



Theses and Dissertations

2006-07-12

From Cadillac to Chevy: Environmental Concern, Compromise and the Central Utah Project Completion Act

Adam R. Eastman
Brigham Young University - Provo

Follow this and additional works at: <https://scholarsarchive.byu.edu/etd>



Part of the [History Commons](#)

BYU ScholarsArchive Citation

Eastman, Adam R., "From Cadillac to Chevy: Environmental Concern, Compromise and the Central Utah Project Completion Act" (2006). *Theses and Dissertations*. 491.
<https://scholarsarchive.byu.edu/etd/491>

This Thesis is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.

FROM CADILLAC TO CHEVY: ENVIRONMENTAL CONCERN,
COMPROMISE, AND THE CENTRAL UTAH
PROJECT COMPLETION ACT

by

Adam R. Eastman

A thesis submitted to the faculty of

Brigham Young University

In partial fulfillment of requirements for the degree of

Master's of History

Department of History

Brigham Young University

August 2006

Copyright © 2006 Adam R Eastman

All Rights Reserved

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a thesis submitted by

Adam R. Eastman

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

Date

Thomas G. Alexander, Chair

Date

Brian Q. Cannon

Date

Shawn Miller

BRIGHAM YOUNG UNIVERSITY

As chair of the candidate's graduate committee, I have read the thesis of Adam R. Eastman in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

Date

Thomas G. Alexander
Chair, Graduate Committee

Accepted for the Department

Kendall W. Brown
Graduate Coordinator

Accepted for the College

Elaine Walton
Associate Dean, College of Family, Home,
and Social Sciences

ABSTRACT

FROM CADILLAC TO CHEVY: ENVIRONMENTAL CONCERN, COMPROMISE AND THE CENTRAL UTAH PROJECT COMPLETION ACT

Adam R. Eastman

Department of History

Master's of History

For the past century the federal government has been an active partner with state and local agencies to develop water supplies in the arid West. The last of the large-scale federal reclamation projects to be completed is the Central Utah Project or CUP. The CUP has generated considerable controversy throughout its history. The projects opponents have criticized its expense in terms of both dollars and environmental damage while others have worried about its impact on their water rights. Because of its cost and complexity, planning and construction have spanned decades. This has allowed individuals, organizations, and government agencies opportunity to attempt to influence the plans for the project to address their concerns. During six different periods—the

initial congressional debate, project planning, the drafting of environmental impact statement in response to the passage of the National Environmental Policy Act, a lawsuit challenging that document, President Jimmy Carter's reevaluation of the project as a part of the so called "hit list," local reauthorization of the projects repayment contract—these groups worked to alter the Bureau's plans to reduce the environmental, social, and fiscal impacts of the project. Despite multiple attempts, they failed to significantly alter the Bureau's, increase environmental mitigation, or decrease environmental impacts.

However, the project's opponents had been given a seventh opportunity. In the late 1980s, after a half century of planning and more than 20 years of construction—the Bureau knew that it could not finish the project without increasing the congressionally authorized spending limits. At a time of waning federal support for such projects, the Democratic leaders of both the House and Senate committees controlling Bureau projects, Senator Bill Bradley (D-NJ) and Congressman George Miller (D-CA), blocked the bill until the Utah delegation addressed the environmental concerns and objections of the project's critics.

Determined to keep the project alive, Utah's sole Democrat in Congress, Wayne Owens, acted as a mediator and began to negotiate a compromise. A determined five year effort resulted in a seventy-five page compromise bill that allowed the project to move forward while addressing the major concerns of the project's opponents. Congress passed the Central Utah Project Completion Act in October 1992. The Completion Act cut some of the projects irrigation features, increased the amount of local cost share, shifted planning and oversight for the remaining features from the Bureau to the local

water District, and mandated increased environmental mitigation overseen by a new independent federal agency.

This thesis identifies the primary concerns of the CUP's critics and traces their attempts to alter the Bureau's plans to address these concerns. Further, it provides a more detailed account of the arduous, but ultimately successful attempt to alter the project during the Congressional debates that created and authorized the Central Utah Project Completion Act. Finally, it assesses the success of the legislation to meet its stated goals during the first decade of implementation.

ACKNOWLEDGEMENTS

I owe special thanks to a great many that have made this project both successful and possible. I first wish to thank my graduate committee chair, Thomas Alexander for his support, encouragement, and guidance throughout the process of drafting this thesis. I also wish to thank my other committee members, Brian Cannon and Shawn Miller for their time and talents rendered in assistance. I also owe appreciation to Brian Cannon and also Mary Richards for ideas and insights gleaned from their seminars.

Special thanks are owed to the many individuals who agreed to be interviewed for this project. Also the staffs of the Special Collections at both the Harold B. Lee and J. Willard Marriot Libraries deserve recognition, as does Chris Calton, Records Manager at the Central Utah Water Conservancy District who provided invaluable service in locating and accessing documents related to the District and the Central Utah Project. I also owe appreciation to Don Christiansen, General Manager of the CUWCD and David Ovard, General Manager of the Jordan Valley Water Conservancy District who allowed a portion of the research and writing I had previously completed for them to be used here.

Finally I wish to thank my family for their support, encouragement, and understanding. I particularly need to express my gratitude to my wife Stephanie, whose contributions exceeded the space allotted here, but without which all of this would not have been possible.

CONTENTS

	Page
LIST OF FIGURES	x
INTRODUCTION	1
I. CADILLAC UNVEILED	10
II. GETTING THE CADILLAC OFF THE DRAWING BOARD.....	37
III. FROM LUXURY TO UTILITY	68
IV. GETTING THE CHEVY OFF THE DRAWING BOARD	96
V. DRIVING A NEW HYBRID OFF THE LOT	119
BIBLIOGRAPHY	153

LIST OF FIGURES

Figure	Page
1. Palmer Drought Severity Index for Utah 1895-2002	11
2. Map of Proposed Central Utah Project, 1947	30

INTRODUCTION

“There are three things we value in the West. We value women, we value gold, and we value water. And you can fool around with our women and with our gold. But damn you, Mr. President, don’t touch our water!” Such was the impromptu education that Arizona Senator Barry Goldwater gave President Jimmy Carter regarding the importance of water in the minds of many of those living in the arid West.¹ The availability of water can guarantee the very survival of life in a desert climate. But, for many Westerners, water holds a magical power beyond sustaining life. It can turn the desert into agricultural gold when applied to the dry soil. Thus, the development and control of water in the arid West can both enrich and empower.²

Citing concerns over a rising federal deficit, President Carter had proposed cutting appropriations for a list of Bureau of Reclamation and Army Corps of Engineer projects across the nation. Those affected by the proposed cuts quickly named the President’s plan the “Hit List.” The list included the biggest Bureau of Reclamation project in Senator Goldwater’s state, the Central Arizona Project. Also on the list was the Central Utah Project, the biggest Bureau project in Utah. Environmentalists and other long time critics of the large dams built by the Bureau and Corp of Engineers hailed the President’s move. They had been fighting against many of the same projects for many years. Congress found the votes to override the President’s budget cuts, but the controversy generated by the “hit list” did not end. Many supporters of the cuts continued to fight

¹ This exchange between President Carter and Senator Goldwater took place at negotiations over the “hit list.” Jake Garn, Oral interview with author, March 25, 2004.

² See comments of George Miller quoted in Daniel McCool ed., *Waters of Zion* (Salt Lake City: University of Utah Press, 1995), 176.

against what they perceived as expensive, wasteful, and environmentally devastating water development projects.

One of those involved in supporting Carter's cuts was a staff writer and Director of Communication for the National Resource Defense Council, Marc Reisner. Reisner followed up on his investigative work for the NRDC during the "hit list" years writing a best selling book about the issues of bad economics, environmental damage, and the abuse and corruption of Reclamation policies. Published in 1986, *Cadillac Desert* became a best seller. Those in Congress who shared Reisner's opinions helped block an attempt to raise the cost ceiling of the Colorado River Storage Project to complete ongoing Bureau work, in the upper Colorado River Basin, including the Central Utah Project. In an effort to win consensus over the embattled project, Utah Congressman Wayne Owens (D) stepped into the breach to help craft compromise legislation. His efforts resulted in the Central Utah Project Completion Act or CUPCA, which scaled back the plans, shifted additional costs to local water users, and stepped up environmental mitigation for the project. In his own words, they had turned the Cadillac into a Chevy.³

The passage of the CUPCA was an important event in the history of the water reclamation in the West. It brought about significant shifts in long standing policy and practice, and marked a turning point in the history of the Bureau of Reclamation and water manipulation in the West. Historians have explored, discussed, and argued about how the lack of water and the subsequent development of water resources have shaped the economic, political, technological, and environmental myths and realities of the West.

³Marc Reisner, *Cadillac Desert* (New York: Penguin Books, 1987). Owens comments appear in, Congress, House, Committee on Interior and Insular Affairs, Subcommittee on Water and Power Resources, *Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project: Hearings before the Subcommittee on Water and Power resources of the Committee on Interior and Insular Affairs*, 100th Cong., 2nd sess., 18 April 1988 and 4 May 1988, 40, 422-426.

One of the earliest works to explain the history of the West as an arid environment was Walter Prescott Webb who argued the West had been defined by its aridity demarcated by the 100th meridian.⁴

More recently historians have taken markedly different views on the development of water by the Bureau of Reclamation. Two of the most significant books are Donald Worster's *Rivers of Empire: Water, Aridity, and the Growth of the American West* and Donald Pisani's *Water and the American Government: the Reclamation Bureau, National Water Policy, and the West, 1902-1935*. Worster argued that the development of the Bureau of Reclamation and the concentration of power over water in the West fostered an oligopoly. In contrast, Donald Pisani contends in his book that reclamation policy was driven by local boosters enamored with the philosophy of benefiting the Jeffersonian small farmer; a concept Henry Nash Smith had branded the agrarian myth.⁵

Despite the apparent disagreement between Pisani and Worster over the motivation and power of those involved in promotion and development of reclamation in the West, their arguments share two commonalities. First, they are similar in that their arguments correlate with the theories of several political scientists who argue that federal water reclamation is a collaboration between local interests, congress, and the federal bureaucracy. This tripartite approach has been labeled the Iron Triangle. Two political

⁴ Walter Prescott Webb, *The Great Plains* (New York: Grosset and Dunlap, 1931).

⁵ Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Pantheon Books, 1985); Donald Pisani, *Water and the American Government: the Reclamation Bureau, National Water Policy, and the West, 1902-1935* (Berkeley: University of California Press, 2002). The agrarian myth is discussed at length in Henry Nash Smith's influential *Virgin Land: the American West as Symbol and Myth* (New York: Vintage Books, 1950).

scientists, Tim Miller and Dan McCool, have used this approach to examine the Central Utah Project and concluded the CUP fits within the framework of this model.⁶

The second commonality shared by Pisani and Worster is that their books use an environmental approach. Local and federal projects have manipulated water supplies, dramatically recontouring the Western landscape. They have altered modes of production, socio-economic structures, and political power. Reclamation has also reshaped the mental landscapes of individuals, altering their perceptions, ideology, and values of the natural landscape. In addition to these changes, other historians have further argued that reclamation in the West, specifically the controversy over the construction of dams within the borders of the national park system, was “a defining moment in the emergence of a new post-war environmental politics in which the protection of sacred nature and of recreational land would move ever higher on the national agenda.”⁷

The first controversy to act as a catalyst for the nascent environmental movement was the Hetch Hetchy Dam within Yosemite which led to the founding of the Sierra Club by John Muir. After World War II, the proposal to build two dams—Echo Park and Split Mountain—within Dinosaur National Monument as interrelated components of both the Central Utah Project and Colorado River Storage Project (CRSP) stirred controversy and led the Sierra Club to prominence as a national organization. While several historians have written about the Echo Park Controversy and the CRSP, Mark Harvey, specifically

⁶ Tim Ralph Miller, “Politics of the Carter Administration's Hit List Water Initiative: Assessing the Significance of Subsystems in Politics” (PhD Diss., University of Utah, 1984); Daniel McCool, *Waters of Zion: The Politics of Water in Utah*. Salt Lake City: University of Utah Press, 1995.

⁷William Cronon, “Foreword: The Dam that Wasn't,” in Mark Harvey, *A Symbol of Wilderness: Echo Park and the American Conservation Movement* (Seattle: University of Washington Press, 2000), xiii.

argued in his book, *A Symbol of Wilderness: Echo Park and the American Conservation Movement*, that the controversy not only galvanized the nascent environmental community but generated considerable public support to protect the national parks and subsequently create new protective areas of wilderness.⁸

The Sierra Club and others secured the removal of the proposed Echo Park Dam from the Colorado River Storage Project Act. But Congress passed the remainder of the CRSPA, including the Central Utah Project as a participating project. President Dwight Eisenhower signed the bill on in April 1956. As the Bureau of Reclamation moved forward with its plans for the CUP, several groups and individuals expressed concern over the environmental damage the project would cause. Much of the early concern came from the Utah State Division of Wildlife Resources and the U.S. Forest Service. While the Bureau recognized and proposed some mitigation measures, and completed an Environmental Statement following the passage of the National Environmental Policy Act (NEPA) of 1969, environmentalist and outdoors groups felt the measures were inadequate and filed a lawsuit to stop the CUP. The courts ruled in favor of the Bureau, but the continued environmental and economic concerns landed the CUP on President Carter's "hit list."⁹

In the subsequent analysis of the Bureau of Reclamation by opponents, most of the spot light has fallen on the projects which provide a larger amount of water, to a greater population or more farms, with a higher total price tag, particularly the Central

⁸ Mark Harvey, 223-227. Also see Stephen C. Sturgeon, *The Politics of Western Water: The Congressional Career of Wayne Aspinall* (Tucson: University of Arizona Press, 2002), 47-50; Reisner, 283-288; and John Upton Terrell, *War for the Colorado*, Volume 2 (Glendale, CA: The Arthur H. Clark Company, 1965), 237-238.

⁹ On the interaction between the Forest Service and the Bureau over the CUP see Edward W. Holmes, "The Uintah National Forest an Environmental History" (master's thesis, Brigham Young University, 1990).

Arizona Project and the Central Valley Project in California. The CUP, if mentioned at all, is generally quickly summed up and lumped together with the other projects as more proof of the problems with large Bureau projects.¹⁰

But the CUP deserves more attention. Because of inflation and cost overruns the Bureau estimated that the total price to complete the CUP would exceed \$1.8 billion (1986). While this figure ranks it below the CAP and CVP, the project's critics and the Office of Management and Budget determined that the cost of the water developed by the CUP for farmers in Central Utah would be much higher than either of the other projects at \$6,000 per acre foot.¹¹ Further, to deliver the water, serious environmental damage would occur as the project dried up 245 miles of streams in the Uinta Mountains and inundated streams, meadows, and wetlands under the project reservoirs. Economics and environmental damage raised red flags as the Bureau and Utah Congressional delegation approached Congress in 1987 seeking an increase in the congressionally authorized price limit or ceiling for the CUP and CRSP, a limit they were fast approaching. The re-authorization of the CUP evolved into a four year battle to reach a compromise between

¹⁰ For example, while Donald Worster discusses early irrigation by Mormon's in Utah in his book *Rivers of Empire*, he does not reference the CUP at all. The CAP is discussed on three pages and the CVP on 18 pages. Similarly in *Cadillac Desert* Marc Reisner discusses the CAP on forty-four pages and the CVP on twenty-seven pages. The CUP is referenced on three pages. These comprise no more than a few sentences, and in one reference

Reisner makes a serious historical mistake. In his summary of the Colorado River Basin Project Act of 1968 he states, "In addition to the CAP it authorized several other projects... the Uintah Unit of the Central Utah Project—the first piece of a water diversion scheme that promised to be nearly as grandiose as the CAP." Reisner, 290. As will be discussed in this paper, the Uintah Unit was not the "first piece." The Colorado River Storage Project Act of 1956 authorized the first four units of the CUP. The Bureau began work on the first, the Vernal Unit in May 1959. Work began on the largest, the Bonneville Unit, in May 1967.

¹¹ Opening statements of Senator Bill Bradley, U.S. Congress, Senate, *Hearing before the Subcommittee on Water and Power of the Committee on Energy and Natural Resources, United States Senate, on S. 1737 Providing for the Completion of the Colorado River Storage Project...*, June 9, 1988 (Washington D.C.: U.S. GPO, 1988), 2.

the project's critics and its advocates. The long negotiations resulted in the crafting and passage of the Central Utah Project Completion Act (CUPCA) in October 1992.

The passage of the CUPCA demonstrates three very important interrelated shifts which justify a detailed study of the CUPCA. First, the CUPCA facilitated a continued shift in emphasis from a project designed primarily as a traditional reclamation project to bring new land under irrigation agriculture to a project which primarily provides municipal culinary supply. Second, it marked the end of an era for the Bureau of Reclamation, and facilitated the rebranding of the Bureau during the Clinton Administration as an agency focused on water management agency rather than construction. Finally, these changes demonstrate the marked shift in power and priorities between the Old West of the irrigators to the New West of the gentrified, environmentally conscious, urbanites.¹²

To fully appreciate these shifts, chapter one, "Cadillac Unveiled," summarizes the project's early history, and how the Bureau of Reclamation envisioned the development of that concept. But turning dreams and feasibility studies into reality proved to be a significant challenge. Further, delays and challenges plagued the project throughout its construction. Chapter two, "Getting the Cadillac Off the Drawing Board," explores these delays. From the beginning, one of the biggest challenges to the Bureau was answering the concerns of environmentalists. Continued concern over the environmental damage

¹² The New West refers generally to the West described by New Western Historians such as Patricia Nelson or Donald Worster. Additionally, historians have advanced a specific meaning of the New West to describe the West following the post-1970 energy boom which reduced the presence of the extractive industries, and saw the rise of the technological, urban, environmentally conscious, and gentrified West. For example see Limerick, *Something in the Soil: Legacies and Reckonings in the New West* (New York, W.W. Norton, 2000), particularly 274-301. On New Western History see Donald Worster, "New West, True West," *Western Historical Quarterly* 18 (April, 1987): 141-156. For the changing meaning of "New West" over time including its current use, see Joseph E. Taylor, III, "The Many Lives of the New West," *Western Historical Quarterly* 35 (Summer, 2004): 141-166.

caused by the project prompted negotiations, agreements, lawsuits, and landed the CUP on President Carter's "Hit List." These concerns formed the framework for the negotiations to reauthorize the project.

Originally, the Bureau and the Utah Congressional Delegation thought that a simple amendment to the CRSP increasing the spending limit would suffice. Congressional opposition by Bill Bradley and George Miller killed the attempt. Wayne Owens began a process of crafting a compromise piece of legislation that addressed the concerns. "From Luxury to Utility" discusses the first attempts to pass reauthorization legislation. Because of unresolved concerns and new challenges envisioned by the compromise, reaching a consensus proved to be both difficult and time consuming. Environmental advocates, outdoors enthusiasts, hunters and fishermen, farmers, water districts, public and private power companies, and agencies of local, state, and national government all offered varied and opposing views on how to "fix" the CUP. Chapter four, "Getting the Chevy Off the Drawing Board," explains how these groups satisfactorily resolved the core issues and generated a widely supported consensus resulting in the passage of the CUPCA.

The passage of the CUPCA marked a significant achievement for all sides. Further, the Act dramatically reshaped the project. But the change did not occur only in the halls of congress; the new legislative mandates brought dynamic and ongoing change over the subsequent years. With the Central Utah Water Conservancy District (CUWCD) given control over the remainder CUP construction, the CUPCA helped disempower the Bureau of Reclamation. Finally, as the CUWCD moved toward the final completion, the legislative mandates prompted further controversy which resulted in further changes to

the project and the continued shift in priority of the project away from irrigation to municipal water supply. These controversies also further demonstrated a shift in power from Old Western to New Western interests. Chapter five, “Driving a New Hybrid Off the Lot,” explores how and why these shifts occurred.

I.

CADILLAC UNVEILED

Water is dangerous. Too much produces destructive flooding, too little produces drought. In Utah, as in most of the West, drought is an ever present concern. The climate is cyclical. Average rainfall is simply a statistic that passes as the weather cycles between wet and dry. As figure one illustrates below, the State has experienced serious multi year droughts at the turn of the twentieth century, during the depression, in the 1950s, 1970s, and at the turn of the twenty-first century with smaller, shorter droughts interspersed in between them. Utah is the second driest state in terms of statewide average precipitation. However, the mountains in the Wasatch and Uinta Range receive a significant amount of precipitation. The availability of snow melt allowed early Mormon settlers and their successors in northern Utah to develop irrigation agriculture, creating what geographers and historians have referred to as the Wasatch Oasis.¹

Over the past one hundred and fifty years the systems, laws, and organizations controlling the development and use of water have evolved in both sophistication and complexity. These changes have occurred in conjunction with other events and forces

¹ Mark Jefferson, "Utah, Oasis at the Wasatch." *Geographical Review* 1 (May, 1916): 346-358; Charles Langdon White, "The Agricultural Geography of the Salt Lake Oasis" (PhD Diss., Clark University, 1925), and "The Insular Integrity of Industry in the Salt Lake Oasis." *Economic Geography* 1 (Jul., 1925): 206-235; and Thomas Alexander, "Interdependence and Change: Mutual Irrigation Companies in Utah's Wasatch Oasis in an Age of Modernization, 1870-1930." *Utah Historical Quarterly* 71 (Fall, 2003): 292-314.

that have shaped the development of an industrialized, urban, modern society. As a result of technological advancement, a growing demand for water, and the completion of “easier” projects following World War II, a collaboration of Utah interests and the federal government undertook the largest and most complicated water development project in the State’s history, the Central Utah Project.

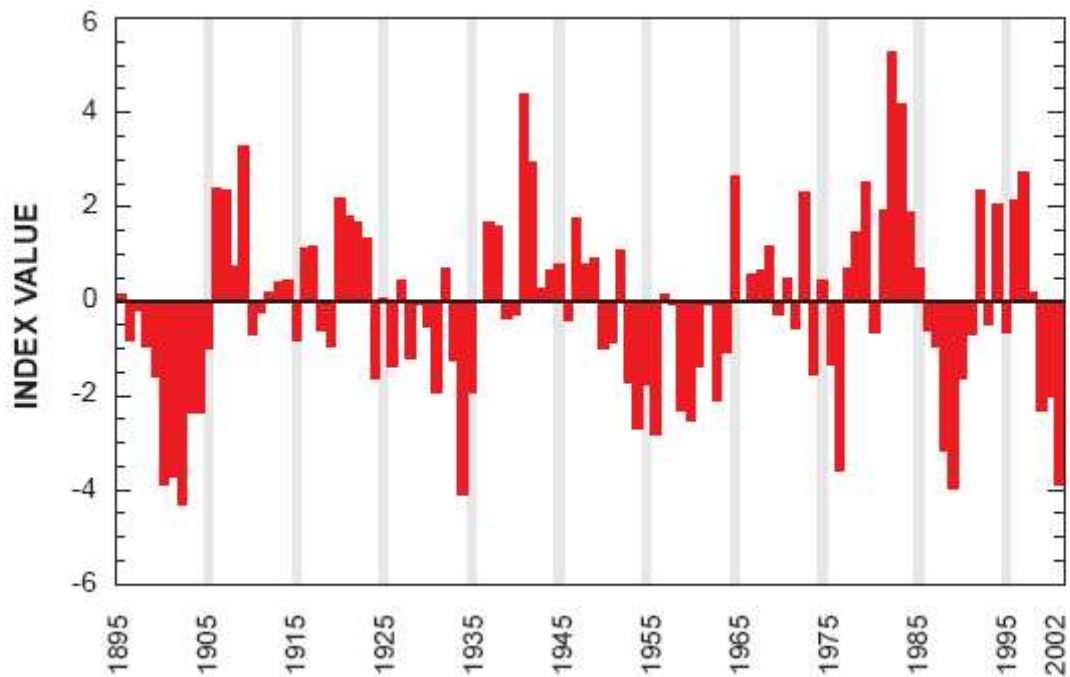


Figure 1 - Palmer Drought Severity Index for Utah 1895-2002. Note the cyclical nature of Utah’s climate and also the timing of severe drought with the implementation of new water development projects, particularly the passage of the Newlands Act of 1902 and the Strawberry Valley Project, the Provo River Project in 1934 and the passage of the Colorado River Storage Act in 1956.²

The Central Utah Project (CUP) was the states’ ultimate attempt to develop storage and delivery of Utah’s snow melt. Water engineers envisioned a series of reservoirs and an elaborate plumbing works to connect them. The plan would develop additional storage along the Provo River drainage in the Bonneville Basin and import

² From United States Department of the Interior, United States Geological Survey, “Drought Conditions of in Utah During 1902-2002: A Historical Perspective,” USGS Fact Sheet 037-03, April 2003, <http://pubs.usgs.gov/fs/fs-037-03/resources/drought.pdf>, accessed May 20, 2006, 2.

water from the Uinta Mountains in the Colorado River drainage into the Bonneville and Sevier River Basins. It incorporated ideas, many conceived during severe drought, left unachieved by earlier projects, most prominently the Strawberry Valley Project. The CUP also became interconnected with these existing projects, inheriting a legacy of environmental damage that would shape the project and set the groundwork for later conflict during the debate over the CUPCA.

The Central Utah Project evolved over time and is in reality a collection of smaller water projects that are somewhat interdependent. The ideas for these individual projects grew out of the need to supply water to a growing population and to meet the demands of agricultural, industrial, and urban users during times of drought.

During the early pioneer period of settlement, farmers constructed simple weirs and diversion structures on the numerous mountain streams flowing out of the western flank of the Wasatch Mountains. Some of the streams originated in the mountains, while the larger rivers, the Bear, Weber, and Provo, originate in the western portion of the Uinta Range. The most fertile soils and the best climate for agriculture exist in the valley of the Bonneville Basin, largely due to its lower elevation and alluvial deposits from Lake Bonneville and the descending rivers and streams. For these reasons, the settlement and development of the valley has been driven by the geographical and environmental factors.³

³ On early efforts at irrigation in Utah see Thomas Alexander, "Irrigating the Mormon Heartland: The Operation of the Irrigation Companies in Wasatch Oasis Communities, 1847-1880." *Agricultural History* 76 (Spring, 2002): 172-187; Leonard J. Arrington and Dean May, "'A Different Mode of Life: ' Irrigation and Society in Nineteenth-Century Utah," *Agricultural History* 49 (January 1975): 3-20; and George D. Clyde, "History of Irrigation in Utah," *Utah Historical Quarterly* 27 (January 1959): 27-36.

Those favoring large water development projects in Utah have made much of the fact that Utah is the second driest state in the Union. While this is true on a statewide basis, the mountains to the east of the Wasatch Oasis receive as much precipitation as most of the eastern portion of the United States, from thirty to sixty inches of rainfall a year. Unfortunately for farmers, most of it falls as snow during the winter months. The snow melts quickly in the late spring and early summer, temporarily filling streams and often causing flooding. However, by late summer the rivers slow and some streams stop running as the snow completely melts.⁴

During the early years of irrigation in the Wasatch Oasis, the demands placed upon the natural flows of the rivers and streams were sufficient to grow crops to maturity and harvest. However, as the population grew, water supplies during the late summer months began to fall short. The solution to the threefold problem of inadequate late summer supplies, protection against spring floods, and drought has been the construction of storage reservoirs. Originally, the Mormon settlers built irrigation works on a communal basis. But as the population along the Wasatch Front expanded, the control and development of water shifted from a communal to a corporate structure. By the early 1900s, the growth of transportation, communication, and electrical power networks, coupled with the development of new market based industries and urban growth spurred water companies and laws to become increasingly complex.

Between 1896 and 1905, Utah, along with most of the West, experienced a severe drought. The dry conditions forced water users, irrigation companies, and the state government to investigate new water projects. These investigations evolved to become

⁴ Daniel McCool, ed., *Waters of Zion: The Politics of Water in Utah*, Salt Lake City: University of Utah Press, 1995, 7-8.

the basis for the CUP.⁵ During the dry summer of 1900, State Senator Henry Gardner of Spanish Fork and his friend John S. Lewis, while riding through the Strawberry Valley, developed a plan to build a dam there to store water that could be transferred through the mountain ridge to the west via a tunnel and into the drainage leading to the Spanish Fork River.⁶

The idea itself was not particularly innovative. Farmers in the Heber Valley had begun making diversions from the upper reaches of the Strawberry River Drainage across the basin divide and into Daniels Creek for nearly two decades. Hyrum Oakes began digging the three-mile-long Strawberry Canal in 1879 and finished it in 1882. Oakes and others who had an interest in the project incorporated the Strawberry Canal Company in 1883. The company built additional canals to tap Hobble Creek⁷ and Willow Creek; the latter project included a 1,000 foot tunnel begun in 1890. By the time Gardner and Lewis conceived the idea of a storage reservoir and diversion tunnel, the Heber Valley interests were irrigating nearly 1,000 acres of land.⁸

⁵ On the effects of modernization and the evolution of water development efforts see Alexander, “Interdependence and Change: Mutual Irrigation Companies in Utah’s Wasatch Oasis in an Age of Modernization, 1870-1930,” 292-314. For more on the shifts in water institutions and the development of the state’s role see, John Swenson Harvey, *A Historical Overview of the Evolution of Institutions Dealing with Water Resource Use, and Water Resource Development in Utah – 1847 through 1947*, (Master’s Thesis, Utah State University, 1989).

⁶Thomas Alexander, “An Investment in Progress: Utah’s First Federal Reclamation Project, The Strawberry Valley Project,” *Utah Historical Quarterly* 39 (September 1971): 289;

⁷ This Hobble Creek should not be confused with the Hobble Creek which flows through the canyon of the same name, through Springville and into Utah Lake. This Hobble Creek, a tributary of the Strawberry River, flows off the east slope of the Wasatch Mountains near Daniels Pass, parallels US 40 and into the Strawberry River. The Hobble Creek Ditch diverts flows from this creek, as well as a stream flowing out of Murdock Hollow into Hobble Creek and another stream which flows out of Point of Pines Canyon and into the Strawberry River just below the confluence of the Strawberry River and Hobble Creek. In addition to these two Hobble Creeks, the Bureau of Reclamation at one time considered building a dam on Little Hobble Creek which flows into Main Creek—a tributary of the Provo River—near the town of Wallsburg.

One definite obstacle stood in the way of Gardner and Lewis's plan, but they may very well have thought of it as a technicality. The land they wanted for a reservoir site and the water they sought to divert belonged to the Uintah Indians. The issue had not stopped the farmers in the Heber Valley from making their illegal diversions, or ranchers from illegally grazing their livestock in the same area. Further, movements by local and state politicians seeking to open the reservation to whites soon made the issue a moot point. In May 1902, Congress authorized the secretary of the interior to begin the process of allotting the lands of the Uintah Reservation in preparation to open it to settlement.⁹

As the drought intensified, Gardener and Lewis began to press their idea. In 1902, the Spanish Fork East Bench Irrigation and Manufacturing Company, later renamed the Strawberry Reservoir Irrigation and Canal Company, hired an engineer to investigate the project. He found the project was technically feasible, but cost prohibitive.¹⁰ Shortly thereafter, the Utah State Engineer, Abraham Fairbanks Doremus, investigated the idea, along with dozens of others, which would improve the availability of water. He made a favorable report, but concluded that not even the state could afford to undertake it. However, his report served as a road map for the newly formed Reclamation Service.¹¹

⁸ Kathryn MacKay, "The Strawberry Valley Reclamation Project and the Opening of the Uintah Indian Reservation," *Utah Historical Quarterly* 50 (1982): 72, 74.

⁹ Act of May 27, 1902, 32 Stat 263; Mackay 72, 82.

¹⁰ MacKay, 74-76.

¹¹ Abraham Fairbanks Doremus, *Third Biennial Report of the State Engineer to the Governor of Utah, 1901 and 1902* (Salt Lake City, 1903). Also see, United States, Department of Agriculture, Office of Experiment Stations. *Report of Irrigation Investigations in Utah, Under the Direction of Elwood Mead, Chief of Irrigation Investigations* (Washington, DC: U.S. Government Printing Office, 1903), 36.

Prior to 1902 Congressmen for Western states had made efforts to initiate federal involvement in irrigation development of new water projects that lay beyond the financial and technical capability of individuals, communities, and state governments. But blocked by eastern interests, these efforts met with limited results. During the same summer that Gardner and Lewis conceived of the idea of a dam in the Strawberry Valley, politicians in both political parties had called for increased federal support for reclamation in their platforms. Following the assassination of President McKinley in September 1901, President Theodore Roosevelt put the full weight of his office in supporting federal reclamation.¹²

On December 3, 1901 representatives of each of the seventeen states and territory west of the Missouri River met in the home of Senator Francis E. Warren of Wyoming to formulate a reclamation bill. The committee selected a subcommittee to draft the language of the bill. Following frequent meetings through December and early January the committee finalized the language of a bill which they subsequently introduced in the Senate and the House on January 21, 1902. The bill, named in honor of Francis G. Newlands who introduced the bill in the House of Representatives, passed the house and senate following lengthy debate. President Roosevelt signed the bill on June 17, 1902 establishing the Reclamation Service, the predecessor of the Bureau of Reclamation, to build reclamation projects funded by the sale of public lands. The project costs would then be repaid by the water users making funds available for additional projects.¹³

¹² On the passage of the Newlands or Reclamation Act see, Donald Pisani, *To Reclaim a Divided West*, (Albuquerque: University of New Mexico Press, 1992), 298-319.

¹³ Pisani, 312-313, 319. The subcommittee consisted of Senator Warren, Senator Henry Clay Hansbrough of North Dakota, Representative Newlands of Nevada, and John Franklin Shafroth of Colorado who had each previously introduced versions of a reclamation bill in Congress. Additionally, the committee consisted of Senator Fred Dubois of Idaho, and Thomas Kearns of Utah and Charles Henry

Utah did not waste any time in petitioning the new Reclamation Service for projects in Utah. The drought had intensified, and Utah's farmers needed more water. Reclamation engineers selected many ideas previously explored by Doremus including the enhancement of Utah Lake and a transbasin storage from the Strawberry Valley. They first studied Utah Lake and investigated the potential of increasing the capacity and efficiency of Utah Lake as a storage reservoir. They explored several possibilities, building dikes around the lake's eastern and northern shores, building dikes across its shallow bays, and dredging. They not only wanted to add storage capacity, but to also lower the lake's water temperature and reduce water lost to evaporation. Because of financial, technical, and legal issues the Reclamation Service shelved plans of a project on Utah Lake.¹⁴

The second exploration performed by the Bureau was the Strawberry project. Doremus had expanded the plans of Gardner and Lewis. Under a petition of the canal company, the Interior Department granted permission in 1903 for survey crews to enter the Strawberry Valley, then a part of the Uintah Indian Reservation, to gather the data necessary to make a formal application to the Reclamation Service. Because of the costs involved with drilling a 20,000 foot tunnel to make the diversions from the Strawberry River, Doremus had investigated the potential of augmenting the water in the proposed Strawberry Reservoir from the Duchesne River and other tributaries including Currant Creek, Rock Creek, and Lake Fork River. Knowing that the expanded scheme lay

Dietrich of Nebraska. For a report on one subcommittee drafting meeting, including reference to Senator Kearns participation, see *Salt Lake Tribune*, December 10, 1901.

