Table of Contents
Final draft September 2014

Introduction….. p. i

Chapter I Utah's Fertile Crescent: The Geographic Setting….. p. 1
The Mormons
Water in Territorial Utah
Beyond the Mountains
Reclaiming the Desert under Federal Authority

Chapter II Water and Statehood…..p. 28
National Irrigation Congress
Ceding the Public Lands
Statehood
Opening the Uintah Indian Reservation

Chapter III State Sovereignty v. Federal Necessity…..p. 51
Newlands Reclamation Act
Strawberry Valley Project

Chapter IV Divide and Share: The Colorado River…..p. 68
League of Southwest
Colorado River Compact
Mexico and the Colorado River
The Arizona Dilemma
Boulder Canyon Project Act

Chapter V Setting the Stage: Water to the People…..p. 120
Drought and Depression
Great Salt Lake Basin Project
Provo River Project
Moon Lake Project
Gooseberry and Emery County Projects
Reclamation and WW II
Upper Colorado River Basin Compact
Central Utah Project (Ultimate Phase)
Colorado River Storage Project Act
Central Utah Project (Initial Phase)

Chapter VI Central Utah Project Proposal: Support and Opposition…..p. 184
Water Conservancy Act
District Headquarters
Repayment Contract
Vernal Unit
Jensen Unit
National Environmental Policy Act (NEPA)
Sierra Club Lawsuit
Duchesne Government Camp
Starvation Complex
Bottle Hollow
Upalco Unit
Uintah Unit
Ute Indian Unit

Chapter VII The Bonneville Unit: "It is all downhill" ..... p. 253
- Strawberry Complex
- Enlarged Strawberry Reservoir
- Layout Creek, Current Creek and Vat Tunnels
- Stillwater Tunnel and Upper Stillwater Dam
- Hades and Rhoads Tunnels
- West Fork Pipeline, Vat Diversion Dam and the 1980 Stream flow Agreement
- Environmental Reprisals
- President Carter’s Hit List

Chapter VIII Extending the CUP: Municipal and Industrial ..... p. 296
- Water Treatment Plants
- Olmsted Tunnel and Flow Line
- Timpanogos Planning and Water Management Agency
- Jordanelle Dam

Chapter IX Central Utah Completion Act: Conflict Resolution ..... p. 339
- Supplemental Repayment Contract
- Congressional Reauthorization

Chapter X A New Vision: CUPCA, the CUP, and the CUWCD ..... p. 391
- Central Utah Water Conservancy District
- Duchesne River Area Canal Rehabilitation Project
- Central Utah Project Completion Act Office
- Partnering with Reclamation
- Utah Reclamation Mitigation and Conservation Commission
- Local Cost Share and Prepayment Option

Chapter XI An Eye to the Future: Completing the CUP ..... p. 428
- Uinta Basin Replacement Project
- Enlargement of Big Sand Wash Reservoir
- Ute Indian Rights Settlement, Title V
- Diamond Fork System
- Stabilization of High Mountain Lakes
- Provo River Restoration Project (Provo River Delta)
- Provo River Restoration Project (Middle Provo River)
- Wasatch County Water Efficiency Project
- Irrigation and Drainage System (I&D)
Local Development Option
Water Management Improvement
Spanish Fork-Nephi System
Utah Lake Drainage Basin Water Delivery System
Acknowledgements and Bibliographic Essay

A project of this magnitude requires the support and encouragement of many individuals. The entire leadership of the Central Utah Water Conservancy District (CUWCD), especially Don Christiansen and Gene Shawcroft, provided access to the records in their charge, read the manuscript and shared it with their co-workers. Chris Calton is a master archivist and records manager and her willingness to access and share the records at the CUWCD provided a comfort area for research. The CUWCD Board of Directors saw the need for a history and their patience and willingness is also appreciated. Reed R. Murray, Director of the Central Utah Project Completion Act (CUPCA) Office, an Interior Department agency established in 1992 to provide oversight for completing the Central Utah Project, is a walking encyclopedia of information. Through Reed’s connections, the authors recently gained access to the journals and scrapbooks of the late Palmer B. DeLong, erstwhile regional director of the Bureau of Reclamation’s Provo Office. Reed and Gene carefully read several drafts of the manuscript and were exceptional advisors. Their guidance throughout the process made a huge difference in the final product.

An important aspect of creating this particular research bibliography is to understand that this is a story of the past and how it relates to the people of a particular geographic place. In combining the people with the past and the place, it is essential to understand how particular entities came together to create a community of water users who developed a system of sharing a scarce resource. It is never easy to relinquish ownership of a treasured commodity (water) for a greater benefit for more people. How and why this happened is discovered by an extensive examination of historical documents.

In researching the history of water development in the Western United States, there are an overwhelming number of resources available. Many general histories have been published and some focus on the Colorado River system while others describe and detail other projects that managed the usage of water. The
endnotes attached to each chapter illustrate both the variety and amount of secondary sources utilized by the authors. A decision to base this project on original archival research and oral interviews of participants led to the examination and creation of an extremely rich treasure of primary documents, as well. As with secondary sources, each primary source cited is also included at the conclusion of each chapter. The endnotes are annotated with the first citation containing a source’s full description and location.

Since its inception in 1964, the CUWCD, or District, has maintained a thorough and comprehensive archive of central Utah water use and development. Combined with the records archived at the CUPCA Office, many of which date from the beginning of the Bureau of Reclamation’s planning of the CUP, these government documents gathered in one locale, made research comparatively accessible. Documents kept and collected on the Central Utah Project by the District and CUPCA Office contributed important primary sources to this volume. Included in these collections are reports, correspondence, agreements, minutes of meetings and a fantastic photographic history of the projects that collectively reshaped Central Utah’s environment. They also provide insights into the long and intriguing relationship among the Ute Tribal Council, the District, local irrigation companies, and the federal and state governments. The distribution of water and water rights is often accompanied by disputes and disagreements, and of course, the summaries of litigation are also found among these documents. As governmental depositories, these archives maintain a tremendous public record that is open for use.

Through their acquisition and maintenance of federal and state documents university libraries in the state have added tremendously to our understanding of the CUP. These document collections are imperative in understanding the CUP’s transition since 1985. Reports and hearings of congressional committees painstakingly record the testimony of state and local leaders, representatives of the Ute Tribe and federal officials. In 1992, Congress passed the Central Utah Project Completion Act, a document that has since guided the CUP towards its conclusion.
Among other things, the Completion Act created the Utah Reclamation Mitigation and Conservation Commission to contend with past environmental mistakes and to make certain that the CUP would continue to comply with all federal mandates. The work of the Mitigation Commission, a five member board appointed by the President of the United States, is administered by a small staff which has eagerly shared their resources regarding recent CUP developments. These include the rehabilitation of the high mountain lakes in both the Uinta and Bonneville basins, the restoration of the middle and lower Provo River, and the on-going effort to reestablish the June sucker to the Utah Lake ecosystem.

The state’s university libraries are depositories, as well, for many personal collections of key individuals who participated in the political process that influenced the CUP and the CUWCD. Most senators, representatives, and governors deposited their personal papers either with a university or in the State Archives. Of particular importance are the collections of Senator Arthur V. Watkins (BYU), Representative Wayne Owens (University of Utah), and Representative Gunn McKay (USU). The universities also have supervised a number of theses and dissertations that relate to the project. Adam R. Eastman’s 2006 BYU thesis provided a reliable blueprint for studying the Central Utah Project Completion Act. The State of Utah Archives provided a valuable source to document how state officials responded to the efforts to create a system that enhanced the possibilities for agricultural, industrial, and municipal growth and development. The papers of Representative William Dawson and the gubernatorial papers of George Dern and Henry Blood are especially relevant. These personal collections provide insight into the efforts of Utah’s political leaders to obtain funding for specific aspects of the CUP, and strengthen the partnerships between the seven Colorado River Basin states. Of course, they also chronicle the failures at certain crucial times.

Another aspect of university library archival collections is the ongoing effort to provide digital access to important primary sources. Not everything is published in print form, and in recent times many reports and the responses to them are now being produced electronically. The authors appreciate the general efficiency and
ease of electronic access, but realize the danger of believing that all the research necessary can be done at a computer. The authors chose to marry the best of both worlds by embracing the digital world where practical, while also consulting those primary documents available only in a physical archive. The collaborative Utah Digital Newspaper Project provided access to many local, regional, and statewide newspapers. These papers are valuable in providing sources of information for how one locale might be affected by certain aspects of the CUP’s development. They also provide a perspective that might not be apparent at the state or federal level. Likewise, the Western Waters Digital Library, a consortium of more than thirty university archives and special collections that includes Utah State University, Weber State University, University of Utah, Brigham Young University, University of Nevada, Las Vegas, Colorado State University, and University of Arizona, contains numerous documents and collections of important individuals associated with the development of water resources in the West. The papers of Delph E. Carpenter and Family at Colorado State University, for instance, the acknowledged “Father” of the Colorado River Compact, proved especially helpful. Similarly, the papers of long time environmental advocate and CUP critic Dorothy Harvey at the University of Utah reveal the concern of the environmental community as well as the often times intransigence of federal and state officials to mitigate environmental damages.

Much of the CUP’s history is steeped in controversy. The project has always had its detractors and its supporters. The Ute Tribal Business Council, for instance, strongly supported the CUP at its outset by agreeing to defer the development of a significant amount of farm land so the CUP Bonneville Unit could proceed. The tribe’s support has waned in recent years as some of the hoped for facilities never materialized. While reports, agreements and studies involving the Ute Tribe and state and federal officials have been scrupulously consulted, there are undoubtedly additional resources not available to the authors that might have shed additional light on the relationship between the Ute Tribe and the CUP.
The relationship between the District and local irrigation or canal companies, many of which existed for years prior to the CUP, has also at times been strained. Some may fear the encroachment of federal authority more than they understand the possibility of enhancing the water resource. Some may have become disillusioned, as did their Native American counterparts, over projects that never materialized. However, for federal or District employees who have lived or who currently live in some of these smaller towns, the concerns of local residents are always present. By presenting an alternate and at times contradictory assessment of the CUP, the records of local entities such as the Strawberry Water Users Association and the Moon Lake Water Users Association are an important resource for anyone who researches water use and development. These records, minutes and discussions are usually held by the individual association. They are often fragmentary, but where transcriptions exist comprise an extraordinary primary source.

In part to counter the lack of local sources, the authors, the District and the CUPCA Office agreed to expand the archival material through an extensive oral history project. Randy Williams, who directs the oral history efforts at Utah State University, successfully completed more than 60 interviews that proved invaluable in writing this history. These transcriptions, which are deposited with the District, the Utah State Historical Society, and with the USU Special Collections, provide a perspective that could not have been obtained any other way. From clerks, engineers, construction workers, and project directors to former Senators and Representatives and everyone in between, a personal approach to the place, the people, and the project was created. For their willingness to be interviewed, we thank them. Our hope is that as the CUWCD continues this work and as the future unfolds, more histories will be added to this collection.

Those who work for the CUWCD, other water districts, the CUPCA Office, state agencies, universities, as well as the Bureau of Reclamation are dedicated public servants. They understand public service and customer relations. There is nothing better than to fill at home while you are investigating the very house that is entertaining you. We always felt at home and knew that we shared a deep love for the area and a hope that
ultimately what Reclamation began, and the CUWCD will complete, will be better understood by the citizens of Utah. This book, nor any of the projects it details, could have reached fruition without cooperation and a shared view of the future. Water is the resource that is treasured in the west and all need to share in its care and use. For those who do, we are grateful.
Each day over a million citizens of Central Utah drink deeply from the Central Utah Project (CUP). From the rural Uinta Basin to the densely populated Wasatch Front, anyone who turns on a faucet, flips an electrical switch, flushes a toilet, listens to a sprinkler system or takes their car to a car wash benefits from the water project that provides the sustenance often taken for granted. Humans who settled in a high desert environment want to live as if water is an inexhaustible natural resource. Utahans reluctantly admit they live in a desert, but often covet a lifestyle and landscape that is distinguished by lawns, golf courses, trees, and other amenities associated with an abundance of water. Rarely, if ever, do individuals stop and stare at a running faucet, an irrigation ditch, or a decorative fountain and ask, “Where does this water originate?”

That water has a very rich and dramatic history as it makes its way from the snow covered Uinta and Wasatch Mountains toward and through the valleys of Central Utah. This book endeavors to answer that question. Not just where this water originates, but how so much water can be moved and who is responsible for the system that makes it work.

Utah is the second driest state in the nation behind its western neighbor, Nevada. The annual precipitation statewide averages approximately thirteen inches and most of that comes in the form of snow. Originally, the melting snow that fed numerous streams was dammed and then distributed primarily for agricultural consumption. As the population of small farming communities grew to become large cities, and as the state progressively industrialized, the land used for agriculture diminished, but the demand for the resource grew. The CUP is the historical label affixed to the cooperative effort that would capture the water from the melting
snow, store it, and distribute it downstream through a complex system of reservoirs, canals, tunnels, pipelines and trans-mountain diversions.

Water in the arid West is a valued scarce and even sacred resource. In many ways, the CUP is a microcosm of the entire western United States, where the ten driest states exist. The effort to preserve, manage, and supply this scarce resource is a dynamic chapter in the story of those who have labored long and diligently to provide water to sustain Utah’s population and economy. It is an amazing tale of cooperation, partnerships, compromise, and vision. Even as the annual fasting and prayers from pioneers and their descendants have contributed to making the desert blossom, in the long run it has been the earthly powers of the federal government, working in concert with Native Americans, conservationists, water districts, irrigation companies, and local government entities that have provided the effort that resulted in the remarkable story of the CUP.

Nestled behind a beautifully landscaped garden on a very busy thoroughfare in Orem, Utah, is the main headquarters of the Central Utah Water Conservancy District (CUWCD). Utilizing the latest techniques in water conservation, the sculptured garden showcases how a yard in the desert can survive with minimal water. The office building is modest and designed for efficiency, not as an extravagant power center. Inside the walls are an array of public servants who administer the supply of water to much of Central Utah and part of the Salt Lake Valley. Nearly half of Utah’s population depends on the CUWCD for their water. Governed by a representative group of community and citizen leaders, the district board is obligated by law to deliver water for Central Utah’s agricultural, municipal, and industrial needs. As a democratic board, the district is a direct descendent of the Utah Mormon pioneer irrigation philosophies.

This organization is unique in another crucial aspect. Since its creation in 1964,
CUWCD has been the responsible contracting partner with the federal government for the CUP. Originally designed by the United States Bureau of Reclamation (Reclamation), the CUP has been in process for half a century. As a participating project under the Colorado River Storage Project (CRSP), the CUP would enable Utah to utilize its share of the Colorado River’s drainage. Comprised initially of four inter-related units, Reclamation designed the project to supply storage reservoirs in the Uinta Basin in exchange for water which would be diverted from there to the Wasatch Front and other parts of the Bonneville Basin.

The wedding of these two hydrologic/physiographic basins through the transfer of water from one to another is the principal component of the CUP. The Bonneville Basin comprises the most eastern section of the larger physiographic Great Basin. The Uinta Basin is part of the Colorado River Drainage Basin, which slices through the Colorado Plateau Province in eastern Utah, southwestern Wyoming and western Colorado. The Wasatch and Uinta Mountains and the High Wasatch Plateaus of the Colorado Plateau Province separate the Bonneville Drainage Basin from the Colorado River Drainage Basin. The Colorado River drains nearly 49 percent of the area of Utah. The Great Basin is a closed basin from which no water flows. G. K. Gilbert in 1879 identified most of the Bonneville Basin as the Great Salt Lake Basin, which was about 28,500 square miles of which only 16,000 square miles contribute inflow of water to the Great Salt Lake.\(^1\) The Wasatch Front, Utah's "fertile crescent," is located in the eastern portion of the Bonneville Basin. Many consider the fertile-crescent, especially Salt Lake City, the geographical center of the American arid west, a region that constitutes "more than four-tenths of the total area of the United States."\(^2\) The region’s aridity is based on it receiving only twenty inches or less of precipitation annually, a determination first made by the famed one-armed Civil War explorer and scientist John Wesley Powell.
The fertile crescent is where the majority of Utah's population lives and works today. Lacking sufficient rainfall, its citizens have looked to the Wasatch Mountains, nature's reservoir, for its source of water during the dry seasons of the year. These mountains along with the High Plateaus of Central Utah are drained by the Bear, Ogden, Weber, Provo, Spanish Fork, San Pitch, and Sevier rivers and by many lesser tributaries. These streams of water at the hands of early irrigators have made the “wilderness and the solitary place be glad ... and the desert ... rejoice, and blossom as the rose.”

The Colorado Plateau Province is abundantly supplied with water from the Green River, and from the main stem of the Colorado River. The Colorado River (early identified as the Grand River) begins high in the central Rockies and flows for 1,400 miles before emptying into the Gulf of California. The Colorado River drains about 1/13 of the total land mass or 244,000 square miles of the continental United States, including western Wyoming, eastern Utah, western Colorado, northwestern New Mexico, much of Arizona, and a small slice of extreme southern Nevada. It is the longest river and drains the largest watershed of any major river in the United States except the mighty Mississippi. In the summer of 1869, J. C. Sumner, a member of John Wesley Powell's 1869 river expedition of the Green and Colorado Rivers described the Green and Colorado Rivers at the junction of the two, near present day Moab. The Green River is "about 70 or 80 yards wide and 10 ft. deep," he wrote and the "Grand about 125 yards wide, same depth and flow, but a clear stream and six degrees colder than the Green." He also noted that in July many of the mountains were still "beautiful clustered of snow-capped cones."

The Green River originates in western Wyoming's Wind River Mountains at peaks over 12,000 feet above sea level. The Green River is about 720 miles long and drains 45,000 square miles of southwestern Wyoming, northwestern Colorado, and northeastern Utah, including the
Uinta Basin. As the Green River flows in a generally southern direction, it cuts through the east-west trending Uinta Mountains. This mountain range is 150 to 200 miles long and between 40 and 50 miles wide with peaks exceeding 10,500 feet above sea level. The Uintas are marked by glaciated scenery with numerous lakes occupying the ancient glacier basins. The Duchesne, Uintah, and Whiterocks rivers, as well as Ashley Creek, drain the Uinta Mountains’ southern slope, while the Strawberry drains the eastern side of the Wasatch Mountains. Both drainages join with the Green River near Ouray in the Uinta Basin. The Uinta and Wasatch Mountains form the northern and western rims of the Uinta Basin with the West Tavaputs Plateau and the mountains in northwestern Colorado forming the southern and eastern rims, respectively. For the last half of the nineteenth century, the Uinta Basin was the location of two multi-million acre reservations for the Northern Utes of Utah and the White River and Uncompahgre Utes from western Colorado. As holders of reserved water rights on the drainages in the Uinta Basin, these tribes would play an important part in the development of the CUP.

Native Americans lived throughout the mountain valleys of Utah. Bannocks and Shoshones came down from the north to annually traverse the area. The Paiutes established themselves throughout the western part of what became Utah and extended their influence into southwestern Utah. Navajos occupied the southeastern corner and their nation extended throughout the four corners area. It is the various Ute Nations that comprised the native peoples of eastern Utah. The Utes moved back and forth through the Great Basin never straying far from the life giving water carried by streams. The presence of a sizeable native population, coupled with the area's difficult geography caused western bound pioneers to avoid the Great Basin as a place for permanent habitation. However, this all changed quickly and dramatically when a
group of persecuted homeless pioneers decided that the valley of the Great Salt Lake was “the
place.”

Mormon pioneers entered the Great Salt Lake Valley in 1847 and their first act of creating permanence was to divert canyon creeks and rivers into diversion ditches that soaked the parched desert soil in order to grow crops. While numerous Americans flocked to California seeking gold, Mormon Americans and European converts fanned out through the valleys of the Great Basin searching for streams that could be dammed and diverted. Thousands of acres of previously untilled land felt the cut of the plowshare. Utes and Southern Piutes vigorously contested the Mormon’s intrusion, but by the close of the 1860s most tribes had been confined to reservations, which effectively destroyed their capacity to pursue historic and traditional paths through the region. The Mormon settlers, by design and planning, moved away from the Salt Lake Valley and spread the gospel of land ownership and occupation. The task remained problematic because there was no guarantee of water.

Midwestern farmers had always depended on water from the heavens to soak their fields, but heavenly moisture in the west came in the form of snow during the winter. In order to allow that water to fulfill an agrarian destiny and not be squandered in salty inland “dead seas”, a new concept of irrigation democracy developed. Marc Reisner wrote that the Mormons “attacked the desert full-bore” and laid the foundation for the most ambitious desert civilization “the world had ever seen.” The system, on the surface, was simple. Each community organized the water through a cooperative “Water Company.” As ditches became canals, the amount of water distributed, water shares, was based on so much for each lot in town, and then so much for the farms on the edge of town. Originally, all were treated equally. As diversion dams were replaced by larger constructs, the amount of water and the distance traveled increased. The
cooperative construction of a canal that started up a canyon and snaked its way through foothills, with openings toward the valley floor, brought life blood to the soil below. Using rude surveying techniques, these pioneer engineers brought agricultural possibilities to undreamed of places. By the turn of the twentieth century, over six million acres of western land had irrigation water. Through their doctrine of prior appropriation and intense cooperation, the Mormon water kingdom extended beyond Utah to the tributaries of the Snake and the Yellowstone rivers of southern Idaho and western Wyoming.

Water has always been the determining factor in settlement of the arid West. Donald Worster, in the last line of the introduction to his classic work, *Rivers of Empire*, postulated on why and how a new West arose from the desert of the Great Basin and concluded that it “all begins and ends with water.” This transformation of the arid West is truly one of the great sagas of the American experience. From the Central Valley of California to the Salt River complex of Arizona and the vast Snake River Irrigation District, the federal government, business, farmers, and cooperatives have devised schemes to conserve the run off with dams, distribute the water through canals, and mostly pay for it with federal tax dollars.

Since the heady days of Theodore Roosevelt and the gospel of conservation, the nation has debated the merits of federal reclamation. In 1902, Congress passed the Newlands Act and created the Reclamation Service (later the Bureau of Reclamation), enabling partnerships to be formed between the federal government, power companies, irrigation companies, and cities that took water management to a new level. The rivers of the West became federally controlled waterways and the construction of multi-purpose dams on all of the larger river systems became the order of the day. The dams not only stored the water, but provided hydroelectric power, recreation and flood control throughout the West. This impressive partnership among federal
bureaucrats, private power companies, and irrigation companies not only provided the water to make the “desert blossom like a rose”, but also made it possible for cities to grow and develop. Los Angeles, San Francisco, Phoenix, Las Vegas, Salt Lake City, Denver, and Boise all attribute their rapid growth and development to Reclamation facilities. This is a gigantic investment made with federal tax payer dollars. Everything depended on the ability to capture water behind dams and then distribute it, to acres and people hundreds of miles away.

Marc Reisner’s *Cadillac Desert* and Worster’s, *Rivers of Empire* chronicle the most spectacular endeavors in the story of water control and manipulation. Reisner primarily studied the perceived theft of the Owens River by Los Angeles and the huge Central California project as well as the lower Colorado. Worster was enthralled by the partnership that allowed corporate America to benefit so dramatically from publically funded reclamation endeavors. Perhaps few efforts were more trying and difficult than the attempts to harness and control the entirety of the Colorado River system. William Vollman’s detailed *Imperial*, a massive study of the California’s Imperial Valley, chronicles the impact of the Colorado River on the desert along the U. S. Mexican border.

James Bryce wrote that the construction of the Panama Canal was “the greatest liberty man has ever taken with nature.” Bryce never saw what humans achieved in the arid American West. The vast and complex system is transformational in every imaginable way. The stories of the Columbia, Missouri, Colorado, and Central California valley reclamation systems describe how the federal government became partners with hydroelectric power companies and agricultural producers and the municipalities to create a well-watered and productive West. Worster described the region as a “modern hydraulic society,” which spawned a social order “based on the intensive, large scale manipulation of water and its products in an arid setting.”
This thesis can be tested to a great degree in the laboratory of Utah and the story of water manipulation from the Uinta Basin to the Wasatch front.

Even as John Wesley Powell expressed his fondness for the tenacity of the Mormon pioneers who were convinced they could create an agrarian mecca in the high desert of the Great Basin, so did Reclamation adopt the Mormon principle of cooperation as it investigated and planned projects. Reclamation hired many trained Mormon civil engineers who helped build some of the largest and most dynamic dams in the history of civilization. For these, this federal-state-private partnership to control of water became a crusade, almost a religion. Just as the Mormon pioneers saw a greater cause in harnessing the mountain streams, so to have their descendants believed that a higher cause guides them. The mission to sustain Utah’s prosperity and quantity of life is a duty and obligation that is tied to the pioneer frontier mentality.

It is in this atmosphere that the Central Utah Water Conservancy District exists, strives, and thrives. It is their task to fulfill the conflicting and competing desires of their constituents under a variety of agreements and exchanges, and there is seldom enough water to satisfy the needs of all. In 1992, during a time of growing anxiety over the availability of water for irrigation, municipal requirements, and environmental needs, the District helped orchestrate a compromise and convinced Congress to pass the Central Utah Project Completion Act (CUPCA). This far-reaching piece of legislation not only re-authorized funding for the CUP, it defused more than 20 years of conflict between Reclamation and the District on one side, and sportsmen and environmental activists on the other. It also created a mechanism whereby the CUWCD, in partnership with the Department of the Interior, will complete the massive project.

There is not an end to this history. This particular project is unique because it has a legislated completion, but the story does not end with a covered canal, a completed tunnel, or a
different contract. The District is betting against the odds that desert civilization can survive, even during droughts and pestilence. The CUP is a work in progress, but its history is a fantastic example of achievement against a variety of adversaries. If cooperation and community and partnership are positive attributes, then the CUP is a prime example of the ability of agencies, special interests, and companies to work together to solve gigantic problems. Theirs is a teaching mission as well and the beauty of a roadside plot of land at their Orem office is a reminder that selfishness and greed cannot be part of the history of Utah water. Every Utah citizen must realize the fact that water is available because of the vision and commitment of many individuals for a long period of time. Fulfilling that vision and commitment is the Central Utah Water Conservancy District with the cooperation of those citizens who benefit daily. The bottom line is still the fact that water is scarce and the future of the West begins and ends with water.


2 “Salt Lake the Center of the Arid Region,” Deseret News, 14 September 1891.

3 Isaiah 35: 1.

Hugging the western slopes of the Wasatch Mountains, the Wasatch Front extends south from eastern Box Elder County to Utah County, with Cache, Morgan, eastern Tooele, western Summit and Wasatch forming its outlier counties. It is here, Utah’s fertile-crescent, to where water developed under the Central Utah Project, and managed by the Central Utah Water Conservancy District (CUWCD or District), is transported from out of the Uinta Basin in the Colorado River Drainage. The story behind this massive trans-mountain diversion is compelling. It is a story transcending contemporary history; a story as old as the exploration and settlement of the American West.

It was here, the fertile-crescent, the so called “place” where Mormon pioneers found refuge by tapping the “liquid gold” of mountain streams to irrigate their crops, forging a new life and establishing homes in the mountain valleys of Utah. The Ute People, having thrived in these same mountains and valleys for generations, also considered this “place” to be their home.

Referring to themselves as Nuciu, or "The People," the Utes are identified with the large Numic, or Shoshonean, language family. By 1847, when the Mormons claimed the region as “their” place, various Ute bands had effectively occupied “most of Utah and western Colorado” for centuries. These bands, “recognized, traded, and intermarried with each other, but maintained no larger tribal organization.” Most bands consisted of no
more than 100 individuals, making them more like an extended family, than a tribe. The various bands often cooperated in the gathering of food, or met together for annual ceremonies and celebrations, but otherwise maintained their distinct familiar relationship.

Ute bands “elegantly adapted to their environment.” Their subsistence lifestyle depended on the art of hunting and gathering, and the utilization of an abundance of seasonal foods, including large mammals, such as deer, antelope and buffalo. While men hunted, women combed the area gathering seeds, pine nuts, berries, roots and greens. Significantly, the streams and rivers, particularly Utah Lake, provided the Utes with an enviable and dependable supply of fish, which were often dried and stored for winter use.

Fortunately for the Utes who had subsisted and persisted in the mountainous regions of Utah, the rugged Colorado Plateau and the Wasatch and Colorado Rockies presented a significant barrier to European travel and occupation. Eventually, however, those with a different, but no less persistent life style would breach those formidable obstacles. Before trappers and traders entered the region during the 1820s, before the U. S. Government commissioned exploration and surveying parties, and before the arrival of Mormon pioneers, two Catholic priests were the first known Europeans to cross the mile deep gorge carved over eons by the Colorado River, and traverse parts of the Colorado Plateau. They were likely the first to recognize the importance of water, and the role it would play in the region for subsequent European and, later, American settlements. Spanish Franciscan priests, Francisco Atanazio Dominguez and Silvestre V. de Escalante in July 1776 were ordered to locate a suitable route between Santa Fe on the northern frontier of New Spain and Alta, California. Guided by friendly Ute Indians the expedition reached the Uinta Basin in early September where they crossed Rio de San Beunaventura
(Green River) at one of its few natural fords, near Jensen, Utah. During the course of their westward journey through the Uinta Basin, Dominguez and Escalante noted the possibilities the land and the streams of water held for future Spanish colonization. They wrote of the possibilities of canals from the streams “to irrigate the land” and noted the fertility and potential of land adjacent to these streams. Along these rivers, we have crossed today,” they wrote, “there is plenty of good land for crops to support three good settlements, with opportunities for irrigation…”

Later in September, Dominguez and Escalante entered the Bonneville Basin by way of the Strawberry Valley and the Aguas Calientes (Spanish Fork River). They commented on the well-watered, fertile Utah Valley and its possibilities for settlement. The meadows south of the Spanish Fork River presented possibilities for “irrigable land for two good settlements.” Elsewhere, Escalante noted the stream flow of the larger Provo River. It “carries more water than the two forgoing streams, and has…meadows of good land, with opportunities for irrigation sufficient for two or even three good settlements.”

Regardless of the optimism expressed by these spiritual Argonauts, nearly 40 years would elapse before the next wave of non-native travelers would venture into the area. Taking root during the 1820s, Mexican and American entrepreneurs frequented the mountains and valleys of Utah to hunt and trade for fur pelts. Their success by the 1830s had resulted in the establishment of semi-permanent trading posts near Ouray, at Whiterocks and at other locations in the Uinta Basin. Daniel Potts, one of many American fur trappers to the region, noted the verdant Utah Valley: “This is a most beautiful country. It is intersected by [a] number of transparent streams. The grass is at
this time from six to twelve inches in height, and in full bloom.”^5 Within a decade, however, the trappers and traders abandoned the Uinta Mountains and the eastern Bonneville Basin, having nearly trapped out most of the beaver and other furbearing animals, leaving the territory again for its native residents.

U.S. Government surveyors, both before and after the arrival of Mormon pioneers, also explored the region, as they endeavored to scientifically evaluate the potential of Utah’s geography and geology, as well as its potential to support irrigated agriculture. Cyrus Thomas, a member of the 1871 Hayden Survey wrote that the drainage feeding the Utah Lake Valley portion of the fertile-crescent was sufficient to irrigate three hundred square miles. Furthermore, if a canal could be constructed at a higher elevation on the Provo River, several thousand additional acres could be irrigated. Cyrus concluded “that the Government should give all proper encouragement…” to reclamation developments in Utah Valley and elsewhere in the territory, but counseled that development of all arable tracts would likely require federal assistance.^6

The southern segment of the fertile-crescent hugs the western face of the Wasatch Plateau. Two rivers, the San Pitch and Sevier, provide water to the semi-arid but fertile valleys in eastern Juab, Sanpete, Millard, Sevier and Piute counties. The headwaters of the Sevier River originate from the western flank of the Paunsaugunt Plateau in Garfield County and flow northward through Piute, Sevier and Sanpete counties, before making a sharp horseshoe bend southwestward in northern Millard County and emptying into the dry Sevier Lake Basin south of Hinckley. The San Pitch flows southward through the Sanpete Valley and joins the Sevier River near Redmond in northern Sevier County. These valleys receive less than sixteen inches of precipitation annually making irrigation
essential. The higher sections of the Wasatch Plateau receive as much as forty or more inches of snowfall annually. Capt. Clarence E. Dutton, a geologist with the Ordinance Department of the U. S. Army, estimated the size of the Sevier River drainage to be about 5,400 square miles. He also said that the Sevier River Valley by 1879 had more legal controversies over water rights than any other region in Utah and that “the Mormon Church is an institution which quietly, yet resistless, assumes the power to settle such disputes.”

THE MORMONS

Prior to the Mormon pioneers’ arrival to the Great Basin, Mormon Church leaders had become familiar with its arid conditions after having read the reports of government explorers, such as John C. Fremont. They also were well studied on the art of irrigation. Church Apostle Orson Hyde had likely witnessed a form of irrigation while visiting the arid Holy Land in 1840. Furthermore, Samuel H. Rogers and Henry Green Boyle, members of the Mormon Battalion enlisted to help fight in the Mexican War, witnessed irrigation techniques being used at the Mexican missions and various Indian Pueblos while marching through the northern Mexican frontier. Rogers reported: “settlers occupy the vallies [sic] near streams, so that they can lead the water upon their fields and gardens, thus irrigating the land.” Boyle added that villagers, “On account of the dry Seasons in this country… have to irrigate all this farming land…which is done by leading the water from the River through ditches through all their grain & every thing else that is raised or produced.”

