highways and phone lines have lessened Grand Valley's isolation, but geography and topography still impact the valley in numerous ways. As two Colorado

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<sup>3</sup>*Fifteenth Census of the United States, 1930: Agriculture* (Washington, D.C.: GPO, 1932), 173; *Sixteenth Census of the United States, 1940: Agriculture* (Washington, D.C.: GPO, 1942), 237; *United States Census of Agriculture, 1950: Wyoming and Colorado* (Washington, D.C.: GPO, 1952), 173; *United States Census of Agriculture, 1959: Colorado* (Washington, D.C.: GPO, 1961), 123, 209.

historians noted, "geography has always been the key to the history and development of the Western Slope, and still is today."<sup>4</sup> Winter blizzards routinely close Interstate 70 over one of the many passes between Denver and Grand Junction. During spring and summer rains, mudslides close canyon roads causing interminable delays. Visitors to Western Colorado quickly realize they are far from urban centers.

This dissertation argues that the valley's isolation has played a significant role in the community's economic development. Capital only crossed the mountains when the promised return was large enough, and the local community attempted to industrialize their agricultural economy, or when the extractive resource promised enough profit. When Cold War concerns elevated the importance of uranium, the Bureau of Reclamation funded the Collbran Project, near Grand Junction, to provide hydroelectric power to the region. U.S. Representative Wayne Aspinall promoted the project as part of the fight against global communism.<sup>5</sup> This project did little for the Cold War; instead local farmers and landowners used the Bureau project to develop further the local agricultural economy. While many hoped it

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<sup>4</sup>Duane Vandebusch, and Duane A. Smith, *A Land Alone, Colorado's Western Slope* (Boulder: Pruett Pub. Co., 1981), 2.

<sup>5</sup>Bradley Frank Raley, "The Collbran Project and the Bureau of Reclamation, 1937-1963: A Case Study in Western Resource Development" (M. A. Thesis, University of Houston, 1992).

would assist the dying family farm, farm size continued to grow.

During the 1950s, uranium promised to bridge the island to urban centers. The Atomic Energy Commission opened an office in Grand Junction and speculation, this time in mining stock, returned to the area.<sup>6</sup> By the 1960s, however, the federal government's need for uranium diminished and the Western Slope was left with failed mines, as well as untold environmental degradation.

Following on the heels of the 1970s oil shortage, Exxon Corporation decided that western Colorado's vast amount of oil shale was lucrative enough to extract. They purchased the oil shale division of Atlantic Richfield Company and joined with The Oil Shale Company to develop the Colony Oil Shale project.<sup>7</sup> Exxon planned to spend \$5 billion in western-central Colorado, especially affecting Parachute, Rifle, Silt, New Castle, and Grand Junction. The company built a new town called Battlement Mesa and prepared to give the Western Slope its biggest economic boost since the mining rush of the previous century. On Sunday, May 2, 1982, however, Exxon shut down the Colony Project and

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<sup>6</sup>Vandenbusche and Smith, *A Land Alone*, 235.

<sup>7</sup>Andrew Gulliford, *Boomtown Blues: Colorado Oil Shale* (Niwot: University of Colorado Press, 1989), 8.

immediately put 2,100 people out of work.<sup>8</sup> Black Sunday, as it was known, plunged Western Colorado into an extensive economic depression that took at least ten years to reverse.

This, however, was a continuation of earlier trends. When the Western Slope had a valuable resource, capital flowed over the Continental Divide for development and extraction. When outside economic or political factors lowered the market price of that resource, the flow of capital ceased.

This was the island community's dilemma. As much as the community attempted to exert control over its economic future, the power to attract capital still relied on the relationship between the valley's attractive resource and the cost of extracting it. Many historians have viewed this only in terms of the boom and bust cycle of the American West. But that implies that this process only depends on extractive resources like timber or minerals. It is also a relationship between communities and sources of capital. To say the entire American West has suffered the boom/bust cycles is not completely true. Downturns in agriculture do not depress California's Central Valley or Colorado's Front Range as quickly as isolated agricultural communities in Idaho, Montana, or Western Colorado.

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<sup>8</sup>Ibid., 12.



The story of irrigation and agriculture in the Grand Valley illustrates three major themes. First, valley residents embraced the market system and, instead of passively receiving outside capital, manipulated and controlled the effect of distant investors. By sifting between competing investors, valley boosters were able to convince capitalists from Denver and Hartford to construct the Grand Valley Irrigation Company. Outside investors built the ditch, but local farmers controlled and used it. This local control or influence extended to the attempted State Ditch and Wright Act irrigation district, as well as the successful Reclamation Service project. Locals consistently tried to maintain their local autonomy and advance their agricultural economy at the same time.

Second, despite the valley's best efforts, the Grand Valley could not escape the problems of being an Island Community. Settlers and boosters invested moderately in Grand Junction's economy, but always stopped short of providing the community the level of stability it desired. The geographical barriers proved too daunting for capital to invest seriously in a community where the attractive resource was non-tropical fruits.

Third, valley farmers attempted to create a highly industrialized and technological agricultural economy that would compete with California's Central Valley. They

clearly thought that industrialized agriculture combined with small-tract horticulture, would produce an ideal community life. Valley boosters constructed the irrigation infrastructure beyond the needs of subsistence agriculture. Local farmers quickly embraced science and technology to maximize their returns. This dependence, while creating lucrative profits for a short time, ruined numerous orchards and helped minimize the fruit industry's importance to the community.

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