¹⁴ Doremus' early investigations are discussed in *Report of Irrigation Investigation in Utah*, 36. The Reclamation Service investigations of Utah Lake are discussed in U.S. Department of Interior, Bureau of Reclamation, *Third Annual Report of the Reclamation Service 1903-1904* (Washington, 1905), 506-508.

outside the capability of Utah or any other local organization to complete, on January 29, 1904 Doremus approached the Department of Interior to undertake the work as a part of a large federal project to bring one million new acres into production in Utah.¹⁵

The Secretary of the Interior authorized hydrographic investigations of the streams. When the weather allowed, the Reclamation Service dispatched a reconnaissance party headed by Assistant Engineer E.F. Tabor. The survey crews arrived in the Strawberry Valley in mid June, 1904. On June 20 they began surveying eastward toward Currant Creek, the West and North Fork of the Duchesne, Rock Creek, and the West and East Fork of the Lake Fork River. By air, the distance was fifty miles, but to maintain a level grade in the proposed canal, the crews surveyed a route that snaked around the hills and steep canyons. In the end, they had run a survey line 190 miles to reach the East Fork.¹⁶

Tabor completed his report by the end of September in which he noted that the rock formations along the line would not hold water and the canal would need to be lined. Further, in many areas the steep cliffs over the canal location would leave it vulnerable to rock and snow slides, while the elevation would cause problems with ice in the winter

¹⁵ *Third Annual Report of the Reclamation Service 1903-1904*, 508-509. Doremus presented detailed plans of his grand scheme to the Utah Congressional Delegation in an all day meeting on January 28, 1904. The following day he presented the plan to Secretary Newell who expressed general approval of the plans and promised prompt consideration. On these meetings see, *Eastern Utah Advocate*, February 4, 1904. In addition to the development of the Strawberry plan outlined above his plans included extending irrigation canals to divert Strawberry Water from Spanish Fork Canyon to Salt Lake County, the regulation of Utah Lake and Bear Lake as a storage reservoirs, and a second transbasin diversion of water from Blackfoot River, a tributary of the Snake River, into the Bear River and a series of canals to make this water available as far south as Salt Lake Valley. Reports of this plan appeared in several Utah weekly newspapers including the *Davis County Clipper*, *Eureka Reporter*, and *Toole Transcript*, February 19, 1904.

¹⁶ *Ibid*, 510.

months. As an alternative, he proposed that several long tunnels would be more economical and safer to operate.¹⁷

The plan was truly ambitious considering the limitations presented by the lack of modern mechanized earth moving equipment. The cost and technical difficulty forced the Reclamation Service to scale back plans for the Strawberry Valley Project. The Reclamation engineers tabled the idea of diverting additional water into Strawberry.¹⁸ But it should be noted here that the concept envisioned by A. F. Doremus and the early surveys by E. F. Tabor later served as the basis for the Central Utah Project. In fact, as will be explained shortly, the initial phase of the CUP would extend a series of long tunnels to Rock Creek, rather than the full distance investigated by Doremus and Tabor.

As the investigation moved forward on the proposed reservoir, the government moved closer to opening the Uintah Reservation. The passage of the Dawes Act in 1887 had unlocked the door to settlement of reservation lands. It allotted lands to individual Native Americans and opened the balance of the reservation to white settlement. However, the process could only be accomplished with the consent of the tribe. Several attempts to treat with the Uintah Tribe during the 1890s did not win the necessary support. Congress again acted, passing the Act of May 27, 1902 (ch. 888, 32 Stat 263-264.) The 1902 Act stipulated that the allotment and opening of the reservation could only proceed with the consent of the majority of the adult male Utes. But, in January 1903 the U.S. Supreme Court ruled in the case of Lone Wolf v. Hitchcock that Congress had the authority to pass laws abrogating treaty stipulations. Subsequently, Congress amended the 1902 Act by passing the act of March 3, 1903 (ch. 994, 32 Stat. 998) which

¹⁷ Ibid, 510-511.

¹⁸ Ibid, 512-514.

directed the Secretary of the Interior to unilaterally allot the lands of the Uintah if they had not given their consent by June 1 of that year. Congress appropriated funds to implement the 1902 Act without the consent of the Utes. James McLaughlin, U.S. Indian Inspector, attempted to gain the consent of the tribe to the 1903 Act, but failed.¹⁹

Issues between rivaling federal agencies slowed the process. Both the Forest Service and the Reclamation Service desired the lands of the Strawberry Valley. Further, the 1903 Act had stipulated that a reserve of grazing lands be given to the Uintah Tribe. Originally, congress had stipulated that the lands of the Strawberry Valley be set aside for that purpose. Finally, in March 1905 Congress passed legislation (Act of March 3, 1905, ch. 1479, 33 Stat. 1069) that authorized President Theodore Roosevelt to set aside lands of the Uintah Reservation for the Uintah Forest Reserve and for a reservoir site. It also repealed the language in the 1903 act which had reaffirmed the Strawberry Valley as a grazing reserve for the Utes and reserved instead a 250,000-acre grazing reserve in Deep Creek.²⁰

President Roosevelt issued his proclamation on July 14, 1905 (34 Stat. 3119-3120). A subsequent proclamation on August 14 clarified the language of the July proclamation and set aside the reservoir site specifically for the Strawberry Valley Project. Secretary of the Interior Ethan A. Hitchcock officially approved the project on December 15, 1905 and on March 6, 1906 authorized construction to begin.²¹

The government began construction simultaneously on several aspects of the project. They first began constructing a new road from Spanish Fork Canyon to get to

¹⁹ Mackay, 79-83.

²⁰ MacKay, 83-84.

²¹ Mackay, 85-87.

the location of the tunnel and over the mountain to the east portal and the dam site. They planned on using electric drills and equipment to excavate the tunnel, and awarded contracts for the construction of a hydroelectric power plant on the Spanish Fork River. The Bureau had also attempted to award contracts for the tunnel, but no private contractor submitted a bid. Undaunted, a bureau-supervised crew began work in August 1906 on the 19,500 foot tunnel using gasoline-powered generators to run the drills in August. Contractors finished the electric power plant in 1909, providing more power to the crews and speeding up the work.²²

Construction of the dam began in 1911. That fall a second crew started tunneling from the east portal. In June 1912 the two tunneling crews met. Thousands attended ceremonies the following month, on July 2, in Spanish Fork to celebrate. Water started to fill the reservoir less than two weeks later on the fourteenth. Within a year, crews finished the concrete tunnel lining and riprapping the face of the dam. With work nearing completion on the dam and tunnel, and work beginning on the new canals to feed Payson, Mapleton, and Springville, residents of Juab County began to petition for inclusion in the project. In April 1913 at a mass meeting held in Nephi, residents pledged money to cover the cost of a preliminary study. Within a few years, farmers near Goshen, Elberta, and Mona, were clamoring for Strawberry water. In 1919, the bureau undertook a preliminary survey of a forty-five mile highline lateral to service water-starved Juab County. However, the politics and fiscal conservatism of the Republican administrations of the 1920s stalled the extensions.²³

²² Alexander, "Investment in Progress," 291-292.

²³ Alexander, "An Investment in Progress, 293-294.

During this same time, another issue arose in regard to conflicting claims over control of the grazing rights on the lands in the Strawberry Valley Project. Both the Indian Office (acting in behalf of the Utes) and the Strawberry Water Users association claimed the revenues from the grazing leases. A bill introduced by Utah Senator George Sutherland attempted to extinguish the rights of the Utes to the lands upon payment of \$1.25 per acre. While the bill failed, Sutherland succeeded in adding similar language in an amendment to the Indian appropriations bill that year. Title, management and control of the 56,860 acres passed to the Strawberry Water Users and the federal government paid the Utes a total of \$71,085.56 in five annual installments.²⁴

The transfer of this land to the water users caused a controversy that has resurfaced at times. Immediately after the passage of the appropriations bill, ranchers grazing their cattle and sheep in the area expressed concern and attempted to repeal or amend this act. The controversy continued unresolved. As the government prepared to transfer the completed project to the water users, ranching interests tried again, introducing a bill in 1923 to transfer the lands to the Uinta National Forest. The measure failed, and control of the lands passed to the Strawberry Water Users in 1926 along with the completed project.²⁵ The transfer of the lands from the Strawberry Water Users to the National Forest would become an issue again decades later as the CUP moved forward.

Completion of the Strawberry Valley Project in 1922 had several significant repercussions. First, its success in delivering water to the farmers in southern Utah County spurred the desire of others for more reclamation projects in Utah, a request the Bureau was willing to accommodate. The successful transbasin diversion of a significant

²⁴ MacKay, 88-89.

²⁵ Ibid.

amount of Colorado River water, and the prospect for more diversion projects raised concern among the states that share the Colorado River. Additionally, heavy downstream demands by California and Arizona led the states upstream to believe their ability to develop their share of the river could be jeopardized. As a result, the seven states sharing the Colorado River began negotiations, arbitrated by then Secretary of Commerce Herbert Hoover, to divide the flows of the river. The negotiations resulted in the passage of the Colorado River Compact in 1922. Congress facilitated the ratification of the interstate treaty when it adopted the Boulder Canyon Act in 1928.²⁶

Another repercussion of the Strawberry Valley Project was the shift towards greater federal involvement in the development of water projects in Utah and throughout the West. However, the passage of the Reclamation Act did not create an abrupt change in water policy. Rather, it allowed an alternative route for large projects previously beyond the financial capability of private enterprise or local and state government. While the Reclamation Service worked on the completion of the Strawberry Reservoir, these groups completed their own smaller projects. The State undertook the Hatchtown and Piute Projects and loaned funds for the Mammoth, Sevier Bridge, Otter Creek, and Koosharem Reservoirs.²⁷

²⁶ Public Law 70-642. As an interstate treaty, the compact had to be approved by each of the states and the Senate. Unsatisfied with a division which did not guarantee its right, Arizona refused to ratify the treaty. Section 4 of the Boulder Canyon Act allowed the treaty to become effective with the approval of only six states including California. Each of the six states ratified the compact in turn and newly elected President Herbert Hoover declared the compact effective on June 25, 1929. Arizona continued to fight with California over the distribution of water between the two states with the issue finally decided by the Supreme Court decision of *Arizona V California* 1963. For the history on the crafting of the Colorado River Compact see Norris Hundley, *Water and the West: The Colorado River Compact and the Politics of Water in the American West* (Berkeley: University of California Press, 1975).

²⁷ John Swenson Harvey, 60-63, 69.

Additionally, numerous private irrigation companies, both small and large, built storage reservoirs by converting natural lakes in the headwaters of numerous drainages including the Provo, Yellowstone, and Lake Fork Rivers. These companies modified the lakes in various ways including combinations of raising the storage capacity of the lake by building a dam and installing control gates and outlet works at the lowest possible level. This allowed the companies to open the outlets during the irrigation season and draw down the lake to provide water for crops. Because of the remote location of the lakes, they operated simply. During the summer when natural stream flows had abated, the companies would dispatch a rider on horseback to open the gates the desired amount. Throughout the remainder of the summer the lakes would slowly drain. Needless to say, the fluctuating lake levels and the complete draining of the lakes had significant impact on the fish, animals, and plants that formerly inhabited the lakes. Most of these lakes existed in the National Forest, but under a policy of multiple use, the Forest Service granted permits for the alteration of the lakes for use as storage reservoirs.²⁸

In 1909 Joseph R. Murdock led the incorporation of the Provo Reservoir Company. Murdock was an important business and ecclesiastical leader in Heber Utah.²⁹ He planned for the new Provo Reservoir Company to develop additional irrigation water for farms in both the Heber and Utah Valleys. Murdock's wanted to convert numerous high mountain lakes into reservoirs to capture unused spring flows and to construct a

²⁸ Gregory D. Kendrick, ed., *Beyond the Wasatch: The History of Irrigation in the Uinta Basin and Upper Provo River Area of Utah* (Washington, D.C: U.S. Government Printing Office, 1989).

²⁹ For many years Murdock was the manager of the Wasatch Real Estate Development Company. He also served in many important positions within the Church of Jesus Christ of Latter-day Saints. He served as a counselor in the Presidency of the church's Heber Stake under President William Smart. In 1906 he replaced Smart after church leaders asked him to take a similar position in the Uintah Basin. There Smart played an important role in the development of the Dry Gulch Irrigation Company. On Murdock see *Wasatch Wave*, August 12, 1906. On Smart's involvement in the Dry Gulch Irrigation see Kendrick, 62-72.

canal from the Provo River to serve northern Utah County. On November 23, 1909 Murdock made applications to impound water in twenty-three lakes on the Upper Provo River in the Uintah Forest Reserve. Because the water users would not arbitrate the application with the State Engineer, the application fell before Fourth District Judge C.W. Morse. The court tried the case in June of 1916, but due to the complicated claims, Morse took five years to issue his ruling. His decree, handed down May 2, 1921 adjudicated the waters of the Provo River and Utah Lake and allowed Murdock and the Provo Reservoir Company to move forward with their plans.³⁰

The Provo Reservoir Company became involved with subsequent Bureau of Reclamation Projects. The company obtained rights to water in the Weber River through the Echo Reservoir of the Weber River Project begun in 1927. Through exchange, the company diverts Weber River water through a canal across the Kamas Valley and into the Provo River. Several years later, the company participated in the Provo River Project which constructed Deer Creek Reservoir on the Provo River. The reservoir was filled using additional imported water from the Weber River and also the Duchesne River, diverted through a six mile tunnel. As a part of the project, the Provo Reservoir Company transferred title of the Provo Reservoir Canal to the Bureau of Reclamation, which subsequently enlarged the canal to accommodate the increased flows from Deer Creek and lengthened the canal to serve lands west of the Jordan River in Utah and Salt Lake County. Additionally, the Bureau channelized a large portion of the Provo River above Deer Creek to handle the increased flows from the Weber and Duchesne

³⁰ Kendrick, 103-104. William Smart's Dry Gulch Irrigation Company had previously begun a similar program of converting several high mountain lakes into reservoirs on the Yellowstone River in the Uintah Basin. See Kendrick, 62-72.

diversions. This channelization straightened the river and added levies, turning the river into little more than a large canal.³¹

The Bureau had undertaken the Provo River Project largely in response to the severe water shortages created by the same drought that created the Dust Bowl. The drought, which reached its worst in 1934, resulted in other efforts to bring more water to the Wasatch Oasis. The Bureau also began work on the Pineview Reservoir and built a 4.7-mile feeder canal to divert water from Co-op Creek, a tributary of Currant Creek, into Strawberry Reservoir. The Provo Reservoir Company built dams on additional lakes on the upper Provo at Island, Teapot, Weir, Fire and Pot Lake. The Timpanogos Irrigation Company built dams on Marjorie and Duck Lakes. And the Federal Emergency Relief Agency built a canal and pumping plant on Utah Lake at Pelican Point to pump most of the remaining water in Utah Lake into the Jordan River.³²

To prevent the future loss of significant amounts of water due to evaporation in the shallow bay of Utah Lake, Bureau engineers began studying the earlier ideas of Doremus and others to dike portions of Utah Lake as part of the Provo River Project. But funding and political roadblocks again stopped the project from moving off the drawing board.³³ The drought also motivated Utah to partner with the Bureau of Reclamation on studies to investigation plans to divert additional water from the Colorado River drainage

³¹ Leonard J Arrington and Thomas G. Alexander, *Water for Urban Reclamation: The Provo River Project*. Utah Resources Series, 29. (Logan, Utah: Utah State University, 1966), 9-10

³² Leonard J. Arrington, "Utah's Great Drought of 1934," *Utah Historical Quarterly* 54 (Summer 1986), 247-248; Alexander, "Investment in Progress," 294; Kendrick, 115-119; LeRoy W. Hooten Jr., "Thirties Drought Still Utah's Worst," (Salt Lake: Salt Lake City Public Works, August 14, 2003), available online <http://www.ci.sl.c.ut.us/utilities/NewsEvents/news2003/news8142003.htm>, accessed May 28, 2006.

³³ Leonard J. Arrington and Thomas G. Alexander, *Water for Utah Reclamation: The Provo River Project*, Utah Resources Series, 29 (Logan, UT: Utah State University, 1966), 4; Fisher Sanford Harris, *One Hundred Years of Water Development* (Salt Lake City: Metropolitan Water District of Salt Lake City, 1942), 11, 95, 110-111.

into the Bonneville Basin. On July 1, 1939 the Bureau and State of Utah entered into a contract to jointly fund the investigations called the Colorado River-Great Basin Project. From 1939-1943, bureau engineers conducted a reconnaissance investigation and developed plans for a transbasin diversion of 1,000,000 acre feet of water annually from the Green River to the Great Basin.³⁴

During the spring of 1945, the Bureau began new investigations on obtaining additional water and expanding the Strawberry Valley Project. The studies expanded to cover the same area as the Colorado River-Great Basin study and engineers gave the name Central Utah Project to the proposal. Bureau engineers issued a planning interim report of their investigations in September 1945. The following year, the Bureau established a project office in Spanish Fork and Utah Senator Abe Murdock introduced a bill to authorize the Central Utah Project. But the complicated and expensive project quickly met with opposition and did not pass.

Faced with enormous war debt, the mood throughout congress had shifted to frugality. Senator Murdock and other members of Utah's congressional delegation found it difficult to secure adequate funding for the ongoing construction moving forward on existing reclamation projects, such as the Provo River Project. Given the mood in Congress, gaining approval for a new project would be out of the question. President Harry S. Truman compounded the issue when in August 1946 he ordered the Bureau to cap their spending for the remainder of the fiscal year.³⁵

³⁴ U.S. Department of Interior, Bureau of Reclamation, *Final Environmental Statement, Authorized Boneville Unit, Central Utah Project, Utah*. August 2, 1973, 18.

³⁵ Arrington and Alexander, 17-19.

In addition to budgetary concerns, the proposed CUP had raised concerns over the equitable division of the Colorado River among the Upper Basin States. The 1922 Colorado River Compact had divided the water of the between the Upper and Lower Basin, the it did not further divide the waters between the individual states within each basin. As a result of the concerns raised by the CUP, representatives from each of the states began meeting to hammer out an agreement. Utah's state engineer had hired a young Salt Lake water attorney, Edward W. Clyde, to represent Utah in the negotiations.

Over months of meetings and negotiations, representatives of the Upper Basin approached an agreement. During the process, Utah's primary interest remained securing a water supply to make the CUP possible. At that time, the Bureau's plans called for a diversion of 600,000 acre feet of water to 200,000 acres of land. One of the final sticking points had been the high Green River which Utah and Wyoming both wished to control. At the final meetings, Ed Clyde succeeded in negotiating a major victory for Utah. The Upper Colorado River Compact, signed on October 11, 1948 in Santa Fe, New Mexico granted Utah 800,000 acre feet from storage of the Green and an additional 100,000 acre feet from Green River tributaries. Additionally, Colorado guaranteed a minimum flow of 500,000 acre feet from the Yampa. In total, Utah, which furnishes 14% of the total flows into the river, received 23% of share in the Colorado River. The compact granted Colorado 51.75%, much less than the 77% of the flows which originate within its borders. New Mexico and Wyoming shared the balance.³⁶

For the CUP to work as the Bureau and the State of Utah envisioned the right to store and divert the flows of the Green and Yampa Rivers was essential. The Bureau's

³⁶ "Pact Protects Utah Rights Attorney Says," *Deseret News*, Oct. 14, 1948; *Record, Upper Colorado River Basin Compact Commission, Negotiation of Upper Colorado River Basin Compact*, 21-22

plan for the CUP during this period consisted of many component projects divided into two main parts. It first proposed enlarging the Strawberry Valley Project following the original concept laid out by A. F. Doremus and E. F. Tabor by building a series of tunnels and pipelines to intercept all of the major streams draining off the southern slope of the Uinta Mountains as far east as Brush Creek and diverting the flows into an enlarged Strawberry Reservoir for subsequent diversion to the Bonneville Basin. (See Figure 2.)

The water diverted from the Uintah Basin would be replaced from massive reservoirs at alternate sites, either Flaming Gorge or Echo Park. Under the Flaming Gorge option, an aqueduct would deliver water from the reservoir under gravity flow to the proposed Steinaker Reservoir and then into canals to service the Uinta Basin. The Echo Park option would pump water from its reservoir through a shorter aqueduct to Steinaker. Utah and the Bureau preferred the site at Echo Park as it would reduce the cost of the aqueduct connecting either of the reservoirs to Steinaker. Further, the development of large fertilizer plants upstream on the Green River had degraded the quality of the water that would be stored at Flaming Gorge. A dam at Echo Park, just below the confluence of the Green and Yampa Rivers would allow the higher quality flows of the Yampa to mix and improve the quality of water and the hydropower produced at the dam could run the pumps.³⁷

The successful negotiation of the Upper Colorado River Compact secured Ed Clyde a strong reputation in Utah and began a long career tied to water development. Clyde served as legal counsel and oversaw the creation of the Salt Lake County Water Conservancy District in 1951 and the Central Utah Water Conservancy District in 1964.

³⁷ Department of the Interior, Bureau of Reclamation. *Central Utah Project, A supplement to the Colorado River Storage Project Report*. February 1951. Salt Lake City, Utah. Project Planning Report No. 4-8a. 50.2; Mark W. T. Harvey, 37-42.

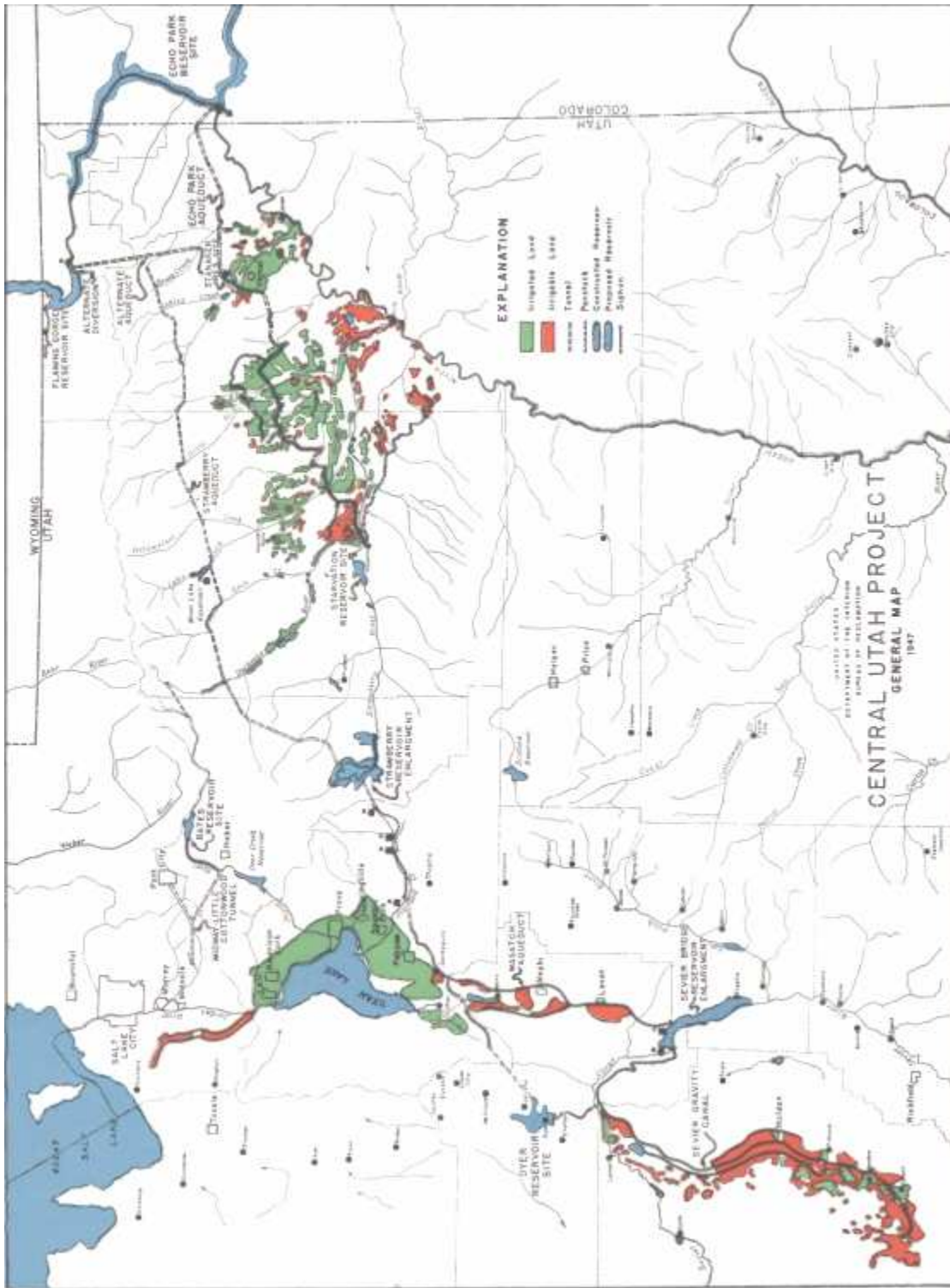


Figure 2. Map of Proposed Central Utah Project, 1947.³⁸

³⁸ Utah Water and Power Board, “Central Utah Project, Echo Park Damsite.” Salt Lake City: Utah Water and Power Board, [1947]. Some documents, including the 1947 CUP map show the name as

He led both organizations through many important legal matters pertaining to the Central Utah Project and in many ways earned the title of the “Father of the CUP.”

During the same period as the compact negotiations, two important events occurred that further shaped the history of the CUP. First, the Utah State Legislature created the Utah Water and Power Board. While the legislature tasked the new board with furthering the development of both water and electrical power resources of Utah, they specifically tasked the new agency to act as a liaison with the Bureau of Reclamation to aid in the development of the Central Utah Project. Secondly, Senator Abe Murdock lost his bid for reelection to Arthur V. Watkins. Watkins had formerly served as general counsel to the Metropolitan Water District of Salt Lake City. His familiarity with reclamation projects served Utah well, as he not only lobbied for sufficient appropriations to finish the Provo River Project, but also became a champion of the CUP and the development of the Upper Basin. Following the signing of the Upper Colorado River Compact, Senator Watkins had introduced the first version of the Colorado River Storage Project (CRSP) in 1948.³⁹

The Bureau’s regional office in Salt Lake City, under Regional Director Eugene O. Larsen, had conceived of CRSP as a funding mechanism for the CUP. It included plans for several large storage reservoirs on the Colorado and its principal tributaries. The “mainstem” dams would also produce vast quantities of hydroelectric power which

Stanaker, reflecting an error originating on 1906 USGS maps that incorrectly labeled the area. The Bureau perpetuated this error for several years, but was eventually corrected as the name of the draw flooded by the reservoir and the family after which both are named is “Steinaker.” See, “What’s in a Name, Steinaker for Example,” *Vernal Express*, April 9, 1959 and “‘Steinaker’ is Now Official Spelling of Vernal Project and Topography,” *Vernal Express* May 11, 1961.

³⁹ Mark W. T. Harvery, *A Symbol of Wilderness: Echo park and the American Conservation Movement* (Seattle: University of Washington Press, 2000) 37; Utah Water and Power Board “Central Utah Project, Echo Park Damsite.”; Arrington and Alexander, 17-18.

the Bureau would sell to offset the costs of numerous “participating [irrigation] projects” throughout the Upper Basin States. The largest project in size and cost was the CUP, but the inclusion of projects to benefit all the upper basin states helped build support for the package in Congress. Additionally, the mainstem reservoirs would provide holdover storage to meet the obligations to the lower basin states under the Colorado River Compact.⁴⁰

Despite the support for the CRSP among the Upper Basin States, the opposition of President Truman, along with congressional politics, and a large price tag, combined to bring strong opposition to the legislation. Watkins introduced the bill again in 1951, again with little success, as economic concerns and the Korean War stifled interest in the legislation. After the election of President Dwight D. Eisenhower, who supported the CRSP, Watkins again introduced his legislation in 1952. A tough political battle ensued. Much of the controversy now centered on the proposed dams within Dinosaur National Monument at Echo Park. The Echo Park Controversy will be discussed in greater detail in Chapter 2. It is sufficient to note here that Utahns generally strongly supported the Echo Park Dam as it was perceived to be in their best interest and a critical part of the CUP.

Despite local support for the Dam, national opposition to the dam at Echo Park continued to sour the debate over the CRSP. Debate continued over many points in the bill. In addition to the opposition of conservationists to the Echo Park Dam, an array of other interests plotted against the legislation. Other issues and groups included an informal alliance of Southern California interests. California was involved in a lengthy

⁴⁰ Bureau of Reclamation. *Central Utah Project, A supplement to the Colorado River Storage Project Report.*

legal battle before the Supreme Court over the division of the Colorado with its neighbor Arizona. They saw any attempt to develop the river in the Upper Basin as an additional threat to their continued over-appropriation of the river. Fiscal conservatives also fought against the CRSP act as overburdening the treasury with a project that they saw as a negative investment. The efforts to secure passage of the CRSP stretched out over several years.

The turning point came in 1955 when Colorado Congressman Wayne Aspinall, chairman of the House Interior Committee removed the Echo Park Dam from the House version of the CRSP. Aspinall had supported the dam, but felt the passage of the entire CRSP was more important than including the dam at Echo Park. In exchange for dropping plans for a dam within the National Park System, conservationists, led by the Sierra Club's David Brower, agreed to support the new legislation which would build the dam at an alternate site, Glen Canyon.⁴¹

But with the major opposition neutralized, the CRSP finally passed Congress and on 11 April 1956, President Dwight Eisenhower signed the bill. The bill included the initial phase of the CUP as the largest single participating project. The Bureau quickly began construction of the first two mainstem reservoirs. On 15 October 1956 President Eisenhower ceremoniously pressed a button in Washington D.C. that simultaneously set off explosive charges, officially marking the groundbreaking at the Flaming Gorge and

⁴¹ Mark W. T. Harvery, 272-285; Stephen C. Sturgeon, *The Politics of Western Water: The Congressional Career of Wayne Apsinall*. (Tuscon: University of Arizona Press, 2002), 47-50; Marc Reisner, *Cadillac Desert: The American West and Its Disappearing Water*. Rev. and updated ed. (New York: Penguin Books, 1993), 284-285; John Upton Terrell, *War for the Colorado River*. Western Lands and Waters Series ; 4-5. Vol. 2. (Glendale, California: The Arthur H. Clark Company, 1965), 237-238.

Glen Canyon dam sites. Flaming Gorge Dam was dedicated 17 August 1964, and Glen Canyon dedicated two years later on 22 September 1966.⁴²

Because of the size and scope of the CUP, the Bureau divided it into six units. Congress authorized the four initial units—Bonneville, Vernal, Jensen, Upalco—in 1956 in the CRSP Act. Congress later authorized the Uintah Unit, and preliminary plans for the Ute Indian Unit of the Ultimate Phase in 1968. The Bureau had studied the Vernal Unit as an independent project. As a result, plans were well developed and construction was begun on this part of the project first. The Uintah Water Conservancy District entered into a repayment contract with the Bureau on June 15, 1958. Construction began the following spring on the Steinaker Dam following a kick-off ceremony on 14 May 1959. Completed in 1963, and located just north of Vernal, the dam enclosed the Steinaker Draw and created an off-stream storage basin. Water is diverted through a 2.8 mile canal from nearby Ashley Creek. The reservoir stores upwards of 38,000 acre-feet of water for irrigation, municipal and industrial uses in Vernal and the surrounding communities.⁴³

In addition to the Vernal Unit, the Bureau moved forward with detailed planning for the largest unit of the project, the Bonneville Unit. While scaled back from the ultimate phase plan, the Bonneville Unit was still large and ambitious. Plans called for construction of the first 37 miles of the Strawberry Aqueduct and Collection System, reaching from the Strawberry Reservoir to Rock Creek. The collection system would

⁴² Sturgeon, 40.

⁴³ “Vernal Project Contract Signed in Washington,” *Vernal Express*, June 12, 1958; “Vernal Project Grounbreaking Planned Today,” *Vernal Express*, May 14, 1958; “Massive Bulldozers Plough Earth in Vernal Project Opening Rites,” *Vernal Express*, May 21, 1958

intercept the flows of twenty-three streams and rivers, diverting a portion of their flow. The system also included two small diversion dams and two larger dams. The reservoirs behind the two larger dams, Currant Creek Dam in the middle and Upper Still Water Dam on Rock Creek at the end of the system would help regulate the water flows in the system.⁴⁴

The water diverted through the Strawberry Collection System would be stored in the enlarged Strawberry Reservoir behind the new Soldier Creek Dam. The proposed size for this reservoir changed several times prior to its construction. The Bureau had a choice of building it to the final capacity in anticipation of the completion of the Ultimate Phase of the CUP. The choice involved spending less money up front to build the dam and subsequently enlarging it. However, if the Bureau built the dam to its ultimate design in one stage, it would save money overall. Ultimately, the Bureau chose to take the latter approach, quadrupling the storage capacity of the original Strawberry Reservoir behind the new Soldier Creek Dam six miles downstream from the Strawberry Dam.⁴⁵

The water would be diverted to the Wasatch Front via a new tunnel into the Diamond Fork Power System. The Bureau envisioned a series of three dams and reservoirs to generate hydropower as the water dropped in elevation from Strawberry Reservoir to the Spanish Fork River. The plans also called for the Starvation Dam and Reservoir to provide irrigation and municipal water to Duchesne and the surrounding area and the Jordanelle Dam and Reservoir—an enlarged version of the Bates Reservoir in the

⁴⁴ Bureau of Reclamation. *Central Utah Project, A supplement to the Colorado River Storage Project Report*. February 1951, Synopsis 1-4. U.S. Department of the Interior, Bureau of Reclamation, Region 4, Salt Lake City, *Central Utah Project Initial Phase Bonneville Unit, Definite Plan Report* (Salt Lake City: August 1965), summary sheets 1-3; Bureau of Reclamation, *Final Environmental Statement, Authorized Bonneville Unit, Central Utah Project, Utah*, 19.