With this information, Brigham Young, the “American Moses,” before leading the vanguard company of Mormon pioneers for the Great Basin, outlined a list of items to
take. Like the Israelites of old, Young informed his followers that upon reaching the Great Salt Lake Valley they should set to work cooperatively to “Make [the] valley full of ditches…” They would not see rain, he admonished, but with diligence “the valley shall be filled with water” for their cattle and crops. Working cooperatively for the common good of the community became a noted pioneer quality, one, which would transcend the period and become the keystone for water development in Utah.

Taking Young’s instructions to heart, members of the vanguard company, immediately upon their arrival to the Great Basin, set to work damming nearby City Creek to divert water to the thirsty ground. Wilford Woodruff, a member of the company, wrote that even before taking supper some of the men set to work at reclaiming the land and that “by night nearly the whole ground which was found very dry, was irrigate.” Howard Egan another member of the company, later reported how “the brethren engaged in building a dam on the creek to turn the water on the land, so as to supply the lack of rain by irrigation, for which this place is admirably adopted.”

Before returning to Iowa in August 1847, Young, Woodruff, and other church leaders penned an epistle to the pioneers “to sow their seeds early as soon as the snow is gone.” Should “irrigation be found necessary,” they instructed, divert water from City Creek for your gardens and crops. These church leaders exhorted the saints to “prepare pools, vats, tanks, reservoirs and ditches on the highest points of land in your field or fields that may be filled during the night, and drawn off to any point” during the day. Young, over the course of many years, repeatedly urged the Utah Saints not to “let anything go to waste.” As was the Mormon penchant for cooperation, this common refrain, repeated often in early twentieth century political discourse on the use of the
West’s limited water resources, would also come to characterize Utah’s approach to water development.\textsuperscript{12}

Two views emerged of the Great Salt Lake Valley’s aridity among the early Mormon settlers. Wilford Woodruff recalled “the most fertile valley spread out before us, clothed with a heavy garment of vegetation …with mountains all around towing to the skies, and streams, rivulets and creeks of pure water running through the beautiful valley.” Others, wrote Orson Whitney an early chronicler of Mormon history, saw the arid valley as a “broad and barren plain hemmed in by mountains, blistering in the burning rays of the mid-summer sun.” Some accounts even described the region as “interminable wastes.”\textsuperscript{13} It would be this latter view that would come to dominate the historical narrative, promoting the idea that early Mormon settlers found a barren wasteland and through faith and extraordinary effort made it “blossom as the rose.”

In truth, Utah’s fertile-crescent was anything but a barren wasteland. Settlements proliferated after 1847; all locating near reliable streams of water from which irrigation ditches could be cooperatively constructed. U. S. Topographical Engineer Captain Howard Stansbury while in Utah in 1849 commented that the Mormon settlements were along “very narrow limits being generally restricted to a strip of from one to two miles wide, along the base of the mountains beyond which the water does not reach.” Settlements depend “entirely upon irrigation,” he noted. “The means for this are supplied from the reservoirs of snow which accumulate in the gorges of the mountains, furnishing, during the whole of the summer, abundant and never-failing streams, which assume in some instances the character of rivers of considerable magnitude.”\textsuperscript{14}
For the Mormon pioneers and others who would follow, the arid west presented a new problem in the distribution and use of water. This required a change in the common-law doctrine of riparian water rights practiced in Europe and the more humid regions of the United States. The Latin word *riparius* refers to the banks of a river or stream. Generally, riparian water rights are incidental to the land. Custom dictated that landowners with riparian water rights could use the water for any beneficial purpose so long as the quantity of water was not diminished for other downstream water users. Such a doctrine did not function as well in the arid West, where water from rivers and streams was consumed, and could not be replenished. California gold seekers, using new methods for finding gold, required large amounts of water, often at some distance from streams and rivers, and were the first to adopt the practice of “first in time, first in right”. This system of priority claim to the use of water was codified in California in 1872. Out of necessity and convenience, Mormon pioneers and others in the arid West adopted California’s doctrine of prior appropriation. Beneficial consumptive use of water and different classes of water rights were fully enumerated in Utah water law by 1897.15

As the initial Mormon settlements in the Great Basin had occurred in Mexican territory, miles from the United States, Brigham Young organized the State of Deseret. Deseret was an extension of the church, where Young served as its first elected governor, and its citizens, all members of the church, elected the General Assembly. During Deseret’s brief existence the General Assembly passed laws and ordinances governing the use and control of water and other natural resources. On at least one occasion, the General Assembly appropriated public funds to construct a dam across the Jordan River.
for the purpose of irrigating land to the west. Other ordinances were passed granting exclusive rights to water for the operation of mills, but always adding that those receiving these water privileges would not prevent water from being used for irrigation purposes.\textsuperscript{16}

The Treaty of Guadalupe Hidalgo that ended the war between the United States and Mexico ceded to the United States more than 1.1 million square miles. Governance for this new territory, including the newly colonized Great Basin and the California gold fields, became a responsibility of the U.S. However, it took Congress two years of heated and vigorous debate over the expansion of slavery in the newly acquired territory before the Compromise of 1850 could be reached. In the fall of 1850, as a condition of the Compromise, Congress passed the Utah Organic Act that authorized the establishment of the Territory of Utah stretching from the Sierra Nevada Mountains to the Rocky Mountains and situated between Utah’s present northern and southern boundary.

The Utah Organic Act said nothing concerning the use, control or ownership of water in the newly organized territory. Enactment of laws dealing with water streams or water rights was left to the Territorial Assembly, which acted quickly to ensure local stewardship of the territory’s natural resources. It established a system of county courts, determined by the county’s electorate and composed of a judge and selectmen (county commissioners). Each County Court was empowered with the control of “all timber, water privileges and water course or creek, to grant mill sites, and exercise such powers as in their judgments shall preserve the timber and \textit{subserve the interest of the settlement in the distribution of water for irrigation or other purposes.”} (emphasis added)\textsuperscript{17} The Territorial Assembly expected the County Court to adhere to an earlier established principle that the distribution and use of water by individual irrigators, “\textit{not interfere with}
the rights of the community, for common uses, or irrigation, or any privileges heretofore granted by this legislative body.” (emphasis added).\(^\text{18}\)

While the Organic Act did not preclude the territory from managing its water and natural resources, it did prevent the legislature from passing any law that interfered with the administration of public lands, including land sales. These remained under the purview of the United States Land Office. Essentially, Utahans were “squatters,” having settled on public land before it had been properly surveyed by federal surveyors. Utah, however, lacked a federal land office in which land recordings and transactions could take place, and although federal land surveyors were sent to Utah in the 1850s, unfavorable relations between them and the Mormon settlers forced the abandonment of federal land surveys until after the Civil War.

The Territorial Assembly had assumed after passage of the Organic Act that it would have authority to incorporate cities and towns. The Territorial Assembly continued to petition Congress to establish a land office so that the county courts could secure preemptive land claims and equalize the “distribution of timber and water according to the amount of arable land occupied.”\(^\text{19}\) A year following the establishment of the Salt Lake federal land office in 1868, Congress empowered territorial governments to distribute land for cities and towns. Utah’s Territorial Assembly promptly authorized the county court judges to dispose of public lands already located within organized cities and towns. This act validated previous town charters that authorized city governments to control all water flowing into their communities. Two decades later, an amendment was added to the law that allowed cities and towns to use the revenue received from the sale of public lands to procure water for the “use and benefit of the inhabitants of the city or town.”\(^\text{20}\)
Here then, was a legal foundation by which cities and towns under future state laws could purchase water with public funds.

BEYOND THE MOUNTAINS

While Governor Young devoted considerable time and effort to settling the eastern rim of the Great Basin, he showed little interest in establishing settlements in the upper Colorado River and Green River drainages. The Elk Mountain Indian mission near Moab in Spanish Valley, along with Fort Supply and Fort Bridger on the upper Green were abandoned during the tumultuous 1850s, while those located farther south on the Colorado, in Utah’s Dixie continued. Of significance was the settlement at Lonely Dell on the bank of the Colorado, a few miles down-stream from where the Escalante-Dominguez expedition had forded the river. Referred to as the Crossing of the Fathers, John D. Lee established a ferry in the vicinity in 1872. Lee Ferry would become vitally important in 1922 as the dividing point between the upper and lower Basins of the Colorado, and later as the location for Lake Powell, created by the Glen Canyon Dam.

Mormon leaders, such as Brigham Young were certainly not blind to the importance of the Colorado, an interest that would continue for the balance of the nineteenth and persist throughout the twentieth century. Feeling the need to control navigation on the river to move goods up and down from Utah’s Dixie, the Territorial Assembly petitioned Congress to extend the border of the territory south to include the “center of the channel of the Colorado River.” More than five decades later, Utah Governor Simon Bamberger would renew Utah’s interest in the Colorado River by promoting its economic potential.
As Mormon settlement expanded during the decades following 1847, it engendered considerable turmoil and conflict with the native population. The Walker War waged between Mormon settlers and followers of Chief Wakara in 1853, signaling the Ute response to Mormon encroachment. Beginning in the early 1850s, Indian agent Garland Hurt began locating a number of Indian farms or reservations at traditional Indian camping spots and fishing and hunting grounds. The larger of these included the ones near Spanish Fork in Utah Valley, Corn Creek in Millard County, and Twelve Mile Creek in Sanpete County. In total, the Indian farms encompassed more than 291,500 acres. By the end of the decade, some Ute farmers and their government supporters had built fences, constructed several houses and dug irrigation ditches to irrigate cropland. Other Ute bands, such as those followers of Chief Wakara, resisted the effort to become settled farmers, consigning the movement to its eventual failure.

Furthermore, such developments naturally competed with the expanse of Mormon settlement in these valleys. Hoping to avert further Indian problems, while at the same time secure the Indian farms for prospective Mormon settlers, Brigham Young devised a plan to relocate the Native population. He sent a small expedition to the last unexplored region in the territory, the Uinta Basin. Weeks later the exploring party returned and reported to Young that the Basin contained no “fertile valleys, extensive meadows [or] excellent rangeland. The party judged the area as being “entirely unsuitable for farming purposes…” characterizing it as “one vast contiguity of waste, and measurably valueless, excepting for nomadic purposes, hunting grounds for Indians and to hold the world together.”

22
Early in 1861, the Utah Territorial Assembly memorialized Congress, requesting that the several Indian farms be sold. These “large tracts of valuable land,” it asserted, have been kept from cultivation and have caused the federal government great expense with little or no benefit for the Indians, only encouraging them “in their habits of idleness.” These Indian reserves could be “cultivated by industrious citizens” if the Indians were removed to the Uinta Basin.23

The memorial and Young’s reconnaissance had the desired effect. Within a week of the negative report, Caleb B. Smith, Secretary of the Interior, received a telegram from an un-named Indian official in Utah who reported that Brigham Young had lost interest in the Uinta Valley and had no intention to settle the valley with the Saints.24 Fully aware of the troubled Indian policies of Young and the tense relations between the Indians and Mormons, Smith seized upon the idea to resettle the Indians to the Uinta Basin, a vast area not wanted by Young and where the Indians would be out from under the influence of Young and the church. Smith immediately recommended to President Abraham Lincoln that the “entire valley of the Uintah River…extending on both sides of said river to the crest of the first range of contiguous mountains on each side…be reserved to the United States and set apart as an Indian reservation.” 25 Lincoln acted without haste and issued an executive order setting aside more than a million acres in the “unwanted” Uinta Basin. The arrangement was far too convenient to be coincidental. What Young’s reconnaissance party had declared to be “one vast contiguity of waste…entirely unsuitable for farming…for cultivation [and] extremely limited,” was assessed less than a decade later by famed explorer John Wesley Powell, as “one of the favored districts of the west…many beautiful streams of clear, cold water; [and] a large amount of arable
Nearly a century after Powell’s pronouncement, the water resources of Brigham Young’s alleged wasteland, would become the envy of water consumers from the fertile-crescent, as well as those downstream in southern California.

In May 1864, Congress authorized the surveying and plotting of all of Garland Hunt’s Indian farms into eighty-acre parcels, and their sale to highest bidders at not less than 62.5 cents per acre. Proceeds from the sales were to be used to purchase livestock, agricultural implements and for the construction of improvements on the Uintah Indian Reservation.

Neither congressional action, nor President Lincoln’s order, guaranteed the successful removal of the Indians. A separate treaty would have to be negotiated. To this end in May 1864, Congress instructed Superintendent of Indian Affairs Oliver H. Irish to negotiate a treaty with various Ute leaders to vacate all of their lands except the Uinta Valley and persuade them to move to the Uinta Valley in exchange for the purchase of stock, agricultural implements and useful items for the Indians’ needs and wants. With the assistance of Brigham Young, Irish entered negotiations in February 1865. After several days, only a few of the Ute leaders agreed to move to the Uinta Basin in exchange for the provisions promised them. Others resisted. Beginning in 1863, the protracted Black Hawk War would keep the territory in turmoil for the next five years.

As more compliant Utes began trickling onto the Uinta Valley Reservation they found most of the promises made by the government during the treaty negotiations not forthcoming. The 291,000 acres of land comprising the former Indian farms, for instance, had not been sold, and could not be until a federal land office opened in the territory to
conduct the surveys. Congress did appropriate some funds for making improvements on
the reservation, but most of the livestock and agricultural implements were conditioned
on the sale of the Indian farm ground. By 1865, an irrigation ditch or two had been
constructed, but only twenty-five acres of sagebrush had been cleared and planted,
prompting Superintendent Irish to complain that with so little money, only scant progress
could be made to aid the Ute Indians.29

By the early 1870s, Congress was moving away from a policy of Indian treaties
and reservations, and towards the goal of transforming tribes into yeoman farmers.
Culminating in the Dawes Severalty Act of 1887, efforts to “assimilate” the Utes into the
mainstream of American culture had been under way for at least a decade. Important to
the government’s hopeful expectation would be access to water and the ability to divert it
to Indian farms for irrigation. In 1881 A. B. Meacham, a member of the Ute Commission
in charge of relocating the Uncompahgre Utes from western Colorado to the Uinta Valley
Indian Reservation, wrote that he found an “abundant supply of water” on the reservation
to meet the Indian irrigation needs but for the Indians to be successful they would need
$15,000 to construct irrigation ditches.30

Small sums of money provided by Congress for construction of Indian ditches and
canals met with mixed results. The Indians of northern Utah had little or no experience
digging ditches and irrigating their crops. Indian agent J. F. Minniss complained “the
$20,000 irrigating ditch that was recommended and constructed under the personal
supervision of the Ute commissioners is an absolute failure…”31 Nevertheless, wrote
another Indian agent, Robert Waugh, in 1891, with proper direction from those who
understood how to construct irrigation canals and with adequate funds, the individual
Indian farmer could be successful. He concluded, however, that a more expansive irrigation system was needed, an expense that “the Indians can well afford.” Congress did appropriate some funds for Indian irrigation development in the Uinta Basin and by the end of the nineteenth century as many as 65 miles of Indian irrigation ditches had been constructed and were being used by some of the Ute Indian farmers. Still much more irrigation development was needed if the Utes were to be successful farmers and, according to Indian agent H. P. Myton, they “are very anxious to have their reservation improved by having more irrigation ditches, houses, etc.”

RECLAIMING THE DESERT UNDER FEDERAL AUTHORITY

As federal authorities endeavored to assure the rights of Ute Indians on the Reservation, others sought to limit the sphere of Mormon influence in territorial Utah. These efforts by some in Congress would have far-reaching consequences for Utah’s Mormon population, and more particularly for the settlers’ irrigation systems. The Mormon practice of plural marriage persuaded Congress to enact the Morrill Anti-bigamy Act in 1862. Among other things, the act prohibited religious or charitable organizations from acquiring or holding real estate valued at more than $50,000. Although never fully enforced, the threat of confiscation of the real property of charitable organizations was chilling. By the middle of the 1860s more than 920 irrigation canals had been constructed at an aggregate cost of more than $1.5 million. These canals provided water to nearly 167,000 acres. Many if not most of the irrigation canals and ditches were constructed as public works. The church often “called” work parties to construct the canals and the church generally provided financial funds from the
contributions made by its members to aid the construction of the irrigation canals. The possibility that the federal government would seize these public works would have had severe consequences for the territory. “Without irrigation,” reported several members of the Territorial Assembly, “the territory must soon relapse to what she was in 1847, when our pioneers first entered this valley.”

Even as territorial lawmakers agonized over the consequences of the Anti-bigamy Act, they enacted a bill chartering the private Deseret Irrigation and Navigation Canal Company. The bill designated Brigham Young as the canal company’s president. The company’s objective was to construct a canal from Indian Ford on the Jordan River near the Utah and Salt Lake county line to the Sugar House area and Salt Lake City. The church was to provide $50,000 of the estimated cost of $403,000 to construct the canal. John Taylor, Speaker of the lower chamber of the Assembly warned his colleagues that without judicious completion of the project, immigration into the valley may have to be drastically curtailed, and “we will be subjugated to privations that would be most inconvenient and disagreeable to bear.”

Passage of this bill provoked Governor James Doty to complain in his veto message that the bill provided the canal company with “exclusive right[s] to all streams,” and that the rights to these public streams “ought not [to] be interfered with.” Further, he reasoned, the bill gave Brigham Young, president of the canal company, along with the company’s incorporators’ exclusive power to tax individuals. Most egregious to the Governor, the bill lacked provisions to secure other individuals their “equal rights” to the mountain streams. Doty countered that the Assembly should enact a broader “general
Taking his cue, while still hoping to protect irrigation companies from the possibilities of confiscation under the Anti-bigamy Act, the legislature passed “An Act to Incorporate irrigation companies” in January 1865. This act empowered the county courts to legally oversee the organization of irrigation districts. The territorial law permitted the organization of irrigation districts, or mutual non-profit irrigation companies, to be formed through a democratic process of landholders at a mass meeting within the geographically prescribed irrigation area. Trustees were to be elected, after which landholders submitted their petitions to the county courts for a charter of incorporation. If there were no objections from others in the county, the irrigation district was then organized under the stewardship of the county court. The new law empowered irrigation district trustees, with the approval of the landholders, to levy taxes based on the value of the landholders’ property for the purpose of constructing and maintaining irrigation canals. The Act granted irrigation districts authority to use natural lakes and ponds as storage reservoirs provided that any alterations to the natural lakes did not interfere or damage the property of others. The trustees could also purchase land for rights of way for their canals and ditches. The land and all canals and ditches then became the property of the irrigation district. All property belonging to an irrigation district was exempt from city, county or territorial taxes. This act provided Utah with its first self-governing irrigation organization.39

These irrigation districts or mutual irrigation companies, while a product of the church’s well-established cooperative movement, were neither owned nor directed by the
church. Later after statehood, the new State Legislature would repeal the existing irrigation district law. For the next twelve years no new irrigation districts were legally authorized until 1909 when the Legislature again authorized irrigation districts with the approval of the landowners, and limited bonding authority up to a maximum of $25,000. Irrigation districts became in part a model for the subsequent creation of water conservancy districts during the 1960s in areas of the state contracting with the Bureau of Reclamation on water development projects such as the CUP.40

Early in June 1870, Utah’s delegate to Congress William Hooper introduced a bill to the Committee on Public Lands calling for a grant of public lands to aid in reclaiming the desert. The revenue from these public lands would be used to construct irrigation canals in Utah, Cache and Sanpete Valleys. Nevada’s congressional representative submitted a similar bill. Hooper’s proposal came on the heels of Governor S.A. Mann’s annual message to the Utah Territorial Assembly, which urged the Assembly to promote the use of water for commercial purposes as well as for agriculture. The political situation both locally and nationally likely foiled Hooper’s proposed plan.41 Two years later, however, Governor George L. Woods made a similar proposal. In his message, Woods advised the Assembly to seek financial assistance from Congress for further reclamation developments in the territory. Attesting to the great strength of agriculture, Woods asserted that large areas could become productive farms, except for the lack of water. This territory is dependent on the federal government,” he proffered, and its elected representatives should not feel constrained from asking for “the assistance of Congress in this great work.”42
Driven by predictable changes to the national demographic, the federal government would progressively be invited to play a larger role in the reclaiming of western lands. As the nation’s population increased, national leaders looked at the vast western landscape as an opportunity to provide citizens and new immigrants the opportunity of owning a part of it. Water was the missing ingredient needed to reclaim much of the arid West. The U.S. had plenty of land, and the West, plenty of water, it simply needed to be developed in a manner where the water could be applied to the land as irrigation.

In the year’s following 1865, Congress resolved to make available tracts of land to Civil War veterans and immigrants in the vast largely unsettled region of the West, and dispatched John Wesley Powell to conduct surveys and scientific expeditions. His reports back to Congress, along with essays written for popular magazines piqued the public’s curiosity and interest in the West. Powell wrote of the need for large irrigation networks to harness water from the mountain streams. If the agriculturalist was to be successful, he advised, he will be “dependent upon an artificial supply of water…there is more land than can be served by water. Values inhere in water, not in the land,” Powell observed; “land without water is without value.”

In 1877, Congress enacted the Desert Land Act, offering to anyone willing to irrigate the land, 640 acres at $1.25 per acre and requiring only a $.25 down payment. The Utah Territorial Assembly proposed its own land plan a year later. It memorialized Congress to extend to those who have already settled on arid lands or those who were without financial means the opportunity of using their individual labor and time constructing irrigation ditches and canals. Utah’s land and water program would
encourage “honest working people” to construct irrigation ditches and redeem much of the land considered waste, the memorial stated.\textsuperscript{44}

The specter of federal confiscation of irrigation works continued to worry church and local political leaders. Further federal recriminations follow in 1882 and 1887 with the passage of the Edmunds Act and the Edmunds-Tucker Act, respectively. These severely restricted the political and economic power of the existing society in the territory, including the governance of water. Perhaps anticipating the changes that may ensue, the Territorial Assembly took steps in 1880 to protect water rights and irrigation canals and irrigation districts from being confiscated by the federal government. After 1880, ex-officio water commissioners, rather than the county courts, settled water disputes, determined water claims and issued water certificates to water users. In addition, this new water law established a system of tiered water rights, granting a secondary right to users only after the perfected primary water rights had been fully satisfied. The amount of water a holder of a water right could use was also codified. Water was to be distributed to the water user either by fractions in the stream flow for a limited amount of time, or by the amount of water flowing at a point of measurement—i.e. 10 feet per second—for a specific length of time—i.e. 2 hours. Significantly, and in contravention to the long-held Mormon precept of community ownership, this new water law provided that water “may be personal property,” and that the location of the use of the water might be changed without affecting the water right. The law divested the territory of all responsibilities in water matters. The primary purpose of water for irrigation held preference to other water uses, except for domestic uses.\textsuperscript{45}
Not only did the decade of the 1880s bring acute political anxiety to Utah Territory, it also brought renewed national interest in the reclamation of the arid west. Some national leaders feared that the United States might be running out of farmland. Those in the scientific community, among them John Wesley Powell, understood that land and irrigation surveys of the arid west would provide valuable additional information for policy makers. When Powell submitted his extensive report to Congress on the arid lands in the west he included a section specifically devoted to Utah. Powell provided evidence to suggest that if “waste” water were stored in mountain valleys and used efficiently, a large number of acres of arid land could be made productive. Powell cautioned lawmakers that in order to prevent monopoly of both land and water vast amounts of land for settlement as well as potential reservoir sites should be withdrawn from homestead entry. In a reversal of accepted western water law, Powell advocated establishing irrigation districts based on riparian water rights, rather than on the priority system codified in Utah. Homesteads, he urged, should be limited to eighty acres, but the settler could file on as many as 2,560 acres of grazing land. Powell’s scientific irrigation and topographical surveys and reports to Congress stimulated nationally interest in federal laws and policies for reclamation and irrigation in the arid west. His innovative ideas, while never adopted, continue to spark debate.46

In 1888, Utah Governor Caleb West recommended the Territorial Assembly appoint a three-man commission and a “competent civil engineer” to “make a full and exhaustive investigation” of the territory’s water resources so that “a comprehensive and thorough system of irrigation for the use of our reclamation of other lands” be developed.
Six years later, West in another message to the assembly reiterated the plea and added that he hoped it would appropriate funds for the water investigation.47

Even as Governor West made his pitch for an exhaustive investigation of irrigation in the territory, Nevada Senator William M. Stewart, chair of the Senate Select Committee on the Irrigation and Reclamation of Arid Lands, embarked on a 14,000 mile trek throughout the West to hold hearings. The baking August sun in Salt Lake City only underscored the dryness of Utah in 1889, where the committee gathered for two days studying the territory’s water needs. As Utah County Judge J. E. Jones promoted the idea of supplying water to the large area west of Utah Lake, the Senate committee heard from farmers who had lost crops on nearly 29,000 acres because of insufficient water during the previous year’s growing season. Reportedly, more than enough water was “wasted” during early spring runoff to enable the irrigation of at least 50,000 acres. Utilization of this source, however, required storage for later use in the growing season. The county identified as many as eight reservoir sites in the mountains at the head of the Provo River. Federal engineer Frederick H. Newell informed the committee that Utah Lake offered a viable means of storing seasonal peaks, which could be beneficially used by water users in the Salt Lake Valley. Not only was water being wasted during the spring, some suggested, but seepage could be checked by cementing the banks of canals, which would have the secondary advantage of also retarding the growth of water-sucking vegetation. Perceptive thinking, the Deseret News reported: “Our irrigation affairs need over hauling, no doubt.”48

In its report issued a year later, Senator Stewart’s special committee concluded that for further settlement and reclamation to succeed, it would be necessary “for the
development of this arid country to give the people an opportunity by [passing] laws suitable to the situation…”

This report, along with Powell’s earlier scientific studies of land and water in the arid west, steered national debate and dialogue towards collective and cooperative action.

In the view of Congress, the settlement of families on western public lands was increasingly linked to the availability of water. Many had become disillusioned over the 1877 Desert Land Act, believing it favored wealthy cattle barons and private irrigation enterprises at the expense of small family farmers. The act did tend to encourage large land developments funded by eastern and European capital that promoted private reclamation developments.

As Congress debated the merits of its past legislation, Progressive forces within both national parties took the lead to bring together federal, state and local forces in hopes of reforming much of what they viewed as objectionable in American society. Among their objections was the haphazard development and use of the nation’s natural resources. Progressives usually viewed the federal government as the means of initiating this reformation, and for the balance of the nineteenth century, the federal government was progressively invited to play a larger role in the reclaiming of western lands.


2 Ibid.


4 Ibid., p. 185.


9 Kings 3: 16, 17.

10 Journal History of the Church of Jesus Christ of Latter-day Saints, 24 July 1849. This source comprises a clipping file that was kept by the LDS Church Historians Office. It is organized chronologically. Original in possession of the Historical Department of the LDS Church, Salt Lake City, Utah, copies available on microfilm at most research repositories in the State of Utah and elsewhere. See for instance, Utah Reel 200, Special Collections and Archives, Merrill Cazier Library, Utah State University, Logan, Utah. Also available online at https://eadview.lds.org=findingaid/CR%20100%20137 Hereafter referred to as Journal History.


14 Howard Stansbury, An Expedition to the Valley of the Great Salt Lake (Phil.: Lippincott, Grambo, and Co., 1852, and Readex Microprint Corporation, 1966), p. 140. Capt. Stansbury was ordered to survey the Great Salt Lake in 1849.

15 Laws of Utah, chapter 52 (1897).


19 Acts, Resolutions and Memorials Passed at the Legislative Assembly of the Territory of Utah during the Tenth Annual Session (1861), p. 48.


21 “Memorial to Congress to Attach…the portion of the Territory of Arizona to the Territory of Utah…” Acts, Resolutions and Memorials passed at the Legislative Assembly of the Utah Territory during the

22 *Deseret News*, 25 September 1861.

23 “A Memorial to Congress for the purchase of Indians from the settlements and locating them in valleys unoccupied by Whites”, *Acts, Resolutions and Memorials passed at the Legislative Assembly of the Territory of Utah during the Tenth Annual Session* (1861), p. 49.

24 Journal History, 15 October 1861.


27 *Statutes at Large*, 63, (1864).


36 Journal History, 15 February 1865.

37 *Ibid*.

38 Journals of the Legislative Assembly of the Territory of Utah of the Fourteenth Annual Session, 1864-65.

According to Wells A. Hutchins who has studied irrigation districts for the U.S. Department of Agriculture, Utah was the first to permit the organization of mutual irrigation companies or irrigation districts.

Journal History, 2 June 1870.

Journals of the Utah Territorial Legislative Twentieth Session (1872), p. 34. Microfilm, series, 3145, Utah State Archives, Salt Lake City, Utah.


Laws of the Territory of Utah passed at the Twenty-fourth session of the Legislative Assembly (1880), Chapter XX. For additional information on the impact of the Edmunds-Tucker Act in Utah, see Leonard J. Arrington, *Great Basin Kingdom: An Economic History of the Latter-day Saints, 1830-1900* (Lincoln: University of Nebraska Press, 1958), ch. 12.


House Journal of the Thirty-First Session of the Legislative Assembly of the Territory of Utah, (1894), p. 17.


Chapter 2  
Final Draft September 2014

**Water and Statehood**

As Utah approached the probability of statehood it found itself pulled between the forces of tradition and change. John A. McClernand, a member of the federally appointed Utah Commission, assigned particularly to reform the Utah electorate, but also Utah society, generally, wrote of the need for change in the management of irrigation in the territory. Such change could only be accomplished through a “comprehensive and scientific plan for irrigation…” and the construction of “durable reservoirs for all needful purposes.” He believed Congress would look favorably upon such a scheme.  

Reporting at the Western Commercial Congress in 1891, San Francisco journalist M.H. DeYoung estimated that fifty million acres of land could be reclaimed in the West for as little as five dollars per acre. As McClernand had asserted, DeYoung too felt it would take funding from the federal government.  

The *Deseret News*, adamantly opposed to the type of reforms being proposed and imposed on Utah by the Utah Commission, clung tenaciously to the tried and true practices of Mormon pioneers and opposed federal intervention. Some in the federal government was also unpersuaded. When promoters announced a meeting of the National Irrigation Congress, Secretary of Agriculture J.M. Rusk criticized it as a venture not “directed to building up a national irrigation scheme.”

NATIONAL IRRIGATION CONGRESS

In contrast, the Salt Lake City Chamber of Commerce formed a sub-committee on irrigation and joined with Territorial Governor Arthur L. Thomas to promote the National
Irrigation Congress. Promoters had expected the first convention to be held in Denver, but when conflict arose between Nebraska and Colorado, they selected Salt Lake City instead. Weeks later, the Deseret News appeared to reverse its opinion on reforming irrigation in Utah. Even as it endorsed the National Irrigation Congress, the newspaper could not resist taking issue with the “half-hearted” efforts of the nation’s lawmakers to “ascertain the duty of the government,” in pursuing arid lands reclamation. There is very little natural flow from the mountain streams that has not been appropriated, the newspaper correctly reported. The question lying before the National Irrigation Congress will be to determine the best methods of handling mountain streams during the non-irrigation season so that the water might be more profitably used.\(^5\)

Perhaps the best plan the federal government could pursue, the Deseret News proffered, would be to cede the public land to the arid states and territories, and allow them to reclaim the land. The Utah delegation to the Irrigation Congress, in fact, memorialized Congress to do just that, urging it to grant to the arid states and territories all unclaimed public lands and reserving to the states and territories the right of way for the construction of irrigation canals. Such a move would secure equal rights and water claims for the citizens in all of the states and territories. \(^6\)

Though coincidental, the Salt Lake City convention occurred at a time when drought gripped much of the western U.S. Utah’s annual precipitation during the previous decade had been trending downward, and would continue spiraling in that direction until after the turn of the twentieth century. Speaking a decade later about the effect of the prolonged drought on Utah’s fertile-crescent Angus M. Cannon, president of the South Jordan Canal Company, recalled that there “never has been a time in my
recollection when Utah Lake was furnishing such a small quantity of water to the farmers of this [Salt Lake] county as now.”

The Salt Lake City convention attracted some 350 delegates from all of the western states except Arizona and Washington, including Wyoming Governor Francis Warren; Nevada Senator Francis G. Newlands, who would eventually author the federal Reclamation Act of the same name; Senator William Stewart, also from Nevada, and who had a long history in the promotion of mining and irrigation in the West; and William Edward Smythe, editor of the influential *Irrigation Age*.

Smythe was a kindred spirit of early Mormon irrigators, believing irrigation to be much more than science. It involved an art and a philosophy, which for Smythe and Mormon farmers was near religious in nature. Smythe’s articles drew attention to the nation’s land and water issues, helped exert unified political muscle in Congress and otherwise provided solid, practical advice to inexperienced irrigators. The *Irrigation Age* became the public voice for the irrigation movement, and at each annual Irrigation Congress, Smythe bestowed a large silver cup on the arid state that grew the best-irrigated crops.

Utah Governor Thomas set the stage at the first Salt Lake City convention when he noted during his opening remarks that the message the people of the arid region desire to send to the Congress of the United States is to give us the necessary aid and we will “open rivers in high places and fountains in the midst of the valleys, and make the west the ’crowning land’ of our country.” An important problem that was discussed at the irrigation congress was how to harness “waste” water by constructing reservoirs on interstate streams. Who should control the reservoirs, individual states or the federal
government? The Irrigation Congress answered with a resolution urging congressional lawmakers to pass “without delay such legislation as may be necessary to afford the means of settling justly and amicably all interstate questions growing out of the system of irrigation.”

The executive committee of the Irrigation Congress urged each state to create a permanent state irrigation organization that would represent the state in future irrigation meetings. The Utah delegation elected W. S. McCornick, founder of the private W. S. McCornick bank in Salt Lake City to chair its committee. Utah reported that more than 263,400 acres were being irrigated on 9,724 farms of an average size of twenty-seven acres. The average per acre cost to irrigate was $10.55 with average annual return of $17.12. Wyoming reported that its average irrigated farm was 119 acres costing an average of $9.48 per acre to irrigate including the cost of the land. Wyoming’s irrigated farms cleared $7.81 per acre, annually.

Wyoming Senator Francis E. Warren cautioned the delegates about their approach to Congress, noting how one or two of the eastern states had more power in Congress than does the entire West. But, he contended, we need to be “valiant in our demands, imitate California by a dash and persistency which have made her famous and success would crown the efforts of this convention.”

CEDING THE PUBLIC LANDS

The delegates passed several important resolutions at the Salt Lake City meeting. They petitioned Congress to cede public lands, except mineral lands, to the arid states and territories. The Deseret News had proffered such a scheme, claiming it would be more
practical to allow the states and territories to reclaim the land, themselves. A year prior to the convention, the Utah Territorial Assembly petitioned Congress to enact a law ceding public lands to the territory. Such a law, the assembly believed, “would greatly aid the important work of reclamation of vast tracts of land now useless, and would add to the population, wealth and grandeur of this country’s western domain.”

Equally as active were Utah’s neighboring states. Senator Warren and Wyoming’s other senator, Joseph M. Carey, diligently worked on bills designed to cede public lands to the states to aid in reclamation. At the Salt Lake City convention, Utah delegates joined in memorializing Congress, urging it to grant to the arid states and territories all unclaimed public lands and reserving to the states and territories the right of way for the construction of irrigation canals, thereby securing equal rights and water claims for the citizens in all of the states and territories. The resolution adopted by the National Irrigation Congress proposed using the revenue from the sale of the ceded public lands to promote the reclamation of arid lands with any remaining revenue going to each state’s school fund. Ceded lands were to be sold to actual settlers, the resolution emphasized, those who intended to irrigate the land.

The delegates’ were fully aware that the government had reached its capacity under existing federal land laws to aid settlers in securing irrigation water. Nonetheless, plenty of water was being deposited as snow on the mountaintops. It would be essential, the delegates stressed, that this wasted water be put to beneficial use by constructing impoundments and canals of appropriate length. Such facilities could only be “constructed at an enormous cost,” far too expensive and beyond the abilities of simple irrigators or state governments to fund. In lieu of direct appropriations to the states and
territories for reclamation, the delegates pressed Congress “to place in a trust all public
domain land within the states and territories for the purpose of developing irrigation” and
for the support of public education.\textsuperscript{13}

While Congress refrained from ceding the remaining public lands to the western
states, it had passed the General Revision Act of 1891 that permitted homesteaders to
organize irrigation companies, and granted them rights of way across public lands for the
purpose of constructing irrigation canals and reservoirs. Only in Idaho’s Snake River
Plain, did the act bear much success in reclaiming large tracts of arid land. Eventually, in
response to growing pressure from states advocating for a cession of public lands,
lawmakers passed the Carey Act in 1894. With this largely experimental piece of
legislation Congress hoped to determine the states’ and territories’ financial and technical
ability to effectively carry out reclamation. It would grant up to one million acres of arid
land to the states and territories as defined by the earlier Desert Land Act. It stipulated
that the states would act as trustees of the ceded land, and only sell the land in lots of 160
acres to actual settlers, who would be required to irrigate a minimum of twenty acres
before being granted a land patent. The experiment proved less than effective. Eight
years after passage of the Carey Act, only four of the 10 eligible Carey Act states had
made any effort to select irrigable lands, and out of this four million acre potential, less
than 670,000 acres had been identified. Moreover, only 11,321 acres had actually been
patented. When it was revealed that at this rate it would take “150 years for the states
fully to utilize the limited opportunity Congress gave them…” under the Carey Act, the
boisterous demands for state cession waned. It “became apparent,” wrote historian Paul
Gates, “that no state had the credit to develop its arid lands.”\textsuperscript{14}
Even the Deseret News revealed its concern that the revenue from the sale of ceded public lands might not be sufficient “to supply the needed water for irrigating them…Would it not be better,” it now asked, “for the Government to retain possession of the lands, devise means and provide funds for the production of the water and then sell the lands to settlers?” The newspaper also worried about how the surplus of revenue from the sale of public lands would be used. Will it be for reclamation or education? It asked.  

Montana delegate John W. Eddy seemed to share the concern. Eddy wrote that Montana believed that public lands would be safer “in the hands of the land department of our national government” than it would be in the hands of the state where it might be subject to political jobbery…” Such state schemes have “wrought mischief” before, he concluded, citing the monopolistic control of large swaths of land in Montana by mining and the railroad interests.

If the western states and territories were conflicted, many in the east were steadfastly opposed. The Springfield Republican decried bringing more land under cultivation in the arid west, lest more agricultural production drive down the price of crops. The newspaper’s position was pertinent, as the nation entered the 1890s Depression. The Depression had a dramatic impact on the West and was most severe in Utah.

Such arguments against western reclamation from eastern and mid-western political interests persisted into the Twentieth Century. Opponents laid the same argument at the doorstep of western states decades later as congressional representatives from the other Upper Basin states of Utah, Wyoming, Colorado, and New Mexico
worked to enact the Colorado River Storage Project, which included participating projects such as the CUP.

STATEHOOD

On the heels of the Carey Act, Congress passed Utah’s Enabling Act in July 1894 authorizing the convening of a state constitutional convention. Congress established procedures and criteria which were to be followed by the writers of the state constitution, and which were to be included in the state’s constitution. In March 1895, delegates from the existing counties met in convention to debate and write a state constitution. The delegates organized into 26 committees, one of which was the “Water Rights, Irrigation, and Agriculture” committee.

As new states had entered the Union, Congress provided each with a land grant. The revenue from the sale of these lands was to be used to make internal improvements within the boundaries of the new state. Being familiar with the numerous reports prepared during the previous 20 years, from John Wesley Powell to those of the National Irrigation Congress, lawmakers were well aware of the importance of storing “waste” water for use during the later growing season. Congress granted five hundred thousand acres to Utah for the sole purpose of establishing “permanent water reservoirs for irrigating…” 18

An Irrigation Commission was organized to advise the fifteen elected members of the Water Rights, Irrigation and Agriculture Committee. The Irrigation Commission proposed that the state constitution include an article for the management of all natural streams of water, lakes, and springs originating within the state and urged that these be
declared the property of the state. The article impaneled a board of control to direct the
management of the state’s water resources, and that included the State Engineer and three
other members who represented water districts identified by the Irrigation Commission.
The board served by gubernatorial appointment and legislative approval. Composition of
the board called for equal political representation from both parties.

As the Constitutional Convention proceeded the Deseret News expressed its
disapproval of the Irrigation Commission’s work. The state, the newspaper argued,
should not experiment with untested new water laws but rather, should rely upon the old
system for controlling water. Furthermore, the proposed constitutional article on water
and water rights was too long. The newspaper recommended that it be shortened to
simply declare that the state owns all public water, recognizes individual water rights
based on prior appropriation, and that the people elected the board of control and State
Engineer. 19

After much deliberation Utah’s constitution was submitted to qualified voters for
their approval, and apparently constitutional delegates took heed of the Deseret News.
The portion dealing with water rights is the briefest article in the state constitution, stated
only, “All existing rights to the use of any of the waters in this State for any useful or
beneficial purposes, are hereby recognized confirmed.” Scattered elsewhere in the Utah
Constitution are a few phrases and sentences touching on water rights, water, and
irrigation and canals. Ditches, canals and flumes owned by individuals or corporations to
irrigate land, for instance, were not to be “separately taxed” so long as these irrigation
facilities were “used exclusively for such purpose.” In the section delineating the powers
of “Counties, Cities and Towns,” municipal corporations were prohibited from selling,
leasing or disposing of “waterworks, water-rights, or sources of water…” These included water works presently owned or acquired later, and both were to be preserved and operated to supply water to its inhabitants. This constitutional prohibition would impair local governments’ ability to fully avail themselves of reclamation opportunities, and would necessitate the creation of special water districts, such as the CUWCD, later during the twentieth century.

In his inaugural message as the State’s first governor, Heber M. Wells addressed the need for a uniform system of recording and issuing water rights, and urged creation of the Office of State Engineer. He also asked the legislature to protect the rights of way for canals across both private and public lands and to protect potential reservoir sites from occupation or alienation. Heretofore, irrigation companies were unable to raise needed capital to build or enlarge canal systems. Wells requested the legislature pass a law similar to California’s Wright Act, which authorized the creation of mutual irrigation companies with the power to sell revenue bonds.

Wells also requested that a new state organization be created within the executive branch to manage and sell land granted to the state under the Enabling Act, along with other land provided to arid states under the aforementioned Carey Act of 1894. In response, the legislature created the Board of Land Commissioners, which included the governor, secretary of state, attorney general and two citizens of the state appointed by the governor. The law empowered the Land Commission to manage and sell all lands granted to the state from the federal government, and to determine which unappropriated desert lands might be susceptible to irrigation under provisions of the Carey Act.
OPENING THE UINTAH INDIAN RESERVATION

Available farm ground and irrigation water had declined in Utah as population steadily increased. Once declared unwanted and useless by Utah’s first governor, Brigham Young, Utah’s newest executive, Daniel Wells, now implored the legislature to seek congressional approval that would permit Utahans first option at taking up homesteads on the Uintah Indian Reservation. “The only unsettled agricultural lands within the State having a present water supply are contained in the Uintah Reservation,” Wells asserted. “I recommend that you memorialize Congress to permit the State to have a sixty days’ preference right to select agricultural lands within that reservation when the same is thrown open, before permitting settlers to make entries.”

Congress had partially opened the Uintah-Ouray Indian Reservation for mining and livestock grazing during the 1880s. Spurred by the availability of gilsonite and other hydrocarbons, eastern mining interests successfully applied political pressure in Congress to secure mining leases, segregating thousands of acres in the eastern section of the Reservation. Similarly, Heber Valley ranchers and livestock men from Carbon County leased the Strawberry Valley to graze sheep and cattle during the summer months. Indian officials, both in Washington, D.C. and on the Uintah-Ouray Reservation expressed mixed feelings over the leasing of Indian lands. Indian agent James F. Randlett, for instance, voiced his concern to the Secretary of the Interior in December 1894 that the scheme was “unjust.” It is, he protested, “positively contrary to my sense of good faith on the part of the Government to ask the Indians…at the present time or in the near future to relinquish interest in their lands…” Likewise, Indian Commissioner D. M. Browning
testified that until such time as the land and water are proven surplus beyond the Indians’ needs, the “Uintah Reservation… should be kept intact for their use and occupation…” H. P. Myton, Uintah Indian agent spoke more favorably regarding the leasing of Indian land. Congress should not waste its time or appropriate money to secure the Indian approval to open the Uintah Reservation, he presumed, as the Indians are in favor of leasing grazing and other lands, provided they can be assured that it will not bring more whites on to their land.22

As the federal government explored opening the Uintah Reservation to homesteaders, the protection of irrigation rights for Native Americans became a foremost concern. In 1905, the Interior Department, including the U. S. Geological Survey undertook an extensive study of the agricultural lands and water supply in Utah’s portion of the Uinta Basin. For several years, USGS engineer Cyrus C. Babb measured stream flows on the Uintah, Whiterocks and Duchesne Rivers as well as on Lake Creek. He carefully noted precipitation amounts at several Basin locations and made a survey of reservation lands suitable for farming. He also commented on the conditions of existing Indian canals and suggested where others might be built. Using Babb’s information, USGS hydrologist F. H. Newell concluded that even during low water years the four streams had sufficient flow to irrigate “80,500 acres without recourse to storage.” He further commented that it was likely that not all of the Indians would likely farm their allotments, perhaps recognizing the potential for future legal struggles between white and Indian water users. “The law provides,” Newell wrote, “that all grants to the water shall be subject to the rights of the Indians, but it is highly important that the grants to water be of such character that the rights of the Indians can be at all times easily enforced. That is
to say,” he elaborated, “if canals belonging to Indians and white persons both take water from the same stream, the experience of the past has shown that, while the rights of the Indians may be theoretically superior, practical enforcement through white officials is extremely difficult.”

In June 1905, President Theodore Roosevelt proclaimed the Uintah Ouray Reservation open to homestead. Indians, under an act of Congress, were given the right of first selection, each family to be provided 160 acres. Indian Agent C.G. Hall, along with W. H. Code, Chief Engineer for the Indian Irrigation Service, and local livestock man Charles S. Carter supervised the distribution of Indian allotments. The sale of the remaining parcels to white settlers would be used to provide additional funding to develop the Indian irrigation system. A.C. Tonner cautioned that the Indians’ water rights and 65 miles of their canals needed to be safeguarded. The most effective method to avoid conflict between white and Indian waters users was to separate the interests of the two by allocating or distributing water from separate streams. For both Indian irrigators and white homesteaders on the reservation, a considerable network of canals would be required. Cyrus Babb, as well, recommended that the Secretary not grant any rights of way for canals to any white irrigators “until the irrigation system for the Indians [had] been perfected.” Particularly, Frederick Newell, cautioned, we need to look “to the future needs of the lands which may be allotted to the Indians; there is not much water which can be appropriated without injury to these prospective wants.”

To insure that his Indian charges had legal claims to water under Utah water laws, Agent C. G. Hall filed for water rights with the state engineer to irrigate 103,000 acres of Indian allotments. Utah’s water law would, however, constrain development of irrigation
on the Reservation. State laws required petitioners to demonstrate their intentions by constructing irrigation ditches and performing other farming activities within a period of several years or risk forfeiture of their claim to the state. Uintah Reservation Indians had neither the financial means nor the engineering skills to plan and build diversion dams and irrigation canals sufficient to irrigate 103,000 acres. Similarly, there was little time for the new homesteaders to both prove up on his homestead and to organize his neighbors to construct irrigation ditches and diversion dams. As the only existing canals were those few that had been constructed for the Indians, R. S. Collett, a representative of the newly formed Dry Gulch Irrigation Company asked permission to use several Indian canals for a year or two. The Dry Gulch Irrigation Company had been established by the Wasatch Development Company, “a financial and industrial agency” affiliated with the leadership of the LDS Wasatch Stake in Heber City, to insure the availability of water to the mostly Utahans who had took up land on the former reservation.\textsuperscript{25} Having the local Indian agent less than receptive to the idea, Collett applied political pressure. He requested that Senator Reed Smoot contact Indian Commissioner Francis E. Leupp and have him order Agent C.G. Hall to allow farmers of the Dry Gulch area a lease on several of the Indian canals.\textsuperscript{26}

In June 1906, Congress responded to the pleas of homesteaders such as Collett. Concurrently, Congress acted upon the recommendations of numerous Uinta Reservation agents and the Office of Indian Affairs, who had been campaigning for additional funds to expand the existing Indian canal network. Congress appropriated $600,000 for an expanded Indian irrigation system. The law stipulated that the “irrigation system shall be constructed and completed and held and operated and water and water therefore
appropriated under the laws of the State of Utah.” The law also allowed “any person, association, or corporation” under the provisions of Utah law to convey water in federally funded Indian irrigation canals. Congress intended to fund the Uintah Indian Irrigation Project from the sale of the reservation lands. The $600,000 appropriation was spread out over several years and the project managed by the professional engineers and hydrologists of the United States Indian Irrigation Service.27

The United States Indian Irrigation Service had been organized within the Bureau of Indian Affairs in 1900 to direct Indian reclamation projects in the West. By 1927 the Service had constructed 960 miles of new canals and laterals, such as the Pahcease, Henry Jim, U. S. Whiterocks, U. S. Lake Fork, Uintah, and Ouray School Canal. It, as well, had made improvements on earlier constructed Indian canals that serviced Indian allotments on 1,500 square miles of the Uintah Reservation. The Service expended more than $1 million constructing the project, which cost an estimated $10.20 per acre.28

Indian water rights that had been filed with the State Engineer under state law slowly dripped from the hands of many of the Indian allottees. For one reason or another, many Indian allottees had no interest in farming. In 1891, in an effort to retain Indian control of allotments and water rights Congress authorized the Interior Secretary to lease Indian allotments for “reason of age or other disability” to lease Indian allotments.29 A concerted effort was made by the Commissioner of Indian Affairs “to lease all land which could be irrigated whenever the allottees were making no use of it…”30 As the superior Indian water right followed the lease, it became a popular and practical approach for homesteaders to incorporate additional and often contiguous acres into their farming operations. By 1930, some 349 non-Indian farmers were irrigating more than fifty
percent, or 28,300 acres, of Indian allotted lands from canals built as part of the Uintah
Indian Irrigation Project by the Indian Irrigation Service and partially funded from
reservation lands sold under the Homestead Act.\textsuperscript{31}

Shortly after the opening of the Reservation, Interior Secretary Franklin K. Lane
had expressed concern that the newly constructed Indian canals and the Indians’ water
rights were not being adequately protected. He asserted that the Act of March 1, 1899,
had given the Secretary the authority to grant rights of way for the construction of
irrigation ditches and the diverting of water for useful purposes on Indian reservations,
and that “all such grants…be subject at all times to the paramount rights of the Indians…”
Indians, Lane emphasized, could either use the water they had thus far appropriated, or
reserve unappropriated water for future use.\textsuperscript{32} Lane also urged Congress to repeal or
modify the June Act of 1906 to exclude the troublesome provision permitting anyone or
any organization a carriage right in the Indian canals. If Congress was unwilling to
modify the law, he warned, the federal courts should be called upon to protect Indian
water rights.

Consigning the Indian canals to Utah water law did seem to be a back-door
approach to subjugating Indian water rights. Not only were the canals being paid for
through the sale of Indian lands, but in 1908 the Supreme Court had ruled in \textit{Winters v. The United States} that the federal government had the authority to “reserve” Indian water
from state water laws. The case involved Montana settlers’ attempts to restrict water
flowing to the Fort Belknap Indian Reservation. The Court ruled that under Indian
treaties, statutes or executive orders that created Indian reservations, the land and water
were reserved for the Indians. Regardless of whether the Indians on the Fort Belknap
Reservation in Montana intended to use water flowing through the reservation, the Indians were “exempt from appropriation under the laws of the State of Montana.” The “Winters Doctrine” in essence established a duel water system—state and federal—with the federal reserved right superior to state water laws. Months later in *Conrad Investment Company v. United States*, the Ninth Federal Circuit Court declared that Blackfoot Indians had “paramount right” to a creek flowing through that reservation.\(^{33}\)

The building frenzy to construct irrigation canals by both the Indian Irrigation Service and non-Indian homesteaders was necessary in order to comply with the beneficial use clause under Utah water law. This use it or lose it pretext resulted in a cobweb of irrigation canals. The co-mingling of water in the duel canal system, with some of the Indian canals carrying homesteaders’ water, also served to increase tension between Indian and white irrigators, a tension that would not soon dissipate. E. E. Paine, an official in the Office of Indian Affairs, while conducting an inspection of the operations of the Uintah and Ouray Indian Agency, noted that there was “great bitterness” between the two groups of irrigators, particularly in the Lakefork and Uintah River drainages.\(^{34}\) Between 1916 and 1930 the U. S. District Court for Utah accepted the responsibility to manage the water from the Lake Fork and Uintah rivers. Even with federal management, water disputes continued. In March 1923, Albert B. Fall, Secretary of the Interior and trustee of the Indians on the former Uintah-Ouray Indian Reservation filed a complaint against the Dry Gulch Irrigation Company and five other irrigation canal companies and several dozen individuals over the priority of water rights from Lake Fork. U. S. District Court for Utah, which heard the case, held that the Indians had “first and an exclusive right under a priority that antedate[d] the third day of October,
1861, at all times to divert water from the Lake Fork River and its tributaries by certain ditches and canals water in certain quantities at certain times and under certain conditions” as filed with the State Engineer. The court decreed that white irrigators held secondary water rights and were “perpetually enjoined from in any way hindering, preventing or interfering with the diversions or uses of water” from the Lake Fork River. Eight years later in a similar case involving the Secretary of the Interior and many of the same defendants, the same court enjoined the defendants from “in any way hindering, preventing or interfering with the divisions or uses of the waters” of the Uinta River and its tributaries.  

For fourteen years between 1916 and 1930, the cost to hire a water commissioner for the two rivers fell on the federal district court. Following the Uinta River Decree, the court no longer covered the expenses for one or more of the water commissioners for the two rivers, but secondary irrigation companies and the Bureau of Indian Affairs shared the financial burden equally. At the beginning of the 1931 irrigation season the parties hired, B. O. Colton, whose brother Don served in Congress from 1920 to 1932 as a member of the Irrigation and Reclamation Committee, as water commissioner.  

Others had also enviously eyed the water on the Uintah Reservation. Farmers in the small farming community of Daniels located in the southeast corner of Heber Valley had already tapped water from the headwaters of the Strawberry River, diverting it through the Wasatch Mountains to their thirsty land in one of the back valleys of Utah’s fertile-crescent. Two major problems confronted Hyrum Oaks, his son, John; and William S. Bathers, James and Andrew Lindsay, George Muir, along with other irrigators, as they struggled to divert the water across the summit near the head of Daniels
Canyon. After their first attempts to “lift” the water over the mountains failed, the farmers successfully dug an eight-hundred-foot tunnel through the mountain summit to the head of Daniels Canyon. This was likely the earliest successful trans mountain water diversion project in Utah. Other efforts, such as the Strawberry Valley Project and ultimately, the Bonneville Unit of the CUP, would later build upon the idea to transport water between the Colorado and Bonneville basins.

Notwithstanding the difficulty of hand-digging the 800-foot tunnel, these Heber Valley irrigators faced a second equally significant problem. They had illegally entered the Uintah Indian Reservation and had diverted “Indian” water. Over the course of the next dozen years, the irrigators worked with Indian officials at Fort Duchesne and Utah’s congressional delegation to acquire legal claim to the Strawberry water, along with rights of way for their trans-montane diversion. The federal government, which held the lands in sovereign trust for the Indians, refused to cooperate, and in 1905 even dispatched a small U. S. Army Calvary unit from Fort Duchesne to destroy the diversion system. 36

Although clearly illegal, Interior Secretary E. A. Hitchcock intervened, and acting on information from the Uintah Indian Agent and from the United States Geologic Survey (USGS), informed his Commissioner of Indian Affairs that even though the Heber Valley farmers had no legal right to the water, they had been using it “for many years, and that the diversion of the water from the river to their ditches [had] not been in any manner detrimental to the Indians.” Thereafter, the farmers were allowed to enter the reservation to clean and repair their diversion system." 37 The Daniels Diversion continued to be used until, in compliance with the 1992 Central Utah Project Completion Act, it was abandoned in preference for replacement water from Jordanelle Dam.
As the Nineteenth Century drew to a close Utahans had endeavored for fifty years to make the desert blossom as the proverbial rose. With a spirit of cooperation and religious enthusiasm, Utahans had effectively constructed a distribution network of irrigation canals, built small water impoundments, and adopted the practice of beneficial use of water for the good of the whole community. Yet, Utah and the other arid states had nearly reached the limit of their capability to more fully develop their water resources. Millions of acre-feet of water flowed annually from the mountains of Utah, Colorado and Wyoming, down the Colorado River to ostensibly “waste” in the Gulf of California. If the Colorado River basin states were to continue to grow and develop, they needed to learn the art of cooperation, and who better to teach that lesson than its practitioners in Utah? The basin states must also harness the political will of the nation; and convert their fellow citizens from the humid east and mid-west to the necessity of reclamation, because without the support of Congress and the financial backing of the federal government, reclamation could not succeed.


2 “Redemption of Arid Lands,” Journal History, 16 April 1891.

3 The Deseret News, as an LDS Church owned newspaper, functioned as the mouthpiece of the Church’s leadership. Particularly during this time period when polygamy and church political and economic control were being questioned by the federal government and by non-Mormon Utahans, the News often took the contrary view being expressed nationally.

4 “Redemption of Arid Lands,” Journal History, 16 April 1891.

5 Deseret News, 11 June 1891.

6 Journal History, 18 June 1891; 11 September 1891.

7 Ibid., 20 June 1901.
Ibid.

9 Deseret News, 14 September 1891. The agricultural information presented at the Irrigation Congress was undoubtedly collected and presented to the Senate Special Committee on Irrigation and Reclamation of Arid Lands in Salt Lake City two years earlier.

10 Francis E. Warren was one of several western congressmen and senators involved in federal land and water reclamation legislation. He was involved in numerous commercial enterprises in Wyoming and was owner of the Warren Land and Livestock Company, which controlled more than 250,000 acres in Wyoming and Colorado.

11 Laws of the Territory of Utah passed at the Twenty-ninth Session of the Legislative Assembly (1890), p.142.

12 Journal History, 18 June 1891; 11 September 1891.

13 United States Senate, 52nd Cong., 1st Sess., Misc. Doc. 61, 3 February 3 1892, “Memorial of a Convention held at Salt Lake City, Utah Territory, to consider matters pertaining to the reclamation of the arid lands of the west”.


Deseret News, 18 September 1891.

15 Ibid. John W. Eddy to the National Committee of the Irrigation Congress, 13 January 1892.


18 Deseret News, 6 March 1895.

19 Ibid.

20 Ibid.


26 R. S. Collett to C. G. Hall, 8 December 8 1905. Copy in possession of authors.

27 Statutes at Large, vol. 34, pp. 375-76.


35 The District Court of the United States in and for the District of Utah in Equity, Docket No. 4418 (March 16, 1923), and In the District of the United States for the District of Utah, No. 4427, in Equity, (February 17, 1931). Preparatory construction work began on the SVP in early spring of 1906. A road was constructed from the newly built Denver and Rio Grande railroad siding in Spanish Fork Canyon to the dam site and to the twin portals of 19,500 foot-long diversion tunnel, and to the construction camp. Construction work was essentially completed in 1915, enabling the delivery of water to Spanish Fork area irrigators. By 1922 all of the project’s features were completed.


37 E. A. Hitchcock to Commissioner of Indian Affairs, 16 May 1905. Copy at the American West Center, University of Utah.
Utah entered the Republic as the forty-fifth state far differently than it had entered as a territory during the 1850s. Unified by their religious conviction, Utahans had embraced the concept of cooperation and established an economy intended primarily to sustain their communities, and magnify the building of God’s Kingdom in the arid West. They largely eschewed the business practices of non-Mormons. Gradually, forces beyond the control of Mormon settlers propelled them (often reluctantly) towards the economic, political and cultural American mainstream. This process, often referred to as “Americanization,” was a necessary precursor to statehood, one, which Congress demanded and even compelled Utahans to accept by passing a number of punitive legislative measures.\(^1\)

It became evident to Utahans that if they were to prosper from this national alliance, additional water resources to irrigate more acres of farmland and to quench the thirst of a growing urban population along the Wasatch Front would have to be developed. Utah’s population was concentrated in the counties of Weber, Davis, Salt Lake and Utah, where there had been an adequate water supply from the Wasatch Mountains. These four counties comprised nearly 53 percent of the state’s population in 1890. Furthermore, nearly half of all the farms in the state were contained along this fertile-crescent. Enhancing Utah’s integration into the market driven economy, mechanization and the introduction of scientific agriculture also had a profound effect on Utah farmers. It would be necessary, wrote Utah Agricultural College President John A. Widtsoe, to continually train, educate and disseminate the latest scientific information to Utah’s farmers if they were to be successful. “The man who lives year after year under the ditch
and raises his family there needs as much if not more help than the pioneer whose chief sorrow [was] the aggravating self-will of the water as it flow[ed] over the newly broken land.”

As irrigation practices and farming methods improved, Utah farmers raised crops that could be marketed widely. Local investors and national food processing companies established plants up and down the Wasatch Front to process and ship crops raised on irrigated farms. Canneries and meat packing plants were located in Woods Cross, North Salt Lake, Ogden, and in Utah Valley. Ogden for a time was called “Little Chicago” with its canneries and livestock yards and its association with local and national rail lines that extended to other parts of the region and the nation. Sugar beet factories were established in Utah County where large quantities of sugar beets were grown. In 1894 Utah County farmers raised 32,000 tons of sugar beets on 2,522 acres valued at $136,540. Less than a decade later, Utah County farmers had doubled the tons of sugar beets.

The economic importance of sugar beets and other crops raised for the market is reflected in the value of Utah’s farms and buildings. Estimated at $39.5 million in 1890, the value of Utah farms had increased to nearly $311 million by 1920. Most of the value accrued as a result of the commercialization of Utah agriculture.2

Higher crop yields equated to higher profits for the farmer. Higher crop yields required generally more water over a longer growing season, and more irrigable land. With most of the water claimed from the streams and rivers of the Wasatch Mountains, one untapped source were the ancient glaciated formed lakes at the head of the Weber and Provo rivers. Farmers and city dwellers in Weber and Davis counties turned their attention to some of these sources for the Weber River.3
Late in the 1880s, Swiss farmers and other members of the Midway Irrigation Company along with the Wasatch Irrigation Canal Company, and the Charleston Irrigation Company, recognized an opportunity to more fully use water stored in the alpine lakes at the head of the Provo River. Edward Buys, who had worked during construction of several canals in Wasatch County, was hired as the chief engineer by the Heber Valley irrigation companies to oversee the transformation of these natural lakes into regulated reservoirs. Plans developed slowly over the next several years, as irrigators also explored the possibility of converting the alpine lakes at the head of the North Fork of the Provo River into regulated reservoirs.

After creation of the Uinta National Forest in 1906, any effort to develop these natural lakes as reservoirs required a special use permit from the Forest Service. Claims to develop the unappropriated water from as many as 23 high mountain lakes also required the approval of the Utah State Engineer; the process created significant enmity between Heber Valley and Provo water users. In one instance, Utah Valley farmers claimed that the flow from a mining tunnel up Snake Creek Canyon, a small tributary to the Provo River, was “new” water that had not yet been appropriated. The Midway irrigators claimed that the water from Snake Creek was “old” water, which they had already appropriated. The matter would not be fully resolved until 1921 when Fourth District Court Judge C. W. Morse handed down his water decree, dividing the water between the several contestants. The Morse Decree would become the keystone for determining water rights on the Provo River and its tributaries. It remains as such today, and would later play an important and at times controversial part in finalizing several features of the CUP.

In December 1902, J. E. Moulton informed fellow members at an LDS Midway ward priesthood meeting how a move was afoot to form a new company and “to organize all the companies… interested in the waters of the [Provo] river…” Soon thereafter, Wasatch County
irrigators, along with farmers and other water users on the Provo River in Utah Valley, formed the Provo Reservoir Company. Joseph R. (J. R.) Murdock, a member of the LDS Wasatch Stake Presidency, and a businessman with interests in both counties, led the effort. Other officials in the reservoir company were Stephen L. Chipman, Provo city councilman and a member of the school board; Edward D. Clyde, civic and ecclesiastical leader in Wasatch County; Earl J. Glade, Brigham Young Academy teacher and a pioneer in the radio business; and George H. Brimhall, president of the Brigham Young Academy.

Prior to statehood the federal government and non-Mormons in Utah had made a concerted effort to remove the LDS Church’s influence in civic matters such as water development. Notwithstanding these efforts, the leaders of civil government throughout Utah continued in the vein of also being ecclesiastical leaders. The Mormon system of arranging its members into branches, wards and stakes, offered localities a ready-made organization and particularly in smaller, rural regions of the state, church meetings often functioned as venues for discussing both spiritual and practical matters.

Increasing the amount of available irrigation water topped the list of practical concerns within the Mormon farming communities of central Utah. The Provo Reservoir Company’s purpose was to transform the Provo River headwater lakes into regulated reservoirs, by installing gates and spillways to control the lakes’ outflow. H. Cardwell “Carty” Clegg, along with his father, John Henry; David and Elijah Hicken; Ed Perkins; and John Day were members of the first construction party to work on three of the larger lakes—Trial, Wall and Washington. Actual work began in May 1910 when snows began to melt from the lower levels of Uinta Mountains. Dozens of men worked on this project during the first year or two. Their first task was to build “a suitable road” to the lakes. The road served a dual-purpose of providing access for both the U. S.
Forest Service and for the canal companies to haul construction material and construction crews to the lakes.

Carty recalled how the men encountered many difficulties building the road, but by the time they finished constructing it, ice had mostly melted from the lakes and work could proceed. One unforeseen annoyance slowed the work at the lakes. As Carty Clegg tells it, large blood-sucking mosquitoes were more than a nuisance.

The mosquitoes continued to present serious problems for us at the lakes. Some of us including John Day and myself sought a means of escaping from the insects. We proceeded to build ourselves a small raft to float out onto the lake [where] we hoped we might be relieved from the insects. As we reached near the center of the lake, the raft overturned dumping us into the icy cold water. We had to swim to shore to put on dry clothes. Once on shore we proceeded to rid ourselves of the wet clothes. Our naked bodies provided perfect targets for the blood-sucking insects. Once again we were forced into the icy cold water of the lake... The bites on us were so serious that it prevented us from sleeping in the prone position that night. The construction party was forced to “pull out and return to Heber.”