⁴⁵ Ibid.

original plan—to develop a large municipal supply for northern Utah and Salt Lake Counties.⁴⁶

The passage of the Colorado River Storage Project Act had been an embattled multiyear political fight, the successful conclusion of which marked a significant milestone in the history of the CUP. The dreams and ideas of Utah State Engineer Abraham F. Doremus, and engineers from the Bureau of Reclamation laid out at the turn of the century had formed the groundwork for a massive engineering undertaking. But moving those dreams and feasibility studies into detailed design and engineering plans, proved to be as significant a challenge. The Bureau and the Utah Water and Power Board had several items on their checklists listed above project construction including completing a definite plan, forming a repayment agency, negotiating a repayment contract, securing voter approval of the repayment contract, and gaining the necessary water rights and congressional appropriations. Underlying almost all of these would be growing environmental concerns. Getting this Cadillac off the lot would prove to be as monumentally challenging as the monumental engineering work they had planned.

⁴⁶ Ibid.

II.

GETTING THE CADILLAC OFF THE DRAWING BOARD

By the late 1950's the Bureau of Reclamation and interests in Utah led by the Utah Water and Power Board had begun preparations for the construction of the Central Utah Project. Congress had granted authorization to begin the project as a part of the ambitious Colorado River Storage Project Act. Passage of the CRSP had come after a lengthy political battle, largely centered over the proposal to build two dams inside the boundaries of Dinosaur National Monument. Historian Mark Harvey has argued that the battle over Echo Park catalyzed the new environmental movement on a national scale. Following the passage of the CRSP, environmental advocates and opponents of the Echo Park proposal turned their attention to other issues. The Sierra Club, led by David Brower, became active in trying to stop the inundation of Glen Canyon behind the newly completed CRSP dam. Failing in that effort, they attempted to prevent the Bureau of Reclamation from filling the reservoir to a height which would back water up under Rainbow Bridge National Monument. They turned to stopping the inclusion of two dams at Marble and Bridge Canyon which would have acted like bookends on the Grand Canyon. Thus much of the national attention had fallen off of the CUP.¹

¹ In December 1962 the Sierra Club joined with the Federation of Western Outdoor Clubs and filed a suit with the District court in Washington D.C. to enjoin Secretary of the Interior Stewart Udall from closing the gates on Glen Canyon Dam because measures had not been taken to protect Rainbow Bridge. The court ruled that the public had no standing before the court. See, Lawrence E Davies, "Udall is Urged to 'Obey the Law,'" *New York Times*, January 12, 1963. Also see, Harvey 280-282 and 297-298. On the efforts of the Sierra club to stop the Bridge and Marble Canyon Dams see Reisner, 281-289.

But even without the proposed Dinosaur Dams, the CUP still posed serious environmental impacts. Conceived in an era which trusted experts to determine “the greatest good, for the greatest number,” the planners and engineers worried little about altering the environment to make additional resources available for people. The size and complex interconnections with previously constructed projects meant that the CUP had inherited a legacy of environmental degradation before construction on the project actually began. The engineers and officials within the Bureau knew of the damage that had been done previously and would be caused by the CUP. They recognized many of these impacts, well before the passage of the National Environmental Policy Act of 1969 (NEPA) required the agency to undertake environmental studies. However, the mitigation measures they originally proposed did not go far enough to satisfy environmental and wilderness advocates living in Utah. They understood the threat and worked to limit the amount of environmental damage and, after the passage of NEPA, attempted to stop the project.

These legal challenges, along with the political challenges of President Carter’s proposal to cut funding to the CUP, resulted in lengthy and costly delays during a time of skyrocketing inflation. As a result of these delays, it became clear to the Bureau that they could not complete the CUP within the authorized cost limits. As a result, environmental interests would have another chance to remedy the same environmental shortcomings that had led to the delay in the CUP and the need for the reauthorization legislation.

The CUP is a large and complex project, to understand the concerns of project opponents requires understanding the project. Following the passage of the CRSP, the

Bureau began the detailed study to plan the final design of the CUP. As mentioned previously, the CUP is actually a collection of smaller interconnected projects. In many ways, these projects act like individual instruments in an orchestra. They can function independently, like a soloist, or combine with others in harmony to create a something more complex that is greater than the sum of its parts, each based around a specific river system. The CRSP had authorized the initial phase, which the Bureau had broken into four units. Bureau engineers planned for three of these units--Vernal, Jensen, and Upalco—to enhance irrigation supplies within the Uinta Basin. They designed the fourth unit, the Bonneville, which was the largest and most complex, to provide irrigation water for the Uinta Basin and to collect, store, and divert water from the Uinta Basin into the Bonneville Basin.²

As explained at the end of Chapter One, the Vernal Unit had been studied and planned as an independent project previous to the passage of the CRSP. Bureau engineers had completed detailed plans, termed a “Definite Plan Report.” Construction began and proceeded quickly. Additionally, the Bureau had completed substantial planning for the Jensen Unit, which proposed a dam on Brush Creek to supply the Ashley Valley east of Vernal. Planning and work progressed relatively smoothly on this unit as well. The remaining unit of the initial phase, along with the two units of the Ultimate Phase authorized in 1968, languished due primarily to inadequate congressional

² U.S. Department of the Interior, Bureau of Reclamation, “Final Environmental Statement, Authorized Bonneville Unit, Central Utah Project, Utah,” (Salt Lake City: U.S.B.R. Region Four, 1973), 18-19. The explanation of the Central Utah Project and Bonneville Unit is from, U.S. Department of the Interior, Bureau of Reclamation, *Central Utah Project, A supplement to the Colorado River Storage Project Report*, Project Planning Report No. 4-8a. 50.2 (Salt Lake City: U.S.B.R. Region Four, 1951 and, U.S. Department of the Interior, Bureau of Reclamation, *Central Utah Project Initial Phase Bonneville Unit, Definite Plan Report, August 1965* (Salt Lake City: U.S.B.R. Region 4, 1965).

appropriations and later stalled when studies revealed they had a limited or negative cost-benefit ratio.

This left the bulk of the work, and subsequently the bulk of the project's opponents focused on the Bonneville Unit. In most cases, when critics or supporters discuss the CUP they actually are talking about the Bonneville Unit. Essentially the plan for the Bonneville Unit remained unchanged between the first detailed feasibility report of 1951 and the Definite Plan Report published in 1965. The Bonneville Unit consisted of five major parts, the Starvation Complex, the Strawberry Aqueduct and Collection System, the Diamond Fork Power System, the Bonneville Irrigation and Drainage (I&D) System, and the Bonneville Municipal and Industrial (M&I) System. Just like the CUP as a whole, each of these systems could function separately, but had been designed to work together.

The Starvation Complex consisted of a dam on the Strawberry River west of Duchesne, Utah near the confluence of the Strawberry and Duchesne River. The dam would store water from the Strawberry River, as well as water diverted from the Duchesne River. Starvation provided additional irrigation water by storing previously unused seasonal flows to compensate for the irrigation water diverted into the other portions of the Bonneville Unit.

The Strawberry Aqueduct and Collection System consisted of a new Soldier Creek Dam on the Strawberry River, six miles below the existing dam. The dam increased the storage capacity of the reservoir four fold to 1.2 million acre feet. To fill the enlarged Strawberry Reservoir, the Bureau designed the Strawberry Aqueduct, the series of pipelines and tunnels originally conceived by A.F. Doremus and E.F. Tabor

which intercepted the major streams and tributaries of the Duchesne River between Strawberry Reservoir and Rock Creek. In fact Tabor's survey had extended further east to the Lake Fork River. Bureau investigation leading to the 1951 report however found that the Lake Fork River had been over-appropriated and the Bureau could not develop additional water for the CUP from that river. The system also included two equalization reservoirs behind new dams at Currant Creek and Upper Stillwater on Rock Creek.

Water from the enlarged Strawberry Reservoir would be diverted through the Diamond Fork Power System, a series of new tunnels and pipelines, through the basin divide, and into Diamond Fork Creek. The Bureau designed the system to include hydroelectric power plants to capture the energy of the water as it fell over 2,000 feet. A portion of the power would be used to run electric pumps to provide additional irrigation water. The remaining electricity would be sold to help pay for the project.

After the water passed through the hydroelectric plants in Diamond Fork Canyon, the Bureau anticipated splitting the supply between several water users. The Bureau planned to place a portion of the water into an aqueduct and canal system to provide irrigation water for Juab and southern Utah County with plans to extend the canal southward to the Sevier Bridge Reservoir to make deliveries—directly or through exchange—to Millard, Sevier, Sanpete, Garfield, and Piute Counties in the Ultimate Phase. However, in April 1957, the Utah Water and Power Board passed a resolution calling for the delivery of supplemental water to the Sevier Basin in the Initial Phase instead of the development of new irrigated lands in the Mosida area of Utah County and the Mona-Nephi area of Juab County. The five counties in the Sevier Basin formally petitioned for annexation into the CUWCD in 1966. The CUWCD Board approved the

addition of five counties within the Sevier River Basin on March 10, 1967. The annexation required a change in the court decree which created the District. Fourth District Judge Maurice Harding approved the annexation and change to the decree on May 12, 1967. The same day, the CUWCD Board passed a resolution supporting the change of the Bureau's plan to include delivery of water to the Sevier Basin.³

The other portion of water diverted through the Diamond Fork System would be placed into the Diamond Fork Creek and Spanish Fork River. A portion would be available to supplement the irrigation supply of the Strawberry Water Users. The remaining water would flow into Utah Lake. There, a portion of the water would be pumped into canals to service the farmlands in the Mosida area to the southwest of Utah Lake. The Bureau also planned to implement the diking of Provo and Goshen Bays. This project had been proposed by Abraham Doremus and was the first project studied by the Bureau of Reclamation in Utah. It had been included as part of the Provo River Project, and later rolled into the CUP. By cutting off the shallow bays on Utah Lake, the Bureau estimated that it could prevent the evaporation of approximately 100,000 acre feet each year.

The water saved through the diking project, in addition to water diverted from Strawberry, would allow the Bureau to enact an exchange and deliver municipal water. This Provo River Exchange would store water from the Provo River in the Jordanelle Reservoir equal to the amount placed into Utah Lake through conservation and diversion from Strawberry. The holders of water rights to the water from the Provo River in Utah Lake would then have their rights satisfied from this new water, and the water from the

³ "Final Environmental Statement, Authorized Bonneville Unit, Central Utah Project, Utah," 13; CUWCD Board Meeting Minutes, January 14, 1966, March 10, 1967, May 12, 1967.

Provo River could be diverted for municipal use. Because the water in Utah Lake had a high amount of dissolved salts and minerals, it could not be used directly for a municipal supply. One of the most significant changes between the 1951 and 1965 plans was the enlargement of the Bonneville Unit's Municipal and Irrigation Supply. The Bureau had increased its plans from 41,000 to 70,000 acre feet, with the bulk (50,000 acre feet) destined for Salt Lake County.⁴

Following World War II the Salt Lake Valley had experienced skyrocketing growth rates. Prior to the war, the Bureau had begun work on Deer Creek Reservoir as part of the Provo River Project. Salt Lake City, through the Metropolitan Water District of Salt Lake City (MWD of SLC), had contracted for the lion's share of this water, much more than it could put to use for many years. Originally, officials in Salt Lake City and the Bureau had expected that as the remainder of the valley developed, Salt Lake City would follow the model of Los Angeles and annex these areas and supply them with water. However, due to the costs involved in providing municipal services to the new areas, Salt Lake proved reluctant to annex the booming subdivisions and conditions in Utah Law forbade the Metropolitan Water District from selling water to customers in unincorporated areas outside its boundaries.⁵

As a result of this situation, interests outside of the city, including prominent real estate developers, began building a campaign to create a new water conservancy district. They succeeded in forming the Salt Lake County Water Conservancy District (SLCWCD) in 1951. The SLCWCD became a crucial supporter of the CUP. Utah law

⁴ 1964 Definite Plan Report, 31-32.

⁵ Fisher Sanford Harris, *One Hundred Years of Water Development* (Salt Lake City: Metropolitan Water District of Salt Lake City, 1942), 108-109, 116-119.

allowed the MWD of Salt Lake City to lease surplus water on an annual basis. The SLCWCD had no water supply of its own and hoped to lease this surplus water from Deer Creek. However, officials with MWD of SLC proved reluctant to lease water for fear that without the prospect of their own future supply, the SLCWCD would become dependent and “lead only to intensified difficulties.” As the Bureau noted in its 1951 report, “As the CUP would provide the additional source of water, its authorization would justify the immediate leasing of the district’s reserve water for use outside of the district.” Even though Congress did not authorize the CUP for another five years, the prospect of a new municipal supply was sufficient for the MWD of SLC to begin leasing water to the SLCWCD.⁶

The rapid population growth during the 1950s in Salt Lake County exceeded all predictions. The SLCWCD had begun developing some groundwater supplies, but the growth consumed supplies earlier than expected, prompting the passage of additional bonds in 1959 to further develop its own supplies. It also prompted the district to formally petition the Bureau for 30,000 acre feet in the fall of 1959. This petition resulted in a shift in the Bureau’s plans to significantly increase the municipal supply in the CUP. The petition also closely tied the development of the CUP to the SLCWCD. However, the district did not become a repayment agency for the CUP. Instead, the Bureau pushed the Utah Water and Power Board to establish a single “master district” to oversee the repayment and act as a wholesale agency to the SLCWCD and other customers.⁷

⁶ Bureau of Reclamation. *Central Utah Project, A supplement to the Colorado River Storage Project Report*, Synopsis 7-8.

After two years of negotiation, the Utah Fourth District Court formally organized the seven-county Central Utah Water Conservancy District (CUWCD) on March 2, 1964. The formation of the CUWCD was another political challenge that required a compromise. The District had to balance the interests of the Uintah Basin, which would provide much of the water, with those of the urban areas, which would pay for most of the project, and the irrigators in central Utah, who would receive the majority of the water. Maintaining a balance between these interests would later prove to be part of the challenge of crafting the CUPCA.

In outlining the plans for the CUP, the complexity of the project becomes apparent. The plans raised numerous concerns amongst environmental and wilderness advocates, and hunting, fishing, and outdoors enthusiasts. Others opposed to the project complained of the increased tax burden, a waste of public funds, and safety concerns over the Bureau's dams. Specific environmental concerns included the destruction and loss of riparian habitat as project reservoirs inundated sections of river and the Strawberry Aqueduct dried up several streams in the Uinta Mountains.

The 1951 report included few plans for recreational facilities and no real mitigation for lost fish and wildlife habitat. First, the Bureau believed that the significance of the lost streams was the lost fishing opportunities and that the new reservoirs would offer new fishing opportunities to offset the loss.⁸ While the Bureau did

⁷ On the bond election and election and improvements see *Deseret News*, August 24, 1959. On the formal petition for 30,000 acre feet of CUP municipal supply see, SLCWCD Board Minutes, October 15, 1959.

⁸ *Central Utah Project, A supplement to the Colorado River Storage Project Report*. In addition to the project reservoirs, they proposed the Round Knoll Reservoir as an additional recreation site. The Bureau proposed building this small reservoir above US Highway 189 on Main Creek near the existing Deer Creek Reservoir and the road to Wallsburg. The reservoir would maintain a constant level and its sole purpose was to provide fishing opportunities. The Bureau dropped its plans for this reservoir in the

not acknowledge the full impacts of the plan, in its response to the plan, the U.S. Fish and Wildlife Service detailed them clearly in their report included with the 1951 study. Fish and Wildlife Regional Director John Gatlin submitted a somewhat harsh review of the CUP. However, his agency's primary concern may explain the Bureau's inclination to focus on the replacement of lost fishing opportunities. Gatlin's report stated:

Preliminary investigations indicate that, unless the Central Utah Project authorization provides for the preservation and development of fish and wildlife habitat, the project will seriously damage Utah's fish and wildlife resources. The seriousness of the possible damage is emphasized by the dearth of good fishing streams left in Utah as a result of previous manipulations of streams and by the fact that over 60 percent of the population of the state is located within 100 miles of the more important streams that may be affected by the project. . . . In addition to providing hunting and fishing, preservation of fish and wildlife habitat greatly enhances the recreational attractiveness of the state and provides economic and esthetic advantages not as yet fully realized. The need for preserving the state's remaining recreation, fish, and wildlife resources should receive full consideration in any plan for development of the state's land and water resources.⁹

The report went on to note the potential damage caused by the Strawberry Aqueduct and Collection system if built as then planned.

The initial phase of the CUP would divert at the point of interception, the entire winter flows for seven trout producing streams in the Uinta Basin.... The complete dewatering of stream segments for even short periods of time would eliminate the fisheries of those segments. The period necessary for recuperation of the fisheries is extended because the aquatic organisms are also destroyed.¹⁰

It went on to explain that they did not expect the project's reservoirs to be good for trout reproduction. It further noted that the Reservoirs would cause the loss of stream

1965 Definite Plan Report after it increased the municipal supply by enlarging its plans for Jordanelle Reservoir. *1965 Definite Plan Report*, 31-32.

⁹ Report by U.S. Fish and Wildlife Service (Regional Director John C Gatlin in Abq. New Mexico to E.O. Larson printed in Bureau of Reclamation. *Central Utah Project, A supplement to the Colorado River Storage Project Report*.

¹⁰ Ibid.

fisheries, reduced habitat of big game, and destruction of nesting sites of waterfowl. It expressed concern over the mitigation for the loss of lands to be inundated by the enlarged Strawberry Reservoir set aside in 1909 and extended in 1926 as a National Wildlife (Reservation) Refuge for protection of native birds, particularly the sage hen.

The report then concluded that:

The Utah State Fish and Game Department in approving this report emphasized the need for protecting the fishers of the Provo River and the Uinta Basin streams. Fisheries in some of the stream segments would be destroyed by presently proposed project development but the destruction could be prevented by providing adequate continuous flows in the streams below the dams and diversions.¹¹

The Fish and Wildlife Service worried about the loss of fish and wildlife habitat, but the concern was over the lost opportunity for fishing and hunting opportunities. In looking back from a modern perspective, it must be remembered that the wilderness movement was still in its very early stages, and that the “environmental movement” as we know it today still lay in the future. As historian Mark Harvey noted in his monograph on the controversy, “Americans in the 1950s had barely begun to consider the ramifications of their industrial society on public health or the environment, while adverse effects of pesticides and atomic fallout had only just emerged in the public discourse... Nor did the campaign focus on biological or ecological concerns such as wildlife habitat, endangered species, or what is now commonly called “the rights of nature.”¹² Instead, the Echo Park Controversy—which occurred in response to the Bureau’s developing plans for Dams inside the Dinosaur National Monument as a part of the CUP, and CRSP—focused on the degradation of the National Park System and the

¹¹Ibid.

¹² Mark Harvey, *Symbol of Wilderness: Echo Park and the American Conservation Movement* (Seattle: University of Washington Press, 2000), 287.

preservation of the parks in their primeval state and to a lesser degree, the importance of wilderness preservation.

The battle began largely as an internal dispute in 1949 in response to the movement by Utah Senator Arthur Watkins and others to move forward with legislation to authorize the CUP and CRSP the previous year. Previously when President Franklin Roosevelt added the canyons of the Green and Yampa Rivers to Dinosaur National Monument, and again during WWII, the National Park Service was willing to work with the Bureau of Reclamation and allow dams within the monument. However, with the pressures of the war gone and a new Secretary of the Interior, Oscar Chapman, the issue once again was opened to debate.¹³

The internal conflict became public when Secretary Chapman scheduled a hearing to consider the issue on April 3, 1950. The hearing opened the door to discussion and lobbying of conservation groups, outdoor interests, and supporters of the National Parks to make their objections to the plan heard. As the debate heated up, and as Congress began to consider the CRSP bills over the next six years, the majority of Utahns, Utah politicians, and newspapers loudly supported the dams. Both sides in the debate over the dams displayed intense emotion and passionate rhetoric as they argued their case. Both sides perceived significant losses if they didn't win. The project supporters saw Echo Park as vitally important for the CUP to function as planned. The proponents of the dams pointed to power generation and the reduction of evaporation losses as reasons why the dams needed to be build at Echo Park and Split Mountain. But most important of all, the CUP needed the dams to work as originally planned. Repeatedly during the controversy, the Bureau and other project supporters referred to the Echo Park dam as “a piston in the

¹³ Ibid, 32-36, 77-80.

engine”; they could no sooner pull the Echo Park Dam out of the CRSP than they could pull a piston from an engine and have it continue to function.¹⁴

The opponents of the dams, including many organizations which gained national prominence during the controversy such as the Sierra Club, Wilderness Society, and National Parks Association, simultaneously utilized a three-pronged approach to fighting the proposal. First, they promoted the scenic beauty of the canyons, second, they partnered with others who opposed the project for economic and political reasons, and third, they confronted the Bureau’s plan by pointing out flaws and alternatives. This strategy proved effective and, as discussed in Chapter One, a compromise resulted in the withdrawal of the Echo Park Dams in exchange for the passage of the CRSP.¹⁵

While historians have thoroughly explored the highly significant role the Echo Park Controversy has played in the development of both the wilderness and modern environmental movement, the focus has been upon the considerable effect the controversy had upon the wilderness and environmental groups.¹⁶ Little attention has been paid to the effect that the controversy had upon the Colorado River Storage Project or the Bureau of Reclamation. But these effects have been equally significant. Perhaps the most important effect has been a shift to recognize the necessity of providing environmental mitigation for its projects. Some see the Bureau as moving full steam ahead during the “go-go years.”¹⁷ But, in reality, the loss of Echo Park placed a check on

¹⁴ Harvey, 137.

¹⁵ Harvey 130-131, 263-285.

¹⁶ In addition to Harvey’s *Symbol of Wilderness*, other historians who emphasized the importance of the controversy in the wilderness movement are Roderick Nash, *Wilderness and the American Mind* (New Haven: Yale University Press, 1982), 209-219 and Victor B Scheffer, *The Shaping of Environmentalism in America* (Seattle: University of Washington Press, 1991), 118.

the unbounded enthusiasm and optimism of the Bureau. While the Bureau made these concessions unwillingly and out of political expediency, it nonetheless did make them. One lasting impact upon the Bureau and the CRSP was the inclusion of Section Eight. This section of the legislation specifically mandated the incorporation of the recreational facilities and facilities to “mitigate losses of, and improve conditions for, the propagation of fish and wildlife.” The inclusion of this section resulted in the changes between the 1951 and 1965 reports to include more projects designed to mitigate the environmental damage.

The 1965 report includes several new projects in the CUP to offer environmental enhancement. The Bureau worked closely with the Forest Service and the Fish and Wildlife Service to determine which projects to include. The Forest Service had made several recommendations in its own evaluation of the CUP in 1963. The Bureau included many of these recommendations. One of the most significant projects was the stabilization of 15 reservoirs built by the Provo Reservoir Water Users and others by converting existing lakes. These reservoirs were near the headwaters of the Provo River within the National Forest. The Forest Service proposed restoring these lakes to their natural condition by stabilizing the water at a constant level. The Bureau could accomplish this by moving the storage capacity out of the small reservoirs and into the Jordanelle Reservoir.¹⁸

¹⁷ Marc Reisner’s title for Chapter Five of his Book. He uses the term to describe the period of political power and extensive construction following World War II.

¹⁸ U.S. Department of Agriculture, Forest Service, *Central Utah Project: A multiple use analysis of the Relationship of the Proposed Central Utah Project (Initial Phase) Bonneville Unit to the Management of the Ashley, Uintah, and Wasatch National Forests*. Ogden, Utah: USFS, Intermountain Region, 1963, 25.

Previously in its 1951 plan, the Bureau had planned to retain the function of the lakes as storage reservoirs to make additional water available via exchange to benefit the Heber and Francis areas. In response to the Forest Service report, the Bureau now dropped these plans in favor of stabilizing the reservoirs and adding recreational facilities at each one of them.¹⁹ Additionally, the 1965 Definite Plan included the added recreation facilities and storage pools at five reservoirs, establishment of three wildlife management areas, and channel improvements at Sixth Water Creek. The Bureau did not implement all of the proposals of the Forest Service and the Fish and Wildlife Service. It deemed proposals for the establishment of wildlife management areas at Benjamin Slough and in the Bridgerland-Myton area impractical because of conflicts with planned irrigation. The Bureau also did not adopt the minimum stream requirements proposed by the Forest Service because the Bureau believed “the minimum stream flows desired by the Forest Service could not be maintained without impairing project feasibility.”²⁰

In addition to the report by the Forest Service, prior to the publication of the Definite Plan Report, local interests led by the Utah Wildlife Federation brought additional pressure on the Bureau to make changes to the project. The group began working with the Utah Division of Fish and Wildlife (DFW) to further alter the project. The Utah DFW began working with the Utah Water and Power Board on a compromise agreement. The Utah Wildlife Federation and its members also began to write letters to

¹⁹ Bureau of Reclamation. *Central Utah Project, A supplement to the Colorado River Storage Project Report*, Synopsis 9; *1964 Definite Plan Report*, 32, 165.

²⁰ *1964 Definite Plan Report*, 34, 176.

Utah politicians and newspapers to draw attention to the damage posed by an unmodified project.²¹

As the CUWCD and the Bureau worked towards a repayment contract and a public vote to approve the contract, they now confronted bad publicity. Fishing enthusiast and author Hartt Wixom wrote a critical letter to Utah Senator Wallace Bennett. Bennett then forwarded the letter to the Bureau's Provo Office seeking a response. Palmer Delong, the Bureau's CUP Project Manager brought the letter to the CUWCD's March 1965 Board Meeting. Delong worried that such adverse criticism could very well give the project a bad name. He then provided a report to the Board of the project's effect and contribution to fish, wildlife, and recreation. Board member L.Y. Siddoway then expressed his opinion that the District needed to start working on improving its public image, specifically with regards to fish, wildlife, and recreation. He stated bluntly that the District was going to find itself in a hole if it didn't get busy on its public relations and information right away. The Board then discussed and passed a series of resolutions. One resolution authorized the Chairman and the manager to select a Public Relations Committee. A second resolution authorized the committee to employ a PR firm, and to begin work on the issue of the positive benefits to fish, wildlife, and recreation contained in the project.²²

In May, the Board approved the committee's recommendation to appoint the David Evans Agency as the District's P.R. Firm.²³ The principal reason the District selected the Evans Agency was Glen Snarr. Snarr had been instrumental in the public

²¹ CUWCD Board Minutes, March 12, 1965 11-13.

²² Ibid.

²³ CUWCD Board Minutes, May 14, 1965, 5-6.

relations campaign linked to the passage of the Colorado River Storage Project. The Public Relations committee immediately tried to keep lines of communication open and work to address the environmental concerns raised by the Utah Wildlife Foundation and the Utah State Department of Fish and Game.

The Department of Fish and Game and the Utah Water and Power Board concluded their negotiations and passed a joint resolution. Governor Calvin Rampton concurred in the resolution and sent copies to the District, the Commissioner and Regional Director of the Bureau of Reclamation, members of the Utah Congressional Delegation, the Upper Colorado River Commission, and other interested parties. The resolution recommended the incorporation of 28 specific fish and wildlife measures in the Definite Plan Report for the Bonneville Unit. The resolution included several measures that later became central to the debate surrounding the Central Utah Project Completion Act and the mitigation plans for the CUP. These included 6,500 acre feet of fishery releases or “in-stream flows” to keep streams from completely drying up, the rehabilitation of Uintah Lakes in conjunction with the construction of Jordanelle, minimum stream flows between Jordanelle and Deer Creek, a minimum stream flow of 60 cubic feet per second (cfs) between Deer Creek Dam and the Olmstead Diversion Dam, a Goshen Bay wildlife management area, and a maximum drawdown of -9.3 feet on Utah Lake. The board unanimously endorsed the resolution with the clarification that the Bureau review the drawdown of Utah Lake and give “further consideration to a practical solution to the problem.”²⁴

The compromise resolution withdrew support for the increased minimum stream flows called for by the Forest Service, with the exception of 6,500 acre feet of flows on

²⁴ CUWCD Board Minutes, May 14, 1965, 6-10.

Rock Creek. As a result the minimum stream flows remained a key issue over the next two decades as events carried the Bureau and CUWCD toward the reauthorization of the CUP. Opposition groups, individuals, and government agencies continued to push for more mitigation efforts. As the District moved forward toward a public vote on the repayment contract for the Bonneville Unit, a few individuals expressed concern over the environmental damage posed by the project.

At a public hearing held for the vote on the repayment contract in December 1965, key politicians—including the Governor Calvin Rampton, former Governor George Clyde, and Utah Senator Bennett—strongly supported the project and urged a “yes” vote on the repayment contract. The *Salt Lake Tribune* reported that the only critical comments arising from the session came from Mel Hardman, who said he spoke for sportsmen generally but not for any organization. Hardman challenged the Bureau to produce specific information as to effect on streams which would be cut off for diversion into the enlarged Strawberry Reservoir and what recreation facilities it planned for Utah Lake. Hardman also voiced objection to a pamphlet distributed by the conservancy district on the grounds that it mentioned only benefits but ignored damaging aspects.²⁵

The following week, on Tuesday December 15, 1965, the voters within the CUWCD’s boundaries went to the polls. The repayment contract had been negotiated most of the year with CUWCD counsel, Ed Clyde, playing a crucial role in the negotiations. Throughout the fall, the Board moved forward with preparations for the special election. The District’s public relations consultant, Glen Snarr, worked with Board members in each of the respective counties to ensure the public was aware of the

²⁵ *Salt Lake Tribune*, December 8, 1965.

issues and the significance of the special election. The issue received good press in the local papers which ran editorials supporting the election. The election also received bipartisan support from major political figures of both parties.

Following the election, the Board met to canvass the votes on December 20. After counting all the votes, 93% of all votes cast were in favor of entering into the repayment contract. The vote carried by wide margins in every county except Uintah County where 70% of those voting did not favor entering the contract. The negative votes in Uintah County accounted for over one third of all the negative votes cast, even though the total votes in the county only amounted to 3.5% of the total.²⁶ Briant Stringham, District Board member representing Uintah County, explained at the following board meeting that he and the other board members from Uintah County “could not offset the last minute opposition which was developed and well planned which was based on misleading statement and distortions of the facts by people who knew the facts. Our people were misled and were confused at the polls, but we feel that they still support the project and will even more so as the true facts are revealed.”²⁷

In addition to the approval by voters of the repayment contract and the publication of the definite plan report, one other milestone had been reached to open for construction of the project, the negotiation of water rights with the Ute Tribe. Under the Winter’s Doctrine, the tribe held substantial water rights in Uinta Basin. However, they had been unable to make full productive use of the water due to a lack of storage facilities. For that reason, the tribe became a participant in the CUP. They negotiated to

²⁶ Total votes in favor 30,657, total votes against 2,205. Uintah County Votes in favor 351, against 804. CUWCD Board Minutes, December 20, 1965.

²⁷ CUWCD Board Minutes, January 14, 1966, 3.

allow the use of 70,000 acre feet of water in the Duchesne River for the Bonneville Unit supply for forty years in exchange for water from future units of the CUP. This contract became known as the 1965 Deferral Agreement and was essential to allow the CUP to move forward.²⁸

Construction officially began on the Bonneville Unit on May 31, 1967 at a groundbreaking ceremony for the Starvation Dam. The Utah Congressional delegation struggled to secure adequate appropriations to keep the project on schedule, but major projects moved ahead. Within the first five years of construction, construction crews had completed work on the Starvation Complex, Soldier Creek Dam, the first portion of the Strawberry Aqueduct and Collection System, and the first two segments of the Jordan Aqueduct in Salt Lake County. But as work progressed on the Bonneville Unit, environmentalists gained a new tool to force comprehensive environmental studies, mitigation plans, and the ability to stop projects which did not meet these requirements.

Throughout the 1960s, national attention and support of environmental issues began to increase. With bipartisan support Congress passed a series of laws aimed at protecting the environment, beginning with the Wilderness Act in 1964. The most important and far reaching of these laws was the National Environmental Policy Act (NEPA) of 1969 signed by President Richard Nixon on January 1, 1970. NEPA required that every major action taken by any Federal agency be evaluated for its effect on the quality of the human environment.

Construction on already started projects continued uninterrupted, as they had been grandfathered. But, the Bureau now had to complete an Environmental Impact

²⁸ E.L. Decker, "Special Report on the Central Utah Project," 3.Y.229, CUWCD Records Collection, Orem, Utah.

Statement before it could award the contract for any new element of the CUP. The study took three years to complete and the Bureau issued the finished Bonneville Unit EIS in August 1973. The document addressed the entire Bonneville unit generally, but focused specifically on the Strawberry Aqueduct and Collection System.

The Bureau held several public hearings after releasing a draft version of the statement. They held the hearings on Friday Sept. 22 and Saturday Sept. 23, 1972 in the Orem High School Auditorium. Over the two days, the hearings lasted thirteen hours and drew 1,300 people. The bulk of the crowds, nearly 1200 people, attended the Friday session. Supporters of the project from Millard County organized buses to bring hundreds of people to the hearing. Delta and Millard High Schools sent one hundred students each, and one hundred senior citizens from the county also traveled to the meeting by bus. Wallace T. Jeffery, President of the Millard County Water Conservancy District, estimated that another two hundred county residents attended the meeting.²⁹

Prior to the hearing, 127 people requested to testify, but only ninety-five actually spoke. Of these, only 10 expressed opposition to the project. Additionally, the Bureau received 1450 written comments, which when counting multiple signatures represented 1700 individuals or organizations. The most outspoken critic was Dr. David C. Raskin, conservation chairman, Uintah Chapter of the Sierra Club who called the document “woefully inadequate” and expressed objections to the destruction or degradation of miles of fishing streams in the Uintas.³⁰

²⁹ Robert McDougall, “Water Project Heavily-Backed at Hearing,” *Provo Daily Herald*, September 24, 1972.

³⁰ “Final Environmental Statement, Authorized Bonneville Unit, Central Utah Project, Utah,” 634; McDougall, “Water Project Heavily-Backed at Hearing,”; and Max B. Knudson Jr., “Support Heavy at Hearing on Central Utah Project,” *Salt Lake Tribune*, September 23, 1972 and “2-Day Hearing on central Utah Plan Ends,” September 24, 1972.

Others who opposed the project included Lillian Hays a member of the Timpanogos Chapter of the Sierra Club, and Robert H Frost, president of the Mt. Timpanogos Chapter of the American Audobon Society. Frost express the concern of his organization over the impact of diking Provo and Goshen Bays on ninety-five species of birds. Numerous prominent Utah politicians spoke in favor of the project. However, Wayne Owens, then a democratic candidate for congress, expressed a different opinion. He felt the project should be completed, but that the water was needed for irrigation in southern area of the CUP and not needed for municipal use in Salt Lake County.³¹

In total, opponents commenting on the EIS raised twenty-nine separate issues which the Bureau answered in the final version of the document. The Utah State DNR, Bureau of Sport Fisheries and Wildlife, EPA, Sierra Club, Mt. Timpanogos Chapter of Audubon Society, Utah Environmental Center, and several individuals all expressed concern that the Bureau had failed to consider the cumulative impacts of the entire CUP. The Bureau responded that it would prepare additional statements for each unit.³²

Unsatisfied with the Bureau's published response, several environmental groups, including the Sierra Club, Trout Unlimited, and the National Resource Defense Council joined in a lawsuit to stop construction on the CUP, claiming that the Bureau's environmental impact statement was deficient and that the project disrupted the habitat of endangered fish in the Colorado River. While hearing the case, the court granted an injunction that prevented the Bureau from awarding the contract for the Currant Creek Dam. The CUWCD intervened in the suit on behalf of the Bureau and the District's legal

³¹ Knudson, "Support Heavy at Hearing on Central Utah Project."

³² "Final Environmental Statement, Authorized Bonneville Unit, Central Utah Project, Utah," 645-686.

counsel, Ed Clyde, played an important role in arguing the case. The court heard arguments through the spring of 1974.

In the middle of the lawsuit, “dissident” members of the Ute Tribe began to raise objections to the delays and threatened to join the litigation. Clyde and representatives from the Bureau secured a recess to secure an agreement calling for a review in exchange for withholding litigation to allow time to negotiate. The agreement removed the complicated issue of Indian water rights, and a question of environmental justice from the trial which now focused solely upon the adequacy of the EIS.³³

As the trial began again, the testimony turned to a legal debate over availability of ground water near Salt Lake City. Claron Nelson, U of U economist, testified for the Sierra Club that it would be cheaper and less damaging to the environment to meet Bonneville Basin water needs by developing ground water reserves. He cited a USGS survey which estimated 75,000 acre feet per year available and noted that this alternative had not been discussed in the EIS. A defense expert testified that much of the ground water is contaminated and there would be other dangers of depending on ground water even if it were available.³⁴

After hearing the testimony, District Court Judge Ritter ruled in favor of the Bureau on June 21, 1974. The Sierra Club informed Ed Clyde that they planned to appeal the decision to the Tenth Circuit Court of Appeals in Denver. They applied for a stay order to prohibit the Bureau from proceeding with work and awarding bids, but Judge Ritter rejected their motion.³⁵ Before the District Court took action, the Bureau

³³ “CUP-Indian Treaty,” *Deseret News*, April 20, 1974.

³⁴ Joe Bauman, “Ground Water Use Debated,” *Deseret News*, April 24, 1974.

awarded the contract for Currant Creek Dam to the S.J. Grove Company. Almost immediately, the Bureau issued a Notice to Proceed and the contractor began work on the access road and diversion of the Currant Creek at the dam site. The Sierra Club filed a motion with the District Court for an injunction against further work, but the Court denied their motion.³⁶

The two sides filed their legal briefs with the Circuit Court in July and August and a hearing was scheduled for September. The Sierra Club and co-appellants made four arguments. First, they asserted that NEPA required an Environmental Impact Statement for the entire project. Second, they argued that even if a single statement was not required for all the units of the CUP, a single statement was required for the entire Bonneville Unit. Third, they argued that the Bureau had not considered all the alternatives to building the Bonneville Unit such as the development of groundwater. And finally, they argued that the Bureau had not completed an adequate cost-benefit analysis that considered the negative impact on the environment as a project cost.

The appellees cited precedence in other cases which demonstrated a single environmental study was not needed if a portion of the project could stand alone as an independent project. The Bureau argued that the Strawberry Aqueduct could stand alone to store water in Strawberry Reservoir which could then be used in either the Uintah or Bonneville basin through existing conveyance systems. They answered the third claim by arguing that only the realistic alternatives needed to be included, and that the groundwater was not a viable alternative and that the economist Claron Nelson was not

³⁵ CUWCD Board Minutes, July 11, 1974, 6.

³⁶ CUWCD Board Minutes, August 8, 1976, 2.

an expert in groundwater. Finally, they argued that the courts had previously ruled that a dollar quantification of environmental impacts and enhancements was not required.³⁷

On November 29, 1974, Circuit Court Judges Hill, McWilliams, and Doyle affirmed the decision of the District court in favor of the Bureau. The judges ruled that the Strawberry Aqueduct and Collection System could be judged as a stand alone unit of the CUP for consideration in the EIS. They further ruled that the EIS did consider reasonable alternatives and that the cost-benefit analysis of the EIS was adequate.

With a firm victory, the Bureau and CUWCD may have breathed a sigh of relief, but they did not rest for long. President Gerald Ford's budget greatly cut the funding for the CUP. Additionally, the Bureau soon had to answer a new round of criticism and public concern over dam safety. The negotiations with the 13 dissident Utes who had threatened to join the Sierra Club's lawsuit broke down and, citing issues over the 1965 deferral agreement, they filed suit in federal court in August 1975 to stop construction on the Strawberry Aqueduct. However, U.S. District Judge Aldon J. Anderson dismissed the suit as it had not been sanctioned by the Ute Tribe. Judge Anderson ruled the 13 had no legal standing to bring the challenge.³⁸

Additionally, the Bureau faced mounting opposition and concern over dam safety following the catastrophic failure of the Teton Dam on Sunday, June 5, 1976.³⁹ The reverberations of the catastrophe were felt around the west. In Utah, the failure prompted

³⁷ Sierra Club v Stamm: Brief of Defendants in Intervention-Appellees on the Merits September 6, 1974 in Edward W. Clyde Collection, MS 1335, Box 10, Folder 3, Special Collections, Marriott Library, University of Utah.

³⁸ "CUP Suit Dismissed," *Deseret News*, August 7, 1976.

³⁹ Arthur, H. G., 1977. Teton Dam Failure, pp. 61-71, in *The Evaluation of Dam Safety* (Engineering Foundation Conference Proceedings, Asilomar, Nov. 28 - Dec. 3, 1976), American Society of Civil Engineers, New York.

new worries and concerns among some citizens, and provided ammunition to groups opposed to the further development of the Central Utah Project. For example, Lillian Hays, President of the Utah Chapter of the Sierra Club, began petitioning the District to conduct an independent geological review of the site at Currant Creek and Upper Stillwater Dam.⁴⁰

Coming quickly on the heels of the Teton disaster was a new political disaster. Newly elected President Jimmy Carter wanted to reign in the federal budget. In October 1976, prior to his successful election to the Presidency, Carter's transition team and later domestic policy staff began evaluating ways to cut President Gerald Ford's budget for fiscal year 1978. In an effort to cut the federal budget in the face of economic stagnation, Carter staff, led by Stuart Eizenstat, prepared a series of memoranda. The water Eizenstat issue paper on water project—written mostly by Kathline Fletcher, a scientist formally with the Environmental Defense Fund—provided him the idea to cut funding for nineteen water projects he felt had poor cost-benefit ratios or caused excessive environmental damage that should not receive funds during the next budget year. After his first month in office, on February 21, 1977 Carter issued a list of the nineteen water projects, eight of which were Bureau of Reclamation projects in the west. Those supporting the projects on Carter's list quickly branded it the "hit list." Near the top of the list, Carter had placed the CUP.⁴¹

⁴⁰ CUWCD Board Minutes, November 19, 1976; December 9, 1976.

⁴¹ Michael C. Robinson, *Water for the West: The Bureau of Reclamation 1902-1977* (Chicago: Public Works History Society, 1979), 94. Reisner, 313-314, Tim Ralph Miller, "Politics of the Carter Administration's Hit List Water Initiative: Assessing the Significance of Subsystems in Water Politics" (Ph.D. Diss, University of Utah, 1984), 193-195.

President Carter gave four reasons for cutting the Bonneville Unit of the CUP that closely followed the arguments long used by project opponents against the CUP and very similar to the arguments used by the Sierra Club in their failed lawsuit. First, he stated that the project posed serious environmental damage through the depletion of stream fisheries and the loss of habitat through the diking of Utah Lake, and that the exportation of Colorado River water would aggravate the salinity of Colorado River. He further argued that the CUP complicated Ute Indian Claims to water. He calculated that the project was not economically sound as it could not be completed under authorized ceilings set up under the projected cost of the original program and that using current interest rates, the project no longer had a positive cost-benefit analysis. Finally, he claimed alternative sources of municipal water for the Salt Lake Valley existed.⁴²

The CUWCD rallied Utah politicians quickly to mount a publicity campaign and begin a political fight to save the CUP. The Department of the Interior held special hearings on the Bonneville Unit in the Salt Palace Little Theater on March 24, 1977. The hearing was scheduled to last for seven hours, with three hours for each side and a thirty-minute rebuttal period. Ed Clyde coordinated the proponents' testimony while Dr. David C. Raskin, former Sierra Club member and outspoken critic of the CUP, coordinated the opponents' side.⁴³

The following morning the *Salt Lake Tribune* editorialized about the hearings that had far exceeded their anticipated schedule:

⁴² "Hearing Only Affirms Obvious: Bonneville Unit Right for Utah," *Salt Lake Tribune*, March 25, 1977.

⁴³ Miller, 195-197, 221-225; Joe Bauman, "Second Chance or Death Blow? Bonneville Unit hearing brings pros, cons into focus," *Deseret News*, March 23, 1977

Nothing in the 12 hours of hearing at the Salt Palace persuaded us that the CUP, along with its Bonneville Unit is so inherently bad that it should be abandoned... None of the alternatives proposed by opponents, when taken in the context of what has already been accomplished on the Bonneville Unit, are viable or acceptable.... One striking observation of the Salt Palace hearing was the penchant of Bonneville Unit opponents to seemingly brush aside as of no consequence the legal obligations that have been incurred during the project's three decade history. They choose to ignore the several contracts in existence promising delivery of much needed water at some future date.⁴⁴

The proposal to cut the funding to these water projects resulted in an uproar in Congress. Many Westerners were particularly upset because the proposed cut back had come in the middle of the worst drought since the Dust Bowl. Congressmen and Senators of both parties banded together to protect the projects from the chopping block. As a result, Carter revised his recommendations for cuts in April 1977, but the CUP remained on the list targeted for substantial revisions and reevaluation. As the summer progressed, Carter reached a compromise with Speaker of the House Tip O'Neil which eliminated funds for nine projects and modified three others. Carter signed the compromise bill on August 7, 1977.⁴⁵

Many environmental groups and opponents of large reclamation projects applauded the President and used the occasion to start work against many of the projects. Local opponents of the CUP became more active. At the same time the President launched a review of the Bonneville Unit, the Salt Lake County Commissioners directed County Attorney Paul Van Dam to conduct an investigation into the CUP. Van Dam's report generated significant controversy as he took an oppositional position against the project which he felt was fleecing the tax payers of Salt Lake County.

⁴⁴ "Hearing Only Affirms Obvious: Bonneville Unit Right for Utah," *Salt Lake Tribune*, March 25, 1977.

⁴⁵ Miller, 290-291.

Van Dam's report raised many important issues that the project's critics would use as ammunition against the project for many years and influence the debate over the reauthorization of the project and the drafting of the Central Utah Project Completion Act. Van Dam noted that despite the drought, a water shortage had not actually existed in the Salt Lake Valley during the summer of 1977. He pointed to the institutional conflicts that prevented the Salt Lake County Water Conservancy District from using water it had traditionally received from the Metropolitan Water District of Salt Lake City. He even went so far as to accuse Bob Hilbert, General Manager of the SLCWCD and President of the CUWCD, of manipulating the water supply to artificially create the need for the CUP.

There had in fact been no collusion between the SLCWCD and the MWD of SLC to cause a water shortage. Salt Lake City Public Works director Charles Wilson had determined that the drought posed a serious risk to Salt Lake City's supplies. As a result he directed the MWD of SLC not to renew the annual contract to sell the SLCWCD water from Deer Creek reservoir as they anticipated there would be no surplus water available that year. Finding itself drastically short on supply, the SLCWCD increased its supply by increasing its groundwater withdrawals from existing wells. It also moved to cut demand by drastically raising water rates to force conservation. The press surrounding these "punitive water bills" led many Salt Lake City residents to voluntarily conserve water resulting in a surplus for MWD of SLC. Thus, Salt Lake City lost revenues from both the decreased water use of its residents and from the sale of the surplus water to the SLCWCD.⁴⁶

While collusion did not exist, the facts do demonstrate the extent of institutional barriers between the complex tapestry of water agencies in the Salt Lake Valley. Van

⁴⁶ Bob Hilbert, Interview with author, May 20, 2004.

Dam also noted in his report that the vast amount of available groundwater was currently unused. While the SLCWCD had secured a large holding of groundwater rights, it had delayed developing the water in favor of supporting the CUP. This was in part a political move, but also one of economics. As the SLCWCD received no federal money to develop its groundwater supply, securing the funds to undertake an extensive groundwater development plan would require a substantial financial burden through bonding that would have been born entirely by the District. Thus, they chose to depend on the promise of CUP water. In addition to unused groundwater, Van Dam noted that a vast amount of irrigation water went unused in the Salt Lake Valley. He argued that improvements and conservation of agricultural supply to municipal supply could meet the needs and that the conversion of agricultural lands to homes would make additional irrigation water available as a municipal supply.⁴⁷

Van Dam raised yet another significant issue, the unconstitutional selection of Water Conservancy District board members by the courts. Van Dam felt this was a violation of the separation of powers clause of the Utah State Constitution. The issue found little traction at the time, but later became an important issue in the ongoing battle against the CUP and in shaping later events leading to the reauthorization and completion of the project.⁴⁸

In the short term nothing much became of either Van Dam's arguments or those of the administration. Through the efforts of the District, the CUWCD Board, Utah's politicians, and additional economic and scientific studies, Congress gave the CUP a stay

⁴⁷ "First Interim Report: Bonneville Unit – CUP Water Alternatives: Water Management." 1-2; "Water Resources of Salt Lake County; An Alternative View." 8-10.

⁴⁸ "Water Resources of Salt Lake County; An Alternative View," 17-18

of execution. But while President Carter's reforms did not make it out of the gate, the strong support that they did receive signaled a changing atmosphere in Congress, shifting away from the previous "pro-development" norm. Dan Beard, the Deputy Assistant Secretary of the Interior during the Carter administration, noted that there had been "a change in membership, with new attitudes and outlooks on the subcommittee. By '78 Congress had a new makeup, perhaps over half elected in '74. These new, post-Watergate members weren't willing to go along."⁴⁹

This shift in attitudes towards reclamation projects continued into the Reagan administration as budget constraints continued to place a damper on large funding increases. Additionally, the Bureau of Reclamation soon admitted that Carter's assessment of the inability to finish the project under current authorized limits was correct. The Bureau and the CUWCD now faced yet another challenge to their beleaguered project. They unsuccessfully attempted to stave off the inevitable, but eventually, the project's critics would get another chance to stop the CUP in Congress. As they did so, the Forest Service, the Utah Division of Fish and Wildlife, the Sierra Club, Trout Unlimited, Audubon Society, National Resource Defense Council, etc. once again raised the same unresolved environmental objections that had been raised when the project started, during the environmental impact studies, the lawsuit over the inadequacy of those studies, by Carter's Hit List, and by local opponents such as Salt Lake County Attorney Paul Van Dam. But this time, the shift in attitudes in Congress would finally start to swing the pendulum to their side.

⁴⁹ Quoted in Miller, 326. Stephen C. Sturgeon has written about this shift in his biography of long time chairman of the House Interior Committee, Wayne Aspinall who environmentalists helped unseat in 1972. See, Sturgeon, 141-145.

III.

FROM LUXURY TO UTILITY

As the new decade dawned, it appeared that the challenges of the 1970s had been largely resolved. Returning rain had mitigated the crisis of a severe, multi-year drought. Water officials expected newly elected President Ronald Reagan to end the political war over Western water projects. While conditions improved on both fronts, the issues that the drought and Carter's "hit list" had raised remained a significant concern for many more years. The drought raised the specter of water shortages as urban growth continued along the Wasatch Front and inflation and cost overruns raised the price tag to complete the remaining features of the Central Utah Project. The Bureau of Reclamation and the Central Utah Water Conservancy District now foresaw a need to raise the project's authorized maximum price limit, also known as the cost ceiling. They faced new political challenges as they attempted to raise the authorized limits, or "cost ceiling."

A first attempt to renegotiate a supplemental repayment contract in 1980-1981 failed. As a result, the Bureau and CUWCD implemented other measures to keep the project under the cost ceiling. As planning and construction continued on key elements, a group of mayors in northern Utah County tried to influence the CUWCD board to change plans for the proposed Jordan Aqueduct running through their communities. As a result of the poor reception they received, they launched a successful effort to change the

appointment of board members, altering the board and bringing a change of management. This management change resulted in dynamic shifts as the District once again pushed forward on a supplemental repayment contract, the construction of the Jordanelle Reservoir, and the reauthorization of the project to increase the cost ceiling in Congress. Resistance in Congress resulted in proposals to dramatically reformulate the Central Utah Project.

Beginning in 1980, the Bureau and the District began negotiating a supplemental repayment contract to increase the District's repayment costs to cover the increases in the Bonneville Municipal and Industrial System. During the summer, the District's legal counsel, Ed Clyde, presented the proposed plan to the Salt Lake City Public Utilities Advisory Committee. The proposal called for an increase of \$516 million which the District anticipated presenting to voters during the summer of 1981. Though the cost was high, members of the Committee unanimously adopted a resolution in favor of supporting the proposed repayment contract. The drought, which climaxed in 1977, raised a specter amongst the political leaders of Salt Lake City. During the 1970s, the housing market had boomed across the Salt Lake Valley. The ensuing drought led to water shortages and rationing which, according to Advisory Committee member and homebuilder Stephen Featherstone, "almost shut down a \$450 million-a-year housing industry in this county."¹

In addition to the support of the Advisory Committee, Salt Lake Mayor Ted Wilson strongly supported the CUP. Wilson realized that if the building continued within Salt Lake City as developers planned, the Salt Lake County Water Conservancy District

¹ Jim Woolf, "Official Planning Final CUP Drive to Expand Dept by \$516 Million," *Salt Lake Tribune*, November 21, 1980; Bob Bernick, "S.L. Utilities advisory board supports new CUP Contract," *Deseret News*, November 20, 1980.

(SLCWCD) would need to be weaned from the city's Deer Creek supply. In the years immediately following 1977, the Metropolitan Water District of Salt Lake City (MWDSL) resumed its lease of surplus Deer Creek water to the SLCWCD. As they did so, the SLCWCD began using more Deer Creek water than Salt Lake City. Even though it possessed the legal right to do so, the mayor realized that if the District became dependent upon the city's supply it would be difficult, if not impossible, to cut the District off. Both agencies recognized the solution was the completion of the Central Utah Project. Development plans for two new projects meant the agencies in Salt Lake Valley needed the water sooner, rather than later.

Developers had announced plans for two huge building projects, the Triad Center and the International Center. As originally conceived, the Triad Center would have occupied a twenty-six acre site west of downtown and contained 4.5 million square feet of office, residential, retail, hotel, historic, entertainment, and recreational space. Plans called for twin 40-story office and residential towers, three 25-story residential condominium towers and a major hotel to be built over a ten year period. The same development company also planned a large commercial park, the International Center directly west of the airport in the Northwest Quadrant. Additionally, developers planned to build thousands of new homes in this same section of the city. If these planned developments came to full fruition, Salt Lake City would need to utilize all of its existing water supplies, including the water being sold to the District.²

Not content to wait out the completion of the CUP as its only option, under the urging of Mayor Ted Wilson, the Salt Lake County Water Conservancy District

² Thomas G. Alexander and James B. Allen, *Mormons and Gentiles: a History of Salt Lake City* (Boulder: Pruett Publishing Company, 1984), 302, 304 and 309-310.

(SLCWCD), Metropolitan Water District of Salt Lake, and Salt Lake Public Utilities began a study of the county's water supply in 1980. The three agencies cooperatively produced the "Salt Lake County Area-Wide Study," a comprehensive countywide study to determine current water use, forecast future needs, and evaluate all potential sources of additional water supply to cover the deficit between future demands and supply.

The report, released in April 1982, evaluated the feasibility and costs of every conceivable new source of water including every possible dam site on the 26 streams that flowed into Salt Lake County, importing additional water, treatment plants, and desalinization plants. Among other important conclusions, the report restated the critical need for the Central Utah Project. The study predicted significant water shortages county-wide by 1990 if no action was taken and the CUP delays continued.³ Also, despite criticism of project opponents that the CUP would be too expensive, the report showed that all of the cheap options had already been developed, and the costs involved in those that were left exceeded the costs of the CUP.

Despite the strong political support for the project, members of the CUWCD Board and its legal counsel knew that there would be opposition. Ed Clyde told the SLC Public Utilities Advisory Committee at the 1980 meeting that, "It's going to be a tough battle. This is the last shot the environmentalists are going to have at the project." Clyde had also reported his belief that California water districts had backed environmental groups to block the CUP. CUWCD Board member Cliff Ashton told the same Committee that government agencies should take steps to prevent employees from using tax supported positions to express their personal negative comments about the project.

³ *Salt Lake Tribune*, April 8, 1982, June 27, 1982.

He specifically singled out Jerry Kinghorn who was Director of Salt Lake County's Division of Water Quality and Water Pollution Control and who had worked with former Salt Lake County Attorney Paul Van Dam on the latter's critical study of the CUP in 1977 and 1978.⁴

During the autumn of 1980, Ed Clyde worked with the Bureau of Reclamation to draft the new supplemental repayment contract. At the District's November 13, 1980 board meeting, Clyde presented the final draft of the contract to the board for its approval. The Board unanimously passed a resolution supporting the contract and favored submitting it under the current Presidential Administration to prevent delays in bringing the new members of the Reagan administration up to speed.⁵ But the plan did not work as hoped.

Assistant Secretary of the Interior, Guy Martin, wrote a scathing review of the supplemental repayment contract. In the memo, Martin called the proposed contract flawed. "As drafted, the contract contains several provisions which are clearly illegal, others that have questionable legal basis, and several provisions which are not fiscally prudent. Moreover, the contract masks costs of hundreds of million of dollars from the clear view of the people who must pay for the project and the taxing public."

Additionally, he labeled the project as environmentally unsound.⁶

CUWCD board members called the move a parting shot of a Carter aide. However, Ed Clyde advised the Board that it would "not be prudent to ignore the

⁴ Jim Woolf, "Official Planning Final CUP Drive to Expand Dept by \$516 Million," *Salt Lake Tribune*, November 21, 1980; CUWCD Board Minutes, January 8, 1981, 4.

⁵ CUWCD Board Minutes, November, 13, 1980, 5-7.

⁶ John Serfustini, "Carter Aide's Parting Shot Scorches CUP," *Salt Lake Tribune* March 10, 1981; CUWCD Board Minutes February 12, 1981, 6-7.

criticisms” and recommended they recall the contract to analyze the concerns raised. Clyde later explained that the reasons for the questionable language and subsequent withdrawal involved uncertainty over the costs to construct Jordanelle. The Bureau had not completed its investigation and plans and did not know the final design or cost of the dam.⁷

Ed Clyde and the staff of the Bureau of Reclamation’s local offices came up with an alternate solution. They invoked the Water Supply Act of 1958 which allowed the Bureau or Army Corp of Engineers to enlarge a proposed water project to store additional municipal water to meet future demand and defer the extra costs associated with the enlargement for a period of ten years. The agencies designated 60,000 acre feet of the 99,000 acre foot anticipated municipal supply for Jordanelle as “future supply.” This exempted two thirds of the Bonneville M&I supply from a repayment contract. Project critics and the General Accounting Office would later question the legality of the use of the Water Supply Act because in the case of Jordanelle Reservoir, the Bureau had not actually changed the plans. The change had been made previous to the execution of the 1965 repayment contract.⁸

The use of the Water Supply Act allowed the project to move forward. The Bureau continued to study the site of and the design for the Jordanelle Dam. They also moved forward with construction and planning to deliver CUP water to the Salt Lake Valley. Work began again on the Jordan Aqueduct. Crews had previously finished the

⁷ CUWCD Board Minutes February 12, 1981, 6-7; Edward W. Clyde, letter to Don A. Christiansen, March 5, 1986, in U.S. Congress, House of Representatives, Committee on Interior and Insular Affairs, *Supplemental Repayment Contract for the Bonneville Unit, Central Utah Project*, 99th Congress, 2nd session (Washington, D.C.:1986, 104.

⁸ Carrie L. Ulrich and R. Terry Holzworth, “Opening the Water Bureaucracy,” in Daniel McCool, ed., *Waters of Zion* (Salt Lake City: University of Utah Press, 1995), 56-58.

first two reaches (or sections) of the aqueduct in January 1974. These reaches (1 and 2) stretched from the Point of the Mountain to 5900 South. Reach 3 would continue to run north from that point and terminate at 2100 South. Contractors finished major construction on this portion of the line in April 1982. As construction moved forward on Reach 3, the Bureau continued planning for Reach 4, which would connect Reach 1 at the Point of the Mountain to the line feeding the Utah Valley Water Purification Plant near the mouth of Provo Canyon. But as the Bureau and the CUWCD moved forward with plans to build Reach 4 of the Jordan Aqueduct, the mayors of the communities through which it would pass mounted serious opposition to the proposal.

Citing concerns that a new aqueduct would cut a 120-foot swath through their communities; the mayors of seven cities in Northern Utah County banded together. They formed the Timpanogos Planning and Water Management Agency (TPA). The Agency's board consisted of the mayors and one city councilman from each of the seven cities served by the Timpanogos Special Service District. The board had elected as its president Alpine Mayor, Don A. Christiansen. They had felt that a better solution would be to combine the new Jordan Aqueduct with the existing Provo Reservoir Canal (Murdock Canal). They proposed the canal be expanded and converted to a box culvert, making it more efficient and safer. Over time they secured the support of the Salt Lake Council of Governments, Salt Lake Mayor Ted Wilson, the Mountainland Association of Governments, and the Utah County Commission.⁹

But the CUWCD Board, citing concerns over capacity, planning and construction delays, and legal issues felt that the best option remained the construction of the Jordan

⁹ *Deseret News*, March 30-31, 1982; *Provo Daily Herald*, April 8, 1982; *Salt Lake Tribune* July 8, 1982.

Aqueduct as planned. The Provo River Water Users Association, which operated the canal, opposed the box culvert plan. The SLCWCD also opposed the TPA proposal as it would further delay the delivery of CUP water and it anticipated using some of the canal capacity in another water exchange to convert irrigation water to a municipal supply.

Unsatisfied by the CUWCD board's response, Christiansen took the TPA's concerns to Governor Matheson and expressed their views about board selection and the representation of their communities on the board. Opponents of the CUP had long claimed that the appointment of water district boards by the state courts was unconstitutional as it violated the principle of separation of powers. Other critics claimed that the practice, in effect, amounted to taxation without representation. The governor agreed and supported a change in the law governing the water districts to allow board members for multi-county Districts to be selected by local county commissioners and appointed by the governor. During the 1983 session of the Utah State Legislature, Senator Roberts introduced Senate Bill 11 to change the law governing water board appointments. Debate on Senate Bill 11 continued and concluded with its passage by a significant margin in both houses. Governor Matheson signed the bill on March 21, 1983.

While the legislation passed, it only changed the way future board members were to be chosen. Only six of the CUWCD's nineteen board members would be replaced that year. Governor Matheson appointed Don Christiansen to the board. Christiansen made one more attempt to persuade the CUWCD to reconsider the construction of Reach 4 of the Jordan Aqueduct and conduct a hearing at its May 1983 Board meeting.

At the hearing, several parties testified in behalf of the TPA, arguing the benefits of incorporating the new aqueduct into the Provo Reservoir Canal. After recessing for lunch, the hearing continued with testimony against the proposal from representatives of the Provo River Water Users Association, MWDSL, and SLCWCD. Following the District's presentation, the CUWCD Board heard testimony from Clifford Barrett, Regional Director of the Bureau, and Ed Clyde, the CUWCD's attorney. A resolution was then written by the CUWCD directors representing Salt Lake County resolving the support of the Jordan Aqueduct as planned. The resolution was read and passed with only two dissenting votes.¹⁰

After the board meeting adjourned, Don Christiansen informed the board that anticipating the outcome of the hearing, the TPA had filed suit earlier in the day charging that court-appointed board members had been unconstitutionally appointed, and they should be replaced following the new process. TPA lost in district court on August 17, 1983 when Judge Kenneth Rigrup ruled in favor of the District. They appealed to the Utah Supreme Court. On October 10, 1984 the Supreme Court ruled in favor of TPA and ordered the removal of all board members who had not been appointed under the new process mandated by the legislature, vacating the seats of six directors: Ross Garrett, Marion Hinckley, James Lee, Joseph Novak, L.Y. Siddoway, and Lynn Winterton.¹¹

The board met the following day for its regularly scheduled monthly meeting. At the meeting, the District's legal counsel noted that the thirteen remaining board members constituted a quorum, but recommended all action be tabled until a full board could be

¹⁰ CUWCD Board Minutes, May 12, 1983, 3-13.

¹¹ Timpanogos Planning Agency v. Central Utah Water Conservancy District; CUWCD Board Minutes, October 11, 1984.

assembled. However, following the meeting the board reconsidered. Many of the board members felt that the significant and pressing business of the board could not be put on hold. The board convened a special meeting on October 23. Because the court had vacated the seat of Board President Ross Garrett and Vice President Marion Hinckley, the board elected new officers. They selected Don Christiansen and Ronald McKee respectively to fill the vacancies. Additionally, the vacancies prompted the board to make new committee assignments.¹²

It quickly became apparent that the new board officers and committee assignments had changed the dynamics of the District. The changes in the Board also prompted other changes in the District's management. Sensing the changes and feeling some pressure from board members who wanted to move faster and further, General Manager Lynn Ludlow announced his retirement in the spring of 1985. The board assembled a search committee to find a replacement. Feeling frustrated by the choice of candidates, several board members encouraged Don Christiansen to throw his hat into the ring. To prevent a conflict of interest in the selection, Christiansen resigned his position on the board.

The entire board met in executive session on April 25 to interview and select a candidate for General Manager. After a lengthy deliberation they selected Don Christiansen as the candidate. At the Board's next regular meeting on May 9th, acting president Ron McKee presented Christiansen as the candidate. David Rasmussen moved that Christiansen be appointed effective the following day. Donald Spencer seconded the

¹² CUWCD Board Minutes, October 23, 1984. By December, the governor had filled the six vacancies on the board. The governor had returned four of the six board members, Ross Garret, James Lee, Joseph Novak, and L.Y. Siddoway. He appointed Glen R Brown to fill the seat of Marion Hinckley and Melvin B. White to fill the seat of Lynn Winterton. The six directors took their seats at the December 21, 1984 meeting. CUWCD Board Minutes, December 21, 1984.

motion. Before McKee called for the vote, Waldo Warnick read a statement against the selection of Christiansen. McKee then called for a vote, and the board selected Christiansen with Warnick, Sterling Jones, and George Holmes voting in the negative.¹³

Following Christiansen's appointment as General Manager, the District continued to move quickly on several important issues for moving the project forward and beginning the delivery of project water. Christiansen worked diligently to move the CUP forward, some would argue at any cost. Immediately he and the District Staff began preparing for the special election to approve a new supplemental repayment contract negotiated during 1984 and 1985. Christiansen also pushed for construction of the Jordanelle Dam, securing more appropriations for the CUP, and played an instrumental role in the negotiations which resulted in the reauthorization of the CUP.

The first challenge Christiansen faced was the supplemental repayment contract. The District's legal counsel, Ed Clyde, the General Manager, and representatives of the Board had been in negotiations with the Bureau over a new repayment contract. After many months of negotiations, both sides finally reached an agreement. Christiansen presented the final draft of the contract to the board at its meeting on July 8, 1985. The contract did not fully replace the original 1965 contract but instead supplemented it. The supplemental repayment contract added an additional \$335 million to the maximum amount that taxpayers within the district agreed to repay towards the municipal supply system of the Bonneville Unit of the CUP. The board passed a resolution endorsing a contract and calling for a special election for voters to approve the contract.¹⁴

¹³ CUWCD Board Minutes, May 9, 1985, 2-3.

Following the final approval of the contract by the Bureau of Reclamation, the Board took up the issue of a special election at its regular meeting on August 12. The Board passed a resolution setting November 19, 1985 as the date for the special election. Leading up to the election the District's board and management appeared before many groups to answer questions and present the need for the supplemental repayment contract. Additionally, a group of influential citizens formed a promotional committee, Water For Utah's Future, chaired by former governor Scott Matheson. The committee solicited donations and paid for advertising and promotion of the favorable adoption of the repayment contract. The contract also enjoyed the official endorsement of Governor Norman Bangerter, the Farm Bureau, the Wasatch Front Regional Council, the Metropolitan Water District of Salt Lake City, the County Commissioners of Salt Lake County, the Timpanogos Planning and Water Management Agency, and the cities of Alpine, American Fork, Highland, Lehi, Pleasant Grove, and Orem.

Despite the wide support, many groups and individuals did not support the project. One of the most outspoken groups battling against the repayment contract was the Provo City Council. The city had been battling the Bureau and CUWCD over the impact of the proposed Jordanelle Reservoir on the city's existing water rights in the Provo River. At its weekly meeting on October 29, 1985 the Provo City Council passed a resolution urging its citizens to vote against the repayment contract. The following week the council approved the expenditure of up to \$5,000 to print copies of the resolution and an explanation of the council's action to be inserted in city utility bills. Additionally, the

¹⁴ CUWCD Board Minutes, July 8, 1965, 3-5.