This, of course, was only a temporary setback. During the ensuing months, work continued at Trial, Wall, Lost, and Washington lakes under the capable supervision of Edward D. Clyde. Work at Trial, Wall and Washington lakes was essentially completed by 1914. Other lakes were eventually converted to “reservoirs” and during the course of many decades that followed additional improvements were made on all of the converted lakes. Years later, Calvin Giles, superintendent of the lake reservoirs commented how working at the lakes was “a great privilege and joy… to be able to control the waters in the lakes, store the water and release it…and see bears, lions, elk, moose and what have you. It’s just next to godliness to be up that high.” These lakes served as reservoirs until, in compliance with the 1992 when Congress enacted the Central Utah Project Completion Act (CUPCA), most these lakes were returned to their natural state.
When Secretary of Interior E. A. Hitchcock embraced the idea for a national system of irrigation in 1899, he emphasized “the vast area of arid land capable of sustaining and comfortably supporting under a proper system of irrigation a population of at least 50,000,000 people…” That this area “should remain practically a desert,” he asserted, “is not in harmony with the progressive spirit of the age or in keeping with the possibilities of the future.” These voices from the arid wilderness along with a growing chorus of other prominent voices in the West added to the growing importance of the reclamation movement nationally. Voices included Elwood Mead, F. H. Newell, George H. Maxwell, William Morris Stewart, William Ellsworth Smythe, and Francis G. Newlands, all played important roles in the reclamation movement.

NEWLANDS RECLAMATION ACT (1902)

Through the political leadership of Nevada Senator Francis G. Newlands and Frederick H. Newell of the USGS, and with wide-public support from the irrigation community, Congress passed the Reclamation Act (Newlands Act) of 1902. This act committed the federal government to more fully aid the reclaiming of the arid west.

The Reclamation Act applied to the thirteen western states with a part of Texas being included four years later. The law established the United States Reclamation Service (hereafter Reclamation) within the USGS to centralize and cooperate with state agencies and localities in planning, constructing and managing large and expensive reclamation projects. The Reclamation Act created an intergovernmental agency battle between the Reclamation Service and the U. S. Corp of Army Engineers as to which agency would have authority to develop the large rivers. By promoting creation of strong local irrigation and water associations, Reclamation gradually won the battle for administrative preeminence.
The 1902 Act authorized the Secretary of Interior to determine the feasibility of reclamation projects; it authorized the Secretary to withdraw public land that might be irrigable, or land needed for reservoir sites. The act gave the Interior Secretary broad powers of eminent domain to develop reclamation projects. In keeping with the Progressive spirit of the times, work done on federal reclamation projects was to be limited to an eight-hour day. Also in the nativist spirit of the times, the Act prohibited employing unskilled Asian workers on federal reclamation projects. Land entries on federal reclamation projects were limited to existing limits under the homestead law, and revenue from the sale of lands on reclamation projects were to be deposited in the Reclamation Fund in order to finance future reclamation construction projects. Upon completion of reclamation projects and the repayment of loans by local partners the Reclamation Service would turn over the management of the project to the local organization. Protection of intrastate streams and rivers and existing water rights was critically important to the states. Section 8 of the Act stated that “nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired there under… Provided, that the right to the use of water acquired under the provision of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right.” Section 8 accepted earlier local laws and customs adopted by Congress. Consequently, the Newlands Act included both existing state and federal.

STRAWBERRY VALLEY PROJECT
For at least a decade or more prior to the Reclamation Act, water users from the heart of the fertile crescent showed a great deal of interest in the untapped water resources and virgin lands lying east beyond the Wasatch Mountains. Irrigators from the south end of Utah Valley were particularly anxious to avail themselves of this abundant resource. The Spanish Fork River, their main source of water, had already been fully appropriated by the beginning of the Twentieth Century. Taking notice of the small but successful trans-mountain diversion of water from the Strawberry River made by the Daniels Irrigation Company in 1879, two Utah Valley expeditions were organized under the leadership of State Senator Henry Gardner, Henry C. Jex, Frank C. Kelsey, and William O. Jones of Spanish Fork. All were favorably impressed with the possibilities of utilizing the water resources of the Strawberry Valley. Significant obstacles, however, confronted implementation of a plan, which could take water from the Colorado River drainage and transport it to Spanish Fork. Perhaps the most daunting was the estimated $3 million price tag, far too great for the local irrigation companies or even for the State of Utah to bear. The second problem involved gaining access to the Strawberry Valley, which occupied part of the Uinta-Ouray Indian Reservation.

With passage of the Newlands Act in 1902 and simultaneously opening the Reservation to homesteaders, the federal government solved the problem. As the President issued the proclamation opening the Reservation, he also reserved much of the Strawberry Valley for a “reservoir site necessary to conserve the water supply for the Indians, or for general agricultural development” and prohibited all persons from making “settlement upon the lands reserved by this proclamation.” The financial, engineering and technical means as well as legal access to the valley were in place for the Strawberry Valley Reclamation Project to proceed, one of the first projects pursued under the Reclamation Act and the first such project in the State of Utah.
The withdrawal of Strawberry Valley as a reservoir site had the unexpected consequence of also prohibiting its use as a grazing resource. For at least a decade, ranchers from Heber Valley and Carbon County had leased thousands of acres from the Tribe to graze their sheep and cattle. This revenue was now no longer available to the Tribe. This “grass money” was a small but important revenue source for the Ute Tribe, which now accrued to the benefit of the Strawberry Valley Water Users Association (SVWUA), the organization created to contract with Reclamation for the SVP. The situation raised a vexing legal question. Could Reclamation legally accept revenue from grazing leases when title to the Strawberry Valley land had not been extinguished? Strawberry Valley had been withdrawn for a “reservoir site,” ostensibly “to conserve the water supply for the Indians or for general agricultural development.” The Utes still legally claimed more than 51,000 acres in the valley, along with the corresponding “grass money”. The SVWUA believed that the revenue from the grazing leases should be credited to the repayment costs for the project.

This issue was resolved in 1910 when Utah Congressman George Sutherland attached an amendment to the annual Indian appropriations bill that extinguished the Indian’s claim to the reservoir project land. Sutherland’s amendment did pay more than $71,000 to the Ute people that could be used for their benefit. Much of the land in question was eventually transferred to the Uinta National Forest.

At less than $1.50 per acre, it was a bargain for the federal government and SVWUA; much less so for the Ute Tribe. Not only did the Tribe feel betrayed, but other irrigators in the Uinta Basin also objected to the SVP. The Vernal Express warned that there is “a scheme on foot by which the people of Utah County propose to use the Strawberry Valley as a huge reservoir, to store the waters of the Strawberry River with which to irrigate the lands of Utah
County. In view of the fact that there are thousands of acres of available land along the Strawberry and Duchesne Rivers which can be irrigated by this same water…” the newspaper reported, “we cannot help but admire the supreme effrontery with which our friends over the range set about appropriating something to which they have no moral right in the world.”

The *Vernal Express*’s objection did not go unchallenged. The *Salt Lake Tribune* voiced its support for the Strawberry Valley project, chastening the *Vernal Express* for claiming that the project would steal from the settlers of Uintah County water which they need and which is theirs by natural rights. The *Tribune* did not believe the sparsely populated Uinta Basin needed all the water. “They have the best-watered section of the state,” the newspaper remarked; “there is no doubt far more water in Duchesne and other streams than the settlers can ever use... and the filling of this Strawberry Valley reservoir in the springtime can hardly deprive them of any water they really need. So they should be neighborly and not niggardly.”

The argument that the Uinta Basin could use all available water would be an issue discussed (sometimes heatedly) from this point forward. Pivotal to the argument was the simple question of geography and demography: If the Uinta Basin had most of the water, and the Bonneville Basin most of the population and prime farm ground, did it make more sense to take the people to the water, or the water to the people? The answer to that question would be loudly trumpeted during the 1960s as Reclamation launched the Central Utah Project. But even before plans took root to transport additional water between the two basins under the CUP’s Bonneville Unit, Reclamation often rebuffed proposals to build projects for the Uinta Basin.

Seeking to promote the Castle Peak Project in 1917, located astride the Uintah-Duchesne county line south of Myton, the secretary of the newly formed Myton Commercial club offered a poorly reasoned argument that between 20,000 and 30,000 acre-feet of water stored in the
federally constructed Strawberry Dam should be used to irrigate thousands of acres of new arable land on the Pariette Bench. Further, Reclamation funds should be used to construct the forty-mile canal to carry Strawberry Valley project water to the Bench. Reclamation responded tepidly to the proposal. The “prospects of disposing of stored water to lands along the Strawberry and Duchesne Rivers are at present [so] remote that they are hardly worth considering.” Furthermore, the Basin lacked a good railroad whereby Basin crops could be brought to market. If such a railroad was present, Reclamation advised, there might be justification for the Castle Peak project.16

Reclamation’s rejection lingered with irrigators in the Myton area. Myton Commercial Club president George E. Phillips contacted Utah Senator William H. King and the Secretary of the Interior in early summer of 1921 to solicit their support for securing water from the Strawberry reservoir. “W]e believe that the availability of the surplus waters that might be confined in the Strawberry reservoir has never been considered” and that by adding an additional five feet to the highth of the Strawberry Dam will provide sufficient storage of water to provide for all of “our water needs.” If rumors were correct that any additional water stored in the Strawberry Reservoir would be needed in Utah Valley, Phillips wrote, “we deem it wholly unfair to this section to take our greatest source of supply and divert it all to some other section.” Adding more capacity will greatly benefit the Castle Peak project, he concluded.17 Under the CUP, the Strawberry Reservoir would be greatly enlarged during the 1970s with construction of the Soldier Creek Dam a short distance down-stream from the Strawberry Dam. None of this capacity, however, was reserved for Uinta Basin irrigators.

Confirming the suspicions of the Myton Commercial Club, Reclamation engineers determined that there would be more water available than what was originally subscribed to. A
second group of irrigators from the Benjamin, Salem, and Payson areas of Utah County petitioned Reclamation for irrigation water from the project. They agreed to proportionately share the construction costs under the 1906 contract, and also petitioned Reclamation to construct the High Line Canal from where SVP water could be delivered to the smaller laterals. Reclamation accepted their petition. SVWUA, the original subscribers to the SVP were, however, opposed to the additional construction costs for the High Line Canal. The 1906 contract stipulated that all construction costs including interest associated with the Strawberry Valley project would be repaid by all subscribers. Construction costs for the High Line Canal increased the Association’s repayments costs. Furthermore, the SVWUA disputed the amount of water the two groups would receive.

Assistant Secretary of the Interior Lewis Laylin warned the two groups to find an amicable solution or risk breaching the 1906 contract. Unable to resolve their differences, the High Line Canal irrigators organized the Strawberry High Line Water Users Association, and petitioned Reclamation for a separate contract. This resulted in two separate water users associations, both of which entered into new contracts in March 1914 with Reclamation for Strawberry River water and repayment schedules.18

As time passed, the duel contracts presented challenging management problems for Reclamation. Following Reclamation’s counsel, the two Strawberry water users associations comprised of the High Line Canal Company, the Mapleton Irrigation District, the Springville Irrigation District, the Spanish Fork and Lake Shore irrigation units, the Diamond Fork Water Users, the Santagquin Irrigation District, and irrigators from Soldier Fork and Clinton, met at the LDS Nebo Stake Tabernacle in October 1921 to discuss uniting. They agreed to merge together as the Strawberry Water Users Association (SWUA) and the following spring, formally
incorporated. SWUA’s purposes were to manage and supervise the operation of the Strawberry Reservoir, the Spanish Fork Power Plant, construct other reservoirs and irrigation works, acquire property, associate with other corporations, the federal government, municipalities, and the state in the development of water resources. It would also serve as the fiscal agent for the SVP, acting under a single contract to collect individual subscriber’s payments and make a single annual payment to Reclamation. With a single water association, Reclamation turned over management of the SVP to the SWUA in 1926.

Preparatory construction work began on the SVP in early spring of 1906. A road was constructed from the newly built Denver and Rio Grande railroad siding in Spanish Fork Canyon to the dam site and to the twin portals of a 19,500 foot-long diversion tunnel, and to the construction camp. Construction work was essentially completed in 1915, enabling the delivery of water to Spanish Fork area irrigators. By 1922 all of the project’s features were completed. The SVP became more than a water storage delivery system; it became a multi-purpose project which also generated revenue for the Strawberry Water Users Association from recreational and grazing leases and through the selling of electricity from its hydroelectric power plant to Utah Valley residents.

With more stored water behind the dam than what had been planned for, other irrigators began petitioning Reclamation for this surplus. Farmers on the east side of Juab County also devised a plan to extend the High Line Canal south into the Juab Valley. Before such a plan could be implemented, Reclamation required that a thorough feasibility study of the project be made with the cost for the studies born by the Juab Valley irrigators. As soon as the funds were raised, Reclamation conducted two feasibility studies. Their first report issued in 1918 indicated that it would cost Juab Valley irrigators $125 per acre or $5 million to extend the High Line
Canal to eastern Juab County. The second study revealed an even higher cost, $7.5 million. Both studies disclosed that the construction costs and the purchase of reservoir water for the irrigators far exceeded the economic benefits the petitioners would receive, which would make it impossible for them to repay construction costs for the High Line Canal extension. The hopes of Juab County irrigators and even those farther to the south in the Sevier River Basin would eventually be revived under proposals to fully develop the CUP during the 1950s and 1960s. Even so, the economic infeasibility of transporting water to these areas would remain an insurmountable obstacle.

The economics of developing irrigation water has been a constant and persistent problem for Reclamation. Just as Juab Valley farmers expressed their disappointment in the SVP, other farmers on other Reclamation projects also struggled with the economic realities of irrigated agriculture. As crop prices nation-wide fell steadily following WWI, it became increasingly more difficult for irrigators to make repayments to the Reclamation Fund. To save irrigators from possible financial disaster, Congress enacted several laws that suspended annual repayments.

Suspended payments for a time provided some financial relief for irrigators, but did little to replenish the dwindling Reclamation Fund all the while reclamation projects grew more costly. The persistent repayment problem, along with the decline in sales of public lands, and a shortage of revenue from other sources, which accrued to the Reclamation Fund, provoked Congress to assemble a Fact Finder’s Committee to investigate the entire Reclamation program. From the Committee’s report, Congress made a number of changes, including renaming the Reclamation Service the Bureau of Reclamation (hereafter Reclamation). The Reclamation Act provided an effective mechanism for water associations and other authorized state water agencies
to cooperatively develop reclamation projects, too large for individual states to build and operate. The Reclamation Act required new thinking and planning, necessitating changes in Utah’s water and irrigation laws. In order to take full advantage of the federal reclamation program, the legislature replaced the Board of Land Commissioners with the Utah Water Storage Commission in 1921. The Water Storage Commission became the single contact agency for the state to work with the national government in the development of the state’s water resources. The legislature budgeted funds for the Water Storage Commission to conduct surveys and build small reclamation projects.²⁰

Some of the earliest joint investigations between the new Commission and Reclamation focused on developing water resources in eastern Utah. Among these were the Pleasant Valley (Scofield) Project in Carbon County, a dam and canal on the lower Green River and the Echo Park project near the confluence of the Green and Yampa rivers. Reservoir sites on the Duchesne River and tributaries, such as the Tabiona, Hades Creek, Starvation, Three Forks, the Stillwater on Rock Creek, and Current Creek would all become part of proposals for the CUP during the 1950s. The State and Reclamation also investigated the diking and draining of several bays on Utah Lake, as well as the Provo River (Deer Creek) project.

As the economies of western states came increasingly to rely on water and other natural resources, the Federal government would become inextricably involved. Programs to conserve the nation’s natural resources became a high priority for many in Washington, D.C. as President Theodore Roosevelt promoted their conservation. Even as he was personally captivated by the grandeur of nature, Roosevelt told the nation’s governors in 1908, that no “effort should be made to limit the wise and proper development and application of these resources.”²¹ Natural resource development, particularly the harnessing of western rivers, promised a substantial economic
return. Yet no one state could fully control the drainage of most western rivers. They usually
flowed between states, and in the case of the Colorado River, encompassed seven states and two
nations, flowing from the mountains of Colorado, Wyoming and Utah to empty into the Gulf of
California below the Mexican border. It would require cooperation and compromise between the
states, and the arbitration of the federal government, before agreement could be reached that
would allow Utah and the other states to collect on the economic dividend of the Colorado River.

1 Gustave Larsen is often credited as one of the first historians to explore the concept. See Gustave O. Larsen, The

2 Charles S. Peterson, “The ‘Americanization’ of Utah’s Agriculture,” Utah Historical Quarterly Vol. 42 No. 2
Company, 1914); Richard S. Van Wagoner, “The Lehi Sugar Factory—100 Years in Retrospect” Utah Historical

3 For a full discussion of the development of the Weber River drainage, see Richard Sadler, The Weber Basin: Grass
Roots Democracy and Water (Logan: Utah State University Press, 1994.)

4 Set aside initially as a forest reserve in 1897, the Uinta Reserve became part of the national forest system in 1905.
http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fse_035417.pdf A major impetus for a national forest
service system was to protect vital watersheds.

5 Minutes of Ward Priesthood Meeting, 13 December 1902, Heber West Ward, Wasatch Stake, Priesthood Minutes,
1901-02, CH Microfilm 77611, LDS Church History Library, Salt Lake City, Utah.

6 Fuller, “Development of Irrigation in Wasatch County,” pp. 73-79.

7 James A. Jurale and Robert W. Righter, “Damming the Headwaters of the Provo River” in Gregory D. Kendrick,
ed., Beyond the Wasatch: The History of Irrigation in the Uinta Basin and Upper Provo River Area of Utah,
(Denver: U. S. Dept of Interior, National Park Service, Rocky Mountain Regional Office, n. d.); and Rebecca
Vorimo, Interview with Calvin Giles, 13 October 1994. Excerpt in possession of authors.

8 Salt Lake Tribune, 2 December 1899.

9 Reclamation Act of 1902 (Public Law 57-161).

Valley Project,” Utah Historical Quarterly Vol.39 No. 3 (Summer 1971): 286-304; Spanish Fork Press (Spanish
Fork, Utah), 28 August 1902.

11 34 Statutes 3141-44.

12 The Strawberry Valley Water Users Association, composed primarily of water users on the Spanish Fork River,
was organized in August 1905 as a joint stock company. Two thousand irrigators subscribed 52,900 acres at forty
dollars per acre in the reclamation project.

14 MacKay, “The Strawberry Valley Reclamation Project and the Opening of the Uintah Indian Reservation,” pp. 84-89.


16 Correspondence to Chief of Operations, Reclamation Service, 17 October 1917. Strawberry Water Collection, Mss B 200, Box 238, fd. 2. Utah State Historical Society, Salt Lake City. Hereafter referred to as Strawberry Water Collection.

17 George E. Phillips to W. H. King, 27 June 192; and George E. Phillips to Secretary of the Interior 6 July 1921. Strawberry Water Collection, Box 238, fd 10.

18 Ibid., R. A. Porter to Franklin K. Lane, 3 March 1914, Box 259, fd. 3.

19 Ibid., Minutes of meeting of various water users of the Strawberry Valley Project held in Provo, 4 February 1919, Box 165, fd. 3.


21 Theodore Roosevelt, speech delivered at a conference of governors in the White House, 8 June 1908, contained in William Spry, Personnel Correspondence files, microfilm reel 1, Series 2930, Utah State Archives, Salt Lake City, Utah.
As it the promoted economic development in the American Southwest, the League of the Southwest focused attention on the seven Colorado River Basin states of Wyoming, Colorado, Utah, New Mexico, Arizona, Nevada, and California. In addition to promoting roads to attract tourism, the League was also vitally interested in the economic potential of taming and fully utilizing the Colorado River, and its tributaries. Governor Simon Bamberger, a German Jewish immigrant and energetic businessman, took an assertive role in the League, fully involving Utah in the national and international water issues then emerging over the Colorado River system.

The Colorado River had brought periodic devastation to the expanding agricultural community in the Imperial Valley of southern California, where silt-laden floodwaters had damaged or destroyed millions of dollars in crops. Yet as all were aware, the Colorado River was a critical source of water for irrigating thousands of acres, not only in California, but also in Mexico. California agricultural interests dominated the Colorado’s lower basin from the Imperial Valley to the gulf. The Colorado River Land Company, a southern California syndicate headed by Los Angeles Times publisher Harry Chandler, actually controlled much of the irrigated acreage in Mexico.

These California interests would exert considerable influence in the development of the Colorado River. Extensive tracts of new land could also be brought under irrigation upstream, however, which would enhance the economies of other Colorado River Basin states. As they contested for the Colorado River’s waters, friction naturally
developed between the various states. The League of the Southwest became a means to ameliorate conflict and try to find common ground. When it found acceptable solutions and approved common principles, the League adopted formal resolutions. For the League’s executive leadership, cooperation and unity of message was critical, especially when dealing with the political power structure in Washington, D.C.

In addition to irrigation needs, the growth of urban communities in the southwest demanded more water for industrial and municipal purposes. “Given a normal growth of the City,” Denver attorney George M. Bull stated at a League meeting in that city, “more water must be provided and this additional water must be obtained without decreasing the water now available for agricultural resources.” The rapid growth of western cities, particularly those in California, would require a greater reliance on the Colorado River for municipal supply. Los Angeles, for example, witnessed a five-fold increase in its population from 102,000 in 1900 to more than 576,000 twenty years later. San Diego became one of several important west coast seaports and its population more than quadruple from 1900 to 1920. Even construction of the Los Angeles Aqueduct to bring water from Owens Valley 250 miles away failed to quench Los Angeles’ insatiable thirst.

Emerging urban centers such as Los Angeles also demanded electricity to power the expanding industrial and commercial sectors of their economies. Members of the League recognized that by constructing high dams on the Colorado River, immense amounts of hydro-power could be generated and transmitted to southern California and elsewhere. Although by virtue of its location and favorable climate, California may have been best suited to benefit from this increase in hydroelectric power, other basin states also advocated for increased power. At one League meeting, promoters of hydro-power
demonstrated that a dam built at the Dewey site a short distance up river from Moab, Utah, could produce 2.5 million brake horsepower. Nearly half of this amount would be for Utah.²

Urban interests may have dominated the debate on hydro-power; yet, agriculture remained as another important sector of the southwest states’ economy. At the League’s Tucson, Arizona, meeting in early 1918, livestock operators demonstrated how storage reservoirs built on the Colorado River could provide water for forage grazed by thousands of head of cattle and sheep during times of drought. The executive leadership of the League proposed that sixty million dollars be requested from Congress to construct one or more dams for this purpose.³

Other supporters of the farm sector, particularly the Imperial Irrigation District that served southern California’s abundant Imperial Valley, agitated for freeing the Colorado from Mexican influence by constructing an All American Canal. Although unsuccessful, California Representative William Kettner first introduced a bill in Congress in 1919 to fund its construction. Arthur Powell Davis, director of the U. S. Reclamation Service and nephew of famed Colorado River explorer John Wesley Powell, spoke out against Kettner’s bill. While sympathetic, Davis perceived the Imperial Valley water problem as being “inseparably linked with the problem of water storage in the Colorado River basin as a whole.”⁴

As a result, Congress authorized a detailed investigation of the Colorado River. In 1922 the Fall-Davis Report—named for Secretary of the Interior Albert Fall and director of the Reclamation Service Arthur Davis—recommended the construction of an All-American Canal and storage reservoir in or near Boulder Canyon on the border
between Arizona and Nevada. The Report also recommended the development of hydroelectric power to repay the construction costs of the proposed project.

At about the same time that Fall and Davis released their report the League met in Salt Lake City. Former Utah governor and then U. S. General Land Office Commissioner William Spry chaired the two-day meeting. Some League leaders recognized the need to use the Colorado River “while it is young” and then recapture and use it again and again throughout the drainage. To this end, the League passed a resolution urging the federal government not to interfere in small reclamation projects as it undertakes larger ones, and to develop “favorable” policies in reserving reservoirs sites and granting rights of way for the construction of irrigation ditches on the public domain. Furthermore, the League stressed that all federal reclamation projects in the arid states must be in full compliance with the laws of the several states.5

Nearly 3000 people had attended the League’s Los Angeles meeting in April 1920. Utah’s official delegation included Governor Bamberger; Warren L. Wattis, president of the Weber Club in Ogden; Don B. Colton of Vernal, who would be elected to Congress a year later; LDS Church officials, Heber J. Grant and Anthon W. Ivins; William R. Wallace, first chairman of the Utah Water Storage Commission; George F. McGonagle, State Engineer; E. G. Peterson and John A. Widtsoe, presidents of the Utah Agricultural College and the University of Utah, respectively; and County Commissioner R. S. Collett of Roosevelt. Speakers at the meeting included LDS President Heber J. Grant, Senator William Borah of Idaho; perennial politician William Jennings Bryan; Chairman of the California Land Settlement Board Elwood Mead; former Secretary of
the Interior Franklin Lane; USGS Engineer E. C. LaRue; and Cato Sells, a former federal Indian official and City Engineer for Pasadena, California.

The League’s executive committee requested $250,000 from Congress, for a Colorado River reclamation project, which Governor Bamberger heartily endorsed. By comparison, he pointed out that this aid for reclamation would be better used and more beneficial for the entire nation than what was then being spent constructing the Panama Canal. He called for more action than just passing resolutions. “All the good intentions expressed here and all the fine projects presented here affect the people of the United States and not the people of the southwest alone. We must, therefore, adopt some means of informing the people of this great nation of our great project. They with us,” he concluded, “will reap the benefits that come in any great national improvement.”

Tension gripped this meeting, however, as opposition to reclamation projects in the arid states mounted from forces outside of the region. W. I. Drummond from Kansas City, Chairman of the Executive Committee of the International Farm Congresses, applauded the League’s work on developing the Colorado River for irrigation purposes, but cautioned that farmers in the mid-west and elsewhere were not happy with reclamation. It made little sense to “spend vast sums of government money to reclaim the desert until prices of farm products get to a point which will make such expenditures a sound business enterprise…” The western states would find a difficult battle in Congress, he warned, as there are “a great number in the East who [are] opposed…and who believe that you are working for your [own] selfish interests.”

While reclamation may have primarily benefitted the arid, western states, Washington Congressman John Summers asserted that there “is something else the nation
should consider…” The vast territory being reclaimed in the West would become “a
market for [the] Eastern manufacturer. Every part of the country [will be] profiting
directly…it is a truly national work.”

Earlier at the conference, federal reclamation engineers presented a scheme to
encourage economic development throughout the basin. The Reclamation Service
suggested using $131 million from the national treasury, a much greater amount than the
League recommended, to construct a series of large dams at various locations on the
Colorado River and its tributaries. They proposed several locations, including the
aforementioned Dewey site near Moab, along with one at Bluff, Utah, on the San Juan
River, and a dam at Ouray in the Uinta Basin proposed by federal engineer E. C. LaRue.
These reservoirs would impound enough water to irrigate hundreds of thousands of acres
in the Colorado River Basin and additional thousands of acres outside of the Colorado
River Basin. LaRue determined that as many as 43,000 acres could be irrigated in the
Great Salt Lake Basin with water from the Colorado River system. Regardless of the supposed benefits, the proposed Ouray reservoir site would
inundate as many as 240,000 acres of valuable agricultural land including acreage that
belonged to the Ute Indians. The Utah delegation found this particularly objectionable.
Don Colton and others argued that the Ouray site was of little benefit to Uinta Basin
irrigators and a significant amount of potential farm acreage would be lost. Possibly
because it would serve as a means of “capturing the water while it was young,” the Los
Angeles Chamber of Commerce and others were supportive of the Ouray and the other
dam sites.
Utahans argued that rather than constructing several large reservoirs on the Colorado River and its main tributary, the Green River, smaller storage reservoirs at the headwaters of the Green and Duchesne rivers should be constructed. They would serve the dual purpose of controlling flood-waters, which was a major concern down river, while also providing supplemental irrigation water. Further, return flow from the Uinta Basin’s irrigated farms would not diminish the flow downstream. This was an important concern for water users in the lower basin. At the urging of Colton and other members of the Utah congressional delegation, the Ouray site in Utah was dropped from further consideration, and a resolution to further investigate the Boulder Canyon site was supported. The League also requested a $50,000 appropriation from Congress to complete a survey of the entire Colorado River Basin. The resolution pointed out how the construction of reservoirs on the Colorado River would control flooding, store a water supply sufficient to irrigate an estimated 1.5 million additional acres, and provide a large portion of the energy requirements for California, Utah, Nevada, and Colorado.\(^\text{10}\)

The League’s resolution declared support for private reclamation developments so long as they did not conflict with the general developments of the Colorado River. This resolution called for establishing a permanent committee empowered to take proper and necessary action. The League further called for a permanent engineering commission composed of state engineers from each of the states to work with engineers from the Reclamation Service to study the whole of the Colorado River Basin and prepare a comprehensive plan for immediate development of the river.\(^\text{11}\)

In recognition of the need to educate the nation regarding reclamation, Arizona Governor Thomas Campbell wrote Governor Bamberger suggesting that he present to the
Democratic Party’s platform committee meeting in San Francisco later in the year a plank supporting the development of the Colorado River Basin. “If both of the great political parties are committed to a reclamation policy,” the Arizona Republican submitted, “I am certain that less difficulty will be experienced in securing the cooperation of congress.” Bipartisan support and compromise has been a constant and distinguishing feature of Colorado River development, a feature that not only impacted these early negotiations, but one which would characterize reclamation efforts in the arid states for much of the next century.12

League leaders met just a few months later in Denver where Reclamation Director Davis assured the seven states that the Colorado River supplied sufficient water to meet present and future needs and that the federal government would avoid interfering with the developments of the individual states. The League approved a resolution stating that the Colorado River would be used only for beneficial purposes and that a compact negotiated among the seven states with the consent of their legislatures and Congress would determine the uses of the river and its tributaries. It “is the sense of this conference,” League leaders reasoned, “that the present and future rights of the several States whose territory is in whole or in part included within the drainage area of the Colorado River, and the rights of the United States, to the use and benefit of the waters of [the Colorado River] and its tributaries should be settled and determined by compact or agreement between said States and the United States, with consent of Congress…”13

COLORADO RIVER COMPACT

A year later during summer 1921, Representative Frank Mondell of Wyoming and Senator Holm Bursom of New Mexico introduced legislation authorizing the seven states
to negotiate the Colorado River Compact. Pursuant to Article I, section 10 of the United States Constitution, which in part states that no state “shall without the consent of Congress…enter into any agreement or compact with another State…” Congress acted upon the bill.

The Utah legislature quickly added its approval, passing a law that in part read “that any compact or agreement so entered into by said states and the United States shall not be binding or obligatory upon any of the high contracting parties…unless and until the same shall have been ratified and approved by the legislatures” of the seven states and Congress.¹⁴

President Warren G. Harding appointed his Secretary of Commerce Herbert Hoover to represent the federal government in the Colorado River Compact negotiations. Hoover was also selected to chair the Colorado River Commission. State Engineer R.C. Caldwell represented Utah on the Commission. Delph E. Carpenter, an acknowledged legal expert on the subject of interstate rivers and who would become the Compact’s principle author, served as Colorado’s representative.

The Commission first met in Washington, D.C., during late January 1922. During the next few months public hearings were held in Phoenix, Los Angeles, Salt Lake City, Grand Junction, Denver, and finally at Cheyenne in early April. Separate meetings attended by governors of the seven states or their designees were also held.

The Salt Lake Tribune anticipated the Commission’s success, believing it to be of vital importance to the state. Only if the Commission could find an amicable solution to the development of the Colorado River could Utah interests be secured, the newspaper stressed. “Utah must be wide awake and earnestly opposed to encroachment which might
serve to rob her of a heritage that is undoubtedly hers.” Adding the distinction that the eastern half of the state could not be developed like the western half, the editors advised Utah’s delegates not to forget that the eastern half is “a prize of sufficient value to be worthy of the most strenuous effort.”

From its discourse at various public hearings, the Colorado River Commission quickly discovered a number of significant problems. These problems needed to be resolved and the solutions incorporated into the Compact. One nettlesome problem was the right of one state to divert a limited amount of water from an interstate stream for beneficial purposes. A second vexing issue concerned the prospect of inter-basin transfer. Would states be permitted to take water from the Colorado River Basin for use in another? Resolution of this matter was of vital concern to Utah, which had already tapped the Strawberry River for use in the Utah Lake Basin drainage, and looked forward to increasing its use of Colorado River water through additional similar diversions. A third issue was the equitable division of water among the states and a fourth issue revolved around dams and where they could best be located to control the flooding of the river. Finally, each state was highly conscious of its own sovereignty. As the Commission was essentially plowing-new-ground in proposing the compact as a remedy for interstate squabbles over water use and allocation, it would be imperative for each state to relinquish some of its sovereignty in the interest of preserving its access to the Colorado River. Adding further intensity to the issue of state sovereignty, the federal government would play a decisive part in negotiating this interstate compact.

The U. S. Supreme Court resolved the first two issues when it ruled in Wyoming vs. Colorado. The case had first been filed in May 1911, argued in 1916, again in 1918,
and finally in 1922 when the Court made issued its ruling. The issue at hand was whether
the Laramie River, a stream originating in Colorado which then flowed into Wyoming,
could be diverted through a tunnel back to Colorado to irrigate its farms in the Cache la
Poudre River Valley without diminishing the flow of water and impacting the rights of
users in Wyoming. Wyoming claimed superior rights under the doctrine of prior
appropriation, and claimed that Colorado’s proposed trans-basin diversion would impair
the rights of Wyoming water users. Furthermore, Wyoming objected to taking the water
out of the Laramie River drainage because it would deny Wyoming the chance to
recapture return flows. The Court held that Colorado water users could divert the flow of
water provided the diversion would not interfere with the prior rights of Wyoming water
users. Although the court stringently curtailed the amount of water Colorado could take
from the Laramie River, it ruled in favor of the trans-basin diversion.