Provo Council published large ads in several editions of the local newspaper urging a vote against the contract.¹⁵

Other groups and individuals long opposed to the project attempted to piggyback on Provo City's action and launch a campaign against the repayment contract. Journalist Josephine Zimmerman authored numerous articles appearing almost daily in the weeks prior to the vote which highlighted the views of project opponents. But the limited time available prior to the election prevented a well established campaign. Also, they lacked the finances and political clout of the campaign supporting the repayment contract led by former Utah Governor Scott Matheson.¹⁶

The publicity surrounding the special election drew the interest of many. A strong winter storm did not deter a strong turnout at the polls. Despite the deep snow, over 93,000 voters cast votes. This amounted to nineteen percent of the registered voters within the district. Some CUP critics have since complained that this amounted to a poor voter turnout. However, special elections during this time had averaged ten to twelve percent voter turnout. District wide voters approved the contract by a margin of 73%, and carried a majority in favor in 290 of the 307 voting districts. Despite the campaign against the repayment contract by the Provo City Council, 58% of the voters in Provo favored the contract. The measure favored poorly in several of the smaller counties. It failed to pass in Uintah and Wasatch Counties where 70% and 56% opposed the project.

¹⁵ Daily Herald, October 30, 1985; Lisa Mote, "Provo Mails Position on CUP," *Daily Herald*, November 7, 1985. The large ads appeared on November 10, 14, 17, 18, and 19.

¹⁶ Josephine Zimmerman articles in the *Daily Herald* during November 1985 included, "Henson Question 12-County Subsidy for Salt Lake," November 5; "USU Engineer Question SLC Looking Elsewhere for Water," November 5; "Salt Lake Geologist Warns Jordanelle Site Unsafe," November 9; "Ground Water May Yield 5 Times CUP, Cheaper," November 11; "County Civic Groups Sign Resolutions against Contract," November 12; "Orem Businessman Attacks Water Project Blunders," November 14; "Ute Tribal Official Speaks Out about CUP's 'Lack of Fairness,'" November 14.

Additionally, the contract narrowly passed by 52% and 55% in Duchesne and Garfield Counties.¹⁷

During the fall of 1985, as the District board and staff focused their attention on the special election to approve the supplemental repayment contract, it became clear to Don Christiansen and some members of the board that the District needed to take a greater role in moving the CUP forward, and that the public supported the District in this effort. In December, following the successful election, the board's executive committee drafted a strongly worded resolution proposing that the District take a greater role in decisions needed to complete the project. The resolution also called for the expedited and simultaneous construction of both the Bonneville Municipal and Industrial, and Irrigation and Drainage Systems. The board unanimously passed the resolution at its December 12 meeting.¹⁸

Prior to the meeting Christiansen had met with the Assistant Regional Director of the Bureau's Upper Colorado Region, Wes Hirschi, about the resolution. During the conversation, Christiansen informed Hirschi that the District wanted a ground breaking ceremony for the Jordanelle Dam in June or July of 1987. Christiansen later recalled that Hirschi replied, "You know, Don, if you think we are going to build a political dam up there, you're crazy." Christiansen responded, "Wes, if you think you're going to build anything but a political dam up there, you're crazy. We want a groundbreaking within a

¹⁷ Lisa Mote "Voters Approve CUP Repayment by 3-to-1," and "Provo Voters Fail to Support Council Stand," *Daily Herald*, November 20, 1985

¹⁸ CUWCD Board Meeting Minutes, 12 December 1985.

year [from this summer].” “There’s no way,” Hirschi said. Christiansen’s reply was, “Wes, I don’t accept that answer. You think about it and get back to me.”¹⁹

Christiansen recalled that within a few weeks Hirschi had called him with tentative plans that could meet the District’s timetable. The Bureau moved forward formalizing their plans. In October 1986, Bureau officials formally announced to the District’s board and the public that they had a Ten Year Plan to complete construction of the entire Bonneville Unit. Further, these plans called for the expedited construction of the Jordanelle Dam. The Bureau now anticipated the simultaneous excavation of the dam’s foundations and the relocation of U.S. Highway 40, shaving years from the construction schedule.²⁰

At the same time, the District forged ahead in gaining the cooperation of the various interests involved in the Deer Creek- Strawberry exchange. On May 16, 1986 the District sponsored a special ceremony at the Hotel Utah in Salt Lake City. The ceremony included the formal signing ceremony of six different contracts and agreements including the Deer-Creek Strawberry Exchange Agreement. The agreement was signed by the Bureau, MWDSL, CUWCD, and the PRWUA to enact the exchange. At the ceremony, Bureau of Reclamation Commissioner C. Dale Duvall also accepted ceremonial checks marking the beginning of the repayment of the CUP costs. CUWCD Board Chairman Bob Hilbert presented an oversized check in the amount of \$746,580 for the first annual payment for the CUP water and the Jordan Aqueduct. Noal Bateman, Chairman of the Board for SLCWCD, then presented Commissioner Duvall with a check for \$357,000 for the first annual payment of CUP water delivered to the district. The

¹⁹ Oral interview with Don Christiansen, Sept 20, 2005.

²⁰ Ibid; CUWCD Board Meeting Minutes, 9 October 1986.

ceremonies concluded with remarks from Ed Clyde, who then closed a large knife switch opening the valves to make the first CUP water deliveries to Salt Lake County.

While the District worried about securing the new repayment contract and finding a temporary solution to increase the water supplies to the Salt Lake Valley, they had to deal with another shocking revelation. Don Christiansen and the board felt that construction on the project was not moving forward at a pace consistent with the increased appropriations secured by Senator Jake Garn. Christiansen met with Senator Garn to discuss these concerns. Garn's staff led an investigation and discovered that the Bureau had been charging substantial overhead costs toward the project. Further, some funds specifically appropriated toward the CUP had been diverted toward other CRSP projects.

Senator Garn subsequently passed legislation that fixed the overhead at twenty percent. The following year, Garn discovered that the Bureau had found a loop hole and exceeded the limit. He moved quickly, and again passed legislation, this time limiting the total overhead costs to a fixed dollar amount. Many of the CUP's critics would use this revelation against the project and in some respects it complicated the long negotiations to raise the authorized limits on project costs.²¹

Following the 1985 special election, in which voters within the CUWCD approved the new repayment contract by a wide margin, Utah's Congressional Delegation began working on the passage of legislation to increase the congressionally authorized costs.²² Both were required for the project to proceed. It quickly became apparent that the congressional battle to gain reauthorization would become the largest

²¹ Public Law 99-591.

²² Don Christiansen, Oral interview with author March 24, 2004.

hurdle the project would ever face. It began simply. On October 1, 1987 the entire Utah Congressional Delegation, led by Senator Jake Garn, introduced a one page bill to increase the total authorized project cost by \$754 million.²³ But the Democratic leaders of both the House and Senate committees controlling Bureau projects, Senator Bill Bradley (D-NJ) and Congressman George Miller (D-CA), refused to move the bill forward without addressing the environmental concerns and objections of the project's critics.

Many of these concerns had surfaced in President Carter's 1977 "hit list." Journalist Marc Reisner, who served as Communications Director for the National Resource Defense Council during the hit list controversy, wrote a best-selling book, *Cadillac Desert*, published in 1985 which helped reshape opinion in Congress and with the public. Also, Dan Beard, who served as Deputy Assistant Secretary of the Interior for Land and Water for President Carter, now served as the chief legislative aide to California Congressman George Miller. Miller was seeking major reforms for the Bureau of Reclamation.²⁴

Senator Bradley and Congressman Miller had not singled out the CUP for scrutiny. Rather, they had singled out the Bureau as an antiquated agency in desperate need of reform. Neither of them would allow out of their subcommittees any reclamation bill that did not address their environmental and economic concerns. Thus, the blockage of Senator Garn's bill cannot be seen as a partisan move either. In fact, both Senator Bradley and Congressman Miller worked openly with Utah's Republican-dominated

²³ Senator Garn introduced S. 1737 and Utah's three Congressmen introduced H.R. 3408.

²⁴ Later, as Bureau Commissioner during the Clinton Administration, Beard would lead the charge to divert its mission away from large-scale construction projects to environmentally and economically sound water management.

Congressional Delegation to draft reauthorization legislation because it provided an opportunity to reform the Bureau in the process.²⁵

Determined to keep the project alive, the entire Utah delegation continued to work on the reauthorization of the CUP. Congressman Wayne Owens, a Democrat representing the Salt Lake City area, served as a majority member of the House Subcommittee on Water and Power Resources. Because of his assignment, and because he was the only Democrat from Utah serving in Congress, Owens took the lead in the effort to draft new legislation that met the demands of Chairman Miller. In February 1988, Owens began spending a great deal of time developing a plan that would address the fiscal and environmental concerns. It was a daunting task, but one Owens accepted with enthusiasm. If he found success, he could earn a great deal of political capital in Utah. But more important, Owens felt strongly about the environmental damage the project had caused in Utah.²⁶

The environmental groups' concerns remained the same as they had been since the beginning of the project. Their objections echoed those cited in the 1974 lawsuit and Carter's Hit List. These centered primarily on the impacts of the project on stream flows and on Utah Lake. First, the Strawberry Aqueduct and Collection System as planned would divert the entire stream flows of twenty-three streams and rivers in the Uintah Basin. In other words, it would dry up 245 miles of streams. Wildlife specialists estimated that 78 percent of the fish population in the streams would be lost.

²⁵ Don Christiansen; Jake Garn; Thomas Melling, "Dispute Resolution within Legislative Institutions," *Stanford Law Review* 46 (1993): 1693.

²⁶ See written statement of Wayne Owens at the May 4, 1988 hearing in *Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project*, 422-424.

Recognizing the damage the project would cause, Governor Calvin Rampton supported a compromise resolution between the Utah Power and Water Board and the Utah State Department of Fish and Game in April 1965 (See Chapter 2). The twenty-six-point resolution set a minimum stream flow of 6,500 acre feet. The CUWCD adopted the resolution in May 1965. Recognizing the 6,500 acre feet as insufficient, Governor Scott Matheson followed acted on complaints aired by the Forest Service, State Division of Wildlife Resources, and the projects critics during the drafting the of Environmental Statement, the subsequent lawsuit, and Carter’s “Hit List.” Matheson successfully negotiated with the Bureau and CUWCD which agreed in February 1980 to increase the minimum. Wildlife biologists felt that at least 44,000 acre feet would be needed to maintain 50 percent of the fish population. The agreement guaranteed flows at these levels until the project went into full operation, then anticipated to be 1993. In 1987, because of the ongoing delays the Bureau and CUWCD agreed to extend the guarantee until 2000. Owens now wanted the Bureau to make the 44,000 acre feet for minimum flows permanent.²⁷

While Owens lobbied for increased minimum stream flows, he also sought to set maximums on other rivers. Several streams saw increased flows because of the diversion of water into them. For example, the Strawberry Tunnel emptied directly into Sixth Water Creek and Diamond Fork Creek. During the peak irrigation season, the flows in the creeks were ten times the normal flows. A large amount of water in a narrow streambed caused erosion of the stream banks, scouring of the stream bed, and washed

²⁷ U.S. Bureau of Reclamation, *Central Utah Project, Bonneville Unit, Supplemental Definite Plan Report, 1988*, (Salt Lake: Upper Colorado Region, U.S. Bureau of Reclamation, 1988), 74, 138; Tom Melling, “The CUP Holds the Solution: Utah’s Hybrid Alternative to Water Markets,” *Journal of Energy, Natural Resources, and Environmental Law* 13 (1993): 186.

cottonwood saplings from the banks of the river. Because the saplings did not survive the irrigation season, the trees did not replenish themselves, and much of the cottonwood forests along these creeks have died away.²⁸

Owens, along with environmental groups, also expressed concern over a similar situation in the Provo River, particularly between Deer Creek Dam and the Olmstead Diversion near Upper Falls. Water bound for the Salt Lake Valley from both the yet unbuilt Jordanelle Reservoir and Deer Creek Reservoir would be conveyed in the Provo to the beginning of the Jordan Aqueduct at Olmstead Diversion.²⁹

But the loss of water did not just impact fish; it meant the loss of the entire river ecosystem, and adjacent riparian habitat. In addition to the habitat lost to diverted streams, further riparian and wetlands habitat would be lost under the dams and reservoirs built by the project. The loss of habitat would impact both game animals and endangered species. The diversion of water from Utah Lake also posed a threat of increasing the salinity level in the lake to levels beyond the toleration of its native plants and animals. Specifically, environmentalists and wildlife advocates worried about the impact on the June Sucker in the Utah Lake, recently listed on the Endangered Species List.³⁰

Additionally, the environmental groups brought a new concern; the Bureau had done little to mitigate the damage caused by the completed project features. Instead, they planned to wait until the entire project was completed to begin. During the many hours spent preparing plans, crunching numbers, and investigating, Owens discovered that of

²⁸ Michael Weland, interview with author, May 14, 2004.

²⁹ "River Proposals Upsets Officials," *Provo Daily Herald*, October 31, 1989.

³⁰ "Water Official Warns Salinity Will Increase in Utah Lake," *Salt Lake Tribune*, November 1, 1989.

the \$1.2 billion that had been spent on the project, only \$10 million had been spent on direct repairs of the environmental, fish, and wildlife damages caused by the project. To environmentalists' eyes this amounted to gross negligence. The Bureau's past performance of high overhead costs further fueled concerns and led to calls that oversight of environmental mitigation be given to a new agency.³¹

Additionally, Owens had come to terms with the economically unjustified irrigation component of the project. Opponents in Congress and the environmental groups wanted it cut, but the District insisted that it be kept intact. To be successful, he needed to find a solution to both of these issues, and he needed help. Owens found help readily available. He asked the CUWCD to prepare alternative plans for the irrigation project, including cutting some components and possibly privately financing the project by issuing bonds to cover the construction of the irrigation canals and repaying the bonds by selling the rights to the production of electrical power planned in the Diamond Fork System. Additionally, the District agreed to streamline the project and drop several features that had questionable cost-benefit ratios.³²

Congressman Owens also turned to the environmental community to determine priorities and propose solutions for the needed mitigation of the project's adverse effects on the environment. Owens worked with these groups through March and into April of 1988 as they drafted a new reauthorization bill as a substitute for the bill introduced in October. Chairman Miller scheduled a hearing in Salt Lake City to gather comment on

³¹ See written statement of Wayne Owens from the April 18, 1988 hearing in *Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project*, 34-41.

³² *Ibid.* 422-426, 40.

the draft and further comments from all interested parties. Owens continued to work on the draft, making changes right up to the day prior to the hearing.³³

Chairman Miller opened the hearing on the rainy Monday morning of April 18, 1988, in the auditorium of the State Capitol. The entire Utah Congressional Delegation sat prepared to make comments. Governor Norman Bangerter waited in the audience to follow the delegation's remarks, topping a long list of politicians, water officials, environmental leaders, and concerned citizens waiting their turn to speak.³⁴

Owens' substitute bill contained two provisions that quickly divided the group in the auditorium. The first proposal was the mandated increase of in-stream flows in the rivers, creeks, and streams intercepted by the Strawberry Aqueduct.³⁵ The second was a proposal for an independent federal commission to oversee the fish and wildlife mitigation projects that the Bureau had neglected. Under the first draft of Owens' bill the commission's powers would have included oversight over the CUWCD. However, Don Christiansen and Bob Hilbert, Board Chairman, had convinced Owens to restrict the commission to environmental oversight. But even this limited proposal drew the opposition of every other member of the Congressional Delegation, the governor, and numerous others. The hearings lasted over ten hours and heard hundreds of witnesses.³⁶

³³ Ibid.

³⁴ *Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project*, 1, iii-iv.

³⁵ The original plan for the CUP had completely dewatered twenty-three different streams and rivers. That is, all of the water would be diverted into the Strawberry Reservoir through a series of pipelines and tunnels called the Strawberry Aqueduct and Collection System. In 1980 the Bureau had signed an agreement allowing 22,000 acre feet to stay in the streams. Section eight of Owens' bill called for doubling the amount to 44,000 acre feet.

³⁶ Steve Fidel, "CUP Officials get Owens to Drop Idea of Federal Overseers," *Deseret News*, April 8, 1988. Testimony of Wayne Owens, "Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project," 421.

A few weeks later, on May 4, 1988 the House Subcommittee reconvened in Washington D.C to hold another hearing. The meeting heard additional testimony, including representatives from state and national environmental interest groups. These groups applauded the efforts of Wayne Owens and the Utah Delegation to improve the bill. They particularly appreciated the codification of instream flows and the proposed mitigation commission. However, many of the speakers felt that the legislation did not go far enough. Of specific concern, they wanted the inclusion of a stronger conservation program, and a wildlife refuge on Utah Lake and continued to raise concerns over the Bonneville Unit Irrigation and Drainage System.³⁷

However, representatives of public power interests raised concerns over Owens' proposals at the hearing. They disagreed over the use of CRSP power revenues to fund the mitigation commission and mitigation efforts solely within Utah. Further, they objected to the proposals to allow private development of the Diamond Fork Power System and to proposed studies of power generation at CRSP dams, particularly Glen Canyon. Owens' bill had included funding for a National Academy of Sciences study into the practice of generating power during periods of peak demand. The practice had significantly disrupted riparian habitats in the Grand Canyon. Power interests worried that the study would result in limitation placed on power generation, severely cutting power revenues.³⁸

The drastic proposals in Owens' bill led to a heated debate among the Utah Congressional Delegation. Feeling that Owens had gone too far, Senator Garn introduced

³⁷ Testimony of Kenly Brunsdale, Lynn Greenwalt, Ed Pembleton, and David Conrad. "Proposals to Raise the Authorized Cost Ceiling of the Colorado River Storage Project," 449-504

³⁸ Testimony of Deborah Silz, Thaine Michie, and Ken Holum, "Proposals to Increase the Authorized Cost Ceiling of the Colorado River Storage Project," 504-555.

his own version of a substitute bill to the Senate subcommittee on Water and Power at a hearing on June 9, 1988 to discuss his original bill introduced the previous October. Garn's proposal mirrored Owens' with a few significant exceptions. The Senator kept proposals for non-federal funding of the irrigation features of the Bonneville Unit through bonding by the CUWCD. However, he removed the provisions for repayment from private power development of the Diamond Fork Power System. Instead, the irrigation features would be paid by the CRSP revenues.³⁹

The bill also deleted the sections that Garn found the most objectionable, particularly the proposed mitigation commission. Garn agreed to a commission to carry out the Bureau's proposals for mitigation; however he did not continue the commission past the completion of the project or fund it through \$15 million in power revenues a year. The bill also included the transfer of surface rights on over 60,000 acres of land in the Strawberry Valley from the Strawberry Water Users Association to the Forest Service. While Senator Garn objected to a bird refuge on Provo Bay, he did support a refuge at Goshen Bay and Benjamin Slough. However, his legislation provided that the land be obtained on a willing seller basis, rather than condemnation and would not restrict current farming practices or state water rights.⁴⁰

The difference between Owens' and Garn's vision for the mitigation commission proved to be a major sticking point. As the House subcommittee moved forward with its meetings on Owens' bill in June and July, the split between the Utah Delegation

³⁹ Testimony of Jake Garn, U.S. Senate, Committee on Energy and Natural Resources, Subcommittee on Water and Power, "Miscellaneous Water Resource Measures," Senate Hearing 100-877 (Washington D.C., GPO, 1988), 17-27; Gordon Elliot White, "Garn Proposes Bill to Reauthorize Bonneville Unit," *Deseret News*, June 9, 1988.

⁴⁰ Ibid.

frustrated house leaders. As the debate continued, the Republican members of the Utah Delegation met in a closed door meeting on July 7. Third District Congressman Howard Nielson began expressing his displeasure over the Owens bill and argued for his version of the bill. Congressman Nielson approached Chairman George Miller to consider yet another version of a reauthorization bill at his subcommittee meeting on July 14. Nielson “angrily opposed” the bird refuge at Utah Lake. Additionally, he fought the elimination of irrigation projects in the Uinta Basin and the non-traditional funding proposals for the Bonneville Unit Irrigation System.⁴¹

As the subcommittee met on June 14, 1988, Owens succeeded in pushing through his version of the bill. Despite almost two months of daily meetings between Garn’s and Owens’ legislative aides over a period of two months, they had failed to agree on a final version. The split between the Congressional Delegation, and the continued concerns of environmental and public power groups over provisions in all three versions of the bill posed a serious threat to its passage. Even though Owens had gotten his version of the bill out of the subcommittee, the Chairman of the House Committee on Interior and Insular Affairs, Morris Udall, refused to allow the bill to move out of the committee without unanimous backing of the entire five-member delegation.⁴²

After the subcommittee meeting, the rift between the delegation widened. Congressmen Wayne Owens and Howard Nielson blamed each other for the rift, citing the other’s failure to compromise. A few days after the meeting, Nielson railed against Owens at a CUWCD board meeting. The political rift had also stirred emotions with

⁴¹ Gordon Elliot White, “Nielson Presses His GOP Colleagues for Backing on CUP Reauthorization,” *Desert News*, July 8, 1988; “Owens Alters CUP Stance, Deletes Some Amendments to Appease Utah Colleagues,” *Deseret News*, July 14, 1988.

⁴² Gordon Elliot White, “Owens Alters Stance....”

CUWCD Board Members unhappy with projects planned for their areas being the political football tossed around the Utah Delegation. Some had even threatened to call for General Manager Don Christiansen's resignation for the lack of progress he had made with the legislation.⁴³

But Owens felt that Nielson was the one being unrealistic in his expectations, a fact that Senator Garn even admitted at the Board Meeting, noting that Nielson could not get enough votes to hope to retain traditional financing for irrigation features. George Miller told Owens in a July 14 letter that he found Nielson's bill, calling for traditional financing for irrigation features "fundamentally flawed", making the bill "impossible to enact."⁴⁴

But obtaining non-traditional funding also proved to be impossible for the delegation. Public power officials met in Salt Lake City on August 3 to discuss a possible compromise and support of the reauthorization of the CUP. Representatives from the Colorado River Electrical Distribution Association refused to present a formula to calculate how much it would allow to be spent in each of the four upper basin states. However, they failed to agree on the specific details of the plan, or to offer any support for the reauthorization. Additionally, some Utah legislative aides questioned the legality of some of the plan's proposals.⁴⁵

⁴³ Steve Fidel, "Nielson Blames Owens' 'Tricks' for Rift in Utah Delegation Over CUP," *Deseret News*, July 20, 1988; CUWCD Board Minutes, July 19, 1988, 2-5. Lee Davidson, "Was Helping Cup, Not Thwarting It, Owens Says," *Deseret News*, July 21, 1988.

⁴⁴ Fidel, "Nielson Blames Owens' 'Tricks' for Rift in Utah Delegation Over CUP."

⁴⁵ Gordon Elliot White, "Colorado Basin States Tackle CUP Compromise," *Deseret News*, August 3, 1988; Lisa Riley Roche and Gordon Elliot White "Cup Gets Static From Power Officials in Negotiating Session," *Deseret News*, August 4, 1988; Gordon Elliot White, "Utah Delegation Vents Anger at Failure of Meeting on CUP," *Deseret News*, August 5, 1988.

As the deadline set by Chairman Udall approached, the public power interests and the Utah Delegation agreed to move forward on a stop gap measure to keep the project moving. At the Committee of Interior and Insular Affairs meeting on August 10, 1988, the committee agreed to increase the authorized limit by \$45.4 million to allow the construction of Jordanelle to continue through fiscal year 1990. The bill also prohibited the increased funds to be spent on the Bonneville I&D system, and mandated that the funds budgeted for fish and wildlife mitigation could not be redirected to other project purposes.⁴⁶

On September 13, the committee reported the bill to the House, which passed the measure on a voice vote. The Senate took up the amended legislation on September 30. Senator Garn introduced an amendment to the bill which resolved the long-standing issue over control of the Strawberry Project Lands around the Strawberry Reservoir. Garn proposed a transfer of control over these 56, 775 acres from the Strawberry Water Users Association to the U.S. Forest Service, a move that had long been sought by the Forest Service and environmental and outdoor interests. Congressman Nielson and Senator Garn had worked for two years with the SWUA over the details of the transfer. To compensate for the lost revenues from grazing and recreation rights to the land, the SWUA received \$18 million. The amendment also included an additional \$3 million for the Forest Service to rehabilitate the grazing lands.⁴⁷

⁴⁶ House of Representatives, Committee on Interior and Insular Affairs, "Increasing the Amounts Authorized for the Colorado River Storage Project." Sept 13, 1988. Report 100-915, Report to accompany HR 3408 (Washington D.C.: GPO, 1988), 1-3. Gordon Elliot White, "House Panel Lifts CUP Ceiling By Only \$45 Million," *Deseret News*, August 10, 1988.

⁴⁷ Senate Amendment 3317. Also, Lee Davidson, "Senate Approves \$62 Million in Stop-Gap Funds for CUP," *Deseret News*, October 1, 1988.

Through the early part of October, the bill bounced between the House and Senate as the House agreed to Garn's amendment and turned the bill into a pack-horse to move other bills out of congress. It finally passed the Senate on October 11 and the House on October 12, 1988. President Ronald Reagan signed the bill on October 31, 1988.⁴⁸ The President's signature marked an important event, but in many ways was a disappointment for Utah's Congressional Delegation and state and local officials. The Bill allowed construction on the CUP to continue. Failure to pass the stop gap measure would have resulted in disruption of construction contracts, delays, cost increases, and subjected the project to increased interest rates. However, it was not what Owens, Garn, Nielson, Hatch and Hansen had hoped for. Despite their efforts, combined with the efforts of the CUWCD, the state, and a coalition of local and national interest groups, a compromise had not been reached. Undaunted, Utah's Congressional Delegation vowed to try again the following year to tackle the touchy issues and find a compromise.⁴⁹

⁴⁸ The bill became Public Law 100-563. "Senate Bat CUP Bill back to House," *Deseret News* October 12, 1988; "Regan Signs Legislation for More CUP Funds," *Deseret News*, November 1, 1988.

⁴⁹ Gordon Elliot White, "CUP Will be Top Priority for Utah's 5 Congressmen," *Deseret News*, December 31, 1988.

IV.

GETTING THE CHEVY OFF THE DRAWING BOARD

For the five members of the Utah Congressional Delegation, and for the General Manager of the Central Utah Water Conservancy District, a year of negotiation and debate had resulted in what amounted to an emergency relief package. The bill kept the Central Utah Project on life support, but did not result in proposals that the Delegation could unanimously endorse. This proved to be the biggest roadblock for any progress as the Chairman of the House Committee on Interior and Insular Affairs had mandated consensus among the delegation before the bill would advance from his committee. Following the passage of the one time increase, the Utah delegation and others involved with the project attempted to move forward. They not only faced disagreements amongst themselves, but increased criticism from local and national environmental, outdoors, and other interest groups. Controversy over the Jordanelle Dam, water rights of the Northern Ute Tribe, expensive irrigation projects, and increased power rates all worked to dam progress on the reauthorization legislation. As the group reached a consensus, the project became connected with other proposed reforms of other Bureau of Reclamation Projects. This resulted in additional delay.

As the year began, staff members of the Utah Congressmen, CUWCD General Manager Don Christiansen, and CUWCD Washington Counsel Marcus Faust began

negotiating a new consensus bill. Rather than airing their complaints and disagreements in the press, they agreed to meet in private to work out their differences. As a result most of the press surrounding the project turned negative as various interest groups began campaigning against the projects.

At the forefront of the controversy was the ongoing construction of the Jordanelle Dam. The Bureau had encountered strong opposition from environmental groups over the dam and its effect on the environment. They joined forces with mine operators in Park City who feared the reservoir would flood their mines. Citizens in the Heber Valley and in Provo feared that a dam break, similar to that of the Teton Dam, would cause massive devastation to their communities. Their fears were flamed by Leon Hansen, an independent geologist employed by the mining companies, who believed the dam site rested on an active earthquake fault. Additionally, officials in Provo and Utah County worried that the Bureau could not fill the massive reservoir without stealing their water rights.

The claims of Leon Hansen that a major earthquake fault ran through the site generated considerable public concern. These claims prompted the Bureau of Reclamation to undertake additional geological studies at the dam site. This work involved the drilling of hundreds of test holes to determine the stability of the dam's foundations. The Bureau published their results in a twenty-volume geology report in 1986. This was the Bureau's fourth major study of the site since 1979, and each found no evidence of a major fault. Additionally, the Bureau referred the findings of the report to a panel of three independent, internationally recognized geologists for review. The three

independent panelists and the Congressional investigation each independently declared the dam site geologically sound.¹⁵⁷

Initial construction at the site began in 1986 when crews began preparing the site and rerouting US 40 around the reservoir area. In January 1987 the Bureau began the bidding Process on Stage 1 construction of the dam, excavation and preparation of the Dam's foundation. In the spring of that year, the Bureau completed the final draft of the environmental impact statement for the Dam and received final EPA approval on March 16. The Bureau and District began making preparations for the groundbreaking ceremony scheduled for June 27.¹⁵⁸ The event climaxed as the crowd watched Senator Jake Garn push down the plunger of an old-time mining detonator, setting off a blast to mark the groundbreaking.¹⁵⁹

The contractor excavating the foundation for the dam, Torno America, pressed forward during 1988. The Bureau chose to wait until the contractor had completely excavated the foundation before making a decision regarding final design. Following inspection in July of the excavated foundation, three independent consultants agreed that an earth embankment dam would be the best design. By November they finished the \$13 million excavation. The Bureau then began the process of placing the contract for Stage 2, the construction of the dam.

As the Bureau worked towards the completion of the Jordanelle Dam, the CUWCD moved forward with plans to buy water in Utah Lake to help fill Jordanelle.

¹⁵⁷ CUWCD Board Meeting Minutes, January 8, 1987; Oral Interview with Barry Wirth.

¹⁵⁸ CUWCD Board Meeting Minutes, January 8, 1987, May 14, 1987.

¹⁵⁹ Oral Interviews, Don Christiansen; Jake Garn; Barry Wirth. "Jordanelle Groundbreaking Ceremony Highlights," VHS Tape, Bureau of Reclamation.

The move was necessary as the District and Bureau had recently scrapped plans to build the controversial dikes across Provo and Goshen Bay on Utah Lake. A study by the State Division of Natural Resources, at the behest of Governor Scott Matheson had recommended against the plan. They noted that the diking of Provo Bay and its reclamation as farmland generated no net water savings. In addition to the loss of wetlands habitat, the bay performed an important function in the treatment of effluents released from three water treatment plants which ringed the bay. The Bureau plan would have combined the three streams flowing into the bay, concentrating the phosphate and nitrate laden water. These nutrients would have led to increased algae problems affecting the entire lake. Installing equipment to further treat the waste water would have proven extremely costly.¹⁶⁰

As a result of the plans to drop the dikes, the Bureau could no longer depend upon evaporation savings to meet the full demands of the Provo River exchange and allow Jordanelle to function as planned. As a result, the CUWCD began buying water rights from agricultural and industrial interests in Salt Lake County. This move sparked a controversy with Provo Metropolitan Water District. On August 9, 1988 the District approved the purchase of 25,000 acre feet from Salt Lake City in addition to the 60,000 acre feet previously purchased from Kennecott. The purchases concerned both environmentalists and officials in Provo. They worried that the exchange would severely diminish the flows in the lower Provo River as the District held water back in Jordanelle, and subsequently diverted it to municipal users. Further, Provo water officials believed

¹⁶⁰ U.S. Department of Interior, Bureau of Reclamation, "1988 Supplement to Definite Plan Report" (Salt Lake City: U.S. Bureau of Reclamation, Upper Colorado Region, 1988), 43-44. Utah. Utah Department of Natural Resources, *State Review, Bonneville Unit, Central Utah Project*. Final report (Salt Lake City: Utah Natural Resources, 1984), 124-128.

that the Bureau and District would also steal water to which Provo held rights. They believed that there was not enough water to satisfy Provo's rights and fill the reservoir. The situation led Wayne Hillier, director of the Metropolitan Water District of Provo to state about the Jordanelle Reservoir, "It won't stay dry, but it sure as hell will stay low," adding that officials should have stuck with original plans to construct only a 60,000-acre-foot reservoir.¹⁶¹

District and Bureau officials believed that there was enough water to fulfill Provo's rights and fill the reservoir. They worked with Provo Officials toward an agreement. However, by March 1989 Utah County Commissioner Brent Morris and Provo Mayor Joe Jenkins began to doubt the agreements and called the entire CUP a liability. They organized a meeting with Governor Bangerter, and other officials on April 3. In addition to the continued worry of the ability of the BOR to fill the reservoir without impinging upon Provo's rights, they also now feared the plan would increase the salinity in Utah Lake, harm fish habitat, and impede groundwater recharge.¹⁶² The dissent also offered longtime opponent Leon Hansen an audience. Hansen spoke before officials and continued to maintain that the site was unsafe. Now he also stated that the reservoir would sit atop additional ore deposits that could be worked by the Park City mining companies who employed him.¹⁶³

A few days later at a Senate hearing on the CUP, Senator Garn called on the Utah County officials to work towards a solution, rather than raise dissent. Garn added, "I am sorry to be so harsh . . . but they don't need to threaten, they don't need to intimidate, they

¹⁶¹ *Deseret News*, August 10, 1988.

¹⁶² *Deseret News*, March 14, 29 and April 4, 1989.

¹⁶³ *Deseret News*, April 8, 1989.

don't need to hold public hearings. . . All they have to do is make a phone call, and the Senate will make sure they get what they are legally entitled to. . . I haven't spent 21 years of my life to see this project go down the drain over the kind of bickering that is going on." Garn, Governor Norman Bangerter, and others expressed concern that the dissent could be used by the project's opponents to block funding in Congress.¹⁶⁴

Also, Governor Bangerter sent a letter to Utah County officials stating "With respect to the issue of Jordanelle Reservoir, we remain united in the conviction that this important water-storage reservoir . . . must be completed as planned. The reservoir can and will be filled with water in such a manner that all water-right holders along the Provo River will remain protected." The letter concluded, "We believe that it is vitally important that we Utahns work together to resolve differences which may arise concerning the project."¹⁶⁵

As Utah County Officials began to openly complain, Congressman Wayne Owens used the criticism to float alternative ideas to the controversial Bonneville Irrigation System. He proposed evaluations of a tunnel to take the water from Strawberry to the Provo River near Wallsburg. As an alternative option, he proposed an aqueduct between Spanish Fork and Provo Canyons to take some or all of the Irrigation water promised to central Utah irrigators north to Salt Lake County, a plan supported by Brent Morris and opposed by the irrigators and Utah Farm Bureau.¹⁶⁶

Amid the controversy generated by Brent Morris and others, the District held its Annual meeting and elected new officers on April 13. Due to political pressure and

¹⁶⁴ *Deseret News*, April, 4; April 6, 1989.

¹⁶⁵ *Deseret News*, April 25, 1989.

¹⁶⁶ *Deseret News*, April 8; April 12; and April 23, 1989.

health concerns, Bob Hilbert had announced his retirement as General Manager of the Salt Lake County Water Conservancy District and did not seek reelection as the CUWCD board chair. He also felt that some of the current controversy with Utah County could be alleviated if the Board Chairman came from an area other than Salt Lake County. The board elected Ross Garrett, representing Juab County, as the Board Chairman and Leo Brady, representing Duchesne County, as vice-chair.¹⁶⁷

All throughout the spring CUWCD representatives, staff from the Utah Delegation, and public power interests had been quietly meeting to reach a compromise on the non-federal funding plan for the Bonneville Irrigation and Drainage System. On March 30 they announced a tentative agreement which called for a fund to benefit all four states of the Upper Basin. The plan included a graduated increase in power rates by a total of six mills to generate \$2.64 billion over the 40 years of the contract. Additionally, they set aside a half mill increase to fund environmental mitigation projects in the entire basin.¹⁶⁸ However, as the members of the Colorado River Electrical Delivery Association met a month later to consider the proposal, the objections of a single member, Tri-State Generation based in Denver, effectively killed the deal and sent the Utah delegation back to square one.¹⁶⁹

As the CUWCD recuperated from the disappointment, the bad publicity from Utah County interests kept coming. The change in chairmanship at the CUWCD in April had done little to defuse the tensions with Provo and Commissioner Morris. In May and June Morris called additional meetings in an attempt to draw more public opposition to

¹⁶⁷ CUWCD Board meeting minutes April 13, 1989; *Deseret News* April 14, 1989.

¹⁶⁸ *Deseret News*, March 30, 1989.

¹⁶⁹ *Deseret News*, May 6, 1989.

the project, including a symposium at BYU in June. At the meetings, he focused on the potential environmental impacts to the flow in the lower Provo River in an attempt to draw more support from the public in his opposition. However, Morris soon lost a political ally. In July, Provo City Mayor Joe Jenkins negotiated a deal with Don Christiansen to not move forward with threatened litigation until the state engineer completed his adjudication of water rights on the river. Further, he agreed that the city would store excess flows in the reservoir.¹⁷⁰

But as the CUWCD extinguished the flames of one controversy, another firestorm erupted. In June, members of the Utah Delegation discovered an oversight in the one year extension they had passed the previous October. They had mandated \$34.1 million worth of work, but only authorized \$28 million in funds. The oversight now caused a major battle as Congressmen Nielson and Owens took verbal swings at each other on the House Floor. The language of Senator Garn's amendment concerning the Strawberry lands mandated that the land deal receive the first funds. Congressman Owens however had insisted that environmental mitigation proceed concurrently with the other expenditures. The budget oversight brought these two stipulations into conflict. Owens and Nielson each accused the other of breaking the commitments made in October.¹⁷¹

During the debate over the energy and water appropriations bill, Owens succeeded in amending the bill to place the funds for environmental mitigation ahead of the Strawberry land deal. The move angered Senator Garn who returned from arms control talks in Geneva, Switzerland to find out about the changes. Garn felt that the solution should have been to increase the funding for the CUP in the appropriation bill,

¹⁷⁰ *Deseret News* July 6, 1989.

¹⁷¹ *Deseret News* June 28 and June 29, 1989.

something he could do easily through his position on the Senate Appropriations Committee. Garn succeeded in doing this later that fall.¹⁷²

The disagreement threw the debate between delegation members back onto the front page of Utah newspapers. It also demonstrated the continued lack of consensus to the committee chairmen, George Miller and Bill Bradley, keeping the CUP bill from advancing. But the Strawberry lands deal itself further angered Miller and Bradley a few months later when a General Accounting Office report sharply criticized the deal. The report argued that the Strawberry Water Users had been overpaid for land the federal government already owned, and for lost rights it had already compensated the water users for in a previous settlement. Further, it found that the water users had not been forced to pay for the damage that the mismanagement and overgrazing had caused. As a result, both Miller and Bradley vowed to scrutinize every detail of any future CUP legislation.¹⁷³

In the midst of this controversy, the CUWCD initiated efforts to defuse the local environmental opposition. On July 13 the District's Board approved a cooperative study of salinity of Utah Lake.¹⁷⁴ Later that fall the board commissioned Dan Jones and Associates conduct a public opinion survey of Utah County residents. At the September board meeting, Dan Jones reported to the board that despite the very vocal complaints of Commissioner Morris and others, the majority of Utah County residents, 67%, still supported the CUP. Within days of announcing the results of the poll, and Senator Bradley's calls for closer scrutiny of the CUP, a consortium of environmental and sporting groups opposed to the project fired back with calls for further review of

¹⁷² *Deseret News*, July 13, 1989.

¹⁷³ *Deseret News*, September 13 and September 15, 1989.

¹⁷⁴ CUWCD Board meeting Minutes, July 13, 1989; *Deseret News*, July 14, 1989.

Jordanelle and the CUP. At the same time, they released a document outlining their concerns and complaints. They had begun working on the document after the symposium held at BYU the previous June¹⁷⁵

The following day Congressman Owens called for a hearing in the House Subcommittee on Water, Power, and Offshore Energy. Chairman Miller scheduled the hearing for October 19. The Utah Delegation had been meeting in closed door meetings since mid July when Garn returned from his trip to Switzerland to find the delegation publicly feuding. They reported that they had reached a compromise on ninety percent of the bill. Owens now felt that with the recent attention drawn to the environmental programs that remained in dispute, he could force the issue forward by setting a deadline to meet.¹⁷⁶

During the intervening weeks, although the delegation continued to meet weekly, they could not resolve the final points of dispute. Complicating matters further, members of the Ute Business Council traveled to meet with the delegation to petition for a settlement of their water rights claims. The tribe had ratified a 1980 pact with the State of Utah by a required vote of 70% the previous April. However, before Congress could ratify the pact, three “dissident” Utes upset over the pact challenged the incumbent members of the Tribal Business Council and won the April 18, 1989 election. They subsequently cancelled support for the pact. Congressman Nielson’s legislation that sought compensation for the tribe stalled as a result.¹⁷⁷

¹⁷⁵*Deseret News*, September 16 and September 19, 1989.

¹⁷⁶*Deseret News*, July 21, September 20, and September 21, 1989.

¹⁷⁷*Deseret News*, April 7, April 19, and October 4, 1988.

As Utah's Congressmen continued to work through the remaining issues, they made some headway. They agreed to drop a mandate for a bird refuge on Utah Lake. But they still remained apart on the priority of instream flows or municipal use during drought. Finally, they agreed to disagree on the remaining points and to leave them out of the initial version of the bill. They could then report that they had reached a consensus and satisfied the conditions of the committee chairman for the bill to proceed. With a procedure in place, the congressmen's staff began working on the final wording of the bill.¹⁷⁸

The Delegation announced they had reached a consensus on the text of the Bill on Friday, November 17. The statement generated favorable, and--from the delegation's viewpoint—needed publicity. To buoy support for the project and counteract the negative press of the project's opponents, Governor Bangerter (R) and former governors Calvin Rampton (D) and Scott Matheson (D) joined together a month earlier at a press conference on the steps of the State Capitol building on October 18. Former Governor Rampton proclaimed, "If we're to live here, we've got to bring the water from where it is to where it is needed." Governor Matheson echoed, "We're investing in our own future. It's a perfect example how to invest in the bright future of Utah. We must all rally around this project and see it to its completion."¹⁷⁹

Despite the strong support of the project by the Governor and his two living predecessors, some remained doubtful of the Bureau's claims regarding the safety of the site. Within a few weeks, voters in Wasatch County elected a new County Commission Chairman, Moroni Besendorfer. Besendorfer immediately began to question the Bureau

¹⁷⁸ *Deseret News*, October 4, October 20, October 25, and October 26, 1989.

¹⁷⁹ *Deseret News*, October 19, 1989.

about Jordanelle and Leon Hansen again found traction in the press, leading a group of county officials to the highway overlooking the dam site, where the group listened to Bureau and state geologists refute Hansen's claims, again.¹⁸⁰

But the opponents still refused to believe the assurances of the Bureau. They claimed the independent geologists could not be independent if they had been hired by the Bureau. In March 1990 the Brigham Young University J. Reuben Clark Law School held its annual Natural Resources Law Forum. They entitled their in-depth look at the Jordanelle dam, "The Central Utah Project: Who Wins, Who Loses."¹⁸¹ Jordanelle opponents went so far as to accuse the Bureau of covering up evidence its own scientist found which proved the seismic danger of the dam site. In May 1990 the General Accounting Office reported that their investigation into the claims of a cover up by the Bureau revealed "nothing of magnitude to warrant further investigation."¹⁸²

Despite the almost constant criticism, construction on the dam continued as Utah's Congressional Delegation presented the new version of the reauthorization bill, now officially titled the Central Utah Project Completion Act. Congressman Owens introduced the bill, HR 3960, during the subcommittee meeting held on February 6, 1990. The bill had grown from seventeen to thirty-eight sections.

The new version contained four main sections. CUPCA raised the authorized costs by \$924,206,000. However, it also raised the percentage of costs to be paid by local interests, de-authorized several features of the original CUP plan, including the Ute Indian Unit or the "Ultimate Phase" which would have diverted water from Flaming

¹⁸⁰ *Deseret News*, December 1, 1989.

¹⁸¹ *Deseret News*, March 19, 1990.

¹⁸² CUWCD Board Meeting Minutes, May 25, 1990.

Gorge Reservoir into the Uintah Basin and via exchange to the Bonneville Basin. It also scaled back several other elements of other units, formally canceling the diking of Utah Lake, the draining of the Benjamin Slough, and the irrigation of lands west of Utah Lake in the Mosida Area.¹⁸³

Additionally, the Completion Act allowed counties that had not received project water to withdraw from the CUWCD and receive a rebate of property taxes paid toward the project. It took oversight of the project from the Bureau and gave control to the CUWCD. Further, it addressed the environmental criticisms by stipulating that environmental mitigation would proceed concurrently with construction. The act created a new federal agency to oversee environmental mitigation and established a fund to complete mitigation efforts. The act mandated that the CUWCD and its customer agencies meet goals for water conservation and that the District fund water conservation efforts. Finally, it provided a monetary payment to the Northern Ute Tribe to settle the environmental justice claims and satisfy their water rights.¹⁸⁴

Despite the consensus among the Utah Delegation, the subcommittee heard numerous individuals and organizations testify against the project and the deficiency of the legislation. Edward Osann, Director of the Water Resource Program for the National Wildlife Federation, whose testimony carried weight with Chairman Miller, refused to support the bill. Osann complained about the expense and inefficiency of the Bonneville

¹⁸³ Public Law 102-575 Section 201. The increase in authorized spending is contained in subsection a and the deauthorization of specific features is contained in subsection b.

¹⁸⁴ Congress, House, Committee on Interior and Insular Affairs, Subcommittee on Water, Power, and Offshore Energy Resources, *H.R. 3960 Central Utah Project Completion Act: Hearings before the Subcommittee on Water, Power, and Offshore Energy Resources of the Committee on Interior and Insular Affairs*, 101st Cong., 2nd sess., February 6, 1990, 2-68.

Irrigation System which he wanted dropped, and the lack of a comprehensive water conservation program, and increased local cost sharing.¹⁸⁵

Following Ossan's damaging testimony, Salt Lake Attorney Jeff Appel, representing over sixty Utah Groups and organizations expressed their collective concerns over the CUP. Appel echoed many of the same concerns, notably an increased cost share, and the elimination of the Irrigation System. Further, Appel noted the complete disarray in the project's NEPA compliance. He also expressed concern with the plan to give construction oversight to the CUWCD.

The testimony of Osann and Appel proved to be damaging. Chairman Miller chose to scuttle any attempt to move a bill forward in the spring of 1990 until the issues they raised had been resolved.¹⁸⁶ Failing again, the Utah delegation, CUWCD, and the national environmental groups met once more for another round of negotiations. Congressman Owens, trusted by all parties, acted as a mediator. Frustrated by continued delays and unwillingness to compromise, Miller left the Bureau completely out of the negotiations. After several long weeks, a revised bill began to emerge that met the concerns of Miller, Bradley, and the environmental groups.¹⁸⁷

Of particular interest to the environmental leaders was mandated water conservation. Ed Ossan crafted language in the bill to mandate water conservation. Don Christiansen, Wayne Owens, and other members of the delegation worked with Ossan to reach a compromise on his proposal. However, when Christiansen called to relay the

¹⁸⁵ Testimony of Edward Ossan, *Central Utah Project Completion Act*, 275-280.

¹⁸⁶ "Wildlife Foundation Wants CUP Funds Stopped," *Provo Daily Herald*, April 10, 1990; "Clock Ticks Away on Controversial CUP Funding," *Provo Daily Herald*, April 14, 1990.

¹⁸⁷ Don Christiansen, interview with author March 24, 2004; Thomas Melling, "Dispute Resolution," 1695.

details of the compromise to water officials in the Salt Lake area, they reacted with alarm. They felt that Christiansen had given away too much to the environmental groups. Christiansen hurriedly arranged a meeting between the water managers and the environmental groups. A group of six water managers from the Salt Lake Valley flew to Washington.¹⁸⁸ Congressman Owens personally drove to the airport to pick up the men. They met in Owens's office; his staff had already gone home for the day when the group arrived. Waiting at the office was Don Christiansen, Marcus Faust, the CUWCD's Washington counsel, and Ed Osann and David Conrad representing the Natural Resources Defense Council and the National Wildlife fund. As the negotiations proceeded, Owens worked busily at a computer in the corner typing up proposed changes to the bill, trying to hang on to the principles that had been determined.¹⁸⁹

The negotiations proceeded non-stop through the evening. Rather than take a break for dinner, the group ordered takeout and continued to hammer out the key points. Osann and Conrad both indicated that the water districts that used CUP water should do more to promote water conservation. Osann felt that water conservation would negate the need to build additional large water importation projects, such as the proposed development of the Bear River. At one point, he insisted that the CUPCA legislation specifically prohibit development of the Bear River. Heated discussion ensued in which Ovard refused to give up a Bear River Project, which would surely be needed in the future for Salt Lake County. As they went back and forth Ovard pointed out that a dam

¹⁸⁸ The six water officials were Dave Ovard, Jerry Maloney, and Dale Gardiner from the Salt Lake County Water Conservancy District and Nick Sefakis, LeRoy Hooton, and Joe Novak from the Metropolitan Water District of Salt Lake and Sandy. David Ovard, interview with author, June 30, 2004.

¹⁸⁹ Don Christiansen, interview with author, March 24, 2004; Dave Ovard, interview with author, June 20, 2004; Marcus Fuarst, interview with author, August 10, 2005.

on the Bear River would actually benefit the Bear River Bird Refuge. Osann did not know what to think. They took a break so he could make a phone call to local environmental leaders in Utah. He returned and the negotiating moved forward. Finally, just after two o'clock in the morning, the group reached a compromise.¹⁹⁰

The new compromise language provided that through cost-effective and environmentally sound means, the District had to first make "prudent and efficient use of currently available water prior to the importation of Bear River water into Salt Lake County."¹⁹¹ The conservation compromise cleared the way for a version of the legislation to move forward in September 1990. Chairman Bill Bradley scheduled a Senate hearing on the next text of the legislation on September 18, 1990. Chairman Miller let the legislation move to the floor following committee meetings in September, 1990.

Late in the evening of October 15, the house took up the issue. After several hours of debate and the introduction of several amendments, the voting began as the clock approached midnight. The House approved the bill 211 to 143. But during the debate, Congressman Miller added an amendment to reform the Bureau of Reclamation by strengthening the 960-acre limitation. This provision however, proved to be too much.¹⁹²

When the Senate took up the bill, it stripped away the provision due to strong opposition from Senator Pete Wilson who was running for California Governor.

¹⁹⁰ Dave Ovard, interview with author, June 20, 2004; Marcus Faust interview with author, August 10, 2005.

¹⁹¹ This wording remained in the legislation as a stated purpose of the conservation or "water management improvement" provisions of CUPCA . Public Law 102-575 Section 207 (a)(5).

¹⁹² Gordon Elliot White, "House OKs \$900 Million for CUP," *Deseret News*, October 16, 1990.

California agribusiness opposed the strict enforcement of the 960-acre limit, and Wilson vowed to kill any version of the bill that retained it. As a result, the issue became a political tug of war between Wilson and Miller who insisted the measure be kept in the bill. The measure passed the Senate late on Friday, October 28. But partisans of CUP recognized the nature of the political games at play, and knew the chances of getting it through the House were slim. Frazzled, they privately called Miller a ``real jerk" and Wilson ``unreasonable.' The Senate sent the stripped version of the bill back to the House, but Miller kept the bill from coming up for debate, killing it once again.¹⁹³

The Delegation had come close to passing the legislation. But, as the one hundredth Congress adjourned, so did any hopes of getting the Central Utah Project Completion Act through in time. The bill would now need to be reintroduced in the One Hundred and First Congress. As the Delegation again moved forward, it faced additional change. Congressman Howard Nielson had retired and a democrat, Bill Orton, won his seat. Orton brought the complaints of his constituents in the Heber Valley to Congress and proposed an amendment authorizing the Wasatch County Water Efficiency Project to develop irrigation water from the nearly completed Jordanelle Reservoir to compensate for water lost through environmental mitigation.

But as construction season began at the dam site in March 1991, so did the opposition to the dam. The delegation attempted to show a united front. However, continued opposition and worries over the safety of the Jordanelle Dam concerned key members of Congress, including Miller and Bradley. To help quiet opponents' claims,

¹⁹³ Gordon Elliot White, "Senate OKs Reauthorization of CUP, Sends it to House," *Deseret News*, October 27, 1990; Gordon Elliot White, "Reauthorization of CUP Dies," *Deseret News*, October 28, 1990.

the entire Utah delegation sent a letter to the USGS calling for a thorough review of the geological stability of the site and the availability of water to fill the reservoir. The move also fulfilled a promise made in a compromise agreement signed in 1990 with the National Wildlife Foundation. The NWF had agreed to support the Central Utah Project Completion Act with several provisions, one of which was the investigation of the Jordanelle site by the USGS. While the legislation failed to pass that year, the Utah delegation felt it expedient to call for the USGS investigation in any case.¹⁹⁴

Throughout the year, Granite Construction moved forward quickly and was significantly ahead of schedule. The Bureau now estimated completing the dam by December 1992 from its original 1995 completion date. But as the dam rose higher, so did the lingering worries over its safety. In August, the *Wasatch Wave*, a weekly newspaper in Heber, Utah, published a series of stories containing claims by Leon Hansen that the Jordanelle site was unsafe and the Bureau had covered up the evidence. These articles ignited another firestorm and prompted Congressman Owens, who stated at the time he felt the allegations contained credible evidence, to call for yet another review. Senators Jake Garn and Orrin Hatch, District Manager Don Christiansen, and others called the claims baseless and further reviews wasteful of time and tax dollars. Two weeks later Congressman Jim Hansen toured the site and stated the studies done had adequately proven the site's safety.¹⁹⁵

Later that month, the USGS released the results of its studies, stating that their panel of experts found no safety concerns following their three-month inspection. Bureau of Reclamation Regional Director Ronald Robinson reported to the District's

¹⁹⁴ *Deseret News*, March 26, 1991.

¹⁹⁵ *Deseret News*, August 24, 27, September 3, and 15 1991.

board that he felt the Bureau's geologists, as well as the three highly qualified experts had been vindicated. To do so, the government had spent several millions dollars investigating Hansen's information and allegations. To answer Hansen's latest claims of a cover up by the Bureau, the entire Utah congressional delegation called for a continued investigation by the USGS into these allegations. Further, the delegation scheduled a hearing in Heber City to complete its re-examination of the dam.¹⁹⁶

By November, construction crews had placed one-half of the total material in the dam. As they finished their work for the winter, the Dam rose one hundred feet above the valley floor.¹⁹⁷ That same month USGS issued the balance of its report. The USGS determined that contrary to critic's claims, they could find no evidence of a cover-up. Further, they determined that the river contained enough water to fill the reservoir. The report also cast doubt on claims that the reservoir would cause seepage into nearby mines, calling the data behind these claims "questionable." Leon Hansen reacted by calling the report "paper rhetoric" and claimed that not only would there be seepage, but the water seepage would encounter heavy metals from the mines and contaminate the groundwater.¹⁹⁸

The controversy culminated on February 1, 1992 as Senator Garn opened a formal hearing of the Senate Energy and Natural Resources Committee at Wasatch High School in Heber. The entire Utah congressional delegation participated in the hearing scheduled for three hours on a Saturday morning. Numerous witnesses testified before the hearing. Senator Garn allowed the meeting to stretch over six hours to hear all the comments.

¹⁹⁶ *Deseret News*, August 26, 1991.

¹⁹⁷ CUWCD Board Meeting Minutes, September 11, 1991.

¹⁹⁸ *Deseret News*, November 23 and December 8, 1991.

Numerous expert technical witnesses testified that the site was safe. Leon Hansen provided a lengthy testimony, but offered no new arguments to those which he had made for years. Other witnesses answered and explained Hansen's claims. Further, Hansen and other critics failed to produce any hard evidence to support their claims of a cover-up. In an effort to ensure a balanced hearing and assuage the concerns of those in opposition to the dam, the District offered to pay the travel expenses of any independent expert witnesses that they could find who could offer substantive testimony concerning the dam. The Wasatch Commissioners took advantage of the offer and brought in three witnesses. All three failed to offer any new or persuasive evidence against the dam.¹⁹⁹

The hearing seemed to deflate the opposition. Crews from Granite Construction began working again on the dam that spring. Favorable weather allowed the work to continue at a brisk pace. On Monday, October 19, a large dump truck emptied the final load of earth atop the dam in a ceremony attended by elected officials and representatives of the Bureau and District. Over 14.5 million cubic yards of clay, gravel, and rock had been strategically placed to form the total height of 400 feet from the foundation. Granite Construction finished the work on the dam ahead of schedule and on budget. Work continued on the water intake and outlet structures to prepare the dam for filling and a dedication ceremony the following year.²⁰⁰

As the Bureau, the CUWCD, and Utah's Congressional Delegation worked to resolve concerns over the safety of the Jordanelle Dam, the delegation again worked to move the Central Utah Project Completion Act forward as Congress reconvened in

¹⁹⁹ *Deseret News*, March 2, 1992. Don Christiansen, Oral interview with author September 20, 2005.

²⁰⁰ *Deseret News*, October 20, 1992; *Deseret News*, October 13, 1993.

January 1991. As the CUPCA moved forward in the new session however, the legislation ran up against additional delays as the bill became wrapped up as an omnibus

The omnibus bill rolled together funding provisions for 22 other projects and provisions that further reformed reclamation policy. Congressman Miller and Senator Bradley had undertaken efforts to significantly reform the Central Valley Project in California. Miller's reforms had killed the CUPCA at the last minute the previous October. They now stirred considerable controversy and the opposition of a powerful agribusiness lobby. The groups attempted to hammer out a consensus bill for the Central Valley Project in a process similar to that employed to renew the CUP. The process moved slowly as both sides dug in for a long battle.²⁰¹

The negotiations and debate continued for an additional two years. With the worries of an election year, and the end of another session of congress fast approaching, pressure from Senator Garn and the other members of Utah's Congressional Delegation helped push the bill forward.

The omnibus bill, HR 429, progressed relatively quickly through the House. It had passed through the committees and onto the House floor by June 1991 for debate and a vote. The House passed the bill on June 20, 1991 by an overwhelming vote of 360 to 24. The House then sent the bill to the Senate where it languished for months in Senator Bradley's committee where reforms of the Central Valley Project slowed movement of the bill to a crawl. The bill did not go to the Senate floor for debate until April 1992.

The Senate passed the bill by voice vote on April 10, 1992.

²⁰¹ Bradley and Miller proposed a reform of the CVP's subsidy structure, authorizing the practice of water marketing by allowing project water to be transferred out of the project area, and environmental enhancements including maintaining minimum stream flows and sufficient flows in to the Sacramento-San Joaquin River Delta. Norris Hundley Jr., *The Great Thirst*, Revised Edition (Berkeley: University of California Press, 2001), 501-503.

The bill then moved to conference through the summer as the House and Senate failed to come to agreement on the legislation. The conferees held their conference on September 15, which resulted in agreement. The Conference reported the bill to the House on October 5. Congressman Thomas of California attempted to send the bill back to conference, but this measure failed 159 to 244. Following the demonstration of support for the bill, it passed by voice vote just after one o'clock on the morning of October 6. The Senate took up the conference report on October 8 and passed the legislation by a vote of 83 to 8.

Finally, after five years of effort, Congress passed the Central Utah Project Completion Act in October as part of the larger Reclamation Projects Authorization and Adjustment Act of 1992. But Congressional passage did not equate to a finished product. California Governor Pete Wilson, and the agribusinesses strongly lobbied President George H.W. Bush to veto the bill because they disliked the provisions of the Central Valley Project Improvement Act. Despite veto threats, President George H. W. Bush signed the bill on October 30, 1992.²⁰²

Utah's Congressional Delegation, Don Christiansen, the District's Board and staff all had reason to celebrate. The president's signature ended the five year struggle to reauthorize the CUP. The legislation had started as a single page request for increased funding to complete a project from a previous era. Changes in politics, particularly the rise in power of urban interests and the environmental lobby demanded reforms that had long been sought. Many of these reforms were included in Bureau plans for the CUP, but had not been undertaken. These groups rectified the situation through the creation of the

²⁰² The bill became Public Law 102-575. Title II through V comprise the Central Utah Project Completion Act.

Utah Reclamation Conservation and Mitigation Commission. They satisfied the claims of the Ute Tribe of the Uintah and Ouray Reservation by reaching a monetary settlement. They stripped away the most economically and environmentally questionable aspects of the project, and placed serious restrictions on the development of the remaining irrigation systems. They mandated real and meaningful conservation programs to gain a greater reward for economic and environmental investment in the Bonneville Unit. These groups had reason to celebrate.

But not all those living within the district's boundaries saw cause for celebration. For some, reauthorization of the project came at too high a cost. The new environmental provisions and stipulations caused concern and the increased local cost share placed substantial fiscal demands at a time political candidates promised to cut taxes and spending. Thus, while the passage of the CUPCA represents a truly monumental landmark, it did not mark the end of the Central Utah Project's tortuous political journey.

V.

DRIVING A NEW HYBRID OFF THE LOT

“I feel nothing but pure delight.” “I am almost speechless. It’s a great day.” “It’s really great news.” “It’s the best news I have had in a long time.” Wayne Owens, Don Christiansen, Orrin Hatch, and Jake Garn had each been heavily involved with the passage of the Central Utah Project Completion Act. And each, respectively, responded with enthusiasm to the news that despite his previous veto threats, President George H. W. Bush signed the bill into law. The passage of the CUPCA marked an important event in the history of water reclamation in the West. It brought about substantial shifts in long standing policy and practice. In turning the construction oversight for the remaining features of the project to the CUWCD, it transformed the District and marked a turning point in the history of the Bureau of Reclamation. But all of the change did not occur in the Halls of Congress. The passage and attempts to implement the mandates contained in the CUPCA brought dynamic and ongoing change which contributed to additional shifts. Finding additional funds to cover the increased local cost share proved challenging. The District developed an innovative plan which led to further policy change. Local concern over new federal regulation prompted two counties to withdrawal from the project. Additional environmental concerns and local conflicts resulted in a reanalysis of the plans for the Bonneville Irrigation system. As a result, the purpose of the CUP shifted even further to municipal supply. Besides the reconfiguration of the

Irrigation System, the physical design of the project underwent additional change as the CUWCD proved highly responsive to additional concerns raised by the environmental community. Combined, the changes within the Completion Act and those that accompanied its successful implementation demonstrate the ongoing shift in power from Old Western to New Western interests. This shift began following the post-1970 energy boom which reduced the presence of the Old West—extractive industries and agriculture—and saw the rise of the technological, urban, environmentally conscious, and gentrified New West.

After the initial euphoria over the passage of the Completion Act began to fade, Don Christiansen and the CUWCD turned to face the realities of the new challenges which accompanied its passage. In order to get the legislation passed, the District had acceded to some extraordinary and unprecedented demands. One of the most ominous was the increased cost share which required Utah, the District, or the water users to pay upfront thirty-five percent of the construction costs. The District first approached the legislature to allow an increase in its taxing authority. This led one of Salt Lake City's newspapers to observe that the struggle over the CUP funding had simply moved to a local level.²⁰³

Newly elected Governor Michael Leavitt had made a campaign promise to not increase taxes. In the words of District General Manager Don Christiansen, getting the governor and state legislative officials to approve the tax increase was like floating a lead balloon. But, the challenge did not stop the District from trying. For Christiansen the

²⁰³ "Struggle Over CUP Funding Now Moves to Local Levels," *Deseret News*, November 15, 1992.

reason was simple. He told a reporter at the time, “The CUP has always been billed as Utah’s future. Does it make it less important if we have to help pay for it?”²⁰⁴ Further complicating matters, the newly appointed Secretary of the Interior, Bruce Babbitt, surprised District officials by announcing that the method of raising the funds needed to be in place before negotiations could begin on a new cost share agreement in April. Instead of having a year to educate state legislators about the project and the need for the increased funding, the District now had to introduce its legislation, SB-207, well into the legislative session on February 8, 1993.²⁰⁵

The bill would have allowed the District to increase its tax rate from .0004 to .001, an annual increase of \$40 dollars on a \$100,000 home. Both legislative leaders and the governor balked at the proposed increases. Within a week, the District amended their request to .0006, a \$13 increase. However, both the governor and state legislative officials remained skeptical. They felt that the state should not grant an increase to the entire project. They felt some features of the project, such as the Bonneville Unit Irrigation System was not cost effective and should not be paid by the state. They felt that the irrigation system and other portions of the project needed to meet “the tests of economic and environmental viability.” Governor Leavitt also received conflicting messages from a separate meeting with Interior Secretary Babbitt.²⁰⁶

Instead of agreeing to a tax increase, the governor proposed that the legislature pass a resolution supporting the project and the increased local cost share, without

²⁰⁴ “Fish, Plants, Animals shape CUP,” *Deseret News*, November 9, 1992; Don Christiansen, Oral interview with author, September 20, 2005.

²⁰⁵ “Water District Seeks to Raise Property Taxes,” *Deseret News*, January 20, 1993; “CUP District Lobbies for a Tax Hike,” *Deseret News*, February 9, 1993;

²⁰⁶ “Request for Tax Boost Scaled Back,” *Deseret News*, February 18, 1993; Seeks Ways to Raise CUP Funds,” *Deseret News*, February 19, 1993.

stipulating how they would meet the obligation. This would satisfy the Department of Interior's demands. In the interim, he proposed that the District pay for the increased costs from its reserve funds, while a task force studied the issue. At a news conference February 19, Leavitt announced his plan. He told the media crowd, "It is essential that we have a process in place that guarantees the best, most cost-effective and environmentally sound plan possible and still protects taxpayers." The following Tuesday, February 23, Leavitt met with officials from the Interior Department in Washington to ensure the proposal was adequate to meet the federal requirement for the project to move forward.²⁰⁷

As District officials grappled with funding issues, they moved forward with the planning process for key project features. In late January and early February the District scheduled public hearings and meetings to begin the process of creating environmental studies for the Uintah Replacement Project and the Bonneville Irrigation and Drainage System. While the meetings in the Uintah Basin seemed to proceed relatively smoothly, the District received a cold reception at its meetings in the Sevier River Basin. Officials in Millard County had already threatened to withdraw from the District and had only recently released some of the tax money it had withheld from the District for a time. Following the meetings in February, things started to unravel.²⁰⁸

Farmers and county officials balked at the continued wait, decreased water available through the project, elevated cost, and increased federal oversight and

²⁰⁷ "State Seeks Ways to Raise CUP Funds," *Deseret News*, February 19, 1993. "CUP Won't Necessitate '93 Tax Hike," *Deseret News* February 23, 1993.

²⁰⁸ "Public Meetings on Uintah Basin Project Set," *DN*, January 24, 1993; "Millard Releases Tax Funds to CUP," *Deseret News*, February 11, 1993; "Four Public Meetings Will Focus on the CUP," *Deseret News*, February 21, 1993; "Sevier May Wait 10 More Years for CUP Water," *Deseret News* March 12, 1993;

environmental requirements. They felt that the new provisions of the CUPCA were too costly. Thorpe Waddingham, a water rights attorney representing the farmers, said at the time, “We are big supporters of the CUP. But the CUP has steadily deteriorated from the 1970s to the 1980s until now in the 1990s it’s gone completely to hell.”²⁰⁹ District Board Member Roger Walker of Delta stated to one newspaper reporter, “I think I would rather starve a little than to have them (federal water managers) tell me what to do. It’s not enough water to worry about.”²¹⁰

Additionally, water users in the two counties worried that the introduction of CUP water could upset longstanding Cox Decree, a water rights agreement which appropriated virtually every drop of water in the Sevier River drainage. They also doubted the continued support of the project by the state given the recent actions of the governor and state legislature. The CUPCA contained provisions that allowed counties that had not received any benefit from the project to leave the District. It now looked like at least two of the counties were ready to make use of those provisions.

In mid April, members of the Sevier Water Board, representing irrigation and canal companies along the river, voted in favor of withdrawing from the District. This move triggered a string of events that stretched out over a year. The process began in earnest in May when the presidents of five canal companies sent a letter, dated May 6, formally requesting the Millard County Commission to make the separation. The commission scheduled two informal public hearings the following week. As a result of

²⁰⁹ Steve Hinchman and Larry Warren, “Two Utah counties flee water project,” *High Country News*, September 20, 1993.