Not only did the Supreme Court’s decision confirm the legality of Utah’s
Strawberry Valley Project, it sanctioned the possibility of undertaking other trans-basin
diversions, as well. In the years that followed, Utah and its Reclamation partners would
tap the Duchesne River in the Uinta Basin to augment the Provo River Project, and begin
in earnest to study the feasibility of diverting an even larger portion of the Uinta Basin’s
streams to the Bonneville Basin as part of the CUP.

Colorado was equally satisfied with the Supreme Court’s decision. Delph
Carpenter wrote Utah State Engineer R. E. Caldwell to assure him that both states would
have the right to tunnel through the mountains to divert water from the Colorado River
for use elsewhere. Such diversions, however, could not substantially diminish the stream
flow to the states down river that may have established prior rights.16 The Wyoming-
Colorado case firmly established the rule of prior appropriation. The act of establishing and proving senior water rights in the Colorado River would become one of the most contentious issues between upper and lower basin states. The state that could develop the Colorado River water first could claim a lion’s share, thereby diminishing the other states’ share of the river. Southern California water users believed the state had a leg-up on other states, and that it could claim a preponderance of the Colorado for irrigation in Imperial Valley. Furthermore, the Wyoming-Colorado decision would also influence first priority to the river’s power potential, and issue nearly as important as irrigation.

“No decision of the Supreme Court on the water-power development of the West is more far-reaching than the decision today,” the Los Angeles Times reported. The first state to appropriate power rights will have the “senior and prior right to such power.”

The issue of prior appropriation for both irrigation and power production naturally impacted the drafting of the Colorado Compact. In April 1922, Herbert Hoover asked Delph Carpenter to begin that process. Carpenter divided the Colorado River into two natural segments. One, the upper basin states of Wyoming, Colorado, Utah and New Mexico, and two, the lower basin states of Arizona, Nevada, and California. The upper basin contributed most of the flow to the Colorado River. The lower basin, with the exception of the Virgin River system, which actually headed in Utah, contributed little to the flow of the Colorado. Nevertheless, Carpenter divided the river equally between the two basins, and located the division point between the two basins at Lee Ferry in the deep canyons along the Arizona and Utah border.

In addition to dividing the river between the upper and lower basin states, Carpenter believed that the four upper basin states should also devise their own separate
plan for the purpose of dividing their share of the Colorado River water among themselves. Although 20 years would pass before the upper basin states would enact a separate compact, Carpenter suggested it in a confidential letter to Utah State Engineer and Commission member R. E. Caldwell in early July 1922. He cautioned Caldwell not to disclose or discuss with others the idea of a separate meeting of the four upper basin states to develop their own compact as “some parties living in the lower states might look with suspicion and misunderstanding upon such [a] meeting, hence the necessity for prudence in this quarter.”

Carpenter’s concern was well advised. California Congressman Phil Swing, who represented San Diego and Imperial Valley interests, along with California Senator Hiram Johnson, had recently introduced legislation to authorize construction of the high dam in Boulder Canyon, with the dubious intention of permitting California to develop the Colorado River before any agreement among the states could be reached. The Swing-Johnson Bill worried Carpenter and other Commission members from upper basin states. Imperial Valley’s unfettered water claims to the Colorado River could deprive them of their equitable share of the Colorado River by allowing California premature development. Safeguarding water rights for the upper basin states was of paramount concern to Carpenter.

Again, his anxiety was well warranted. Not only did Phil Swing represent Imperial and San Diego counties, he was also the former legal counsel for the Imperial Water Users Association. Senator Johnson had been a fiery force in California politics since his election as governor in 1910. He was a politician to be reckoned with. Johnson earlier had bolted the Grand Old Party and joined the Progressive movement. When
Theodore Roosevelt ran for president under the banner of the Bull Moose Party in 1912, Johnson joined him as his running mate for vice-president. Johnson returned to the GOP and would remain a strong voice in its Progressive agricultural wing.

Passage of the Swing-Johnson bill would seriously jeopardize the Colorado River Compact negotiations. During congressional hearings, Utah Representative Elmer O. Leatherwood strongly urged his colleagues to discontinue the proceedings. Leatherwood informed Carpenter that the “Swing Bill…to my mind is an attempt on the part of the State of California to get more than they would probably be allotted by the [Colorado River] commission appointed to allocate the waters of the Colorado River Basin.” In his judgment all of the upper states should oppose the bill.20

The fate of the Swing-Johnson Bill would take several years to resolve, and would remain a sticking point during negotiations on the Colorado River, even after adoption of the Compact. Following extensive public hearings and meetings, the Colorado River Commission meet in Santa Fe, New Mexico, where Carpenter’s draft was written, and river and water condition reports prepared by the USGS were considered. For more than two weeks in November 1922, the Commission labored through the process of negotiation before finalizing the Colorado River Compact on November 24.

When State Engineer R.E. Caldwell appended his name to the Colorado River Compact, along with representatives from the six other states and the federal government, it was a propitious occasion. The Compact, constituted a major step that would establish the operation of the Colorado River. The Colorado River Compact, along with a series of other laws, compacts and legal instruments that govern the use and operation of the Colorado are referred to as the “Law of the River.” The first of these instruments was the
Winters Doctrine (1908), wherein the Supreme Court established the reserved water rights of Native Americans. The Supreme Court decision in *Wyoming v. Colorado* (1922) settled a number of issues regarding interstate waters, while the Colorado River Compact (1922) became the seminal document that would guide agreement among the states, which share the drainage of the Colorado River. Subsequent to the Compact, other instruments, which would add to the “Law of the River” would include the Boulder Canyon Project Act (1929), U. S. Mexican Treaty (1944), the Upper Colorado River Basin Compact (1948), The Colorado River Storage Project (1956), *Arizona v. California* (1963), and the Colorado River Basin Project Act (1968). These will be discussed in turn throughout the remainder of this study.

To be fully operative, all seven state legislatures were to ratify the Compact. Early in January Caldwell asked Utah Attorney General Harvey H. Cluff to review the Compact. Cluff reported that the “compact fairly protects the state of Utah, and is indeed, an instrument of great importance not only to the state of Utah, but to all other states interested in the Colorado River.” Following Cluff’s opinion, the State Legislature in January 1923 passed an act “ratifying a compact and treaty apportioning the waters of the Colorado River approved by a representative of the United States of America and entered into by representatives of Utah, Wyoming, Colorado, New Mexico, Arizona, Nevada and California, sitting as the Colorado River Commission…”

The Colorado River Compact of 1922 endeavored to solve in only a few pages the complexities of water development and competing interests inherent in the Colorado River. It, as well, provided a number of benefits to the seven states, such as establishing the “importance of different beneficial uses of water,” promoting “interstate comity,”
removing “causes of present and future controversies,” providing for “the equitable division and apportionment of the uses of the waters of the Colorado River system,” securing the “expeditious agricultural and industrial development of the Colorado River Basin,” and allowing for the “storage of its waters, and the protection of life and property from floods.”

The seven states agreed that the division point between the Upper and Lower basins would be located “one mile below the mouth of the Paria River” or near Lee Ferry, Utah, the Upper Basin to include all or parts of Arizona, Utah, Wyoming, New Mexico, and Colorado “from which waters naturally drain into the Colorado River…” The Lower Basin consisted of those parts of Utah (Virgin River system), Arizona, Nevada, and California from which waters naturally drain into the Colorado River. Each Basin’s apportion was to be used exclusively for beneficial consumptive use of 7.5 million acre-feet per annum, which would “include all water necessary for the supply of any rights which may exist.” In addition to the 7.5 million acre-feet per annum, the Compact granted the lower basin states the right to increase its beneficial consumptive uses an additional one million acre-feet per year.

Articles VII and VIII were explicit in the Compact’s obligations to the individual states and Indian tribes. The Compact would not impair the states’ present “perfected rights to the beneficial use of waters of the Colorado River System…” Furthermore, nothing in the Compact “shall be construed as affecting the obligations of the United States of America to Indian tribes.” Herbert Hoover derisively referred to this as the “wild Indian article.” Otherwise, the Compact said nothing about the rights of Native Americans. Furthermore, none of the nearly 250 people who testified before the
Colorado River Commission, the Senate or House Committees on Irrigation and Reclamation, the Federal Power Commission, the League of the Southwest or at any other occasion can be identified as a voice for the Indians.  

The seven states agreed that the Colorado River was no longer a navigable stream and that any limited navigational purposes “shall be subservient to the uses of such waters for domestic, agricultural and power purposes.” Furthermore, water that might be impounded on the river for the generation of electricity would be “subservient to the use…of any such water for agricultural and domestic purposes.” Dams and reservoirs, while obviously a prime consideration of the Compact’s negotiators, could not interfere with these superior purposes.

Protection from federal interference was important to each of the states of the compact. To this end, the compact prohibited federal intrusion into the regulation, control, and uses of water within the individual states’ boundaries. If controversies arose between two or more states, the governors affected could request the appointment of a special commission to arbitrate changes or claims subject to the ratification by all seven state legislatures. The signatories agreed that the compact may be terminated at any time, but must be done so unanimously. Likewise, and any changes to the compact had to be by acclamation.

MEXICO AND THE COLORADO RIVER

As the Colorado terminated in the Gulf of California across the Mexican border, the Compact sought to insure “international comity…” The U.S. agreed to “recognize in…. Mexico any right to the use of any waters of the Colorado River system.” The
Compact, however, failed to provide a specific amount of water from the Colorado River system to Mexico, but only stipulated that Mexico would receive its share from “waters which are surplus over and above the aggregate” of the two basins’ apportionments. Should there be a deficiency of surplus water, then both upper and lower basins would ostensibly share the burden equally in providing water to Mexico. As the river rarely yielded a surplus, the Mexican apportionment remained a contentious international and interstate issue.

Irrigators in Mexico had been beneficially using the Colorado River for decades. In his report to the House Committee on Irrigation, Chairman of the Colorado River Commission Herbert Hoover explained that Mexico was then irrigating 200,000 acres with water from the Colorado River, and believed that additional lands might be brought under irrigation with additional water. The Compact did not provide a specific number of acre-feet of water for Mexico. Should there be a deficiency of surplus water, then both upper and lower basins would ostensibly share the burden equally in providing water to Mexico. It only left “open for international settlement any claims to the use of water in the Republic of Mexico.”\textsuperscript{25} As the river rarely yielded a surplus, the Mexican apportionment remained a contentious international and interstate issue.

Completion of Boulder Dam would significantly alter the historic flow of the Colorado, with no consideration having been given to Mexico’s prior use of the river. Furthermore, Mexican and American farmers had long squabbled over Rio Grande River water, where much of the water used by American irrigators in the river’s lower reaches originated in Mexico. As Texas irrigators demanded more water than Mexico was willing to share, the Rio Grande River problem became inextricably linked to Mexico’s claim on
the Colorado River. In 1889 the International Boundary and Water Commission (IBWC) had been created to try and resolve water and boundary differences between the United States and Mexico, and in 1924, Congress created a special commission to study the equitable distribution of the Colorado River. Once again, the Rio Grande River problem was rolled into the Colorado River question. Serious negotiations resumed to try and resolve the distribution question in both river basins, even as powerful Texas congressmen exerted their influence on American negotiators to tie the two issues together. Sensing an opportunity that would benefit their constituents in the lower Rio Grande, Texas endeavored to provide a benefit to Mexican irrigators in the lower Colorado at the expense of weaker political power among the Colorado River Basin states. Hoping to counteract this influence, the Colorado River Basin governors sent a strongly worded memorial to President Coolidge and Secretary of State Hubert Work outlining their position concerning Mexico’s demands to the Colorado River.

[We], the governors of all seven of the Colorado River States … do hereby in great earnestness and concern make common petition that a note be dispatched to the Government of the United States of Mexico call attention to that Government to the fact that neither it nor its citizens or alien investors have any legal right against the United States of America or its citizens to a continuance of the flow of the Colorado River for beneficial purposes…. except to the extent that, as a matter of comity, the two Governments may declare hereafter by treaty and that Mexico could not claim the use of water stored in any storage reservoir in the United States.26

William R. Wallace, who had represented Utah on the Colorado River Commission, frequently pointed out that the water claimed by Mexico and Arizona would seriously hinder, if not prevent, the other states from developing their share of the river’s water.27 State Engineer T. H. Humpherys feared that the IBWC would negotiate the Colorado River away for the benefit of Texas irrigators. In fact, according to the
proposed treaty Texas irrigators were to receive 350,000 acre-feet of Rio Grande River water and in exchange Mexico was to receive 1.5 million acre-feet from the Colorado River. “There is … grave danger that the United States Commission may recommend decreasing the amount of Rio Grande water allotted to Mexico and correspondingly increase the amount of Colorado River water. It is vital to the Colorado River Basin States that no such move be made,” Humpherys asserted. All seven governors and their representatives continued with their barrage of petitions and correspondence expressing their growing anxiety. Following a meeting held in Phoenix, Arizona, the Colorado Basin states declared that all water impounded and stored behind the Boulder Dam or behind any dam on the Colorado River belonged to water users in the United States and any water that had heretofore flowed “temporarily” to Mexican water users “shall establish no right, legal or moral, to the continued use of such water.”

During the 1940s, the issue took shape during congressional hearings on the proposed treaty with Mexico. Utah Senator Abe Murdock testified that if the treaty were to become law “there will be no further irrigation and reclamation development in the Colorado River basin.” The full extent in which American water users would be “penalized” in order to provide a guaranteed amount of water to Mexico was yet undecided; however, Murdock opposed ratification unless Colorado River water users were emphatically protected.

State Department officials Edward R. Stettinius, Jr., and Sumner Welles countered Murdock’s argument, noting that the treaty was of the utmost importance to both countries and would guarantee an orderly development of reclamation projects in the Colorado River Basin. Welles believed the Mexican treaty would promote better
relations between the two countries and would “free from one of the greatest causes for friction and bad feeling which can exist between peoples whose very existence depends upon irrigation and where the water supply is severely limited.”

In Utah, as well, considerable support existed for ratification of the treaty. Fifteen leading members of the Utah Water Users’ Association, including its president William Wallace, who had previously opposed the measure; the association’s attorney Alonzo Watson and State Engineer Ed Watson lobbied Senator Thomas to vote affirmatively. They pointed out that the treaty provided a maximum “certainty” of the acre-feet of water that would be distributed to Mexico and the treaty would guarantee full protection of Utah’s share of the 7.5 million acre feet of water. Apparently convinced, Thomas was one of the 18 Senators on the Senate Foreign Relations Committee to vote for the treaty’s ratification; four voted against it.

Many were unpersuaded. The Deseret News editorialized that the Mexican treaty was “one of the most controversial questions in Utah” and in the event of a drought or shortage of water, “it stands to reason that it [Mexico’s guaranteed share] would come out of Utah’s and the other upper states share of their 7.5 million acre-feet of water. Will this water still be available by the time these upper states get into a position to use it, or will the lower states, California and Mexico, be using the water that rightfully belongs to us?” Salt Lake City Mayor Earl J. Glade was concerned that the treaty would jeopardize water the city was receiving from the Provo River project. The Salt Lake Kiwanis, among other civic organizations, was highly critical of the treaty as was the Provo River Water Users Association, which believed that Utah and the other upper basin states would lose a
portion of the 7.5 million acre-feet approved under the Colorado River Compact, and that the Association would be denied water from the Duchesne River.  

The Mexican question had clearly not been adequately sorted out in the Colorado River Compact. Not until 1944 would Congress ratify the treaty with Mexico to try and resolve the issue. Many in Utah continued to oppose the measure even after its ratification. Perhaps most overt in his criticism, Utah legislator Mitch Melich seethed at those like Attorney General Grover Giles, State Engineer Ed Watson and Senator Thomas who favored the Mexican treaty. “We are dealing with big politics—power politics here,” he angrily told a group of engineers. “I am opposed to the Mexican treaty, because I am a citizen of the United States. The Colorado River water treasure should be maintained within the United States, and if there comes a time when the upper basin states cannot use the surplus water, then this water should go to the lower basin states, not Mexico.” Melich considered the actions of those supporting the treaty “disgraceful…” They are “actually beseeching the gift of a substantial part of America’s natural resources to a foreign nation for all time,” he lamented.

THE ARIZONA DILEMMA

While Utah’s support for the Mexican Treaty would be divided, it had been one of the earliest states to ratify the Compact. The Arizona legislature, however, had balked, sensing the state may get short-changed when the three lower basin states divided up its 7.5 million acre foot allocation. Arizona had campaigned that the Gila River, which traversed Arizona from east to west from the mountains of New Mexico and emptied into the Colorado near the Mexico border, be excluded from the lower basin’s 7.5 million acre
foot allocation. Political and economic interests in Arizona wanted exclusive use to the Gila River. Furthermore, the outcome of the pending Swing-Johnson bill continued to breed suspicion among all six of the other states, but particularly Arizona.

Recently held elections in Arizona brought individuals to the forefront who questioned the validity of what had been negotiated in Santa Fe. In addition to the Gila River issue and the lack of a tri-state compact to divide the allocation among the lower basin states, political forces in Arizona objected to the location of the high dam in the Boulder Canyon area. Public utilities and other interests in Arizona were opposed to a competing hydroelectric plant on Arizona’s sovereign soil. The electricity generated by a federally constructed hydroelectric plant would be tax exempt and the mining and smelting industry would obtain no tax relief.

Newly elected Arizona Governor George W. P. Hunt said that the proposed dam under the Swing-Johnson bill would be of little or no benefit to Arizona. The governor asserted that Arizona’s agricultural and industrial developments would be severely curtailed. The benefit from the Boulder Dam would accrue to California with little or no benefit accruing to Arizona or the upper basin states. “Our income from power would be limited,” Hunt informed a Denver law firm, “whereas with the best power sites wholly within our state we should be able to secure the equity to which we are entitled.”

Approval for administering and regulating hydropower on public lands and issuing construction licenses fell to the Federal Power Commission, established in 1920. When Arizona refused to ratify the Compact, the Power Commissioner refused to issue a license for the hydroelectric power plant until Congress approved the Compact. Congress could not approve the Compact until all seven state legislatures had ratified the
Compact. It was a conundrum of momentous proportions. Additionally, only by utilizing Boulder Dam’s huge power potential could project sponsors ever hope to repay the construction costs.

BOULDER CANYON PROJECT ACT

The Swing-Johnson Bill intensified the economic importance of the Boulder Dam for California and other basin states. The bill not only threatened Arizona’s development, but among the other upper basin states there was a growing concern that the bill would also authorize construction of the All American Canal, a prospect which promised to greatly increase the amount of irrigated acres in the Imperial Valley, and establish beneficial use for even more of the Colorado’s water. The principle of first in time, first in right hung over the upper basin states like a dry storm cloud.

As congressional hearings continued, governors met to discuss Arizona’s impasse, endeavoring to find a solution to the Arizona problem, while assuring equity and fairness for the upper basin states. Some expressed misgivings that if Arizona did not ratify, it may be left free to develop the Colorado River on its own. Further, Mexico likewise could claim more water, and the Compact contained no provision to compel self-limitation for river water on the part of California.

Elmer Leatherwood continued his congressional attacks against the Swing-Johnson bill, promising “to oppose the passage of the...bill until the territory of the upper basin is protected.” Evoking the fabled wasteland imagery so familiar to westerners, Leatherwood claimed that if the Swing-Johnson bill passed Congress it would deprive
Utah and Colorado of water to irrigate as many as two million acres making the land perpetually a part of the great American desert.

Even as there was a change in governors in Arizona, Utah elected George Dern in 1924. Outspoken for Utah’s state sovereignty over natural resources, Dern defeated Charles Mabey using a classic campaign slogan “We Want a Dern Good Governor and We Don’t Mean Mabey.” Dern immediately immersed himself and his administration into the developments and issues of the Colorado River, quickly becoming a leader among the upper basin governors.37

In December 1925, Dern, along with Deph Carpenter railed against the Swing-Johnson bill in testimony before the U. S. Senate’s Committee on Irrigation and Reclamation. “I am here to oppose the enactment of any legislation that has for its purpose the building of a dam on the Colorado River at Boulder Canyon or elsewhere for any purpose whatsoever, whether it be for power irrigation, flood control, silt storage, or municipal water supply.” He expressed his fear and that of the other upper basin states that they would derive no benefit from a dam built downstream, but would lose water to California on the theory of prior appropriation. Even while speaking out against the Boulder dam or other dams down river, Dern wondered aloud why Arizona and Utah were not working together as they had similar interests. “Arizona wants her rights in the river protected. So does Utah.” He pointed out that both Arizona and Utah had reservoir sites that would not only benefit their respective states, but would also protect California from floods.

A stalwart in defense of state sovereignty, Dern was cautious in his criticism of Arizona and California. Dern asserted how Utah and the other upper basin states only
wanted to safeguard their water rights to the Colorado River and see that the water from the Colorado River be equitably divided and allocated to the member states of the Compact. Arizona, he said, wants to build a storage reservoir at Glen Canyon with much of the impounded water in Utah. Utah has an excellent dam site at Flaming Gorge where much of the water would be stored in Wyoming. How will Arizona share its power revenue with Utah, he rhetorically asked, and how will Utah share its power revenue with Wyoming? He reminded the committee that eastern Utah is an important source of water for the Colorado River and that the Uinta Basin has an immense supply of oil shale. While not presently competitive with free-flowing oil wells, Dern predicted that someday it would be.

Dern confessed that Utah and the other upper basin states did not have the financial means to develop the resource of the Colorado River, and admitted that California has prepared plans to develop the lower Colorado River. Dern pointed out to the committee, however, that reports show 3.4 million acre-feet of water originates in Utah. “We are not asking for all of it,” he offered. “We only want to reserve the amount necessary for our irrigable acreage, [and]…the needs of the manufacturing centers” in the state. It was not in Utah’s interest to delay developments of the river, but Utah has “done everything…possible for us to do to get this affair settled…” She acted promptly to ratify the Santa Fe Compact, Dern concluded, and has no desire to delay the river’s development unnecessarily.38

Intense pressure came to bear on both sides of the Swing-Johnson bill, especially when a report of the House Committee on Irrigation Reclamation favored an appropriation be made to California for flood control measures along the lower Colorado
River. In accordance with Reclamation law, costs for Flood control were non-reimbursable and did not require repayment. Opponents viewed this as a direct appropriation to California with no consideration of the Colorado River Compact.

Anxious over state sovereignty, the appropriation raised a red flag in the other basin states, which expressed that this congressional action amounted to federal usurpation of state powers. The other states worried that the federal government in concert with California interests would directly control and manage the development of the Colorado River, which would in effect place an embargo on the river’s development in the upper basin states.

Over the course of the next few years various interests headed principally by Governor Dern held meetings and discussions among the upper basin states and with the three lower basin states to find an equitable solution to the allocation of water. Foremost on the mind of Dern and other governors was to have adequate safeguards in place to protect the sanctity of the Colorado River Compact. The upper basin states along with Arizona lagged behind in their plans to develop their share of the Colorado River. If California was first to beneficially apply the waters of the Colorado, then the principle of early appropriation established in the recent case of Wyoming v. Colorado, could preclude the other states from realizing their share of the river under the Compact.

With Arizona’s continued refusal to ratify the Santa Fe Compact, a new proposal emerged to create a six-state Colorado River Compact. This alternative would include the same basic provisions as the original, except it would also require California to limit its share of water from the Colorado River.
As had the original, this new agreement would also require the six states to ratify the new compact. It would also need the consent and approval of Congress. Believing that it would provide some protection to its water rights in the Colorado River, and with the backing of the newly created Utah Water Storage Commission, the Utah Legislature ratified the six state compact in March 1925. The act “shall be of no force or effect until this or a similar Act or resolution shall have been passed or adopted by the legislatures of the states where have heretofore ratified and approved the Colorado River Compact,” the Utah law stated.\(^\text{39}\)

Persuading the California legislature to ratify the six-state compact and to impose self-limitation on the amount of river water it claimed was paramount. The upper basin states, particularly, launched a concerted lobbying effort to convince California legislators of the new compact’s value. The Wyoming and Colorado legislatures sent resolutions to the California-governor entreatying him to intervene with his legislature. California lawmakers remained adamant, however, thus communicating their desire for a free hand to construct a dam and power plant in order to provide cheap power for southern California. Without these guarantees the California legislature refused to ratify the six-state compact.

In January 1927, as Congress considered anew the Swing-Johnson bill, an ailing Elmer Leatherwood took to the floor again, characterizing the Swing-Johnson bill as a gigantic government power project, a wolf masquerading in the clothing of flood control and water for irrigation and domestic purposes. Should the bill pass, he warned, it would “put the federal government in the power business on a gigantic scale.”\(^\text{40}\) Furthermore, the Swing-Johnson bill offered no protection for the upper basin states or Arizona’s
interests. In conjunction with Utah Senator Reed Smoot, Leatherwood offered an amendment to the Swing-Johnson bill that would locate the high dam at Topock, Arizona, nearly 150 miles downstream from the Boulder Canyon site. This alternative would ostensibly serve equally as well for flood control, and be far less costly to construct.

Five years earlier just prior to the Compact’s signing in September 1922 an expedition comprised of 17 men, including some Commission members, floated a portion of the Colorado River, between Hall’s Crossing and Lee Ferry, to survey possible locations for flood-control and storage dams. John Widtsoe was a member of this two-week expedition, and after his return he reported that the Wahweaps [Glen Canyon] site would be the most economical. It would “reduce the cost of building [a dam],” he wrote in a memorandum to the LDS Church’s First Presidency. “All in all, I am inclined to the belief that investigations will demonstrate that the dam is feasible, and if feasible can be built for many millions of dollars less than at Boulder or Black Canyon.” Whether or not Glen Canyon Dam was a practical alternative to the Boulder Dam it was a viable reservoir site, and would form an important part of the later Colorado River Storage Project 40 years later. Regardless, much study had already been done to solidify the need for Boulder Dam, and with the strength of California’s agricultural and hydro-power lobby, Congress routinely dismissed any alternative suggestions.

In addition to suggesting alternatives to Boulder Dam, however, Leatherwood proposed including much stronger language in the Swing-Johnson bill to protect the rights and sovereignty of Utah and the upper basin states. The Utah delegation insisted “that an amendment…be inserted which provides that in any power application granted
by either the power commission or the secretary of the interior, the rights acquired by the upper basin states under the compact shall be fully safeguarded and that all applications granted shall be subject to the provisions of that [Colorado River] compact.”

Idaho Congressman Addison T. Smith, chairman of the House Irrigation Committee, and a strong supporter of the Swing-Johnson bill, declared that advocates would never agree to any of the modifications being proposed by Leatherwood, Smoot or others from Utah. Nevertheless, Smith agonized over the prospect of Swing-Johnson’s failure, particularly if state legislation being considered in Utah successfully blocked the six-state compact, and if President Coolidge continued with his tepid support of the measure. The Republican Party would be forced to face the disagreeable issue of private vs. public ownership of electric power at the proposed Boulder dam, and if a split in the party occurs, Smith intimated, Coolidge would be held responsible for not working to support the Boulder Canyon project and some advocates of the bill would back another Republican presidential candidate.  

The Utah legislation that concerned Addison Smith came with a flurry of bills, memorials and resolutions concerning the Colorado River as the legislature convened in January 1927. At the top of the Utah legislative calendar was a bill introduced by State Senator Herbert S. Auerbach from Salt Lake County, which called for the repeal of Utah’s ratification of the six-state compact passed two years earlier. In discussing his bill, Auerbach contended that the previous legislature had approved the six-state compact without careful review. “I have reviewed many times our hasty action in this matter and have concluded that we were influenced by representations that did not disclose all of the facts,” he asserted. The six-state compact would have been beneficial, he continued,
“had it not been for the selfish position taken by the representatives of the residents of southern California… [T]heir ambitions prompted them to endeavor to manipulate this work of reclamation so that it would comprehend the establishment of a gigantic electric power scheme for the … sole benefit of the communities of southern California.”

Power production was little more than a minor consideration for negotiators and signers of the 1922 Colorado River Compact, Auerbach concluded. Obtaining water for agricultural and domestic purposes, “household, stock, municipal, mining, milling, industrial, and other like purposes…” along with flood control was their primary motivation.

Working hand-in-glove with Utah’s congressional leaders, Auerbach and his supporters believed the bill to withdraw from the six-state compact would likely halt the Swing-Johnson bill before Congress and successfully stymie California’s plan to construct the high dam and power plant in Boulder Canyon. As the *Salt Lake Tribune* aptly phrased it in its editorial on January 14, “the jig would be up so far as the Swing-Johnson bill is concerned.”

Knox Patterson of Moab introduced an even more radical bill. His bill called for repealing all Colorado River water legislation—including the sacrosanct Colorado River Compact. State senator W. D. Candland, a prominent central Utah sheep man, agreed, and called for scrapping the 1922 Compact and drafting a new one.

Both Auerbach’s bill and Patterson’s bill set off a firestorm. Much as did Addison Smith, Denver attorney L. Ward Bannister, another proponent of the Swing-Johnson bill, feared that the passage of the Utah legislation would nullify the six-state compact and
“wreck the work of years of bringing the Swing-Johnson boulder dam to its present status [of being enacted].”

Utah’s congressional delegates carefully distanced themselves from Patterson’s legislation. The long-winded Patterson reportedly spoke for two days in the legislature, where he called for the repeal of both the six- and seven-state compacts, arguing that neither bill protected Utah’s rights to the bed of the Colorado River. Without protection of Utah’s rights in the river beds of the Colorado and Green, vast quantities of oil shale in eastern Utah could not be developed and taxed, nor future hydroelectric power plants built and controlled by the state.

Fearing what might transpire in Washington, D.C., if Patterson’s bill passed, Representative Don Colton, a Uinta Basin native sensitive to the potential of oil shale development, hurriedly wired A. B. Irvine, president of the Utah senate that the “Compact does not destroy Utah’s title to bed of Colorado River; it merely makes navigation subservient to other more necessary uses and does not destroy navigability of river.” Likewise, Senator Smoot advised Irvine that it would be “unwise for Utah Legislature to repeal Seven State Compact.” Only Utah Senator William King was more sympathetic to his local political allies. He had lent his support to the Swing-Johnson amendments offered by his Republican colleagues Leatherwood and Smoot, but believed California’s refusal to adopt the amendments was so “arrogant and inconsiderate…as to fully justify Utah in taking the course proposed.”

In a telegram to Governor Dern, Delph Carpenter warned the state not to withdraw its ratification of the seven-state compact. The Compact “does not destroy navigation,” as some Utahans feared, “but merely makes navigation subservient to other
more important uses of water.” One of the Compact’s imperatives, Carpenter advised the governor, was to protect the “upper states against claims of prior appropriation by lower states…It would be suicidal,” he concluded, “for upper states to repeal [the] 1923 acts…”

Accepting the sage advice of the Compact’s principal author, the Utah legislature refused further action on the Patterson bill. It did, however, enact Aurbach’s more moderate bill, which repealed Utah’s ratification of the six-state compact of 1925. As the Salt Lake Tribune had remarked, “the jig” was definitely up and the legislature’s action did halt momentarily further congressional action to authorize and fund construction of the Boulder Canyon Dam and accompanying hydropower plant.

After being notified of the passage of Aurbach’s bill Senator Smoot expressed “the approval of the whole delegation,” to which Senator King added that the actions of the “legislature in rescinding the resolution of ratification of the six-state compact is very gratifying.”

As intended, the legislature’s actions sent a clear message to proponents in Washington, D.C., and California that they would have to seek some resolution to bolster the defeated Swing-Johnson bill. California’s delegation offered amendments to mollify Utah’s concerns, but too-little-too-late, the nullification of the six-state compact had swept away the foundation for the Swing-Johnson bill. A whirlwind of meetings ensued among lower basin states, upper basin states, between California and Arizona, and occasionally between states from both basins, where possible solutions were discussed to the multi-faceted problems between Arizona and California. Of particularly concern
were California’s demands for more water and inclusion of a hydropower plant at the Boulder Canyon dam site.

Discussions and meetings were held in the nation’s capital, as well. Speaking earlier during the Swing-Johnson bill hearings, Arizona Senator Carl Hayden reflected on Arizona’s view of Washington, D.C. and its belief that it could control water issues. “The objections of Arizona to this bill cannot be cured by Congress. We deny it is the power of Congress to apportion the water.” Arguably one of Arizona’s most durable and colorful legislators, Hayden had issued a minority report to the House Irrigation Committee, wherein he promised to carry the fight against the California bill all the way to the courts. In the absence of a treaty with Mexico, Hayden and his constituents feared that water for Mexican irrigators would likely come at the expense of either Arizona or other upper basin states’. The Arizonans’ primary concern may have been the prospect of depressed farm prices from cheaper Mexican produce; but Hayden’s anxiety over Mexican water rights was not entirely ungrounded.

Nevada Senator Key Pittman, more optimistic about Congress’s ability to effect change, believed that a bill would be approved during the next session if an agreement could be worked out among the three lower basin states. Pittman hoped to add an amendment that would largely limit the use of electricity generated at a high dam for irrigation in Arizona and Nevada.

Although some accused Utah of being an obstructionist, the state remained committed to the 1922 Colorado River Compact, to the equitable development of the river, and the protection of the individual states’ rights to the river. Representative Colton declared himself ready to fight for what rightfully belonged to Utah, but remarked
that the “state must not place itself in the position of being merely an obstructionist.” In the same vein, George Dern gave fellow Colorado Governor William Adams his “most earnest assurance [that]...I have no desire to stand as a mere obstructionist. On the contrary, I should like to see the Colorado River developed... I am therefore keenly desirous of setting a plan worked out that will permit such a development [of the river] to go forward without permanently damaging our state.”