²¹⁰ “Sevier Farmers Want Out of CUP,” *Deseret News*, April 21, 1993.

the meetings, the Millard County Commission called for a public referendum, Tuesday July 13.²¹¹

The special election did not generate record breaking voter turnout, but one third of Millard County's voters ventured to the polls for the mid-summer election. Voters overwhelmingly voted to withdraw from the District by a 1702 to 125 vote. However, the final say over Millard County's departure did not rest with the votes, but rather the CUWCD's Board. The following week, Millard County Commissioners submitted the formal petition to withdraw from the CUP and leave the District. The same day, Sevier County Commissioners announced they had scheduled a similar special election for August 31.²¹²

As Sevier County residents considered the proposition to withdraw from the CUP and the District, county irrigators helped make the decision easier. The two largest irrigation companies in the county, Piute Reservoir and Otter Creek, announced in letters to the county commission that they would not purchase CUP water. The proposed pull-out did not just affect the two counties. Piute, Garfield, and Sanpete Counties also began debating the issue. The withdrawal of Millard and Sevier Counties from the CUP directly impacted the ability of the three remaining counties to receive water from the project. The project anticipated making water available to these three counties by exchanging water delivered from Sevier Bridge Reservoir with downstream users. Without the downstream users in Millard County, or the use of Sevier Bridge

²¹¹ Ibid; "Is Millard county Holding Key to CUP Membership," *Deseret News*, May 19, 1993; "2 Utah Counties Begin Pulling out of the CUP," *Deseret News*, June 27, 1993.

²¹² "Millard Landowners Vote to Pull Out from CUP," *Deseret News*, July 14, 1993; "Millard Submits Petition to Withdraw from CUP," *Deseret News*, July 22, 1993; "Sevier Schedules Vote on Leaving Water Project," *Deseret News*, July 22, 1993. CUWCD Board Meeting Minutes, July 21, 1993, 4-6.

Reservoir—privately owned by Millard County irrigation companies—making any CUP water deliveries to the remaining counties was infeasible. Yet even as Sevier County residents voted 1017 to 160 to leave the CUP and the District, Sanpete, Garfield, and Piute Counties each continued to remain supportive of the District. Each county felt it could receive benefits from the district, without the CUP water. Sanpete County anticipated the District could loan funds for the proposed Gooseberry Narrows Project, while Garfield County hoped for similar aid to complete the Hatch Town Dam. All three counties also planned to tap CUPCA conservation funds to more than double the effective yield of existing supplies.²¹³

During the debate over the Completion Act environmentalists and other critics wanted the Bonneville Irrigation Unit to be cut. The CUWCD and the Utah Delegation felt that even though the water would be expensive the cost to benefit ratio was still positive and the farmers had been promised the water. As a compromise the delegation agreed to the increased cost share and environmental provisions. They felt that the Utah Legislature and the farmers would be willing to bear the increased burden, while project critics hoped the increased price tag would motivate the farmers to pull out. Anticipating this outcome, Wayne Owens felt the commitment to the farmers could be honored by including the provision allowing these counties to withdraw, receive a refund, and tap into a \$40 million fund to develop water outside the CUP.²¹⁴

²¹³ “Two Firms Say They Won’t Contract for CUP Water,” *Deseret News*, August 29, 1993; “Is Millard county Holding Key to CUP Membership,” *Deseret News*, May 19, 1993; “Sanpete not Quite Ready to Abandon CUP,” *Deseret News*, August 12, 1993; “Sevier Residents Vote to Withdraw from CUP,” *Deseret News*, September 1, 1993. See also, “Sanpete Reaffirms commitment to CUP,” *Deseret News*, January 28, 1994 and “Planned CUP Pullouts Keep Sanpete Up in the Air,” *Deseret News*, April 21, 1994.

²¹⁴ Mathew S. Brown, “Deletion Will Help CUP, Owens Says,” *Deseret News*, September 14, 1993.

As Millard and Sevier Counties each made their wishes to pullout known to the District, the board established a de-annexation committee chaired by Jerry Maloney to handle their requests. The Central Utah Project Completion Act stipulated that the counties could withdraw from the project and receive a refund of their tax contribution minus benefits received and administrative costs. But, this provision of the CUPCA did not take effect until November 1994. Millard and Sevier Counties were more concerned about continuing to pay taxes and becoming obligated for future debt. Because the CUWCD was preparing to issue bonds to begin prepayment on the Jordan Aqueduct, the two counties felt a need to withdraw quickly, rather than waiting until November 1994.

The move meant that the less favorable state laws applied to the deannexation request. State laws not only held the counties responsible for all direct benefits, but for administrative costs as well. In order to determine the amount of any possible refund, Maloney's committee began an audit to determine the amounts each county had paid and the benefits they received. Additionally, state law stipulated that the counties pay the expenses of processing the withdrawal request, and Sevier County Commissioners complained when Maloney requested \$10,000 to cover the costs of the audit.²¹⁵

These evaluations continued throughout the fall. In November, the District announced the dates of public hearings on the issue for January 18 and 19, 1994. At the hearings—including morning, afternoon, and evening sessions on January 18 to allow for greater public participation—the board heard testimony from those in favor of the de-annexation from Millard and Sevier Counties, but they also heard from many in Garfield, Piute, and Sanpete who opposed the de-annexation on the grounds that it jeopardized the

²¹⁵ CUWCD Board Meeting Minutes, October 13, 1993 and November 10, 1993; "Sevier Balks at \$10,000 Request," November 5, 1993.

CUP and their ability to receive project water. Also, the loss of significant tax revenues from Millard County, over a million dollars from the massive Intermountain Power Project generating station, concerned some board members.²¹⁶

Following the hearings, the District entered into negotiations with Millard and Sevier Counties. The negotiations continued throughout the spring, and the District's ad hoc committee proposed several compromise solutions. One would have allowed Millard County out, but continued to tax the IPP plant. Another proposal would have set the tax revenue collected from the IPP to establish a fund to facilitate water projects in the five Sevier Basin counties. A similar plan proposed that the counties could leave the CUP, but stay in the District. The two counties refused all of these plans, while Garfield, Piute, and Sanpete Counties accepted the latter as a way to remain in the District, after Millard and Sevier pulled out.

In late April the talks broke down, and each side threatened court action to secure their desired outcome. To help resolve the differences, Millard County and the District enlisted the help of newly elected Senator Bob Bennett to mediate the conflict. The dispute arose over the cost to each side. The District had demanded \$9.6 million in repayment for project benefits to the county. The County, on the other hand, wanted over \$6.7 million in tax refunds. Over the course of six weeks of negotiations, the two sides reached a settlement in which the District agreed to refund the county's 1994 tax contribution of \$1.2 million and wipe the slate clean.²¹⁷

²¹⁶ CUWCD Board Meeting Minutes, October 13, 1993 and November 10, 1993; "Hearings Set this Week on Pullout Plan," *Deseret News*, January 17, 1994; Mike Gorrell, "Pull Out of CUP, Money Water Questions Flow," *Salt Lake Tribune*, December 21, 1993; "2 Counties to Request Withdrawal from CUP," *Salt Lake Tribune*, January 18, 1994.

²¹⁷ "Planned CUP Pullout Keeps Sanpete County up in the Air," *Deseret News*, April 21, 1994; "Sevier Rejects Water Compromise," *Deseret News*, April 28, 1994; "Fight Brews Over CUP

On June 15, 1994, Board Chairman Gary Palmer presented the final agreement for the board’s approval. Board member Tom Hatch, who represented Garfield and Piute Counties, voiced strong opposition. He worried that allowing the county to withdraw would negatively impact the remaining counties’—Garfield, Piute, and Sanpete—ability to receive water from the CUP. He wanted more time to study the proposal before voting, and proposed that the board hold off any action until its July meeting. But Palmer felt the issue had been studied enough and the board’s job was to support what district lawyers negotiated. He said, “This is the best agreement we are going to get. We could study this until hell freezes over and it won’t get any better.” The board approved the agreement with only Tom Hatch and Dave Rasmussen dissenting. Following the vote, Gary Palmer and Millard County Council Chairwoman Lana Moon signed the agreement.²¹⁸

While Millard County reached a settlement with the District, Sevier County continued to protest the settlement terms proposed by the District. After continued negotiations the issue ended up in court. Utah Fourth District Court Judge Boyd Park heard arguments in late February from the District’s legal counsel Steve Clyde, and the Sevier County Attorney Don Brown. While the county felt they paid nearly \$2.3 million more than direct benefits received, they somewhat grudgingly accepted a deduction for administrative costs, cutting their desired refund to \$800,000 plus interest. However, the District contended they owed the county an even smaller amount because indebtedness accrued while a member of the District. Judge Park agreed with the District and

Withdrawal,” *Deseret News*, May 20, 1994; “Will Millard Get to Leave Conservancy District?,” *Deseret News*, June 15, 1993.

²¹⁸ “Millard Gains Parting of the Waters,” *Deseret News*, June 16, 1994; CUWCD Board Meeting Minutes, 15 June 1994.

approved the exclusion of Sevier County from the district with a refund of \$530,000, signing the court order in early April 1995.²¹⁹

Judge Park's order brought a two year struggle to an end. The move had only a minor impact on the District, but it did lead to significant changes in the CUP. Over the succeeding months, the District began investigating means to provide water to the remaining counties. Additionally, because the two counties withdrew, the District scaled back its plans for the CUP Bonneville Irrigation and Drainage System to serve Juab and southern Utah County through the Spanish Fork-Nephi System. The new plans closely matched those of the original 1965 Definite Plan.

As Millard and Sevier Counties worked to pull out of the CUP and the District, the Central Utah Water Conservancy District simultaneously moved ahead on several fronts. In 1993, as the confrontation with Millard County began, the Governor's task force studied the issue of finding funds to provide the state's thirty-five percent local cost share. While exact plans remained uncertain, the legislative resolution of support passed in February had allowed negotiations between the Interior Department and the District to proceed. In August, the District and Department signed the contracts which allowed the project to proceed. The contracts included agreements for local cost share of the studies stipulated by the CUPCA. The District paid for these studies using reserve funds. Another contract designated the District as the federal agent over the Central Utah Project.²²⁰

²¹⁹ CUWCD Board Meeting Minutes, March 15, 1995, 7; "Sevier to get \$530,000 Refund as it Finally Parts Way with CUP," *Deseret News*, April 9, 1995.

²²⁰ "12 Counties to Pay State's CUP Share," *Deseret News*, September 6, 1993.

These contacts formalized the provisions stipulated within the CUPCA and opened the door to the completion of the CUP. As the District continued with the environmental studies for the various project features, it also began environmental mitigation of the existing project and continued to search for a mechanism to pay the increased local cost share. In December 1993, the Governor's task force studying the best method to finance the increased local cost share made their official report. The task force recommended against raising taxes and instead advised the District to issue bonds to cover the increased costs. This recommendation left the District in a difficult position. However, CUWCD General Manager Don Christiansen began formulating a possible solution.

One of the concerns of board members during the negotiations over Millard County had been the effect on the District's bond rating. The District had begun the process of issuing bonds to prepay the federal government for the Jordan Aqueduct. Section 210 of the Completion Act included a provision authorizing the District to prepay the repayment obligation for the Jordan Aqueduct. Congress had included this condition to reduce the financial impact of paying the repair costs associated with the catastrophic failure of a section of the pipeline in Salt Lake County a month after its first use. The legislation allowed the District to prepay the federal government for the local cost share of the pipeline. In exchange for early payment, the federal government agreed to discount the cost to compensate for the repairs. The District needed to issue bonds in order to make the early payment.

As the District moved forward with early repayment of the Jordan Aqueduct, Don Christiansen struck upon an idea. Why not use a similar formula of prepayment to cover

the increased local cost share mandated by the CUPCA? In principle such a plan would work, but Congress needed to agree to the plan. The District and its legal consultant in Washington D.C., Marcus Faust, began working with Utah's Congressional Delegation to pass an amendment to the CUPCA allowing the early repayment. In June 1995 Utah Senator Bob Bennett introduced the amendment in the Senate and Congressman Jim Hansen introduced it in the House. Concurrently, Christiansen began working with the District's bonding consultant, Scott Robertson, to formulate the logistics of a bond issue to make the repayment. They determined that additional savings could be realized as interest rates on the private market were at all-time lows.

The process of passing the legislation authorizing repayment was not cut and dry. The Treasury Department initially resisted the idea. On the other hand, most members of Congress felt that the plan was sound and would benefit all parties. Passage of the measure came first in the House on April 30, 1996 and in the Senate on September 28. President Clinton signed the bill into law on October 11, 1996. This allowed the district to issue bonds and begin repayment over a five year period. Because the District received a discount from the federal government for prepaying the debt, and because the private bonds would be repaid at a lower interest rate and at a faster rate than the original debt to the federal government, the prepayment would save taxpayers in the District \$270 million.²²¹ The plan worked so well that the District and Utah Congressional Delegation obtained an amendment to the CUPCA to remove the time limit and extend the option of prepayment to the projects in the Uintah Basin.²²²

²²¹ Don Christiansen, Interview with author, September 20, 2005.

²²² This amendment was first introduced in the fall of 2001 as S.1361 and H.R. 2565. It was reintroduced as H.R. 4129 and S.2475 in the spring of 2003 and successfully passed becoming Public Law

As the District found and worked out the solution to meet the demands of increased local cost share, work also moved forward on project planning and environmental studies. The CUPCA had given the District five years to complete environmental impact statements for three remaining major projects of the CUP, the Spanish-Fork Nephi System, the Uintah Basin Replacement Project, and the Wasatch County Water Efficiency Project—including the Provo River Restoration Project.

District staff worked hard to ensure that the environmental impact statements for each of these projects satisfied not only the demands of the law, but also the concerns of the environmental community. Further, during this same time the District began a new partnership with the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission). Congressman Owens had fought for the inclusion of the Mitigation Commission in the CUPCA to ensure that environmental mitigation of each CUP project was undertaken concurrently with project construction, rectifying one of the chief complaints of environmental activists opposed to the CUP. The Mitigation Commission was formally organized in July 1994.

Preparation of the environmental clearance documents for the three main projects proceeded simultaneously. The CUPCA stipulated that all of the planning and environmental work must be completed within five years. Thus, completing these studies became the primary task at the District. While the District and its partner agencies worked on these documents simultaneously, the discussion of each that follows below has been separated for simplicity.

107-366. See Senator Bob Bennett's introductory remarks for S.1361, *Congressional Record-Senate*, August 3, 2001, S8931 also House Report 107-554, and the passage in the House of H.R. 4129, *Congressional Record* House of Representative October 1, 2002, H6875-H6876.

The first project to make it successfully through the environmental clearance process was the WCWEP. The District received a record of decision on February 23, 1998. The project consisted of rebuilding and lining the Timpanogos Canal in Wasatch County, the construction of ponds in the Daniels area to regulate irrigation supplies and a series of pump houses and distribution lines for irrigation water. These efforts allowed the District to replace water being diverted from the Strawberry River to Daniels Creek with water from Jordanelle Reservoir. These changes allowed the restoration of stream flows and fish habitat in the upper Strawberry River System. The District completed the project ahead of schedule and under budget. But at the same time the WCWEP was proceeding smoothly, the District's other two major projects, the reformulated Bonneville Irrigation and Drainage System—consisting of the Diamond Fork System and the Spanish Fork-Nehpi System—and, the replacement projects for the Uintah and Upalco Units in the Uintah Basin hit major snags.

Major problems first arose simultaneously with the Bonneville I&D's Diamond Fork System. The Diamond Fork System is a series of tunnels and pipelines which links the Strawberry Reservoir to the distribution system for the water users along the Wasatch Front. The Bureau had planned a series of hydroelectric generating plants in the Diamond Fork drainage. The size, location, and addition of storage reservoirs associated with these plans changed repeatedly over the years. As the District assumed control of the project from the Bureau, the plans called for a dam at Monk's Hollow in the Diamond Fork Drainage. As the District moved forward with its planning of the project, it chose to keep the proposed Monks Hollow Dam to help regulate the supply of water to downstream users. Because the road in the canyon needed improvements to handle the

heavy truck traffic to the dam site, and because the Diamond Fork Pipeline downstream of the dam would be placed under the road, the District first began construction of the pipeline. The District awarded the construction contract for the pipeline to PCL Civil Contractors Inc of Tempe, Arizona on October 16, 1995.²²³

But as construction of the pipeline progressed through 1996, the environmental planning for the remainder of the system was interrupted several times during the year. The beginning of construction in Diamond Fork Canyon stirred up controversy. During the fall, the District released a Draft Environmental Impact Statement for the Spanish Fork-Nephi System (SFN) for public comment. Several of the partnering agencies, as well as local environmental groups made negative comments about the proposed dam. The Mitigation Commission and the Department of Interior urged the District to further investigate alternative options to the dam.²²⁴

Local environmental groups criticized the Monks Hollow dam and the entire SFN System. Zachary Frankel, founder and president of the non-profit Utah Rivers Council (URC) led the opposition. Frankel, an avid river runner, had formed the Utah Rivers Council in 1995 to campaign for “wild and scenic” designation for several sections of rivers in Utah. But he soon turned his organization to oppose the construction of any new dams. In addition to opposing the Monks Hollow Dam, Frankel and the URC felt they could stop construction of a dam along the Bear River to supply the Salt Lake Valley

²²³ CUWCD Board Meeting Minutes October 18, 1995, 5; November 8, 1995, 4.

²²⁴ Ibid; “Foes Blast Plans for New Utah Dam,” *Deseret News*, September 26, 1996; “Alliance Protests Plan for Dam,” *Deseret News*, September 30, 1996.

with water by diverting the irrigation water of the SFN, promised to Juab County, north to Salt Lake County.²²⁵

Construction of the pipeline leading to the dam site continued at a brisk pace and the contractor placed the last section of pipe on June 27, 1997. That same month, the District, the Department of Interior, and the Mitigation commission—joint-lead agencies on the SFN environmental impact statement—released for review a revised SFN Preliminary Draft Environmental Impact Statement to the cooperating local, state, and federal agencies involved with the project. The revision included replacing the Monks Hollow Dam with a direct connection between the existing pipeline and the Sixth Water Aqueduct via pipeline and tunnels.

After receiving positive feedback from these reviewing agencies, and touring the site, the District's board took action on the plan. Leo Brady, chair of the District CUP Completion Committee introduced a resolution to the board at its October 15, 1997 meeting. The resolution called for a pipeline alternative to the Monk's Hollow Dam. After a brief discussion the resolution passed unanimously.²²⁶

The board's decision, applauded by the environmental community, demonstrated the benefit of local control over the project. While it is possible that the Bureau could have been pressured to drop its plans for a dam at Monk's Hollow it seems that such a result would only have come after a protracted fight and court battle. Further, the District—reflecting on the Bureau's plans and their own studies—felt that they could have won in court had they chosen to continue with plans for the dam. Thus, the decision

²²⁵ "Utah's River Kid Takes on the Water Buffaloes," *High Country News*, July 3, 2000; "Officials, Environmental Groups at Odds Over Juab Water Project," *Deseret News*, December 2, 1996.

²²⁶ "Resolution 97-10-29," CUWCD Board Meeting Minutes, October 15, 1997, 5-6; "District Won't Put Dam on Diamond Fork," *DN*, October 17, 1997.

to build the pipeline prevented what may have been a lengthy and expensive court battle. Instead, the District listened to the desires of its constituency and chose the pipeline option.²²⁷

The plan for a series of pipelines and tunnels also offered an opportunity for environmental enhancement and restoration. For almost a century Diamond Fork Creek had been used by the Strawberry Water Users Association to deliver irrigation water during the summer months through the original Strawberry Reservoir and Tunnel. These high flows scoured the stream bed and caused excessive erosion. The flows also came late in the summer, instead of during the normal spring runoff. This disrupted plants and animals adapted to seasonal high flows during the late spring and early summer. For example, the high flows in the late summer washed away cottonwood seedlings that had sprouted along the banks of the creeks. The proposal for placing the irrigation water into a pipe system allowed an optimal stream flow to be maintained and damaged habitat to be restored. This allowed the District and the Mitigation Commission, one of the partner agencies on the project, to extend the mitigation plans outlined in the CUPCA to a larger area of the river.²²⁸

As the District moved forward with the new plan, some individuals and groups continued to criticize the SFN irrigation pipeline, which was planned to convey water to southern Utah and Juab Counties. After considerable work and many long days, the District released the revised Draft Environmental Impact Statement March 31, 1998.²²⁹

²²⁷ Don Christiansen, Interview with author, March 24, 2004 and September 20, 1995; Lee Wimmer, March 24, 2004. Interview with author, Chris Finnlinson, Interview with author, July 28, 2005.

²²⁸ Don Christiansen, Interview with author, March 24, 2004; Michael Weland, Interview with author, May 14, 2004

²²⁹ CUWCD Board Minutes, April 15, 1998, 5.

Despite the criticism of a limited few, the draft enjoyed broad support from the joint agencies and the partner agencies. Further, the underlying plan to supply irrigation water through the system, as had long been planned, enjoyed the support of the entire Utah Congressional Delegation, Utah Governor Mike Leavitt, and countless others at the public hearings held on May 11 and 12, 1998.²³⁰

As the comment period came to a close, a number of key issues began to engender opposition from several key agencies. The EPA, the Utah Department of Environmental Quality, and the Strawberry Water Users Association each made critical comments. The EPA and UDEQ expressed concern over the increase in salinity levels in Utah Lake in the wake of the proposed increase in irrigation in Juab and southern Utah Counties. The agencies felt the increases would place the salinity levels above those allowed by the State water quality standards. Additionally, the EPA and SWUA disagreed over the ability of the water users to convert water rights from the original Strawberry Valley Project to municipal use and replace them with water from the CUP. Because of their continued disagreement over the issue, the SWUA had withdrawn support for the SFN DEIS and the use of their facilities in the proposed SFN system.

As a result of the “serious and significant” comments, in August 1998 all three joint lead agencies—the District, the Department of Interior, and the Mitigation Commission—decided to stop work on the SFN environmental document. At the District’s August Board meeting, the Board’s CUP Completion Committee chairman, Leo Brady, presented a resolution to the board. It called for the separation of the Diamond Fork Tunnel System into a separate document to be prepared as the Final

²³⁰ Ibid, 8; CUWCD Board Minutes, May 13, 1998, 3, 7; “Proponents, Foes of CUP Pipeline Speak Out,” *Deseret News*, May 12, 1998.

Supplement to the Diamond Fork System EIS and to start over on the SFN EIS. In his remarks at the end of the meeting, Don Christiansen summarized the disappointment of Utah's Congressional Delegation and Governor at recent meetings to explain the situation. He then concluded, "We have no choice at this time, but to withdraw the Draft Environmental Impact Statement for the SFN and start over."²³¹

The District proceeded rapidly with the preparation of the final EIS for the Diamond Fork System. The District and other Joint-Lead Agencies submitted the environmental document to the public for comment and then submitted it to the Department of Interior for approval on July 1, 1999. On September 29, 1999 Mark Schaefer, Deputy Assistant Secretary of Water and Science, Department of the Interior, signed the Record of Decision approving the document.²³²

Construction began in August and September 2000 as the tunnel portal site was prepared and mined using conventional techniques. Construction of the tunnel proved extremely difficult. The tunneling machine encountered numerous unmapped springs containing hydrogen sulfide gas. On October 24, 2001, with the tunnel nearly four miles long and eighty percent complete, the tunnel boring machine hit a very large spring. During the following weeks crews tried to seal the fissure with a chemical grout. They pumped 275 gallons of sealant into the cracks with no results. As they continued to

²³¹ Resolution 98-08-17. CUWCD Board Meeting Minutes, August 19, 1998, 14-15, 2-3, 7, 9. See also "Controversial Part of CUP Dries Up and Blows Away," *DN*, October 16, 1998.

²³² "Central Utah Project Completion Act; Notice of Availability of the Record of Decision on the Diamond Fork System Final Supplement to the Final Environmental Impact Statement Documenting the Department of Interior's Approval for the Central Utah Water Conservancy District To Proceed With the Construction of the Proposed Action Alternative," *Federal Register* 64 (October 6, 1999), 54349.

attempt to plug the leaks by grouting, an eight foot section of tunnel wall imploded on January 3, 2002.²³³

As a result of the unsafe levels of hydrogen sulfide gas, the district and contractor, Obayashi-Clyde, reverted to an alternate plan presented in the environmental clearance documents. They also chose to leave the tunnel boring machine in the mountain because of the difficulty involved in any type of salvage operation, and abandon just over a mile (5390 feet) of tunnel.²³⁴ Despite the setbacks encountered in the original tunnel, the crews of Obayashi-Clyde completed the redesigned project six months ahead of the original schedule. District crews began testing the system during the second week of April 2004 just in time for the 2004 irrigation season and a sixth year of drought. Officials, construction crews, and others gathered for the official dedication of the Diamond Fork System on June 1, 2004.²³⁵

The Diamond Fork System is an excellent example of how the District worked hand in hand with the Utah Reclamation Mitigation and Conservation Commission to find the best solution to enhancing the environment while developing and delivering dependable water supply for Utah residents. The District proved willing to invest in a system that not only eliminated a controversial dam and reservoir, but that actually allowed for the restoration and improvement of habitat in Diamond Fork Creek. But even as the District labored with this enormous and complex system of pipelines and

²³³ See comments by Lee Wimmer to CUWCD Board, CUWCD Board Meeting Minutes, January 23, 2002, 5-6. Lee Wimmer, Interview with author, March 24, 2004; Donald Myers, "Cave-in Suspends Tunnel Progress," *Provo Daily Herald*, January 20, 2002;

²³⁴ Lee Wimmer, Interview with author, March 24, 2004; "Tunnel Diverted Around Build-up," *Provo Daily Herald*, April 9, 2002.

²³⁵ CUWCD Annual Report 2004, 5; "New Pipeline Project Key to Delivering CUP Water," *Deseret News*, July 2, 2004.

tunnels, it simultaneously involved itself in several other projects, each one further demonstrating its commitment to act as a good steward. These activities included the planning and environmental impact studies related to the remaining CUP construction—the Utah Lake System and Uintah Basin Replacement Project—as well as construction of other water delivery projects, the conservation of water through numerous projects connected with the Wasatch County Water Efficiency Project and the Conservation Credit Program, and the development and participation in programs designed to reduce consumptive water use.

As the District moved forward with the Diamond Fork System, it also began a thorough reevaluation of the remainder of the proposed system to deliver irrigation water to Juab and southern Utah Counties. Because of ongoing complaints from some environmental groups concerned that urban areas needed the water more than agriculture, the District included an investigation of the possible conversion of part or all of the irrigation supply to municipal use. These new studies and plans became the basis for the Utah Lake System.

The study stirred controversy in the towns in the southern portion of Utah County. They had anticipated having water made available for a growing population through either the conversion of the existing agricultural supplies of the Strawberry Water Users Association, or through the CUP. However, a dispute between the Department of the Interior and Strawberry Water Users had challenged the conversion of their supplies to municipal use. Thus the cities turned their attention to the CUP water. As study and negotiation proceeded, the issue of how much water would stay in southern Utah County and how much would be diverted north towards Salt Lake County became a critical issue.

Eventually, a compromise was reached and the District split the water evenly with 30,000 acre feet for both southern Utah County and Salt Lake County.

The conversion of the Bonneville Irrigation Supply to municipal use required an amendment to the CUPCA. Congressman Chris Cannon first introduced the amendment on July 19, 2001 as HR 2565. The House Subcommittee on Water and Power referred the bill for comment from the Department of the Interior. During the interim period, the District reflected further on additional changes that could enhance the CUP Completion Act. Cannon introduced a revised bill on April 10, 2002 as HR 4129. Senator Bob Bennett introduced similar bills into the Senate.

Action in the house came quickly. Two weeks after introducing the new version of the bill, the House Subcommittee on Water and Power held a hearing. Some minor changes were made to the Bill and it passed to the full Committee on Resources in July. On October 1, 2002 the amendment came to the floor of the House where it quickly passed on a voice vote. The bill was reported to the Senate for action. At first it looked like the bill would die, as the Senate would not take it up before the lame duck session ended. However, to the surprise of District officials, Senator Bennett succeeded in getting a vote in the Senate during the last hours of the last day of the congressional session. President Bush signed the bill which became Public Law 107-366.²³⁶

In addition to the dispute with the SWUA, the other critical issue which road-blocked the SFN was the feared impact on salinity levels in Utah Lake. Thus, as the District moved forward, one of the critical issues was enhancing the ecosystem of the Lake, particularly the endangered June Sucker. Feeling that the District could enhance the fish habitat in the lake, while moving forward with the project, CUWCD Assistant

²³⁶ *Congressional Record*, House of Representatives October 1, 2002, H6875-H6876.

General Manager Gene Shawcroft took a leadership role in developing a fish-friendly plan for the ULS while working closely with partner agencies. Together, they developed an innovative system that delivered project water and helped the endangered fish.

Preventing increases in the salinity levels of the lake was important and the conversion of the water supply from irrigation to municipal use would help prevent the anticipated rise. But another key need for the June Sucker was improved spawning habitat. As Shawcroft and the other District staff moved forward with the planning, they struck upon an innovative concept. They would enhance existing habitat and create additional habitat by diverting water destined for Utah Lake to different streams. To make the full supply of Jordanelle water available, the District had to replace the Provo River water it diverted in Utah Lake. The exchange water would come from Strawberry Reservoir through the Diamond Fork System, into the Spanish Fork River and then into Utah Lake. But through the ULS that water would now be diverted to Hobble Creek and the Lower Provo River. The water would be delivered during key times to simulate spring runoff, maintain minimum stream flows, and create an environment conducive to June Sucker spawning. The plan would increase the costs of the ULS slightly, but demonstrated another instance of the District's willingness to invest in environmental enhancement.²³⁷

The District and other joint-lead agencies filed the Final EIS with the EPA on Sept 20, 2004. The EPA subsequently offered favorable approval of the document. Following a final administrative review, Tom Weimer, Acting Assistant Secretary of Water and Science for the Department of the Interior signed the Record of Decision

²³⁷ Central Utah Water Conservancy District, *Final Environmental Impact Statement* (Orem Utah: Central Utah Water Conservancy District, 2004), 4-1 – 4-9, 4-11 – 4-18. Also, Department of Interior, *Record of Decision for the Utah Lake Drainage Basin Water Delivery System*, 27-30.

designating the preferred alternative on December 22, 2004.²³⁸ This approval was no early Christmas gift. This final approval came as a result of many years of effort, study, and negotiation and marked not only the end of a formal, four-year process, but the end of the years spent on the two previous studies that failed to reach this point. The District's success demonstrates its willing commitment to meet environmental concern, and invest in further environmental enhancement as it acts as a steward of projects that enhance the water supply for Utah's citizens.

The Uintah Basin Replacement Project provides another example of this same environmental commitment, in a similar situation. The District, along with the other joint-lead agencies, had prepared Environmental Impact Statements for the Upalco Replacement and Uintah Replacement Projects. Draft Environmental Impact Statements had been filed in December 1996 and February 1997 respectively and the process appeared to be moving smoothly. However, as the studies progressed, several issues of conflict arose as the District and Department of Interior attempted to negotiate agreements with water users in the Uintah Basin, including the Ute Tribe. The negotiations continued for almost two years. Then, suddenly, as the deadline approached, the Ute Tribal Council voted on April 29, 1999 not to participate in either of the Replacement Projects. This move essentially killed the projects as formulated in their tracks. In the wake of the decision the District reverted to square one to begin from scratch and reformulate a plan and gain environmental clearance. This plan would take shape over the next several years as the Uintah Basin Replacement Project.

²³⁸ Department of Interior, *Record of Decision for the Utah Lake Drainage Basin Water Delivery System*, 29-30, 32.

The District began a reevaluation of the project and consulted with other beneficiaries of the proposed projects, the Moon Lake Water Users Association (MLWUA) and Roosevelt City. Both agencies had water needs that could be met by a smaller project to improve existing structures authorized under section 203(a) of the CUPCA. After studying the possible improvements, the District and partnering agencies determined the best plan to be the enlargement of the existing Big Sand Wash Reservoir owned by the MLWUA. The plan would double the size of the reservoir and provide additional municipal water to Roosevelt City and irrigation water to the MLWUA. The project would not involve any water rights or land associated with the Ute Tribe, who remained unsupportive of the project.

In addition to providing needed irrigation and municipal water, the District and MLWUA identified numerous ways the project could provide significant environmental improvement and enhancement. In 1964 Congress passed the Wilderness Act and in 1966 created the High Uintah Wilderness Area. The area included several reservoirs that irrigation companies had built at the end of the nineteenth century by damming existing lakes. The existence of these reservoirs created a considerable debate during the creation of the wilderness area. However, because the irrigation companies had built the dams using hand and horse drawn equipment, they technically did not violate the definition of wilderness. But many environmentalists and outdoor enthusiasts, as well as the U.S. Forrest Service wanted to see the lakes returned to their former state.

The District had participated with the Bureau and the Mitigation Commission on restoring several lakes in the Uintah Mountains on the Provo River Drainage in conjunction with the construction of Jordanelle Reservoir. This plan had been identified

and recommended by the Forest Service in its 1963 report and subsequently adopted by the Bureau in its 1965 Definite Plan Report. Section 308 of the CUPCA also required the restoration of twelve lakes in the drainage of the Upper Provo River in the Uintah Mountains. Following the completion of Jordanelle, the Bureau transferred the storage capacity of these high mountain reservoirs to the new reservoir and the lakes stabilized at their original levels²³⁹. The District and Mitigation Commission felt they could implement a similar plan to stabilize up to thirteen lakes on the Yellowstone and Lake Fork Rivers as they enlarged the Big Sand Wash Reservoir in the Uintah Basin.²⁴⁰

The District and Department of Interior began work on a new environmental study and Environmental Assessment. After working for over a year and a half on the study they presented it for public review on February 12, 2001. During the public comment period the District received fifty-nine letters, the overwhelming majority expressing strong support for the plan as a win-win situation. Many environmental groups strongly supported the plan to stabilize the thirteen high mountain lakes identified in the Draft Environmental Assessment. In response to these comments the District modified the proposed action to combine two alternatives to stabilize all thirteen lakes and offer improved stream flows on a stretch of the Lake Fork River below the Moon

²³⁹ Three lakes (Trial, Lost, and Washington) have been maintained to supply irrigation water to farmers in the Kamas area above Jordanelle Reservoir. The Bureau and District rebuilt the dam at Trial Lake in 1989 and Lost Lake and Washington Lake Dams in 1994-1995. The District and Mitigation Commission partnered on the stabilization of twelve lakes stipulated in section 308—Big Elk, Crystal, Duck, Fire, Island, Long, Wall, Marjorie, Pot, Star, Teapot and Weir—to their natural water levels.