Dern seems to have taken the lead among the four upper basin states to try and achieve a reasonable solution to the Arizona impasse and to California’s demands under the latest Swing-Johnson bill. In late March 1927, Dern invited the six other governors to Salt Lake City in hopes of ironing out their differences, but the lower basin states’ inability to agree on the equitable division of its annual 7.5 million acre-foot allocation remained a major stumbling-block. Very little hard data had actually been collected to accurately determine water flow, soil conditions and other factors. Delph Carpenter had been aware of the dearth of information when he informed A. C. Rees of the Utah Associated Industries that there existed no real hard figures of the Colorado River’s flow and that more data in that regard was needed before the “RIVER-GOLD” could be distributed. The overly optimistic estimate of the Colorado River’s flow during this time period resulted in the river being over allocated. Seldom, if ever, had the river produced 15 million acre feet per year, which left the states understandably anxious to develop as much as possible. In 1927, Governor Dern instructed State Engineer George Bacon and the Utah Water Storage Commission to organize several fact-finding committees, including the Engineering Council of Utah, to determine the best uses of water from the Colorado River system.
During the summer, Congress once again held hearings on the Swing-Johnson bill. The hearings emphasized the importance of constructing a dam to control flooding on the Colorado River. The previous spring, devastating floods had occurred along the Mississippi River, and Congress had appropriated more than $300 million for levee work in the Mississippi Valley. Dern and others believed that these actions may give legitimacy to the Swing-Johnson bill. “I am inclined to agree with you,” Dern wrote to Arizona state senator Thomas Maddock. The “Mississippi River floods will make it all the harder to resist the Boulder Dam scheme [Swing-Johnson bill] on account of its flood protection features.”

Several of the Colorado River governors expressed renewed urgency at finding a solution to the problems of the Colorado River, and called for a seven-state conference to be held in Denver during late summer 1927. Hopeful for a breakthrough at the Denver meeting, Colorado Governor William Adams urged the four upper basin states to act in unison to oppose any developments on the Colorado River until the seven-state compact was ratified by all state legislatures. The conference chose Dern as chairman, who expressed hope that as a group “we may keep our minds and hearts somewhat in that attitude of prayer which will dispel an atmosphere of narrow selfishness, and will enlarge our vision, to the end that right may prevail.” We must find a way, he concluded, to enable California to get what she deserves “without sacrificing our own chances for future growth and development and the well-being of our people.”

Whether or not affected by their prayerful deliberations, the states’ did succeed in passing several significant measures. Dern expressed his pleasure that the other states recognized Nevada Senator Key Pittman’s resolution regarding state ownership of the
bed of the Colorado River and its tributaries, and with a nod towards Arizona, the other states agreed that waters running in the western states are the property of the states, and that the states are entitled to compensation for the use of their lands and waters, except for governmental purposes. As the Boulder Canyon power plant would be located in Arizona, the state felt entitled to receive revenue from any electricity generated under the Swing-Johnson bill.

Although Arizona held early hope that the conference would result in finding some solution to the Arizona-California deadlock, little else was accomplished during the several days of meetings. The core dispute of how much of the Colorado each state should receive from the 7.5 million acre-feet lower basin allocation remained.

Arizona argued that irrigation water for its Indian population should not be counted against its share. The California River Commission disagreed and demanded that the water already committed to the Arizona Indians be subtracted from Arizona’s proportionate share. Commissioner of Indian Affairs Charles Burke agreed. “These Indian lands [in Arizona] are entitled to water from the Colorado River and it must come from Arizona’s share.” Burke’s concerns with Indian water rights coincided with a growing concern for Indians on former and existing Indian reservations, nationally. At the request of Indian Commissioner John Collier, Senator William King initiated an investigation of Indian conditions in the West. The lengthy investigation took nearly fifteen years to complete before the report entitled “The Survey of Conditions of Indians in the United States” was presented to the Senate Subcommittee of the Committee of Indian Affairs in 1943.
Notwithstanding Arizona’s argument or Bureau of Indian Affairs concerns, California held fast to its demands. What George Dern referred to as “irreducible minimum demands” included 4.6 million acre-feet of water annually, plus half of the surplus water not otherwise allocated. Upper basin states, however, recommended a lesser figure of 4.2 million acre-feet for California, 3 million acre-feet for Arizona, and 300,000 acre-feet for Nevada.

Arizona, however, having failed to ratify the Colorado River Compact, was not constrained by any of its provisions. This, Senator Smoot quipped, left Arizona outside “the corral like a wild horse running loose,” free to claim more water based on first in time first in right and leaving Utah and the upper basin states, which were lagging behind in their development with a smaller share than what the Compact stipulated. The type of angst expressed by Utah’s senior senator would not abate until and unless Arizona agreed to abide by the Santa Fe agreement.

To this end, and aspiring to promote the seven-state compact to national leaders, Governor Dern solicited the advice of President Coolidge, Secretary of Commerce Herbert Hoover, Secretary of Interior Hubert Work, Reclamation Commissioner Elwood Mead, and New York Governor Alfred E. Smith. As Dern was working the Coolidge administration, Senator King warned him that Representative Swing and Senator Johnson had introduced another bill to authorize the Boulder Canyon project. This bill provided a scheme for repayment through power revenues and the sale of irrigation water, and hoping to move the project forward and obtain approval from the other basin states, required only that California and any three other basin states ratify the Colorado River
Compact—a four-state rather than a six-state compact. In December the four upper basin states adamantly rejected the idea.

Even so, there was growing support for the new bill. Proponents linked the bill with other favored projects, such as the Columbia River in the northwest and the St. Lawrence River project in the northeast, which made the Boulder Dam project more palatable for many lawmakers. While Senator King continued to press for the protection of the upper basin’s rights, “there is a strong possibility,” he confessed, “that the bill will pass.”

Upper basin governors and their river commissioners hastily prepared for the approach of congressional hearings on the reconstituted Swing-Johnson bill. Hoping to present a unified front, the governors resolved that it was their “firm belief…that no legislation proposing the construction of any project upon the Colorado River should be enacted by Congress.” Governor Dern went so far as to even oppose river developments that would benefit Utah. In testimony before the committee, he reiterated the upper basin’s opposition “to any and all development of the lower river…[and] in the upper river as well.” Dern had even opposed the application of the state’s own Utah Power and Light Company’s application for a license to build a dam at Flaming Gorge. The Utah Legislature joined the governor by passing a resolution calling for the suspension of all applications for power licenses for all proposed power plants on the lower Colorado River “in order to give further opportunity for negotiations among the States, and for consideration of the Colorado River problem by the next session of Congress.”

Early in January 1928, however, Interior Secretary Work recommended enactment of the Swing-Johnson bill. Work indicated that the Bureau of the Budget had
approved the sum of $125 million for the project and that there were no conflicts with the
president’s budget. Three days later the Salt Lake Tribune rebuked Work’s support, and
accused the federal government of violating state sovereignty by illegally interfering with
the states’ land and water. Further, the newspaper hinted that Work’s actions foolishly
invited a political fight on the eve of a national campaign. The newspaper editorialized
that the water resources of the Colorado River was a national resource and therefore the
federal government should be directly involved in the development of the river.

The United States Chamber of Commerce also opposed the bill, especially the
provision, which would allow the federal government to undertake production of
hydropower. The government should “scrupulously refrain from entering any phases of
business [meaning generating electricity], which can be successfully undertaken and
conducted by private enterprise.” The Chamber’s statement added that private business
should be given every opportunity to generate and distribute electricity.66 Locally, the
Salt Lake Chamber of Commerce supported the national organization and expressed its
displeasure with the Interior Secretary’s actions. It asked senators Smoot and King if they
thought it advisable for the chamber to weigh in with a strongly worded resolution.
Smoot and King both wired back fervently encouraging the chamber to do so.

Dern enjoyed strong support from a variety of individuals and organizations. J. P.
May, owner of the Uintah Record (later changed to the Duchesne Record) and Duchesne
Courier lent his support to Dern along with that from several commercial clubs, the
Duchesne County Farm Bureau, the Indian community and others affiliated with the
Uintah Basin Industrial Commission (UBIC). The UBIC actively promoted the building
of canals, reservoirs, the buying and selling of water rights and championed the economic
development of the Uinta Basin. The UBIC would remain a potent force in the Uinta Basin, and for the next several decades would play an important role in developing the water resources of the Colorado River drainage. May reminded Dern of the economic conditions in the Uinta Basin and suggested that for a number of years there were interests—the federal government and others—at play that prevented irrigators in the Uinta Basin from constructing reservoirs from which stored water could increase agricultural production of the area and the overall economic growth of the two counties. With data he had compiled over a span of nearly a decade, May wrote that with uninhibited development of reclamation (without the proposed imposition of the Swing-Johnson bill) more than 415,000 acres of land could be irrigated.67

Days later, as Dern prepared to offer lengthy testimony before the House Committee on Irrigation and Reclamation, he rehearsed the developments that had taken place, the grappling issues confronting the tri-states, and the current efforts aimed at finding common ground between Arizona and California. Above all Dern wanted to stress the need to protect Utah’s sovereign rights over its water. Finally, with the blessing of Delph Carpenter and Colorado’s governor, Dern, whose voice had been among the most prominent in the upper basin, would urge Congress to defer passing all legislation until Arizona and the other six states ratified the 1922 Colorado River Compact.

Not all who listened to his testimony were in harmony with Dern, or the other upper basin governors. Denver attorney and special counsel for the city’s water interests L. Ward Bannister, savagely ridiculed Dern during subsequent testimony. Claiming that significant support for the Swing-Johnson bill existed along Colorado’s Front Range, Bannister took every occasion to challenge Dern’s testimony. Clearly shaken, Dern wired
Governor Adams requesting that he recall Bannister as his testimony was severely damaging the effort to either amend or kill the new Boulder Canyon bill. Three days later Governor Adams responded to Dern that he would take up the issue with Denver Mayor Benjamin Stapleton.

Just as was the case in Colorado, not all Utahns were opposed to the Swing-Johnson bill, either. L. A. Hollenbeck, an attorney in Duchesne reminded Dern that Utah would also prosper from California’s continued growth and economic development. Moreover, to fight California over the Boulder Canyon project is “like a school boy fighting a colossus, and while Los Angeles is growing with great strides, Utah is following with good ones too; but, kill off Los Angeles and …it will stop development for 20 years.”

Even former Governor Simon Bamberger realized that the prosperity of Utah depended on the prosperity of California. He strongly favored building a high dam on the Colorado River and that it should be built by the federal government. Like others in Utah, he remained firm that the state’s rights should be protected, but had “no fear that this would mean the entrance of the government into business.” The entire Boulder Canyon project should be owned by the seven states of the Colorado River system, he asserted. “If in the Colorado River controversy several business interests were involved rather than several political units, I am satisfied that the importance of the matter would bring about a satisfactory compromise within a short time…there is no reason why the various states involved should not speedily bring about an adjustment fair to all.”

Perhaps as a last-ditch-effort, efforts began to dampen the credibility of Representative Swing, by linking him to a payola scandal. Louis W. Douglas of Arizona
reminded the congressional committee that in previous testimony when Utah Representative Leatherwood queried Douglas about Swing’s association with the Boulder Dam Association, he reported that Swing had received per diem a retainer of $1,450 and more than $430 in expenses from the Boulder Dam Association for a period of about four months in 1923. This was clearly against the law, according to Douglas.\textsuperscript{70}

As the seasons slowly transitioned to spring in the nation’s Capital, so did the opinion of Boulder Dam begin changing among many in the Colorado’s upper basin, and Douglas’s efforts had little impact on the virtues of Swing’s bill. Senator King confided to the Governor that he had been receiving communications from many more Utahans who supported the Swing-Johnson bill. Wanting to make sure that his next step in Congress was appropriate, he asked Dern what the “minimum conditions” should be in the bill before Utah could agree. Dern reminded King that the legislature had withdrawn its support for the six-state compact, an action, which he endorsed. Utah’s withdrawal had forced Swing and Johnson to restructure their bill for the benefit of the upper basin states. Primarily through Utah’s efforts, Dern insisted, had the Swing-Johnson bill been greatly improved and it “is not as dangerous now as it was in its original form.” Even with these changes, however, Utah must steadfastly cleave to the protection afforded by the 1922 Colorado River Compact, as it alone safeguards our sovereignty. Some among us, Dern objected, maintain that because Utah it is not presently using its share of the Colorado River water, we should not object to California’s claim to more water. “This is not a problem today,” Dern observed, “but of the distant future.” This battle to protect our water resources is for the next generation or “perhaps for several generations hence.”\textsuperscript{71} The Governor could not have fully comprehended the certainty of his words.
While water had always been a priceless commodity in Utah, the meteoric growth of the state during the last half of the Twentieth Century, would make it even more so, and the efforts of Dern and others to protect the upper basins vested right in the Colorado River would have far reaching consequences for Utah.

Congress adjourned in late May without passing the Swing-Johnson bill, giving the states one last opportunity to find an amicable solution. “Now that the tumult and the shouting of the last hectic days of the Senate are over” wrote the Arizona Republican, “it [is] hoped that a saner view will prevail in California and that the past arrogance of her representatives may be replaced by [a] spirit of co-operation and good will….”

As Congress resumed session during fall 1928 the Swing-Johnson bill once again took center stage. Perhaps because of his Democratic Party affiliation, Senator King carried most of load during this last leg of debate on the Boulder Canyon project. King advanced several amendments to the bill. One, (now Section 19 of the act) authorized the seven states to negotiate compacts or agreements supplemental to, but in conformity with, the Colorado River Compact for the purposes of constructing storage reservoirs, diversion structures, and hydropower facilities. Bi-state compacts would allow for smaller reclamation projects along streams shared by two states. Such agreements, like the Colorado River Compact, would have to meet the approval of Congress.

Congressman King’s Democratic ally, Governor Dern suggested another far more consequential amendment. This amendment called for revoking the mandate for the approval of all seven states. It would, however, require that the California State Legislature recognize a definite limit on its share of the Colorado River. California agreed not to exceed 4.4 million acre-feet and not more than one-half of the excess or
surplus water should there be any (Section 4). With this legal assurance from California, Utah and the other states’ share of the river would be guaranteed. To protect state sovereignty, the amendment stipulated that nothing in the bill could interfere with the rights of any state to waters within its own borders. Lastly, Mexico, consistently the stepchild in these river negotiations, would be prohibited from claiming any water stored in a federally constructed facility.

Republican members of Utah’s delegation, particularly Smoot and Leatherwood, remained skeptical. Smoot presented a laundry list of objections to President Coolidge, including the dam’s perilous engineering and its enormous cost, which exceeded all estimates, provided Congress, and which would be impossible to pay for solely from revenue derived from the sale of power. Perhaps more troubling for Smoot, the project would invite the “Government into the power business… [and, set]… a precedent for Federalization of the river and its removal from state authority and control…” This, Smoot contended is “a precedent which we of Utah and other interested states in the Colorado River basin must view with alarm.”

Senator King disapproved of many of the bill’s provisions, as well. Nonetheless, he reasoned that the bill was the best that could be obtained, and believed it would eventually “bring about a seven-state ratification of the Colorado River compact, thus insuring protection to Utah, which is of paramount importance.” Although King was certainly no less conservative than his Republican colleagues, he sensed the growing support for the Boulder Canyon project in Congress, and realized the futility of continuing to oppose the bill. The Senate overwhelming approved the bill by nearly a
seven to one margin. The bill passed the House by a narrower margin, 166 to 122. President Coolidge signed the act on December 21, 1928.

Before the newly enacted federal law could take effect, the Colorado River Basin states of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming “shall within six months from the date of the passage of this Act then, until six of said States, including the State of California, shall ratify said compact [Colorado River Compact of 1922].” The Boulder Canyon Project Act of 1928 required ratification of the earlier six-state agreement that the Utah Legislature had earlier repealed as part of Herbert Auerbach’s legislation.

Aware that Senator Smoot may try to negatively influence members of the Utah Legislature, Representative Swing urged fellow Congressman Don Colton to intervene to convince the governor and state lawmakers to reverse their opposition to the six-state compact and approve the Boulder Canyon Project Act. Dern addressed the Utah legislature wherein he expressed his hope that Arizona would ratify the Colorado River Compact, believing it unwise for Utah to act until Arizona did so, and further agreed to a tri-state compact with California and Nevada. Dern cautioned the legislature that should it approve the Boulder Canyon Project Act, it must make sure that Utah’s water would be protected, that the state be permitted to generate hydropower, that the river beds of the Green and Colorado rivers are sovereign property of the state, and that California would “irrevocably and unconditionally” limit its share of the Colorado River to 4.4 million acre-feet of the 7.5 million acre-feet of water.

In January, even as a high-powered Arizona delegation met with legislators to convince them otherwise, representatives I. H. Esplin of Kane County and I. A. Smoot of
Salt Lake County introduced bills to ratify the six-state compact. This, in essence, ratified the Boulder Canyon Project Act at the state level.

In early March, as the legislative session drew to a close, Utah received confirmation from California Governor C. C. Young that “the State of California…agrees irrevocably and unconditionally with the United States and for the benefit of the States of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming as an express covenant and in consideration of the passage of the said ‘Boulder Canyon Project Act’ that the aggregate annual consumptive use (diversions less returns to the river) of water of and from the Colorado River…shall not exceed four million four hundred thousand acre-feet of water apportioned to the lower basin states….”

On March 6, two days after receiving the certified copies of the Limitation Act, the Utah legislature passed “An Act waiving certain provisions of the Colorado River Compact and approving and ratifying the same when at least five other states signatory thereto, including California, have taken similar action, and providing for certification of the action of this State to the other states and the United States.”

The Utah Legislature’s action cleared the way for implementation of the Boulder Canyon Project Act, ending nearly a decade of political haggling. Equally as important, the Boulder Canyon Project Act established the “Colorado River Dam fund.” This special fund would further aid planning for reclamation developments on the Colorado River. The fund would serve as an account for the equal distribution of excess revenue in the lower basin, ameliorating some of Arizona’s concerns. The Boulder Canyon Project Act ratified the provisions of the Colorado River Compact, “making said compact binding and obligatory” on all signatory states. The Act, however, declared that it be “a
supplement to the reclamation law” (the Reclamation Act of 1902); and, addressing some of the concern of Utah and other upper basin states, provided that it would not interfere with rights to waters of the seven states within their respective borders.

While there remained many white water rapids to traverse during the next decades, passage of the Colorado River Compact and the Boulder Canyon Act helped pave the way for subsequent reclamation projects such as the CUP. As the 1920s drew to a close, the prospect of drought and a worsening agricultural economy pushed the need for reclamation to a new level of urgency.

1 George M. Bull, “Denver’s Needs from Colorado River,” 31 March 1922, Colorado River Project Records, series 13912, box 6, fd. 1, Utah Department of Natural Resources, Division of Water Rights, Utah State Archives, Salt Lake City, Utah. Hereafter referred to as State Engineer/Division of Water Rights, series 13912.

2 “Colorado Basin to be Improved,” Washington County News (St. George, Utah), 4 March 1920.

3 “League Devises Scheme to Save Desert Forage,” Salt Lake Herald (Salt Lake City, Utah), 23 January 1918.


6 Salt Lake Tribune, 4 April 1920; “Bryan and Utah’s Governor Are Last Speakers on Floor;” and Salt Lake Herald, 4 April 1920. The Panama Canal would be formally dedicated just a few months later.


10 “Ouray Reservoir Site in Disfavor,” Salt Lake Tribune, 10 April 1920; Ogden Standard-Examiner (Ogden, Utah), 10 April 1920.

11 Ibid.

13 Delph E. Carpenter, “Statement for Upper Colorado River States regarding Bill for Boulder Canon Dam before Committee on Irrigation and Reclamation of the House of Representatives.” Carpenter and Family Papers, Series 7, box 59, fd. 7.

14 Laws of Utah, Chapter 68, 1921.

15 “Means Much to Utah” Salt Lake Tribune, 8 March 1922.

16 Delph E. Carpenter to R. E. Caldwell 5 July 922. Carpenter and Family Papers, Series 7, box 59. Consumptive beneficial use removes water (return flow), which diminishes stream flows. Return flow became an important element in determining Mexico’s share of Colorado River under the treaty with Mexico in 1945.


18 Public hearings and meetings of the Colorado River Commission were held in Washington, D. C., Phoenix, Denver, Los Angeles, Salt Lake City, Grand Junction, Cheyenne, and Santa Fe from January to April 1922.

19 Delph E. Carpenter to R. E. Caldwell, 5 July 1922. Carpenter and Family Papers, Series 7, box 59.

20 Ibid., E. O. Leatherwood to Delph E. Carpenter, 19 August 1922. Elmer O. Leatherwood was a Salt Lake City attorney who ran for mayor of Utah’s capitol city in 1911 but was defeated and in 1920 was elected to one of Utah’s congressional seats along with Don B. Colton of Vernal. Leatherwood served several terms in Congress and died in December 1929.

21 Salt Lake Telegram, 18 January 1923.

22 Laws of the State of Utah passed at the Fifteenth Regular Session of the State Legislature, 1923.


24 For the names and the organizations represented in testimony on the Compact see Reuel Leslie Olson, The Colorado River Compact (1926), pp.485-492.

25 House of Representatives, “Colorado River Compact,” Letter from the Chairman of the Colorado River Commission, Transmitting Report of the Proceedings of the Colorado River Commission and the Compact…” 67th Cong., 4th Sess., Document No. 605, 2 March 1923. Article III, paragraph. (c) stated that as a “matter of comity,” the United States recognizes the right of Mexico “any right to the use of any waters of the Colorado River System, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a ) 7.5 million acre-feet each year to each of the upper and lower basin states, and (b ) the lower basin grant an additional 1 million acre-feet annually, “if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the Upper and Lower Basin, and whenever necessary the States of the Upper Division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized…”

26 “Memoranda on Behalf of the Committee of Fourteen of the Seven Colorado River Basin States, … relating to the Apportionment of the Waters of the Colorado River to Mexico.” Copy from House Committee on Irrigation and Reclamation on H. R. 5773, Part 2, p. 205, January 1928 in “Memoranda on Behalf of the Committee of Fourteen of the Seven Colorado River Basin States: Relating to the
Apportionment of the Waters of the Colorado River to Mexico, June 20, 1941.” State Engineer/Division of Water Rights, Series 13912, box 2, fd. 5.

27 Deseret News, 1 July 1934.


29 Memoranda on Behalf of the Committee of Fourteen of the Seven Colorado River Basin States…relating to the Apportionment of the Waters of the Colorado River to Mexico, June 20, 1941. Colorado River Project Records, Utah Department of Natural Resources, Division of Water Rights, Series 13912, box 2 fd 5.

30 Salt Lake Tribune, 22 January 1945.

31 Ibid., 14 February 1945.


33 Ibid., 24 January 1945; and Salt Lake Tribune, 15 January 1945.

34 Salt Lake Tribune, 27 February 27 1945; 13 January 13 1945; and Deseret News, 9 February 1945.

35 “Hunt Will Not Lend Support to Pact,” Salt Lake Telegram, 10 October 1928.

36 Ibid., “Leatherwood Talks on Colorado Bill,” 6 August 1924.

37 George Dern later served as President Franklin D. Roosevelt’s Secretary of War.

38 “Utah’s Interest in the Colorado River: Statement of the Hon. George H. Dern, Governor of the State of Utah, Salt Lake City, Utah at the Hearing Before the Committee on Irrigation and Reclamation, U. S. Senate, December 17, 1925.” PAM 3231, Utah State Historical Society, Salt Lake City.

39 Utah Laws, Chapter 64, March 1925.

40 Salt Lake Tribune, 11 January 1927.

41 In addition to the six veteran boatmen, other members included three USGS scientists; Arthur Davis, an engineer from Southern California Edison; Clarence C. Stetson, assistant to Herbert Hoover; and Robert D. Young, LDS Stake President for Sevier County.


44 Salt Lake Tribune, 14 January 1927.

45 President Coolidge on several occasions made remarks stating that development of the Colorado River would be good for the nation.

46 Salt Lake Tribune, 18 January 1927.

47 Ibid., 13 January 1927.

48 Utah State Senate Journal, 1927, p. 278.
The section in part reads: “In allocating water to Mexico, the Colorado River Compact stated that “any right to the use of any waters of the Colorado River System, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities [of 15 million acre feet per annum and the lower basin states the right to increase another 1 million acre feet per annum]; and if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the Upper Basin and Lower Basin and whenever necessary the States of the Upper Division [Basin] shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized….” See Colorado River Compact, Article III paragraph (c).

"Smoot Predicts Power Dam Bill," Salt Lake Telegram, 1 October 1927.

George Dern to Delph Carpenter, 1 December 1927. Carpenter and Family Papers, series 12.

L. A. Hollenbeck to George H. Dern, 15 January 1928.

Salt Lake Tribune, 27 March 1927.
70 “Swing Reminded of Accepting Pay from Dam Society,” *Salt Lake Tribune*, 13 January 1928.

71 William H. King to George H. Dern, 15 April 1928; George H. Dern to William H. King, 23 April 1928. Dern Papers, Colorado River Compact, accession no. 20987.


73 Reed Smoot to Calvin Coolidge, 26 November 1928. Reed Smoot Papers, Mss 1187, box 57, fd. 4, Special Collections, Harold B. Lee Library, Brigham Young University, Provo, Utah.

74 *Salt Lake Telegram*, 23 December 1928.

75 “Colorado River Compact” Chapter 31, Laws of Utah, 1929.
Chapter 5  
Final Draft September 2014  

Setting the Stage: Water to the People

DROUGHT AND DEPRESSION

In a country seemingly blessed by abundance, the scarcity of the 1930s depression sent a shock wave resonating all the way from the seat of national government to the smallest rural hamlet. Nationally, the unemployed reached a staggering 25 percent, as others struggled with reduced wages or only part-time work. During the four years between 1929 and 1933, 25 banks failed in Utah. 1 “Tragic stories often… crossed [the] desk…” of newly elected Governor Henry H. Blood with pleas for help “from men, women, widows, the elderly, and the young.” 2 Thirty-three thousand families were forced onto relief roles in Utah, while the collapse of the essential economic sectors of agriculture and mining crippled the financial market. 3

Not only did the 1930s impact employment and curtail economic activity, but the accompanying drought amplified a dire situation. The flow of mountain streams which Utah and other western states depended on for its water supply shrank to their lowest recorded levels during the 1930s. In spring 1934, many flowed only 15 to 40 percent of normal wells dried up and springs that “had never before ceased to flow, failed completely.” 4 By 1935, storage in Utah Lake had declined to its lowest recorded level, from a normal of 850,000 acre-feet to only 20,000 acre-feet. 5 Canals that usually carried 4 million acre feet of water to the thirsty crops of Utah farmers carried only 1 million acre feet during summer 1934, prompting state officials to predict a foreboding 75 percent crop failure. 6
Drought affected both agriculture and industry, making clear the connection between water and economic prosperity. As dust clouds from the parched, wind-swept Plains reportedly settled on the steps of the nation’s capital, Congress passed a number of important measures designed to counter the drought. These New Deal programs initiated under President Franklin D. Roosevelt (FDR), focused not only on the dust-choked acres of the mid-West, launching the Soil Conservation Service and Farm Security Administration, but also on the small, irrigated farms and communities in Utah’s mountain valleys.

New Deal programs under the direction of the Public Works Administration, the Civilian Conservation Corps, the Works Progress Administration, and the Civilian Works Administration were critically important to Utah. Much of the effort to check the effects of drought was administered through the Federal Emergency Relief Administration (FERA). Characterized as one of the nation’s “finest and most socially-minded state administrators…” Robert Hinckley headed FERA operations in Utah. Drawing on a report prepared by water engineer George D. Clyde, Hinckley assembled a committee composed of Agricultural College Professor William Peterson, State Engineer T.H. Humpherys, and chairman of the Utah Water Storage Commission William R. Wallace. From the hundreds of worthy projects, these experts had the dubious responsibility of selecting those, which they deemed most urgent, and which would serve the needs of the greatest number of citizens. Emphasizing the importance of irrigated agriculture to the state’s economy at the time, $550,000 of the initial $600,000 made available by the federal government went for irrigation projects. Two of the largest projects involved the erection of a pumping plant at Pelican Point on Utah Lake to save crops on 60,000
acres of Salt Lake County farm ground, and the dredging of the outlet from Strawberry Reservoir in Wasatch County in order to provide irrigators in Utah County access to the dead pool.  

By 1935, FERA had expended nearly $1.5 million on water projects for Utah. Although expenditures were small in comparison to the overwhelming needs of Utah’s financially strapped population and drought stricken landscape, federal programs were “unquestionably helpful in stemming depression and want.” Of enduring significance was the close relationship these programs helped establish between federal agencies, state and municipal government, irrigation districts and local water-users. This partnership approach persists to the present day, and has played a crucial role in the history of the CUP and CUWCD.

GREAT SALT LAKE BASIN PROJECT

With creation of the Utah Water Storage Commission in 1921 the state had entered into a productive relationship with the federal Reclamation Service (hereafter Reclamation), where it worked cooperatively to develop a statewide reclamation plan, locate dam sites, collect irrigation and stream-flow information and try to insure the most beneficial use of this precious resource. An early scheme unveiled by the Commission included the Great Salt Lake Basin Project. This ambitious endeavor involved capturing all the supposed “wasted” water then flowing unused to either the Great Salt Lake or down the Colorado River.

While a part of the Great Salt Lake Basin Project would eventually evolve to form the Central Utah Project, the plan also included a proposal to transfer between 250,000
and 300,000 acre-feet of Green River water annually to the Bear River in southeastern Idaho. This trans-basin diversion would be used to provide supplemental irrigation water for 80,000 acres in Wyoming, 60,000 acres in Utah, 85,000 acres in Idaho, and 50,000 acres in the Bear Lake area of Idaho and Utah. In addition there would be sufficient water transferred from the upper Green River to reclaim 50,000 acres of virgin land in Idaho and 40,000 acres of virgin land in Utah. Governor Blood in a series of letters with Idaho Senator William Borah and Wyoming Governor Leslie Miller outlined the benefits each state might receive from the project. He worked hard to convince FDR of the virtues of the Green River project, as well. “The irrigation of these lands [in Utah, Wyoming and Idaho] has a far reaching effect because the homes and the ranches along Bear River are the nucleus through which the public domain yields grazing to thousands of cattle.” Further, if the farmers and ranchers are forced from their homes because of the drought the “economic income from the public domain will immediately be out of balance.” Blood requested that the Water Storage Commission request funds from the Roosevelt administration to conduct the feasibility study of the proposed Green River-Bear River project.12 Almost before the Governor’s secretary could remove letters from her typewriter, however, Wyoming objected. The upper Colorado River basin states had not yet agreed on how they would share their 7.5 million acre-foot allocation under the Colorado River Compact, Governor Miller stated, and the Green River/Bear River proposal proceeded no further.13

Reclamation also investigated the feasibility of diking the Great Salt Lake by constructing a dike between Antelope Island and the east shore of the lake thereby creating a fresh water reservoir. The idea proved impractical; but decades later it was
revived by water users in Weber and Davis counties, as the Watkins Dam was constructed to form Willard Bay Reservoir.

For years Utah Lake had served as a natural reservoir for water users in the Great Salt Lake Valley and by 1900 they had acquired rights to about one-sixth of its water. To reduce evaporation and conserve water, Reclamation proposed to reduce the lake’s surface area by building dikes at several of the lake’s bays. As a secondary benefit, the venture would also create dried bay bottoms that could be turned into productive agricultural acreage. While also proving impractical at the time, the Utah Lake diking proposal would persist, and remain a part of the CUP until at least 1985.

With these proposals in limbo, the Water Storage Commission turned its attention to the Weber River. Here, following Reclamation’s completion of surveys and studies, work commenced on the Echo Dam near the Summit County town of Coalville in 1927. The Commission and its Reclamation partners also envisioned using the Weber River for diversion to the Provo River drainage.14

PROVO RIVER PROJECT

To fully utilize this addition to the Provo River, the Commission and Reclamation proposed construction of a reservoir near the mouth of Provo Canyon, at the Deer Creek Site. J. R. Murdock and the Provo Reservoir Canal Company had conceived of the idea to transform the high Uinta Mountain lakes into regulated reservoirs, and submitted that another dam and reservoir at the John Bates ranch, located in the narrow Provo Canyon between the small farming community of Francis in Summit County and the Hailstone Junction a few miles north of Heber City in Wasatch County, might be used to store
additional water for downstream irrigators. Even though the Commission came to prefer the lower Deer Creek site, the Bates dam location remained on the radar until well into the mid-twentieth century until supplanted by the larger, earth-filled Jordanelle Dam, crown jewel of the CUP. (The Jordanelle Reservoir now submerges Hailstone Junction and the small mining community of Keetley less than a mile north of the Hailstone Junction.)

The Deer Creek Reservoir, located near the Heber Valley farming community of Charleston, could not only be used to capture high spring runoff, but could also capture water from the Snake Creek tunnel west of Midway, and water from the Ontario Drain Tunnel located west of the hamlet of Keetley and which drains the Park City mines. The reservoir would also be designed to store surplus water from the Weber River as well as water diverted from the Duchesne River. The nine-mile long Weber-Provo diversion canal with a carrying capacity of 210 cubic feet per second was constructed in 1931. The canal would originate near Oakley, cross the Kamas Prairie and discharge into the Provo River. Reclamation engineer, E. O. Larson encouraged expanding the capacity of the Weber-Provo canal and sixteen years later as crews began raising the Deer Creek Dam, work to enlarge the Weber-Provo canal also began. To capture excess water from the upper Duchesne River in the Uinta Basin, a nine-mile trans-mountain diversion tunnel was proposed. Construction on the six-mile-long Duchesne Tunnel would begin in August 1941; however labor disputes disrupted work as did equipment problems. The attack at Pearl Harbor halted work on the tunnel, which did not resume until late 1949.

Although Deer Creek reservoir would submerge several hundred acres of productive farmland in the Heber Valley, it brought little objection from Heber Valley
farmers. Water from the Deer Creek Reservoir would be of great financial benefit for Utah County farmers and irrigators in the Salt Lake Valley by providing additional supplementary water for 42,000 acres. By some accounts, the additional water would increase the value of crops in Utah and Salt Lake counties by as much as one million dollars a year. The loss of a few hundred acres in Wasatch County was the price these Mormon farmers were willing to pay in compliance to the enduring expectation of cooperation.15

Securing the finances for the estimated $8 million Provo River Project, however, proved challenging. Storing water for irrigators was an important aspect; but making repayments based solely on irrigation was problematic. Other water consumers would be needed to make the Provo River project viable. By happenstance a number of cities and towns in Utah County were in need of additional municipal water to match anticipated population growth and the expansion of industries. Provo Mayor Alma Van Wagenen pledged $150,000 for the project to secure as much as 10 second-feet of additional water in anticipation of his city’s growth.16 Other towns in Utah Valley made similar, smaller requests; but as significant as these were they were still not nearly large enough to make the Provo River Project economically feasible. In order to make it so, Commission Chairman William Wallace remarked, we “must have the help of Salt Lake [City] to purchase water for its use and store it in the Provo dam.”17

The acute water shortages experienced throughout Utah during the 1930s had been particularly pronounced in the population centers of the Wasatch Front. Salt Lake City, for instance, had been investigating its water supply since 1928. City officials feared that unless it could identify additional sources then its status as Utah’s cultural and
industrial center might be in jeopardy. The city for a number of years had been securing additional water rights from farmers and irrigation companies from the Cottonwood Creek in exchange for water from Utah Lake and the Jordan River. The city welcomed the possibility of securing additional M&I water from the Provo River Project. Prospects increased when Reclamation announced plans to divert water from the Duchesne River by constructing a diversion tunnel.

When the people of the Uinta Basin learned of Salt Lake City’s plans to file with the State Engineer’s Office on water from the Duchesne River, community leaders aggressively responded. They circulated a resolution at an annual multi-day gathering of the Uintah Basin Industrial Convention protesting what the Uintah Basin Record, called the capital city’s “Big Water Steal.” The resolution, sent to the State Engineer, argued that they could put the Duchesne River to better beneficial use than could Salt Lake City. Further, the resolution stated that any diversion of water from the Uinta Basin would subvert further economic developments in the two counties. “The question before this Basin,” the newspaper demanded, “is how long are we going to passively submit to this kind of robbery, as it is morally, if not so in law? There are many people in this state who will demand elementary justice. Knowledge of the facts spread out over our state will insure this. It seems our only recourse.” The newspaper pointed out that it cost between $30 and $50 per acre to develop irrigation water in the Uinta Basin. The “Big Steal” was far more expensive costing an estimated $300 per acre-foot of water. How can the poor Basin farmer cope against larger economic and political forces unless Basin farmers “get together and stay together until our best water rights shall be utilized.”
The newspaper reminded its readers that only a few years earlier Strawberry Valley Project had allowed Utah Valley irrigators to grab many acre-feet of water from the Uinta Basin, which the newspaper believed was the first step of the Great Salt Lake Basin Project. The Provo River Project and the Duchesne River diversion was the second step in the great trans-basin water transfer scheme. Declaring boldly in the headline *Water Held for Urban Use! Might Prevails over Right!* The local newspaper thanked the “Lord we have water out in this Basin, even if politicians and business leaders are against us.” Even with plenty of water, the newspaper argued, Uinta Basin irrigators should not have to wait to get the Basin reclaimed.22 Their concerns of transferring water from the Uinta Basin increased as plans to divert water from the Green River to the Wasatch Front began circulating. Pulling no punches, Uinta Basin irrigators appealed to Utah Congressman Abe Murdock to use his influence to persuade Governor Blood that any transferring of their water was wrong and not in their best interest. The Uinta Basin irrigators, Murdock informed the Governor, “are not at all favorable to any trans-mountain diversions of the Green River until their projects have been given consideration.”23

Prior to 1935, municipalities such as Salt Lake City lacked the legal means to participate in reclamation projects. They were constitutionally constrained from incurring bonded indebtedness, acquiring or selling property for reclamation purposes, or managing and operating reclamation works devoted to municipal, industrial or other beneficial purposes. With the possibility of acquiring storage rights in the planned Deer Creek Dam and water rights from the Duchesne River, Salt Lake City and other municipalities convinced the state legislature to enact a law allowing for the creation of
municipal water districts. The Legislature modeled the law after California’s 1927 Metropolitan Water District Act that had authorized cities and towns in southern California to participate in the Boulder Canyon Project. This new water district law delineated the steps necessary to incorporate, govern and manage metropolitan water districts in Utah. The law authorized metropolitan water districts to participate in reclamation projects, incur bonded debt, acquire property and operate reclamation works, as well as detailing the steps necessary to add or exclude areas from the district. Importantly, each incorporated metropolitan water district would be separate and independent of other political corporate entities. The Metropolitan Water District of Salt Lake County was incorporated in August 1935 followed by the Metropolitan Water District of Orem, the Metropolitan Water District of Provo, and the Metropolitan Water District of Lehi. In many ways, Utah’s Metropolitan Water District Act anticipated the state’s subsequent Water Conservancy District Law, under which the CUWCD operates. Passed by the Legislature in 1941, the Water Conservancy District Law would allow the formation of water districts at the county level, and particularly, include the unincorporated areas of counties.  

In the same manner as the multiple irrigation companies participating in the Strawberry Valley Project had been required to form the Strawberry Water Users Association, Reclamation now expected those participating in the Provo River Project to form a single incorporated entity. Within weeks of the state legislature’s enactment of the Metropolitan Water District Law, William Wallace and Provo attorney Arthur V. Watkins advised the irrigation companies to incorporate as the Provo River Water Users Association. By February 1937, the Salt Lake Metropolitan Water District along with
those from other cities and towns in Utah County, had also joined the Provo River Water Users’ Association and subscribed for a percentage of the storage in Deer Creek Reservoir. By far the largest municipal subscriber, Salt Lake Metropolitan Water District subscribed for 45,000 shares or 60 percent of the Deer Creek Project, insuring the financial feasibility of the project.

The *Salt Lake Tribune* praised the merger between the cities and irrigators as a “cooperative endeavor, which should rebound to the benefit of the project, the city and the state. For the first time, perhaps, it is publicly apparent that all of the forces necessary to a successful project are moving in the same general direction.”

Organized and brimming with local support, the Deer Creek/Provo River Project was ready for earth to be moved and concrete to be poured. Reclamation’s construction program during the early 1930s, however, was beset with financial problems. Irrigators had found it increasingly difficult to meet their repayment schedules, leaving the Reclamation Fund seriously depleted. Hoping to provide irrigators more latitude in making payments, Reclamation began taking a more expansive view of its projects towards the end of the decade. The 1939 Reclamation Act signaled a fundamental change from the past, as the development of irrigation water became just one of a multitude of benefits that Reclamation considered when planning new projects. This multi-purpose approach allowed the costs of a project to be spread among the various beneficiaries, which greatly enhanced the economic viability of irrigation projects. The act also provided irrigators some additional time to meet their repayment obligations “by allowing for variable annual payments based on crop return…” and by permitting irrigators to delay payments until after their parcels were more fully developed.
The economic downturn of the 1930s did not help matters. With thousands unemployed during the depths of Depression, the editors of the *Salt Lake Tribune* made an appeal to put the unemployed to work on reclamation projects. There should “be no hesitancy about providing a substantial increase for the reclamation fund as an unemployment relief measure,” the editors wrote. In Washington, D.C., Senator Smoot proposed setting aside $40 million from the $1.5 billion in Reconstruction Finance Corporation funds for reclamation projects. Governor Blood, in turn, made his pitch to Interior Secretary Harold Ickes for emergency relief funds for the Deer Creek Project. Not only would it provide hundreds of jobs for unemployed Utahans, the reclamation project would also help resolve the persistent drought that “hangs over many a farm home to the utter discouragement of father, mother and children,” he wrote. By advancing Deer Creek as part of the New Deal’s Public Works Administration, state officials successfully argued that it would not only allow Utah to more efficiently use its water resources, but also “provide lucrative contracts for the construction industry, [and] provide work for the unemployed…” Both Deer Creek and the Pine View Dam and Reservoir in Ogden Canyon utilized the Civilian Conservation Corps, a program designed to employ young men in the conservation of the nation’s natural resources, to perform much of the initial clearing of the reservoir sites.

The importation of water from the Weber and Duchesne rivers to augment the Provo River Project required Reclamation to rework the Provo River channel between Francis and the Deer Creek Dam. It constructed several dikes and bridges and made a number of so-called improvements to the riverbanks. While this work on the river channel would not be completed until March 1953, each of the changes diminished fish
habitat, destroying some of the best stream fishing in northern Utah. Anglers and fishing organizations persistently called for a return of the meandering river and a restoration of the riverbanks. As early as 1948 there had been concerns over so-called improvements. Prominent Salt Lake City businessman David L. Freed informed Senator Arthur V. Watkins in 1948 of the lack of planning regarding Provo River fisheries. “I refer to the fact that beautiful fishing streams like the Provo River below the Deer Creek Dam are dredged in such a way that no further regard is given to fish propagation…. I know that you are quite familiar with this work during the past few years and perhaps you are already aware of it, but certainly something could be worked out to properly take care of the irrigation water and the fishing at the same time.” Although Watkins reassured Freed that he could “feel sure this matter will have my very careful attention, and I shall do all that I can to see that the fish and wildlife [is] preserved,” nothing of consequence was accomplished until after passage of the Central Utah Project Completion Act in 1992.33

Fish and wildlife notwithstanding, the larger issue during the 1930s was the importance of protecting private property along the middle Provo River from flooding. The dikes and channelization would accomplish that, while allowing a much larger quantity of water for storage in Deer Creek Reservoir. As the Provo River was already fully appropriated, only the imported water from the Weber and Duchesne rivers could be used to fill Deer Creek. The natural flow from the Provo River would have to be released in order to satisfy the prior rights on Utah Lake.

As the drought of the 1930s deepened, the struggle to control and manage irrigation water intensified. As with the Provo River in the Bonneville Basin, most tributaries to the Colorado River in Utah had also been fully appropriated by farmers in
the Uinta Basin. Opportunities still existed for impounding the surplus spring run-off (such as was the case with the trans-basin diversion to the Provo from the Duchesne River), or for tapping the largely undeveloped Green River. The drought affected the normally well-watered Uinta Basin just as severely as it did other regions of the state. As the flow of tributaries in the Uinta Basin slowed to a trickle in 1934, farmers near Jensen appealed to FERA for funding to install pumps along the Green River to irrigate adjacent lands for stock feed and gardens. Furthermore, interests in Utah Valley “vigorously advocated” for a plan in 1938 to construct a dam on Green River near Echo Park, proposing to convey water by aqueduct, and then pump it over the divide into Spanish Fork River. Utah provided funding and Reclamation investigated the so-called Colorado River-Great Basin Project, but found it to be impracticable because of pumping costs.

MOON LAKE PROJECT

The Farnsworth Canal and Reservoir Company, along with Dry Gulch Irrigation Company had proactively developed the mountain lakes in the Uinta Basin to provide storage for late season irrigation. The Dry Gulch Company had hired William Woolf, a former schoolteacher and engineer, to help direct the canal work and to explore the Uinta Mountains for lakes. On one of his reconnaissance, Woolf identified Moon Lake as one that could be enlarged and regulated. The Dry Gulch Company raised $2,500, which was matched by the Utah Water Storage Commission, to flesh out its plan for Moon Lake.

U. S. Indian Irrigation Service engineers and others became concerned with both the Farnsworth and Dry Gulch Irrigation companies’ lake scheme. Since the reservation’s
opening and particularly since the drought of 1918 and 1919, the Indian Irrigation Service viewed the Uinta Mountain lakes as vital to providing water for Indian allottees. Any work on Moon Lake and other lakes, it feared would disrupt Indian water rights. “It would seem permissible for this company to increase the capacity of these lakes and use the additional amount impounded to supplement their supply,” federal officials wrote, “but it would hardly seem permissible to tap these lakes and lower the water level, which surely would have an effect on the late discharge of the rivers, of which these lakes would be considered the natural feeders [for Indian water].”

Following a meeting with State Engineer George M. Bacon and Utah’s congressional delegation, Reclamation Commissioner Elwood Mead laid out a plan to develop the Moon Lake project. Upon receiving his favorable report, the Roosevelt Standard urged its readers in the Uinta Basin to “Cheer Up…!” With so many vying for a limited number of reclamation dollars, we “should consider ourselves among the more fortunate ones in the entire U. S., or in fact the whole world.” Both the state and the federal government cooperatively support the Moon Lake project, the newspaper announced, which will mean work for the many unemployed, and, of course, water.

In order to comply with Reclamation’s preference for a single, responsible organization, the Dry Gulch Irrigation Company, the Farnsworth Irrigation Company, and six other irrigation companies established the Moon Lake Water Users Association. Even with Moon Lake water users’ cooperative reorganization, the project would still need a congressional appropriation. Reports indicated a $5 million deficit in the reclamation fund, and given that other, larger reclamation projects were being discussed throughout the Colorado River Basin, Utah’s congressional delegation was called to
action. Armed with the most pertinent “facts and figures to prove the [project’s] merit…” Senator Smoot expressed confidence that Utah would get its “full share of the reclamation funds.” Although less optimistic, Senator King was nevertheless supportive, although with a federal deficit approaching $1 billion, “skeptical over the attitude which congress will take.”

With broad local, state and national support, and through persistence and hard work, the Moon Lake Water Users Association convinced congress to support its project. During summer 1934, Reclamation Project Engineer E. O. Larsson announced that the Moon Lake Association would be eligible for federal assistance, allowing the Moon Lake Association to enter into contract with Reclamation. The project received New Deal funding through both FERA and through the Public Works Administration. The project consisted of a dam situated on the West Fork of Lake Fork River near the outlet of Moon Lake, a natural lake located on the south slope of the Uinta Mountains. The dam raised the level of Moon Lake more than 60 feet and enabled the water users to draw from nearly 35,000 acre-feet of storage. Appurtenant to Moon Lake Dam and Reservoir, the project also included Midview Dam and Dike, an off-stream reservoir constructed as the diversion works for the Moon Lake Canal system. In addition to acting as a distribution point for Moon Lake’s storage water, the flow of the Duchesne River also fed Midview Dam through the Duchesne Feeder Canal. The feeder canal extended beyond Midview Dam for a distance of eight miles to supply additional irrigation water to lands located along Lake Fork River. Another lateral extended from Midview Dam to provide exchange water with the Dry Gulch Canal, a Bureau of Indian Affairs project, while the Yellowstone Feeder Canal intercepted the flow from the east fork of the Lake Fork River,
conveying it east along the foot of the Uinta Mountains to intercept Cottonwood Creek and irrigate lands in the vicinity. Enrollees of the Civilian Conservation Corps constructed the Midview Dam, Duchesne Feeder Canal and the Midview Lateral.40

Although well supplied, the Uinta Basin’s water resources were not inexhaustible. All eyes, it seemed, looked to the mountains and the Colorado River drainage for additional water. The Colorado River Compact and the Boulder Canyon Project Act had presented Utah and the other six Colorado River Basin states with the opportunity to fully use their share of the Colorado and its tributaries. Arizona’s unwillingness to ratify the Colorado River Compact, however, constrained those efforts. When Arizona sought protection from the courts, a series of protracted court cases ensued, the last of which extended from 1952 to 1963. The U. S. Supreme Court finally permitted Arizona 2.8 million acre-feet of the lower basin’s Colorado River allocation, while upholding California’s 4.4 million acre-feet, and awarding Nevada 300,000 acre-feet. More importantly to Arizona, the Court awarded Arizona full use of the Gila River by excluding it from being part of its 2.8 million acre-foot apportionment.41

The urgency for Utah and the other upper basin states was apparent as demands for Colorado River water increased. In 1935 Colorado successful obtained Project Works Administration funds for Reclamation to conduct surveys and plans to take water from the Colorado River to the Front Range through a trans-basin diversion. A year later a bill to construct the Colorado-Big Thompson Project was introduced in Congress. The Colorado-Big Thompson Project would divert 310,000 acre-feet of water annually to the Front Range.
Not wanting to miss an opportunity and fearing that if Utah did not become proactive and use the Colorado River that others would, Utahans clamored to have similar feasibility studies conducted. Hyrum Calder, state representative from Vernal, asked Senator Murdock to request funds for a study to determine the feasibility of diverting Green River water into Ashley Valley and elsewhere in the Uinta Basin, while the Associated Civic Clubs of Southern Utah urged Governor Blood to request funds for studies in central and southern Utah. This urgency infecting Utah entered the state’s politics in 1938, when the State Republican Party included a plank in its political platform that stood “for securing of funds and the taking of the necessary steps that will enable our people to take advantage of the economic possibilities incident to the Colorado River system, by agricultural expansion, and development of cheap power.”

Feasibility studies were predicated on the Boulder Canyon Project Act, which had established the Colorado River Dam Fund. Senator William King had been instrumental in the effort to include the Colorado River Dam Fund as part of the Boulder Canyon Project Act, and now insisted that funds be made available. The fund’s purpose was to bankroll investigations and studies of irrigation projects, power generation or other worthy projects throughout the Colorado River Basin. The fund was administered by the Colorado River Commission, which met frequently to specify and plan reclamation projects.

While Commission meetings were often heated, there was still a little room for a little old fashioned bravado. “I say anything indicating kindness toward California,” joked Arizone Commissioner Alma M. Davis, “don’t let it get back to Arizona, because down there we think anything California wants, we should be against… This is the
fourth meeting I have been in with Nevada and California, and at the first meeting we had six-shooters in our grips, but we didn’t bring them this time.”

Utah and the other Upper Basin States took full advantage of the Colorado River Dam Fund and requested Reclamation and USGS to undertake soil surveys and feasibility studies of projects proposed by each of the four Upper Basin States. At the monthly meeting of the Colorado River Commission held in Salt Lake City in September 1938 State Engineer Humpherys and members of the Utah Water Storage Commission unveiled Utah’s plans to divert 1.5 million acre-feet of water annually from the Colorado River Basin by means of a 230 mile-long aqueduct from the Green River along the south face of the Uinta Mountains to the Great Basin. Humphreys characterized the project as a “water lifeline,” one that would provide water for both the Bonneville and Uinta basins. The project later corresponded to Reclamation’s proposal for the CUP’s ultimate phase of construction. Humpherys also envisioned hydropower dams on the Green, Yampa and Colorado Rivers, and as part of Sanpete County’s cherished Gooseberry Project, hydropower dams at Thistle, Nephi and Fairview.

GOOSEBERRY AND EMERY COUNTY PROJECTS

Enterprising Sanpete Valley farmers first investigated the Gooseberry drainage situated astride the Sanpete and Carbon county line atop the Wasatch Plateau, and determined that a reservoir could be built to collect and store water in the Gooseberry drainage and by means of tunneling through the mountains east of Fairview, sufficient water could be harvested to supplement the irrigation needs of Sanpete Valley farmers. In 1900 irrigators from Mt. Pleasant, Manti, and Fairview incorporated the Mammoth
Reservoir Company for the purpose of purchasing water rights to the failed Mammoth Dam. Hoping to gain the blessing (and perhaps obtain funding) from the LDS Church, prominent church and community leaders J. W. Paxman of Juab County, William D. Livingston from Manti, and James Larsen from Mt. Pleasant presented the reclamation scheme to the church’s First Presidency. Several months later at the Sanpete County LDS stake conference church apostle and soon-to-be elected U. S. Senator, Reed Smoot, delivered the First Presidency’s response: “[W]e do encourage every good and legitimate undertaking for the welfare of the people and the building up of Zion. [O]ur first inclination prompted us to say to these [Sanpete] brethren, yes, we approve of the scheme, and would like to see it put into operation.”

On the east side of the Wasatch Plateau and in the Colorado River drainage, farmers in the Price River basin as early as 1896 and acting without the “blessings” of the church, had set about to harness the small creeks and streams in the Gooseberry drainage atop the Wasatch Plateau. That year the Mammoth Reservoir Company was organized to construct a dam on Gooseberry Creek, but the project lacked capital until 1917 when Chicago investors agreed to support the venture. In the spring of 1917, however, the newly built dam failed from high runoff.

Four years later, Wilbus Burnham, president of the Carbon County Farm Bureau, Price Chamber of Commerce and the Price River Irrigation District petitioned to have the state conduct a survey of irrigation needs in the Price River Basin and help locate yet another site for a dam in the Gooseberry drainage. The State Engineer later concluded that a storage reservoir could be built in Pleasant Valley to store 60,000 acre-feet of water from the Gooseberry drainage, sufficient to irrigate up to 35,000 additional acres in the
Price River Valley. The resulting Scofield Dam was constructed in 1925. For the moment at least, it appeared that Carbon County irrigators had won the contest to the water in the lower parts of the Gooseberry drainage.

Further south on the Wasatch Plateau, Emery and Sanpete County irrigators contested for the headwaters of Huntington Canyon where the streams flowed into Joes Valley. Shortly after the end of the WWI, Sanpete Valley irrigators hatched a plan to drive a twelve-mile tunnel through the mountains to collect and store water from these streamlets and creeks. Sanpete farmers sought permission from Manti National Forest Supervisor A. J. Humphrey to arrange for Reclamation in Provo to set aside Joes Valley for a feasibility study. The farmers believed that there was sufficient water that could be collected and transferred through the tunnel to irrigate between 30,000 and 50,000 acres in the San Pitch River drainage at a cost of about $4 million. In his request to Reclamation, Humphrey indicated that the farmers had not yet formed a legal organization, but were moving in that direction.

Early in January 1924 irrigators from Sanpete County and eastern Juab County organized Sanpete Water Users Association. It planned to collect water from the upper Gooseberry drainage and from several creeks tributary to Huntington Creek, Cottonwood Creek, and Ferron Creek, and divert this water through tunnels from the Colorado River Basin to the Bonneville Basin. The Association also proposed to construct three dams at Milburn; the Upper Gooseberry, three miles above the former Mammoth site; and one in lower Joes Valley that would have a combined storage capacity of 180,000 acre-feet. Water from the Gooseberry drainage would also provide water for a hydro-power plant located at the mouth of Oak Creek Canyon between Milburn and Fairview. Imported
water from the Colorado River Basin would be carried to the head of Salt Creek Canyon and then to farmers in the Nephi area. A hydropower plant located near the mouth of Salt Creek Canyon would also be built. A dam in Joes Valley to provide high water for Emery County irrigators would be built to placate Emery County irrigators. George D. Clyde and L. M Winsor of the Utah Agricultural College revealed that the project would cost between $6 and $12 million or between $100 and $200 per acre. Momentarily, the massive reclamation project proved to be yet again too expensive and therefore not economically feasible.

In western Emery County, described by historian Edward Geary as a place “where the desert meets the mountains,” farmers must have breathed a collective sigh of relief. These sources of water were critically important to their future. Even though the cost for the Gooseberry Project was out of reach for Sanpete Valley irrigators and the state of Utah, they remained hopeful. Earlier in 1925 they and the Sanpete County attorney met with the state engineer and governor to “head off pending legislation that was in position to [injure] our cause for getting the Gooseberry water.” Later in the year, John A. Widtsoe, in the company of O. W. Israelson, William Peterson and George D. Clyde, were appointed by the Water Storage Commission as a special committee to “iron out existing difficulties and if possible take necessary steps to adjust water rights” in the Gooseberry drainage. With the possibility that water rights in the Gooseberry drainage would be clarified, the Sanpete irrigators hired an irrigation engineer to conduct a thorough investigation of the project. Mr. Howgood later reported that there was sufficient water in the Gooseberry drainage to irrigate at least 13,000 acres in the Sanpete Valley at a cost of only $40 per acre to import the water, considerably less than what
Clyde and Winsor had earlier estimated. Based on Howgood’s cost estimates the Sanpete Water Users Association agreed to issue $800,000 in bonds to purchase some of Carbon County irrigators’ Gooseberry drainage water rights, construct a water collection system, and construct a tunnel to divert Gooseberry water to their farms. The Price River Water Conservation Association agreed to a selling price of $125,000. With a firm price in hand, the Sanpete Valley Water Users Association let the contract to construct their dam and the trans-mountain tunnel. W. L. Wattis of the Utah Construction Company submitted the low bid of $750,000. However, before a shovel of dirt was to be turned, Wattis insisted that the Sanpete Association have on hand in the bank $450,000 of the $750,000 of the awarded contract. The Ogden-based construction company would arrange for the balance.

Unable to sell any bonds, the Gooseberry project went no further. Sanpete County farmers, however, remained hopeful that the project would be included in Utah’s and in Reclamation’s future plans. The state’s plan for using its share of the Colorado River would provide the growing need for irrigation water, municipal and industrial water, as well as water to generate electricity. The Salt Lake Tribune commented on the importance of developing the Colorado River and in asserting the state’s right to the water.

Water is the lifeblood of industry, commerce and agriculture. Whatever future this state may have is definitely linked to conservation and development of its water supplies … Utah cannot afford to default her rights to water development, under the Colorado River Compact, and it behooves her people „, to safeguard future opportunity and security. Unless Utah people become active in the matter of utilizing their water resources they are likely to awaken to find their water in California.”

RECLAMATION AND WWII
The Colorado River Commission and its two committees (Committees of Fourteen and Sixteen) had prepared a comprehensive report for the entire Colorado River Basin in 1944. Among other critical elements it included extensive surveys of soil conditions and stream flows, and a review of existing water rights. It revealed the potential of 96 irrigation projects, 21 trans-mountain diversion projects, 35 hydropower generation projects, and 3 flood control projects at a potential construction cost of nearly $2.5 billion. Of this amount the upper basin states’ estimated project costs were $1.174 billion. Projects proposed by Utah were expected to amount to $371 million.56

As each of the upper basin states presented their reclamation plans, there was yet no agreement among them as to their share of water. The Colorado-Big Thompson project was transferring water out of the Colorado River Basin, Wyoming planned to remove water from the upper Green River to the North Platte River, and Utah’s plans to transfer water from the Green River drainage to the Wasatch Front and the San Pitch River drainage created uncertainty. Further, the water treaty with Mexico guaranteeing it 1.5 million acre-feet annually with the possibilities of another 200,000 acre-feet created further anxieties over how much of the 7.5 million acre-feet of water Utah and its neighboring states would really have.

Drought in the 1930s and the tremendous industrial growth as a result of the war increased the demands for more water throughout the Colorado River Basin. During WW II, for instance, San Diego’s population increased by more than 131,000 to 334,300; Los Angeles population reached 1.970 million, an increase of more than 400,000, and Denver’s population grew from 322,400 to 415,800. Utah, as well, thirsted for more
water. Salt Lake City’s population increased from 149,900 to 182,100. The population in the four counties of Weber, Davis, Salt Lake and Utah grew by 129,000.

Not only did the war intensify the need for municipal and industrial water, but it also brought into sharper focus the need for additional power generation. Reclamation Commissioner Harry W. Bashore believed that hydropower production had become a higher priority for Reclamation than developing irrigation water.57

Los Angeles was clearly in a position to benefit from power generated at Boulder Dam, as were those cities in the Northwest in the proximity of Grand Coulee Dam on the Columbia River. In Utah, however, the Carbon County Associated Industries supported high dams at Dewey (near Moab) and the Echo Park Dam on the Green River and elsewhere to generate much needed electricity. The organization pointed out that these high dams and irrigation projects would provide employment and would make eastern Utah self-sustaining and “possibly the center of a great industrial revival.”58

While not yet a beneficiary of cheap hydro-electric power, Utah did received an economic boost from the war, as well. With heightened concern over possible Japanese attacks on the west coast, civilian and military leaders began looking to interior states such as Utah for locating key defense facilities. Hill Field Air Force Base had been established in 1938. Prior to the war’s outbreak in December 1941, the base employed only 300 workers. The base expanded dramatically during the war, assuming an ever-growing role in the United States’ war effort. Most significantly, the base added nearly 10,000 civilian employees by 1943.59

Additional defense installations followed the expanse of Hill Field. The Utah General Depot (Ogden Defense Depot), established in 1941, became the largest military
supply center in the U.S. during World War II, employing more than 7,500 workers. As their brothers or husbands were called away to fight in Europe and the Pacific, women constituted the majority of this new workforce. Likewise, many of the 7,600 employees who worked at the Clearfield Naval Supply Depot in 1944 were women.

The growth of industry for the war effort required increasing amounts of power. While much of the defense industry centered in Weber County, the state also required additional electricity to power its mines and smelters. Between 1939 and 1947 electric power needed for industry in Utah increased by at least three times. Kennecott Copper Mine in Bingham, for instance, greatly increased its output during the war, producing nearly 30 percent of the copper used by the allies. The tremendous amount of power required at the Bingham Canyon mine eventually exceeded the utility companies’ ability to supply it, and forced the company to construct its own power generating plant.

Similarly, Geneva Steel near Orem was the largest single defense-related industry established in Utah. The federal government built the $200 million facility to assure continued access to steel products during the war. At its peak, the Geneva plant employed approximately 4,200 workers. In addition to requiring significant amounts of electric power, Geneva Steel developed groundwater sources, and by 1944, under lease from the SLMWD, was also utilizing Deer Creek Reservoir for its water supply. This well water developed at the Geneva plant would subsequently be acquired by the CUWCD.

To deal more actively with these issues, Governor Maw urged the State Legislature to establish the Utah Water and Power Board. Maw expected the Water and Power Board to cooperate with federal and state agencies and other states to develop
reclamation projects. A one million dollar revolving fund was created to aid with reclamation projects in the state. The Governor requested a $150,000 appropriation to employ water experts “to protect Utah’s rights in the Colorado River.” Maw called on the state to work with Congress to develop its hydropower and reclamation projects. “No other one fact will mean more to the economic security of our State than will the building of the already planned dams, hydro-electric plants and diversion canals on the Colorado River and its tributaries,” he explained. “Utah has proposed to the Reclamation Bureau the immediate construction of the Central Utah Reclamation project with its dam and power plant at Echo Park on the Green River … its transmountain diversion canals across the Uinta Basin, its enlargement of the Strawberry reservoir, the building of power plants on the Diamond and Spanish Forks, together with the construction of distributing canals to serve large areas lying miles south of where we are now assembled.” As the State Engineer, Attorney General and representatives of the Utah State Water Users Association were presently engaged with the other upper basin states to apportion water from the Colorado River, Maw took the opportunity to outline the basin’s history. “For many years, Colorado, California, Arizona and other Colorado River Basin states have been spending tremendous sums of money to employ experts to protect their interests on that stream,” he began. “If we are to receive our full share of its benefits, Utah must immediately place itself in a position wherein whatever expert assistance is needed between now and the completion of the developments on that river can be employed.”

UPPER COLORADO RIVER BASIN COMPACT

65
Work commenced among the four upper basin states in 1946 to formulate a water compact. At a preliminary meeting held in Cheyenne representatives set the general agenda for meetings, which importantly, would abide by the “laws of the river” and encourage civility. Delegates established several sub-committees to provide technical assistance and legal advice. Utah’s F. W. Cottrell from the State Engineer’s office served on the engineering committee and J. A. Howell chaired the legal committee. It was agreed that a compact should be fully prepared by October 1948.

Determining the basis for the allocation of the Colorado River lay at the crux of all discussions. Should each state’s allocation be based on economic benefits? Should the state allocation be based on USGS measurements on the actual water flow contributed by each state? Should it be a percentage of the stream flows of each state? Should the distribution be based on each state’s needs and demonstrated beneficial uses? Arizona claimed water from the Paria River drainage. How much water, if any, should it be given?

To gather information and hear the interests of the public, hearings and meetings were held throughout the upper basin states during summer and fall 1946. At the Price meeting in October the issue of trans-basin water diversion was discussed at some length. In recognizing a fellow mayor from the Bonneville Basin, Price Mayor J. Bracken Lee caustically remarked: “I don’t think there is a county that is not represented [at this meeting]. I see even Mark Anderson, who is the Mayor of Provo, over here. I can’t understand what he is here for unless he wants some of Carbon County’s water.” Vernal Bryon Howard from Huntington was adamantly opposed to transferring water from the Colorado River Basin to the Great Basin. “We are absolutely against it, gentlemen, any
trans-mountain diversion from this part of the country and south of here…. We are absolutely against trans-mountain diversion of any water.”  

State and federal water officials had never given serious consideration as to whether it made more sense to bring the people to the water, or the water to the people. That logistical dilemma had been solved when the first vanguard of Mormon pioneers decided to settle in the Salt Lake Valley. J. W. Gillman, president of the Provo River Water Users Association, heartily endorsed trans-basin diversions. “I am interested in trans-mountain diversions. Utah can’t go without some trans-mountain diversions. We haven’t sufficient water within the confines of our little state to do the job. If we are given a portion of the Colorado River, we only want our fair share of it, but we must have that if Utah goes where it ought to go.” Vernal’s Mayor, B. H. Stringham, wasn’t opposed to trans-basin diversions, if there was sufficient water. “[I]f there is surplus water, let these other valleys have it.” Alma Preece, Uintah County Commissioner echoed Stringham’s remarks: “I don’t think anyone could be opposed to it [trans-mountain diversions] if their needs are supplied. We have a lot of water, as has been mentioned, over here in the Uinta Mountains Basin, and if we could be supplied there and better, which we could be, by an exchange of water, it would be a big benefit to us.”