²⁴⁰ Stabilization of thirteen high mountain lakes will provide constant lake water levels year-round. Nine of these lakes (Bluebell, Drift, Five Point, Superior, Milk, Farmers, East Timothy, White Miller, and Deer) are located in the Upper Yellowstone River watershed and four (Brown Duck, Island, Kidney and Clements) are in the upper Lake Fork watershed. Central Utah Water Conservancy District and Department of Interior Central Utah Project Completion Act Office, *Finding of No Significant Impact* (Provo, UT:CUWCD, 2001), 2.

Lake Reservoir.²⁴¹ Following a public comment period that ended March 16 the District and DOI publicly negotiated the contracts and agreements for the project. The Department of Interior issued a “Finding of No Significant Impact” or FONSI for the Uintah Basin Replacement Project on October 22, 2001.²⁴²

The plan to restore the thirteen lakes in the High Uintah Wilderness, along with the improvements to stream and riparian habitat in conjunction with the Uintah Basin Replacement Project, the Utah Lake System, and the Diamond Fork System, the restoration of the Provo River between Jordanelle and Deer Creek Reservoirs, and numerous other projects have been applauded by numerous environmental groups. While the direction these same projects may have taken if control had been left to the Bureau can be nothing more than a speculative debate, it is clear that these efforts demonstrate that the CUWCD has been more responsive to the concerns and demands of environmental interests. It also demonstrates that the District has demonstrated a commitment to the environmental obligations it undertook as part of the CUP Completion Act, and has looked for additional ways to utilize its resources to enhance the environment.

One of the important environmental goals of the CUPCA, outlined in section 207, was the conservation of water supplies to achieve maximum benefit from the investment in the CUP and to forestall costly future water development projects. The District’s implementation of Conservation Credit Program has fulfilled these goals and proven

²⁴¹ Ibid 2; The fifty nine letters and responses are reproduced in, U.S. Department of the Interior, *Final Environmental Assessment on the Section 203(a), Uintah Basin Replacement Project* (Orem, UT:CUWCD, 2001), 4-3 - 440.

²⁴² CUWCD Board Meeting Minutes, October 24, 2001, 3,5; CUWCD Annual Report 2001, 7.

highly successful. Each year this program identifies and funds several projects that save water that would otherwise be wasted. While many of these projects fall under the traditional conservation of supply that the District has always recognized, many address the need and ability to reduce the demand for water supplies the District develops.

These projects have ranged in scope and size, but all have reduced the amount of water needed from the District's reservoirs. The District has provided matching funds for numerous projects. Several of these projects have included the conversion of irrigation systems from the practice of flood irrigation to more efficient pressurized sprinkler systems. In other instances the District has facilitated the construction of secondary irrigation systems in several municipalities. These systems eliminate the need to use treated drinking water to irrigate lawns and gardens. Additionally, at some point these systems could be supplied with water that is too expensive to treat to drinking standards but is acceptable for watering lawns.

To help reduce the amount of water needed for lawns and gardens the District has provided funds for the Jordan Valley Water Conservancy District's Demonstration Garden, and is in the process of constructing its own demonstration garden at its Orem Headquarters. Both of these gardens help homeowners select plants and grasses that need less water by seeing them in a setting typical to most home gardens and yards. In addition to these educational efforts, the District has utilized non-CUPCA funds to further its conservation education program. It has maintained a "virtual demonstration garden" on its website for many years, and has conducted an educational outreach program to teach about water and conservation to fourth graders. It also partnered with the Jordan Valley Water Conservancy District in its original "Slow the Flow" campaign

launched in 2000 and has since continued to partner in the program since its adoption by the Governor's Water Conservation team. All of the conservation programs have realized real water savings. The thirty-three projects implemented through the Water Conservation Credit Programs alone have saved 94,969 acre feet of water.²⁴³

Some of this water has been put to use by those partnering in the projects. In other cases the water has been used for environmental enhancement. Two of these projects include enclosing irrigation canals in Provo. The CUPCA authorized the District to purchase water rights from willing sellers to keep water in the lower Provo River. Some sellers were found, but not enough to meet the expectations outlined in CUPCA. As a result the District used another approach to find the water needed to enhance and maintain fish habitat. In 2004 it funded a project to enclose the Upper East Union Irrigation Canal, which runs across the campus of Brigham Young University. The District estimated that seepage and evaporation resulted in the loss of 42 percent of the canal's water. The District paid to enclose the canal in exchange for a 42 percent share in the irrigation company's water. The saved water will stay in the Provo River to benefit the fish population and the endangered June Sucker. The additional water planned to be delivered by the ULS will allow the District to provide the required 75 cfs flow in the river.²⁴⁴

The District has also moved closer to another significant canal enclosure. It has partnered with the Provo River Water Users, Jordan Valley Water Conservancy District, and the Metropolitan Water District of Salt Lake and Sandy to enclose the Murdock

²⁴³ CUWCD Annual Report 2004, 7.

²⁴⁴ Lee Wimmer, interview with author March 24, 2004; Christi Babbitt, "BYU Canal Finds New Purpose," *Provo Daily Herald*, May 5, 2004;

Canal. The canal delivers drinking and irrigation water to Salt Lake and northern Utah Counties. Enclosing the canal will prevent loss of water due to seepage and evaporation and result in additional water for the District. The project will enhance safety by eliminating the potential for drowning accidents in the current open canal. Since the canal's construction, seventeen people have drowned in its waters. Enclosing the canal will enhance the water quality by keeping runoff and trash from surrounding areas out of the water and provide added security to the water supply.

In addition to these projects, the District's engineering department has been working to clean another water supply in Utah. In 1999 the Congress authorized the transfer of Red Butte Reservoir to the District. The Army built the reservoir in the 1930s to supply water to Fort Douglas in the foothills above Salt Lake City. After the Army decommissioned the fort, nobody wanted to take control of the aging reservoir. The Assistant State Engineer for Dam Safety listed Red Butte as a "high hazard" dam. But, the reservoir contained a population of endangered June Sucker that had been introduced in 1992 to prevent the loss of the species. As a partner in the June Sucker Recovery Implementation Program the District felt the reservoir would provide a significant resource in the recovery plans. Congress authorized \$6 million toward the rebuilding of the dam. After completing the environmental clearance documents, management and ownership passed to the District in 2004.²⁴⁵

Between late April and early June the District transferred the adult June Suckers from the reservoir to Utah Lake and smaller June Suckers to Ensign Ponds to keep them safe from predators in Utah Lake. It then began draining the reservoir in preparation for

²⁴⁵ Donna Kemp Spangler "Central Utah Water District to Take Over Red Butte Dam," *Deseret News*, September 1, 1999;

the reconstruction of the dam. When complete, the reservoir will provide an essential role in the recovery program by offering a long term refuge for a back-up population.

The work at Red Butte Rehabilitation thus fits within the other programs in which the District committed to take extraordinary efforts in the recovery of the June Sucker and other projects to provide environmental restoration and enhancement. These programs, along with the ongoing conservation programs not only demonstrate the District's commitment to environmental responsibility but provide real benefits to the plants and animals that share Utah's resources with us.

Conclusion

The fourteen years since the passage of the Central Utah Project Completion Act have brought significant change to the Central Utah Project. It deleted several economically questionable irrigation projects in the original plan and killed plans for the "Ultimate Phase," the direct diversion of water from the Green River from Flaming Gorge Reservoir. The Completion Act required additional environmental mitigation overseen by an independent commission. Many of the mitigation efforts undertaken by the commission not only repaired and compensated for damage caused by the CUP, but sought to repair a legacy of environmental damage inflicted by a hundred years of water diversions undertaken by private, local, state, and federal interests. The Completion Act resolved an environmental justice claim, compensating the Northern Ute Tribe for their water rights lost to water development. It required implementation of progressive water conservation efforts. Finally, it required unprecedented local commitment through a thirty-five percent cost share.

In many ways the changes made to the Central Utah Project as a result of the compromise required during the Completion Act negotiations fulfilled the frustrated attempts of environmental advocates to alter the CUP over twenty-five years. The concerns addressed by the legislation were the same concerns expressed by the Forest Service in 1963, by the Utah Fish and Wildlife Service and Utah Wilderness Foundation in 1965, by countless groups in the original environmental statement completed in 1973, by the Sierra Club and others involved in the 1974 lawsuit, by President Carter's 1977 "hit list," and by local and national environmental groups throughout the 1980s.

In addition to the changes mandated within the Completion Act, the new requirements resulted in additional ongoing changes to the CUP. One of the biggest complaints against the project was the heavily subsidized and economically questionable Bonneville Irrigation and Drainage System which remained in the project. But, the new environmental requirements and increased cost share prompted Millard and Sevier Counties, as well as the Northern Ute Tribe to withdraw from CUP irrigation projects. Despite some skepticism, the change placing the Central Utah Water Conservancy District in charge proved beneficial as the District altered its plans, albeit sometimes reluctantly, in response to continued environmental concerns. The District dropped the Monks Hollow Dam and in its place built tunnels and pipelines that allowed the restoration of Diamond Fork Creek. They altered plans for the Bonneville Irrigation and Drainage Supply, converting all of the water to municipal use. The new Utah Lake System to implement this plan includes significant measures to protect and enhance the habitat for the endangered June Sucker. The Uintah Basin Replacement Project restores

thirteen lakes in the High Uintah Wilderness Area, an action sought by wilderness advocates since 1964.

These changes to the CUP wrought by the passage and implementation of the CUPCA illustrate three historical shifts. First, the Completion Act facilitated a continued shift in the purpose of reclamation projects from irrigation to municipal supplies. Second, the transfer of construction oversight from the Bureau to the CUWCD marked an end of an era for the Bureau of Reclamation. Finally, these changes demonstrate the marked shift in power and priorities from the Old West to the New West.

BIBLIOGRAPHY

PRIMARY SOURCES

DOCUMENTS

Chronological Status Report : Water Resource Issues Ute Tribe & Central Utah Project. American Fork, Utah: Horrocks/Carollo Engineers, 1987.

Central Utah Water Conservancy District. *Municipal & Industrial System, Central Utah Water Project, Bonneville Unit.* Orem, Utah: The District, 1984.

_____. *Annual Report.* Orem, Utah: Central Utah Water Conservancy District, 1965-2004.

_____. *Minutes, Board of Directors/Trustees. 1964-2005.*

_____. *Construction Report.* Orem, Utah: CUWCD.

Citizens for a Responsible CUP. *Issue Papers: The Central Utah Project.* Salt Lake City: Citizens for A Responsible Central Utah Project, 1978.

Hampshire, David. "The CUP Runneth Over." *Utah Holiday*, 1991.

League of Women Voters of Utah. *Challenges of the Future for Utah's Water Policies.* Salt Lake City, Utah: League of Women Voters of Utah, 1980.

Osann, Edward R. "Water Resources: The Central Utah Project Completion Act." *Environment* 34 no. 2 (1992): 2-3.

Sierra Club, et al. V Gilbert Stamm, Commissioner, U.S. Bureau of Reclamation, et. al., United States Court of Appeals for the Tenth Circuit, No 74-1425.

United States. Congress (102nd, 2nd session : 1992). *Reclamation Projects Authorization and Adjustment Act of 1992 : Conference Report (to Accompany H.R. 429).* Report / 102d Congress, 2d Session, House of Representatives; 102-1016. Washington, D.C.: U.S. G.P.O., 1992.

United States. Congress. House. Committee on Interior and Insular Affairs. *Increasing the Amounts Authorized for the Colorado River Storage Project: Report (to Accompany H.R. 3408) (Including Cost Estimate of the Congressional Budget Office).* Report / 100th Congress, 2d Session, House of Representatives ; 100-915. Washington, D.C.: U.S. G.P.O., 1988.

United States. Congress. House. Committee on Interior and Insular Affairs. Subcommittee on Water and Power Resources. *Proposals to Raise the Authorized*

Cost Ceiling for the Colorado River Storage Project : Hearings before the Subcommittee on Water and Power Resources of the Committee on Interior and Insular Affairs, House of Representatives, One Hundredth Congress, Second Session, on H.R. 3408 ... Hearings Held April 18, 1988: Salt Lake City, UT; may 4, 1988: Washington, DC. Washington: U.S. G.P.O, 1989.

_____. *Supplemental Repayment Contract for the Bonneville Unit, Central Utah Project : Oversight Hearing before the Subcommittee on Water and Power Resources of the Committee on Interior and Insular Affairs, House of Representatives, Ninety-Ninth Congress, Second Session ... Hearing Held in Washington, DC, March 11, 1986. Washington: U.S. G.P.O, 1987.*

United States. Congress. House. Committee on Interior and Insular Affairs. Subcommittee on Water, Power, and Offshore Energy Resources. *Central Utah Project Completion Act: Hearing before the Subcommittee on Water, Power, and Offshore Energy Resources of the Committee on Interior and Insular Affairs, House of Representatives, One Hundred First Congress, Second Session, on H.R. 3960 ... Hearing Held in Washington, DC, February 6, 1990. Washington: U.S. G.P.O, 1991.*

United States. Congress. House. Committee on Natural Resources. *Legislative History, Miscellaneous Articles, and Background Information Related to Public Law 102-575 Reclamation Projects Authorization and Adjustment Act of 1992. Washington: U.S. G.P.O, 1993.*

United States. Congress. House. Committee on Resources. Subcommittee on Water and Power Resources. *H.R. 3112, to Amend the Colorado Ute Indian Water Rights Settlement Act to Provide for a Final Settlement of the Claims of the Colorado Ute Indian Tribes, and for Other Purposes : Hearing before the Subcommittee on Water and Power of the Committee on Resources, House of Representatives, One Hundred Sixth Congress, Second Session, may 11, 2000, Washington, DC. Washington: U.S. G.P.O, 2000.*

United States. Congress. House. Committee on Natural Resources. *Applicability of Warren Act to Central Utah Project and Eligibility of District Employees and Board Members to Serve on Utah Reclamation Mitigation and Conservation Commission : Report (to Accompany H.R. 4615) (Including Cost Estimate of the Congressional Budget Office). Washington, D.C.: U.S. G.P.O., 1994.*

United States. Congress. Senate. Committee on Energy and Natural Resources. *Reclamation Projects Authorization and Adjustment Act of 1992: Report of the Committee on Energy and Natural Resources, United States Senate, to Accompany H.R. 429, Together with Additional Views. Report / 102d Congress, 2d Session, Senate ; 102-267. Washington: U.S. G.P.O., 1992.*

United States. Congress. Senate. Committee on Energy and Natural Resources. Subcommittee on Water and Power. *Safety of Jordanelle Dam, Central Utah Project: Hearing before the Subcommittee on Water and Power of the Committee on Energy and Natural Resources, United States Senate, One Hundred Second Congress, Second Session ... Heber City, UT, February 1, 1992.* Senate Hearing 102-526. Washington: U.S. G.P.O, 1992.

_____. *Central Utah Project Completion Act: Hearing before the Subcommittee on Water and Power of the Committee on Energy and Natural Resources, United States Senate, One Hundred First Congress, Second Session, on S. 2969 ... September 18, 1990.* Senate Hearing 101-1110. Washington: U.S. G.P.O, 1990.

_____. *Hearing before the Subcommittee on Water and Power of the Committee on Energy and Natural Resources, United States Senate on S. 1737 Providing for the Completion of the Colorado River Storage Project..., June 9, 1988.* Senate Hearing 100-877. Washington D.C.: U.S. G.P.O, 1988.

United States. Congress. Senate. Select Committee on Indian Affairs. *Colorado Ute Indian Water Rights Settlement Act of 1987: Joint Report (to Accompany S. 1415).* Report / 100th Congress, 2d Session, Senate; 100-555. Washington, D.C.: U.S. G.P.O., 1988.

United States. Department of Agriculture, Office of Experiment Stations. *Report of Irrigation Investigations in Utah, Under the Direction of Elwood Mead, Chief of Irrigation Investigations.* Washington, DC: U.S. Government Printing Office, 1903.

United States. Department of Agriculture, Forest Service. *Central Utah Project: A multiple use analysis of the Relationship of the Proposed Central Utah Project (Initial Phase) Bonneville Unit to the Management of the Ashley, Uintah, and Wasatch National Forests.* Ogden, Ut.: Intermountain Region, 1963.

United States. Department of the Interior. Bureau of Reclamation. *Annual Report of the Reclamation Service.* Washington D.C., 1902-2005.

_____. *Central Utah Project, Bonneville Unit, General Map.*

_____. *Central Utah Project, Bonneville Unit, Diamond Fork System, Final Supplement to the Final Environmental Impact Statement.* Salt Lake City: Bureau of Reclamation, Upper Colorado Region, 1990.

_____. *Central Utah Project Initial Phase Bonneville Unit, Definite Plan Report, August 1965.* Salt Lake City: Bureau of Reclamation, Region 4, 1965.

_____. *Central Utah Project, Utah: A Supplement to the Colorado River Storage Project Report, 1951.*

- _____. *Final Environmental Statement, Authorized Bonneville Unit, Central Utah Project, Utah*. August 2, 1973.
- _____. *Final Supplement to the Final Environmental Statement, Municipal and Industrial System, Bonneville Unit, Central Utah Project: Summit, Wasatch, Utah, and Salt Lake Counties, Utah*. Salt Lake City, Utah: Bureau of Reclamation, 1987.
- _____. *Provo River Project: Utah, Salt Lake, Summit, Utah, and Wasatch Counties*. Washington, D.C.: Bureau of Reclamation, 1983.
- _____. *Upalco Unit, Central Utah Project, Definite Plan Report*. Rev. ed. Salt Lake City, Utah: U.S. Bureau of Reclamation, Region 4, 1969.
- _____. *Utah, Bureau of Reclamation Projects*. Washington, D.C.: Bureau of Reclamation, 1983.
- _____. *Water 2025: Preventing Crises and Conflict in the West*. Washington, D.C.: Bureau of Reclamation, 2003.
- United States. Western Water Policy Review Advisory Commission. *Water in the West : The Challenge for the Next Century : Report of the Western Water Policy Review Advisory Commission*. Arlington, Va: The Commission, 1998.
- University of Utah. Community Planning Workshop (1993). *Jordanelle Dam Regional Impact Study*.
- Utah Board of Water Resources. *Bear River Basin : Planning for the Future*. Salt Lake City, Utah: Utah Division of Water Resources, 2004.
- _____. *The State of Utah Water, 1975-80: Comprehensive Water Planning Program; Comprehensive Water Planning Program*. Salt Lake City: Utah Division of Water Resources, 1972.
- _____. *The State of Utah Water, 1978*. Comprehensive Water Planning Program. Salt Lake City: Utah Division of Water Resources, 1978.
- _____. *Utah State Water Plan: Uintah Basin*. Salt Lake City, UT: Utah Division of Water Resources, 1999.
- _____. *Utah's Water Resources : Planning for the Future*. Salt Lake City, Utah: Utah Division of Water Resources, 2001.
- Utah. Dept. of Natural Resources. *State Review, Bonneville Unit, Central Utah Project*. Final report ed. Salt Lake City: Utah Natural Resources, 1984.

Utah. Legislature. Office of the Legislative Auditor General. *A Performance Audit of the Central Utah Water Conservancy District*. Report to Utah State Legislature ; no. 89-12. Salt Lake City, Utah: Office of the Legislative Auditor General, State of Utah, 1989.

_____. *A Performance Audit of the Salt Lake County Water Conservancy District*. Report to Utah State Legislature ; no. 89-09. Salt Lake City, Utah: State of Utah, Office of Legislative Auditor General, 1989.

Utah Water and Power Board. *Water for Utah: Report of the Utah Water and Power Board, Salt Lake City, Utah, July 1, 1948*. Salt Lake City: Utah Water and Power Board, 1948.

_____. "Central Utah Project, Echo Park Damsite." Salt Lake City: Utah Water and Power Board, [1947].

Van Dam, Paul. "First Interim Report: Bonneville Unit – CUP Water Alternatives: Water Management." July 5, 1977

_____. "Water Resources of Salt Lake County; An Alternative View." April 3, 1978.

Woolley, Ralf R. *Water Powers of the Great Salt Lake Basin*, United States Geological Survey, Department of Interior Washington D.C.: Government Printing Office, 1924.

ORAL HISTORY INTERVIEWS

Beard, Daniel P. Interview by Brit Allan Storey, 1993-1995. Washington D.C.

Brady, Leo. Interview by author. April 12, 2004. Duchesne, Duchesne County, Utah.

Christiansen, Don. Interview by author, March 24, 2004 and September 20, 2005. Orem, Utah County, Utah.

Clyde, Steven Edward. Interview by author. July 28, 2005, Salt Lake City, Salt Lake County, Utah.

Garrett, Roscoe. Interview by author. April 16, 2004, Nephi, Juab County, Utah.

Garn, Jake. Interview by author, March 25, 2004, Salt Lake City, Salt Lake County, Utah.

Faust, Marcus. Interview by author, August 10, 2005, West Jordan, Salt Lake County, Utah.

Finnlinson, Christine. Interview by author, July 28, 2005. Orem, Utah County, Utah.

Hilbert, Robert. Interview by author, May 20, 2004, Salt Lake City, Salt Lake County, Utah.

Johnston, Ronald. Interview by author, April 9, 2004, Provo, Utah County, Utah.

Nielson, Howard C. Interview by author, June 29, 2006, Provo, Utah County, Utah.

Maloney, Gerald K. Interview by author, August 10, 2004. Draper City, Salt Lake County, Utah.

Ovard, David G. Interview by author, June 30, 2004. West Jordan, Salt Lake County, Utah.

Searsalnd, Beatty. Interview by author, July 2005. Orem, Utah County, Utah.

Shawcroft, Gene. Interview by author, June 18, 2004, Orem, Utah County, Utah.

Tullis, Rich. Interview by author, July 2005, Orem, Utah County, Utah.

Weland, Michael. Interview by author. May, 14 2004, Salt Lake City, Salt Lake County, Utah.

Wilson, Ted. Interview by author, July 2005, Salt Lake City, Salt Lake County, Utah.

Wimmer, Lee. Interview by author, March 24, 2004, Orem, Utah County, Utah.

Wirth, Barry. Interview by author, April 6, 2004, Salt Lake City, Salt Lake County, Utah.

NEWSPAPERS

Deseret News

Salt Lake Tribune

High Country News

New York Times

Provo Daily Herald

Wasatch Wave

Washington Post

Vernal Express

SECONDARY SOURCES

Alexander, Thomas G. "An Investment in Progress: Utah's First Federal Reclamation Project, the Strawberry Valley Project." *Utah Historical Quarterly* 39 (1971): 286-304.

_____. "Interdependence and Change: Mutual Irrigation Companies in Utah's Wasatch Oasis in an Age of Modernization, 1870-1930." *Utah Historical Quarterly* 71 (Fall, 2003): 292-314.

_____. "Irrigating the Mormon Heartland: The Operation of the Irrigation Companies in Wasatch Oasis Communities, 1847-1880." *Agricultural History* 76 (Spring, 2002): 172-187.

_____. "Stewardship and Enterprise: The LDS Church and the Wasatch Oasis Environment, 1847-1930." *Western Historical Quarterly* 25 (Autumn, 1994): 340-364.

Alexander, Thomas G., ed. *Great Basin Kingdom Revisited, Contemporary Perspectives*. Logan, Utah: Utah State University Press, 1991.

_____. *Utah, the Right Place: The Official Centennial History*. 2nd rev. and updated. Salt Lake City, Utah: Gibbs Smith Publishers, 2003.

Alexander, Thomas G and James B. Allen. *Mormons and Gentiles: A History of Salt Lake City*. Boulder, CO: Pruett Publishing Company, 1984.

Anderson, D. Larry. *The Colorado River: Utah's Perspective*. Salt Lake City, Utah: State of Utah, Natural Resources, Division of Water Resources, 1997.

Arrington, Leonard J. *Great Basin Kingdom, and Economic History of the Latter-day Saints, 1830-1900*. Cambridge: Harvard University Press, 1958.

_____. "Utah's Great Drought of 1934." *Utah Historical Quarterly* 54 (Summer 1986): 245-264.

Arrington, Leonard J. and Dean May, "'A Different Mode of Life:' Irrigation and Society in Nineteenth-Century Utah," *Agricultural History* 49 (January 1975): 3-20.

- Arrington, Leonard J., and Thomas G. Alexander. *Water for Urban Reclamation: The Provo River Project*. Utah Resources Series, 29. Logan, Utah: Utah State University, 1966.
- Ashley, Jeffrey, and Robert L. Jones. "The Central Utah Project." *Journal of Land, Resources, and Environmental Law* 22, (2002):273-307.
- Bates, Sarah F., et al. *Searching Out the Headwaters: Change and Rediscovery in Western Water Policy*. Washington, D.C.: Island Press for the Natural Resources Law Center, University of Colorado School of Law, 1993.
- Carson, Rachel. *Silent Spring*. Boston: Houghton Mifflin, 1962.
- Cassuto, David N. *Dripping Dry: Literature, Politics, and Water in the Desert Southwest*. Ann Arbor: University of Michigan Press, 2001.
- Clyde, George D. "History of Irrigation in Utah," *Utah Historical Quarterly* 27 (January 1959): 27-36.
- Endter, Joanna Lynne. "Cultural Ideologies and the Political Economy of Water in the United States West: Northern Ute Indians and Rural Mormons in the Uintah Basin, Utah." Ph.D. Diss., University Of California, Irvine, 1987.
- Folk-Williams, John A. *What Indian Water Means to the West: A Sourcebook*. Santa Fe, N.M: Western Network, 1982.
- Frederick, Kenneth D. *Water for Western Agriculture*. Washington, D.C; Baltimore, Md: Resources for the Future; Distributed by Johns Hopkins University Press, 1982.
- Harris, Chauncy D. "Location of Salt Lake City." *Economic Geography* 17 (April, 1941): 204-212.
- Harris, Fisher Sanford. *One Hundred Years of Water Development*. Salt Lake City: Metropolitan Water District of Salt Lake City, 1942.
- Harvey, John Swenson. "A Historical Overview of the Evolution of Institutions Dealing with Water Resource Use and Water Resource Development in Utah - 1847 through 1947." Master's Thesis, Utah State University, 1989.
- Harvey, Mark W. T. *A Symbol of Wilderness: Echo Park and the American Conservation Movement*. Seattle: University of Washington Press, 2000.
- Holmes, Edward W. "The Uinta National Forest: An Environmental Study." Master's Thesis, Brigham Young University, 1990.

- Hundley, Norris. *The Great Thirst, California and Water: A History, revised edition*. Berkeley: University of California Press, 2001.
- _____. *Water and the West: The Colorado River Compact and the Politics of Water in the American West*. Berkeley: University of California Press, 1975.
- _____. "Water and the West in Historical Imagination." *Western Historical Quarterly* 27 (Spring, 1996): 4-31.
- Jackson, Donald C. *Building the Ultimate Dam: John S. Eastwood and the Control of Water in the West*. Lawrence: University Press of Kansas, 1995.
- Jackson, Richard. "Mormon Perception and Settlement." *Annals of the Association of American Geographers* 68 (Sept., 1978): 317-334.
- Jefferson, Mark. "Utah, Oasis at the Wasatch." *Geographical Review* 1 (May, 1916): 346-358.
- Johnston, Ronald and Reed R. Murray. "History of the Central Utah Project, A Federal Perspective." Provo, UT: Central Utah Project Completion Office, 2000.
- Kendrick, Gregory D., ed. *Beyond the Wasatch: The History of Irrigation in the Uinta Basin and Upper Provo River Area of Utah*. Washington, D.C: U.S. Government Printing Office, 1989.
- Leopold, Aldo. *Sand County Almanac*. New York: Oxford University Press, 1949.
- Limerick, Patricia Nelson. *Something in the Soil: Legacies and Reckonings in the New West*. New York: W.W. Norton, 2000.
- Limerick, Patricia Nelson, Clyde A. Milner II, and Charles E Rankin, eds. *Trails: Towards a New Western History*. Lawrence: University Press of Kansas, 1991.
- MacKay, Kathryn. "The Strawberry Valley Reclamation Project and the Opening of the Uintah Indian Reservation." *Utah Historical Quarterly* 50, (1982): 68-89.
- McCool, Daniel, ed. *Waters of Zion: The Politics of Water in Utah*. Salt Lake City: University of Utah Press, 1995.
- McGuire, Thomas R., William B. Lord, and Mary G. Wallace, eds. *Indian Water in the New West*. Tucson: University of Arizona Press, 1993.
- Meinig, D. W. "American Wests: Preface to a Geographical Interpretation." *Annals of the Association of American Geographers* 62 (June, 1972): 159-184.

- _____. "The Mormon Culture Region: Strategies and Patterns in the Geography of the American West, 1847-1964." *Annals of the Association of American Geographers* 55 (1965): 191-220.
- Melling, Thomas. "The CUP Holds the Solution: Utah's Hybrid Alternative to Water Markets." *Journal of Energy, Natural Resources, and Environmental Law* 13, (1993): 184-202.
- _____. "Dispute Resolution Within Legislative Institutions." *Stanford Law Review* 46, (1993): 1677-1714.
- Metcalf, Warren R. "Arthur V. Watkins and the Indians of Utah: A Study of Federal Termination Policy." Ph.D. Diss., Arizona State University, 1995.
- Miller, Char, ed. *Water in the West: A High Country News Reader*. Corvallis, Or: Oregon State University Press, 2000.
- Miller, Jon R. "The Political Economy of Western Water Finance: Cost Allocation and the Bonneville Unit of the Central Utah Project." *American Journal of Agricultural Economics* 69, no. No. 2 (1987): 303-310.
- _____. "On the Economics of Western Local Water Finance: The Central Utah Experience." *Land Economics* 69, no. No. 3 (1983): 299-303.
- Miller, Tim Ralph. "Politics of the Carter Administration's Hit List Water Initiative: Assessing the Significance of Subsystems in Politics." Ph.D. Diss., University of Utah, 1984.
- Nash, Roderick. *Wilderness and the American Mind*, Third Edition. New Haven: Yale University Press, 1982.
- Nelson, Shaun R., ed. *History of the Uinta National Forest: A Century of Stewardship*. Uinta National Forest, 1997.
http://www.fs.fed.us/r4/uinta/about/history/unf_history/pdf/unf_history_all.pdf
- Pisani, Donald J. *From the Family Farm to Agribusiness: The Irrigation Crusade in California and the West, 1850-1931*. Berkeley: University of California Press, 1984.
- _____. *To Reclaim a Divided West: Water, Law and Public Policy, 1848-1902*. Albuquerque: University of New Mexico Press, 1992.
- _____. *Water and American Government: The Reclamation Bureau, National Water Policy, and the West, 1902-1935*. Berkeley: University of California Press, 2002.
- _____. *Water, Land, and Law in the West: The Limits of Public Policy, 1850-1920*. Development of Western Resources. Lawrence: University Press of Kansas, 1996.

- Reich, Charles A. *The Greening of America*. New York: Random House, 1970.
- Reisner, Marc. *Cadillac Desert: The American West and its Disappearing Water*. Rev. and updated ed. New York: Penguin Books, 1993.
- . *Overtapped Oasis : Reform Or Revolution for Western Water*. Washington, D.C: Island Press, 1990.
- Robinson, Michael C. *Water for the West: The Bureau of Reclamation 1902-1977*. Chicago: Public Works Historical Society, 1979.
- Scheffer, Victor B. *The Shaping of Environmentalism in America*. Seattle: University of Washington Press, 1991.
- Schulte, Steven C. *Wayne Aspinall and the Shaping of the American West*. Boulder: University of Colorado Press, 2002.
- Sproul, David Kent. "Environmentalism and the Kaiparowits Power Project, 1964-1976." *Utah Historical Quarterly* 70 (Fall, 2002): 356-371.
- Sturgeon, Stephen C. *The Politics of Western Water: The Congressional Career of Wayne Apsinall*. Tuscon: University of Arizona Press, 2002.
- Taylor, Joseph E., III. "The Many Lives of the New West." *Western Historical Quarterly* 35 (Summer 2004), 141-166.
- Terrell, John Upton. *War for the Colorado River*. Western Lands and Waters Series ; 4-5. Vol. 2. Glendale, California: The Arthur H. Clark Company, 1965.
- Tyler, Daniel. *Silver Fox of the Rockies: Delphus E. Carpenter and Western Water Compacts*. University of Oklahoma Press, 2003.
- Warne, William E. *The Bureau of Reclamation*. New York: Praeger, 1973.
- Weatherford, Gary D. *Water and Agriculture in the Western U.S.: Conservation, Reallocation, and Markets*. Studies in Water Policy and Management; no. 2; Studies in Water Policy and Management ; no. 2. Boulder, Co: Westview Press, 1982.
- Wehr, Kevin. *America's Fight Over Water: The Environmental and Political Effects of Large-Scale Water Systems*. New York: Routledge, 2004.
- Weinberg, Marca. *Water use Conflicts in the West: Implications of Reforming the Bureau of Reclamation's Water Supply Policies*. CBO Study. Washington, D.C: Congress of the United States, Congressional Budget Office, 1997.
- Welsh, Frank. *How to Create a Water Crisis*. Boulder, CO: Johnson Books, 1985.

White, Charles Langdon. "The Agricultural Geography of the Salt Lake Oasis." Ph.D. Diss., Clark Univeristy, 1925.

_____. "The Insular Integrity of Industry in the Salt Lake Oasis." *Economic Geography* 1 (Jul., 1925): 206-235.

White, Richard. *"It's Your Misfortune and None of My Own": A New History of the American West*. Norman: University of Oklahoma Press, 1991.

Wilkinson, Charles F. *Crossing the Next Meridian: Land, Water, and the Future of the West*. Washington, D.C: Island Press, 1992.

Worley, Timothy Charles. "Reclamation Policy and the West: Changing Currents/Current Changes." Ph.D. Diss., Claremont Graduate University, 1999.

Worster, Donald, ed. *The Ends of the Earth : Perspectives on Modern Environmental History*. Studies in Environment and History. Cambridge England; New York: Cambridge University Press, 1988.

_____. "New West, True West." *Western Historical Quarterly* 18 (April, 1987), 141-156.

_____. *Rivers of Empire : Water, Aridity, and the Growth of the American West*. 1st ed. New York: Pantheon Books, 1985.

_____. *Under Western Skies : Nature and History in the American West*. New York; Oxford: Oxford University Press, 1992.