Californian continued voicing its opposition to a river compact that would allow for trans-basin water diversions, fearing that it would remove water permanently, water that would otherwise “return-flow” back into the Colorado River. Assistant Attorney General Arvin B. Shaw, Jr., charged that large-scale trans-basin diversions would “unbalance the natural development,” and asked the U. S. Supreme Court to rule on the legality of trans-basin water diversions. At the time it was estimated that the Colorado-
Big Thompson project would transfer 2.2 million acre-feet of water from the Colorado River Basin to the Front Range and the CUP plan called for a transfer of upwards of 500,000 acre-feet to the Bonneville Basin. Shaw had apparently overlooked a previous Interior Department Solicitor’s opinion, which sanctioned water transfers between watersheds within the boundaries of a state. Only trans-mountain diversions between states would not have been allowed under the 1922 Colorado River Compact.

This continued wrangling and disharmony troubled John Widtsoe. Widtsoe had served as Utah’s representative to the 1922 Colorado River Compact, and recalled the selfishness. “I saw it and heard it paraded before the people,” he lamented. “There was no peace in that Commission until [it] began to understand they were working for one great country, a great Western Empire.”

As the October deadline loomed less than a year away, Reclamation Commissioner Michael Straus urged both upper and lower basins to firm up their reclamation plans for the Colorado River. He implored the states to ignore the “varies of politics and log-rolling,” which had “swept away many...long-hoped-for reclamation projects.” The nation cannot afford the extravagance of wasted water flowing unused to the ocean when the nation is crying for food and water, he stated.

In December 1947, delegates gathered in Denver and finally decided upon the division of the upper basin’s allocation. They agreed that the 7.5 million acre-feet of water would be allocated based on a percentage of water each state contributed, and further stipulated that each state would reduce its consumption during periods when the Colorado flowed less than normal.
Delegates would later finalize the technical issues and the general wording of the Upper Basin Compact at the Vernal meeting, where for three weeks during July 1948, more than 100 people gathered to finalize the Upper Colorado River Compact. Each of the four upper basin states and Arizona presented their requests for their share of the 7.5 million acre-feet of water. The drafting committee agreed that Colorado would receive 51.75 percent, Utah 23 percent, Wyoming 14 percent, and New Mexico 11.25 percent. Arizona’s share, by virtue of it providing only about 1,000 acre-feet of water above Lee Ferry, was set at about .66 of 1 percent or between 50,000 and 60,000 acre-feet. Towards the end of negotiations, Reclamation’s representative on the Colorado River Commission, Harry W. Bashore commented on the committee’s work. “You have ably and with determination represented your states and have tried to get all the water that was coming to you,” he praised. “No men or group of men could have done better. You have gotten all that you could get.”

The multi-page Upper Colorado River Compact signed in October 1948 has proven to be a very successful agreement. As stated in the Compact’s first article, its purposes were as follows:

1) Provide for the equitable division and apportion of the use of the waters of the Colorado River System, the use of which was apportioned in perpetuity to the Upper Basin by the Colorado River Compact;

2) establish the obligations of each State of the Upper Division with respect to the deliveries of water required to be made at Lee Ferry by the Colorado River Compact;

3) promote interstate comity;

4) remove causes of present and future controversies; [and]

5) secure the expeditious agricultural and industrial development of the Upper Basin, the storage of water and to protect life and property from floods.
Finally, the Upper Basin Compact recognized the “full force and effect [of] the Colorado River Compact…” The Upper Basin Compact would be subject to “all of [its] provisions.” Signifying their agreement with these provisions, Utah Commissioner Edward H. Watson joined with commissioners Charles A. Carson from Arizona, Clifford H. Stone from Colorado, Fred E. Wilson from New Mexico, and L. C. Bishop from Wyoming in appending their names to the document. After Commission Secretary Grover A. Giles of Utah signed the Compact, Harry W. Bashore, added the final signature, approving the document for the United States.

As with the 1922 Colorado River Compact, state legislatures of the five signatory states were required to ratify the Upper Colorado River Compact, before Congress could approve it. Unlike the 1922 Compact, Arizona was the first to ratify this agreement on January 21, 1949. Wyoming, Utah, Colorado and New Mexico all followed within the span of less than two weeks. In fact, the compact received only two negative votes in all five state legislatures. It received the unanimous vote of both Houses of Congress, as well, becoming law on April 6, 1949.

A spirit of cooperation had characterized and was essential to the outcome of the proceedings of the Upper Colorado River Basin Commission. The commissioners and their states justly deserved celebration. This sort of unanimity displayed between the signatory states, especially where water was concerned, was atypical. In addition to the work done at the state level, however, credit should also be given to Reclamation, which thorough and exhaustive studies made during more than 30 years provided the Commission with accurate information. Having the facts at hand, made it easier for the commission to reach agreement.
Utah and Reclamation had a cooperative relationship dating back many years. The creation in 1921 of the Utah Water Storage Commission had initiated a relationship whereby Utah entered into contract with Reclamation to cooperatively make “preliminary surveys, plans, and estimates of cost for irrigation projects…” Indeed, in his statement at the 1938 Colorado River Basin conference at Salt Lake City, Reclamation’s Chief Hydraulic Engineer E.B. Debler commended Utah for its cooperative attitude. Utah has “more valuable information on the possibilities of development…in the Colorado River basin than…any other state…” he declared. This, “for the simple reason that we have this cooperative [relationship] with the State which has been in operation for eighteen years…”

This spirit of cooperation has remained a distinguishing feature of the CUP and the involvement of the CUWCD ever since. At the time of the compact’s signing in 1948, however, many in the United States had grown suspicious of federal agencies. Some in Congress openly accused Reclamation officials of leftist leanings. Nevertheless, most westerners, in particularly those in Utah, held Reclamation in very high esteem. In “spite of all the opposition to Bureaus,” stated one Utah mayor, “I wanted to say just a word of praise…of the Reclamation Service…They have been very thorough. They have been plugging away for forty years…[gathering] information and they have followed a continuous policy that…no states or group of states could…”

CENTRAL UTAH PROJECT (ULTIMATE PHASE)

Two years following the compact’s ratification, Reclamation released its study of development for the Bonneville Basin, concurrent with a specific planning report on the
Central Utah Project. Reaction within Utah was generally positive. For those who had labored for years championing the development of the Colorado River, the CUP held great hope for Utah’s continued prosperity. It is “the greatest thing since statehood,” Governor Clyde, one of the CUP’s most enduring advocates, would later intone.79

Yet, not everyone who looked at Reclamation’s plans in 1951 shared Clyde’s enthusiasm. The most marked came from state and federal fish and wildlife agencies. “The initial phase of the Central Utah Project,” wrote U.S. Fish and Wildlife Regional Director John Gatlin, “would divert…. the entire winter flows from seven trout producing streams in the Uinta Basin. The complete dewatering of stream segments…. would eliminate the fisheries of those segments.”80

These concerns were not easily addressed, and the Fish and Wildlife Service recommendation that “minimum flows….should be guaranteed as part of the operation of the project,” not easily implemented.81 Successful operation of the CUP as planned for by Reclamation required them to account for nearly every drop of water. Water left in streams for fish propagation meant less water accruing downstream, and the risk that the entire plan may fall apart at the end-of-the-ditch. It was a reality that may have seemed remote in 1951, but one that would dog CUP supporters for years to come.

The Bonneville Basin report covered much of Utah, parts of western Wyoming, southeastern Idaho and eastern Nevada. The Central Utah Project was by far the most ambitious and costly part of the Bonneville Basin plan. As the Bonneville Basin report also covered potential developments in the Bear River and Weber River basins, it was a bit thin on the details of the CUP. Nevertheless, it articulated all the possibilities. Basically, the plan outlined in the Bonneville Basin report corresponded to the ultimate
phase described in the Central Utah Project report. “The project is of such magnitude.” Reclamation commented that “it has been planned in two parts – the initial phase, a unified portion that could operate independently, and the ultimate phase.”

During the next five years, as Reclamation and water officials from Utah and other upper basin states worked to achieve the Colorado River Storage Project, only the initial phase of the CUP would be advanced as a key component. The initial phase included most of the features presented in the ultimate phase. It was smaller in scope, however, obviously less expensive, and concentrated on developments within the Bonneville Basin.

State officials in Utah had consistently expressed their desire for comprehensive development of all water resources in the Colorado River Basin. Utah began cooperating early with Reclamation to investigate and survey potential developments. This enduring, cooperative, state/federal relationship most certainly influenced Reclamations vision for the CUP. Had the CUP remained unencumbered by water rights, politics, cost over-runs and environmental concerns, and had the colossal ultimate phase been constructed, Reclamation would have fashioned one of the world’s most highly developed hydraulic societies.

The ultimate phase consisted of a number of interrelated components that would use the water resources of the Colorado River Basin for additional development in both the Uinta and Bonneville basins. The plans proposed “enlargement and elaboration of existing facilities,” such as Utah Lake, Strawberry Reservoir and Deer Creek Reservoir, which facilities were “once more than suitable for past needs [but] have [since] become incapable of supplying the rapidly increasing demands for water.” The CUP would allow
Utah to meet these new demands through “not only the fullest practicable development of the water resources within the [Bonneville Basin] but also the importation of large quantities of water from the Colorado River Basin.”

Reclamation envisioned importing approximately 575,000 acre-feet of water from the Colorado River Basin, mostly from tributaries, to irrigate 113,000 acres of new land and provide supplemental irrigation for another 154,000 acres. Several municipalities, including Salt Lake City and Provo, would receive 36,000 acre-feet of project water for future domestic and industrial needs.

In addition to water slated for exportation from the Colorado River Basin, the project proposed diverting 312,000 acre-feet from the Green River to replace the water taken from the tributaries for use in the Bonneville Basin. This amount would also enable the irrigation of more than 43,000 acres of new land in the Uinta Basin, and provide additional water to more than 143,000 acres with an inadequate supply.

To provide both replacement and supplemental water for the Uinta Basin, Reclamation recommended diverting Green River under one of two scenarios. The first, as proffered in the Bonneville Basin report, involved construction of the Echo Park Dam. This large reservoir would impound nearly 6.5 million acre-feet of water, with a useable capacity of 4,700,000 acre feet. Reclamation intended most of the active capacity at Echo Park Reservoir to be used for power generation. Power generated at the dam site would be used upstream at the Echo Park Pumping Plant to lift a part of the remaining 700,000 acre feet of water into the Echo Park Aqueduct. As the 132 mile long Echo Park Aqueduct wound its way southwest to Duchesne, Utah, and then southeast to Castle Peak, successive pumping plants would be needed to lift water an average of more than 400
feet to irrigate lands on the Blue Bench, northeast of Duchesne, and on lands previously irrigated from the Lake Fork, Whiterocks and Uinta rivers.

Operation of the Echo Park Aqueduct required significant power, although engineers estimated that all of the plants required to lift water to and from the aqueduct would consume only about 25 percent of the total power generated below Echo Park Dam. Power revenues generated from Reclamation’s Colorado River projects would accrue to the Upper Colorado River Basin Fund, anticipated at the time to become part of the Colorado River Storage Project. The Fund would hold project appropriations from the Treasury Department, while also serving as a place where project revenues would be deposited. The revenue from power generation was a crucial part of the equation used by Reclamation to determine costs and benefits.

To save this estimated 147 million kilowatt-hours required through operation of the Echo Park Aqueduct, Reclamation offered an alternative plan that involved Flaming Gorge Reservoir. The prospect of gaining additional power revenue made Flaming Gorge an attractive alternative. The dam on Green River south of the Wyoming-Utah state-line would be used to charge an aqueduct that would serve the same purpose as the one from Echo Park, except that it would flow at a higher elevation, and enable much of the land in the Uinta Basin to be irrigated by gravity. This plan would require the boring of a 22-mile long tunnel extending from the reservoir to Brush Creek, a tributary that joined Green River near Jensen, Utah. The dam and power plant at Echo Park would still be necessary, Reclamation emphasized, because of power revenues necessary to defray “costs of the entire Central Utah project.”
This gravity diversion from Green River had been a point of discussion amongst upper basin commissioners in 1948. Prior to finalizing article XII of the compact, which apportioned all the tributaries to the Green River, whether originating in Utah or Wyoming, between both states, Commission Chairman Harry Bashore sought Reclamation’s opinion. Writing in October 1948, Hydrology Division Chief John Ritter reassured the Commission that “by utilizing storage…available in…several known reservoir sites, there would be an adequate quantity of water in the Green River for the gravity diversion plan of the prospective Central Utah Project.88

Article XII of the compact was particularly relevant to the future of the CUP. The states of Wyoming and Utah both agreed to recognize water rights that existed prior to the compact’s signing on the Green River and its tributaries, and agreed further that any surplus waters that remained would be divided 50/50 between the two states.89

Ten years earlier in 1938, T.H. Humpherys had asserted “no two states in the Basin have gotten along with less friction than has Wyoming and Utah…” To substantiate his claim, Humpherys recalled 1934, “the greatest drought ever known. The crops in…Wyoming and…Utah were burning…all [were] crying for water,” he related. At a meeting held at Evanston, Wyoming, attended by nearly every water user on the Bear River, a decision was reached to close every head gate on the upper Bear River, and let it flow to the lower basin for ten days, “because they were greatest in need of it.”90

In 1951, Reclamation considered the dams located at both Flaming Gorge and Echo Park to be vitally important to the CUP. In addition to power generation, the dams’ primary purpose was to serve as regulating reservoirs for the proposed Colorado River Storage Project. The dams at Flaming Gorge, but more particularly that at Echo Park,
would allow capture of the river “while it was young,” enabling Utah and other upper basin states to meet its interstate obligations under the Colorado River and Upper Colorado River compacts. This need had long been a topic of conversation among those promoting Colorado River development. At this point, passage of the bill that would authorize the Colorado River Storage Project was still five years away, and the political wrangling that would ensue during that time would require Reclamation to make substantial changes to the CUP, as well as to other participating projects. The eventual elimination of Echo Park Dam’s 6.5 million acre feet of storage in the upper basin would have a long term impact on the operation of other Colorado River Storage Project facilities, especially that at Glen Canyon in the lower basin. These repercussions, while not immediately apparent during the 1950s, have become more so as the effects of drought have severely limited the flow of the Colorado River.

Besides the large impoundments at Flaming Gorge and Echo Park, Reclamation also proposed under the ultimate phase to create some 29 additional large and small impoundments within the Uinta Basin. Water not otherwise captured from the Duchesne and Strawberry rivers would be transported to Starvation Reservoir, to be constructed on the Strawberry River, four miles northwest of Duchesne. Surplus water from the Duchesne River would be diverted at the Knight Diversion Dam and conveyed through the Starvation Feeder Canal to the reservoir. Releases from Starvation would be through the Strawberry River.

Equally as spectacular as that envisioned for in the Uinta Basin was the ultimate plan designed to export water developed in the Uinta Basin for use in the Bonneville Basin. This would be accomplished by construction of the 110 mile long Strawberry
Aqueduct. The aqueduct would originate near the eastern end of the Uinta Mountains, about 16 miles from Vernal. The aqueduct would include a series of tunnels constructed through the mountain ridges separating the various creeks and rivers along the south slope of the Uinta Mountains. As it traversed the basin it would intercept the flows of Little Brush and Brush creeks, Ashley Creek, Dry Fork, Whiterocks River, Uinta River, Yellowstone Creek, Lakefork, Rock Creek, Duchesne River, Currant Creek, and a number of other smaller tributaries. In order to store the flow of spring run-off, and regulate the flows into the Strawberry Aqueduct, Reclamation proposed constructing a number of dams on these tributaries, including Leidy Dam on Ashley Creek, Gilbert Creek on the Uinta River, Upper Yellowstone on Yellowstone Creek, and Upper Stillwater on Rock Creek. The Strawberry Aqueduct would terminate at Strawberry Reservoir.94

While the CUP has been significantly and often extensively modified since its conception, there have been several indispensable components, without which the project could not have proceeded. Strawberry Reservoir was one of these. The importance of Strawberry Reservoir has been alluded to often. For Reclamation, Strawberry was indeed the lynchpin for the CUP. Under its ultimate phase Reclamation proposed enlarging the original impoundment by constructing a new dam at Soldier Creek downstream from the original dam. This would increase the storage capacity at Strawberry from 250,000 acre-feet to 1.3 million acre-feet.95

A key component of the Strawberry Project both before and following its enlargement was the nearly four mile long cement-lined tunnel that workers constructed between 1906 and 1912. The tunnel pierced the geologic boundary between the Colorado
River Basin and the Bonneville Basin, allowing the water developed under the original Strawberry Project to flow west to water-users in Utah Valley. Under the CUP, Reclamation proposed both enlarging the old tunnel and constructing a second, parallel tunnel, as well.

The water from Strawberry fell 2,600 feet from the point where it would exit the outlet tunnel portals to where it flowed over farmers’ fields in Spanish Fork. In its descent, Reclamation engineers perceived an unparalleled opportunity for hydro-electric power generation. On its journey, engineers envisioned the water passing through the turbines of a number of different power stations: Diamond Creek 1 (Old West and Fifth Water), located immediately at the western portal(s); Diamond Creek 2 (Hammock), at the confluence of Diamond Fork and Fifth Water creeks; and Diamond Fork 3 (Tanner), constructed on Diamond Fork Creek, below the proposed Monks Hollow Dam. This impoundment was intended to provide the fall to operate the power plant, as well as to provide a point of diversion for the Wasatch Aqueduct, the major conveyance structure that would deliver project water to the Bonneville Basin.96

Eight miles down Spanish Fork Canyon, the water diverted from Monks Hollow Reservoir into the Wasatch Aqueduct would be divided, with part continuing south and part proceeding north. The south branch would be regulated at the proposed Goosenest Reservoir between Payson and Santaquin, and used to irrigate lands from Salem to Santaquin, above the historic Strawberry Valley canals. At York Ridge, south of Santaquin, the water would again be divided with part diverted to the anticipated Mona-Nephi Canal, and used to irrigate lands in Juab County, as far south as Levan. This plan
also included the enlargement of Mona Reservoir in Juab County to store excess and return flows.\textsuperscript{97}

Under \textit{ultimate} development, the southern aqueduct would remain charged during winter months enabling the entire flow to be stored at a large reservoir to be constructed at the Dyer site a railroad siding located 25 miles west of Nephi. This bank of water, engineers reasoned, would be available during the following irrigation season to stretch the CUP’s benefit all the way to the communities of Holden and Fillmore in Millard County. This water developed under the CUP would free up the supply in the perennially water-short Sevier River drainage, water which could be stored in existing, up-stream Sevier River reservoirs.\textsuperscript{98}

An alternative plan to irrigate lands in the Sevier River Basin involved dumping aqueduct water into an enlarged Sevier River Bridge Reservoir in southwestern Juab County. Under this plan, water normally released from the upstream Piute Reservoir on the Sevier could be conserved and used on lands between it and Sevier River Bridge. CUP water from the southern aqueduct would be used to fill Sevier River Bridge.\textsuperscript{99}

Water flowing through the northern branch of the Wasatch Aqueduct would earn its keep by generating power at the Diamond Fork 4, or Castilla Plant, located at the confluence of Diamond Creek and the Spanish Fork River, after which it would be diverted through the legacy canals of the Strawberry Valley Project. Following the irrigation season the water would be allowed to flow downstream to Utah Lake, in exchange for an equal amount of water from the Provo River. The exchange would allow construction of a new reservoir on Provo River, located approximately eight miles northeast of Heber. The proposed Bates Reservoir, discussed in relation to the Jordanelle
Dam and Reservoir, along with a small reservoir proposed on Little Hobble Creek, would operate in concert with the existing Deer Creek Reservoir.\(^{100}\)

Lands stretching from Heber City and Wallsburg in Wasatch County, and Francis in Summit County, to farms from Provo to Lehi would all benefit from the additional irrigation water developed under the CUP. Additionally, Reclamation already had plans under the Provo River Project to enlarge the Provo Reservoir Canal. This enlargement, along with a proposed West Valley Canal, diverting water from Jordan River near the narrows, would enable the irrigation of lands to the west of Jordan River. Reclamation also anticipated the widening and deepening of the Jordan River channel, then being investigated by the Army Corps of Engineers. Although primarily a flood control project, the improvement would also enable a greater release of water from Utah Lake into Jordan River, which in conjunction with the proposed diking of the lake’s Provo and Goshen bays to minimize evaporation losses, would make possible the cultivation of nearly 16,000 new acres of irrigable farm land.\(^{101}\)

**COLORADO RIVER STORAGE PROJECT ACT**

Utah officials were anxious to begin work on the CUP. Bills to authorize its construction appeared in Congress as early as 1946; but as lawmakers would discover, before work on the CUP could commence congressional approval for the planned Upper Colorado River Storage Project (CRSP) would be required. Among the key congressional leaders to shoulder this heavy legislative work was Senator Arthur V. Watkins. Born in Midway in 1886, Watkins later moved to Vernal where he practiced law and involved himself in various civic and business activities. He later moved to Utah Valley where he
became fully engaged in water law as general counsel for the Provo River Water Users’ Association. Watkins helped establish several metropolitan water conservancy districts in Utah County. A Republican, Watkins was elected to the Senate in 1946 and served three terms. He is perhaps best remembered for chairing the select committee to investigate Senator Joseph R. McCarthy during the height of anti-communist hysteria, and in his promotion of ending federal supervision of Native Americans. His activity in securing authorization and funding for CRSP, however, is perhaps a more lasting legacy. “Some Utahans didn’t want to see their state expand, …” he stated in 1968 after having been defeated in his bid for a fourth term. Without water development, “Utah would never have become a prosperous and modern state...For instance without the Provo River Project, which I helped to organize and to ‘sell’ to the people, we wouldn’t have had a sufficient water supply in Central Utah, …” he continued. “Neither would we have had the Geneva Steel Plant with the jobs and tax money it brought.”

Watkins 1946 campaign against Abe Murdock had centered on the Republican Party’s support for the reclamation of arid lands. Even as they condemned Democrats for failing “to bring about needed development in Utah within the Colorado River Basin while sister states within the Basin have witnessed tremendous economic growth by the construction of power and irrigation projects in their states,” Utah’s Republican Party pledged itself to “a program of development within the Colorado River Basin, leading to the construction and operation of power and irrigation projects in Utah, from which will come to our state great industrial and agricultural growth and untold benefits to all of our people.” These principles were reinforced by the Western Conference of the Republican Party in 1948 wherein it supported a “comprehensive program of reclamation
projects for our arid and semi-arid states and territories with recognition and full protection of the rights and interests of those states and territories in the use and control of water for present and future irrigation and other beneficial consumptive uses…”\textsuperscript{104}

The Democratic Party had hardly been anti-reclamation. Watkins’ opponent, incumbent Senator Abe Murdock, had in fact first introduced legislation to fund construction of the CUP in 1946. Reclamation’s insistence that Congress ought not to authorize projects before an upper basin compact was in place dampened Congress’s enthusiasm for this bill.\textsuperscript{105}

Early in 1949, however, Senator Watkins and newly elected Democratic Representative Reva Beck Bosone introduced similar bills in their respective chambers, still before Congress had ratified the Upper Colorado River Compact. A month later in February Watkins and Utah’s Senator, Elbert Thomas, a Democrat, co-sponsored the bill to grant consent to the Upper Colorado River Compact and a month later Congress granted its approval.\textsuperscript{106} Much as Senator Murdock’s earlier effort did, the Bosone and Watkins’ CUP bills also failed. Yet, both bills emphasized that reclamation and water development in Utah has been remarkably non-partisan, and as time would tell, the CUP would have strong support from both sides of Utah’s political spectrum.

As Watkins learned, the larger upper-basin wide Colorado River Storage Project had to be authorized first before any state “participating” projects such as the Central Utah Project would be authorized and federally funded. It would also be necessary to fully inform citizens in the upper basin states regarding the merits of CRSP. Following the lead of Colorado Water Conservation Board Director Clifford Stone, Watkins held a number of so-called “clinics” to spread the word across the state. As might be expected,
those who attended the meetings focused on aspects of the river’s development that
would benefit their particular area. At Manti, for instance, there was still much interest in
the contested Gooseberry project; at Fillmore, Sevier River water users expressed their
opinion that they should be included in the CUP and receive water from the Colorado
River. Similarly, people at the Cedar City clinic believed that not enough was being done
to secure the Colorado River for southern Utah.¹⁰⁷

When Reclamation Project Engineer Parley Neeley explained the project in
Vernal, Basin irrigators seemed pleased with the overall CRSP scheme. Under the first
stage of the CUP, water from several Uinta Mountain streams would be diverted through
a series of tunnels and aqueducts to the Strawberry Reservoir for use in the Wasatch
Front. Water stored at Echo Park and Flaming Gorge would replace the water taken from
the Uinta Basin. The estimated $1 billion project also included three projects, the Vernal,
Jensen, and Upalco units that would specifically benefit the Uinta Basin. B. O. Colton, a
member of the Utah Water and Power Board from Roosevelt, expressed his support for
CRSP, the CUP and the Echo Park dam.¹⁰⁸

The Echo Park Dam, located near the confluence of the Green and Yampa rivers
proved to be highly contentious. The reservoir site had been a favored location of water
development enthusiasts since at least 1938 when interests in Utah Valley “vigorously
advocated” for a dam near Echo Park, proposing to convey water by aqueduct and then
pump it over the divide into Spanish Fork River. Utah provided funding and
Reclamation investigated the so-called Colorado River-Great Basin Project, but found it
to be impracticable because of pumping costs.¹⁰⁹
Echo Park remained a topic of conversation as representatives met to discuss the upper basin compact. State Engineer L.H. Humpherys expressed Utah’s concern over the need to protect all reservoir sites, especially those sites where large dams might be constructed, many of which were situated in the canyons of the Green and Colorado rivers. William Wallace urged that data be prepared immediately, which would validate these as being primarily useful for dam sites. We “are opposed to putting…these sites in a national monument or national park,” Wallace declared.¹¹⁰

Clifford Stone of Colorado, shared Wallace’s concern, noting especially the problems encountered in building a part of the Colorado-Big Thompson Project through Rocky Mountain National Park.¹¹¹ “All of the wildlife and conservation associations…and wilderness societies [will] join the park interests…upon the policy that we have a great wilderness out here, which is of greatest value to the people of the United States as a playground.” The mindset of some, Stone contended, was that “God never intended that there should be any irrigation in [the] West, otherwise he would have put water and rain [here].”¹¹²

More than a decade would pass before Echo Park Dam, below Dinosaur National Monument, would become a major point of contention between proponents and opponents of CRSP and the CUP. It is significant, however, that the issue was being addressed in 1938, the same year in which FDR by proclamation expanded the national monument from 80 acres to more than 203,000 acres.¹¹³ It would be Echo Park’s location within Dinosaur National Monument’s expanded boundaries that would enable the Sierra Club and other conservation organizations to rally opponents, and ultimately remove the dam site from consideration.
Still, Utahans clung tenaciously to the hope that the Echo Park Dam could be built. “Echo Park is considered to be without parallel as a site for a dam, power plant, and reservoir in the upper reaches of the basin,” remarked State Engineer Joseph Tracy. “No alternative site would afford the power and storage capacity developed at this location.”

Impoundment of the Yampa and Green rivers at this site would minimize evaporation. Without the benefit of the Echo Park Dam, Tracy asserted, nearly 400,000 acre-feet of water would be lost to evaporation. “This loss would be charged to the upper basin states,” he asserted. For Utah, which claimed 23 percent of the upper basin’s water, this would amount to a net loss of 80,000 acre-feet. Additionally, storage at the top of the basin would significantly lessen the silt load affecting other reservoirs, particularly the Glen Canyon dam in the lower basin, where nearly half its capacity would ultimately be “sacrificed for silt catchment.” Without the Echo Park Dam, former Representative Walter Granger quipped, “Utah would get the silt and California the water.”

During spring 1953, a number of colleagues joined Senator Watkins to co-sponsor a bi-partisan bill to authorize CRSP. Continued opposition, most particularly concerning the Echo Park Dam, convinced proponents of the need to muster greater public support. In 1955, the Upper Colorado River Commission organized the Upper Colorado River Grass Roots, Inc., which purpose was “to crusade for the Colorado River Storage Project upon which the future of four states and the Navajo Tribe is predicated.” All four of the upper basin states and the Navajo Nation pledged funds for the public campaign, and the Commission budgeted $20,000 towards the cause. Funds were raised from the public when they contributed to Aqualantes, which was an arm of Grass Roots, Inc. In order to raise money for lobbying and promotion of the Central Utah
Project and Echo Park Dam, recalled Hugh Colton of Vernal, Chairman of Utah’s Aqualantes, we “sold these little aqualante badges.” We wanted mass participation, with the idea that each community would sell these badges for one to ten dollars—we had a limit of one hundred dollars on it. We concentrated on the small contributions, and raised eighty-six thousand bucks in four states to promote this thing.” Upon donating a dollar to the cause, one 90-year-old woman wrote that it “won’t do me any good…but my children’s children and their children will be the beneficiaries; so here is my contribution.”

At Senator Watkins suggestion, Grass Roots hired the Evans Advertising Agency in Salt Lake City to direct the public educational campaign. The firm employed a number of promotional schemes to try and convince the public of the virtues of CRSP. It printed brochures, prepared news releases, and even produced a 13-minute film entitled *Birth of a Basin*, an obvious play off the words to the 1920s W.D. Griffith film *Birth of a Nation*. The agency also focused on CRSP’s importance to the nation’s security during the Cold War, by printing part of the testimony given by the nation’s Civil Defense Administrator before the Senate’s Sub-committee on Interior Affairs. Citing the work reportedly being done by Russia to develop “a second line of industry behind the Ural Mountains,” Val Peterson testified that CRSP, “by providing water and power, would pave the way for taking care of those who by necessity may be forced to evacuate our West Coast cities…if a [nuclear] attack is made on the U. S.”

Rather than protecting the rights of the upper basin states, complained Pennsylvania Congressman John P. Saylor, Aqualantes are “riding to raid the Treasury of the United States…” Saylor believed the $1.5 billion price tag for CRSP projects was
understated by at least half. A report issued by the Bureau of the Budget appeared to support Sayler’s contention. The report indicated that it would cost more than 2.5 times the average value per acre to supply irrigation water to much of the land under CRSP. Given the 50-year repayment schedule with no interest, this federal subsidy would add $370,000 to the national debt for each developed farm.\textsuperscript{122} It is a “gigantic scheme,” Saylor asserted, “a scheme that is agriculturally unsound, economically unjustified, and absolutely unnecessary.”\textsuperscript{123}

California interests also argued that CRSP was too costly. To counter the efforts of the Aqualantes, water districts in southern California allocated more than $118,000, and hired the Washington, D. C. the law firm of Ely, McCarty and Duncan to lobby against the passage of CRSP.\textsuperscript{124}

Undaunted, Utah’s delegation continued sponsoring legislation with others from the upper basin. These bills were invariably attacked, opposed and frequently amended. Furthermore, CRSP proponents worried about the Eisenhower Administration’s seemingly tepid support. Although Interior Secretary Douglas McKay was a westerner from Oregon, he had little experience with reclamation issues. Agriculture Secretary Ezra Taft Benson, an Utahan and an apostle in LDS Church, had showed clear signs that he was in favor of ending federal farm subsidies. Walter Miller, a Republican official from Millard County, wrote Senator Watkins asking for clarification on the Eisenhower Administration’s opinion regarding reclamation.\textsuperscript{125}

The answer to his query came as the President delivered his annual budget message to Congress in 1955.

I also recommend enactment of legislation authorizing the Bureau of Reclamation to undertake construction of two comprehensive river-basin improvements which
are beyond the capacity of local initiative, public or private, but which are needed for irrigation, power, flood control and municipal and industrial water supply. These are the upper basin development in the states of Colorado, Wyoming, Utah, Arizona and New Mexico, and the Fryingpan-Arkansas development in Colorado.\textsuperscript{126}

Conservationists, led by the unflappable David Brower of the Sierra Club, continued holding CRSP hostage to the Echo Park Dam. In December 1955, as some 40 CRSP supporters assembled in Denver to discuss strategy they were greeted “with a full-page open letter in the \textit{Denver Post} from the conservation lobby.”\textsuperscript{127} The letter reiterated conservationists’ demands for dropping their opposition to CRSP, chief among these was the “permanent removal of Echo Park Dam…”\textsuperscript{128}

Colorado Representative Wayne Aspinall, and co-sponsor William Dawson had already deleted the dam from the House version. It remained in the Senate version, however, mostly at the insistence of California, which hoped to use Echo Park to scuttle the entire CRSP. Aspinall, the acknowledged “father” of CRSP, had not attended the Denver meeting, but went to work immediately to insure that the deletion of Echo Park remained.

In March 1955, with Echo Park Dam dropped, the Senate Interior and Insular Affairs Committee reported favorably on S 500. New Jersey Senator H. Alexander Smith eloquently expressed his reason for the affirmative vote.

I witnessed the suffering of many of the settlers in the area by the yearly variation between dry seasons and wet seasons…. I cannot forget that useless waste of water [from melting snows], every drop of which was desperately needed. These experiences have led me to be a strong supporter of measures to conserve water in the best years and the best seasons for the dry years and the dry seasons… I voted for the bill as a whole because I believe it is an important contribution to the vital needs of the surrounding area and is in the best interest of all the people of the United States.”\textsuperscript{129}
In June the House Interior Committee voted 20 to 6 to report its version of CRSP to the full House; but withdrew the bill following a poll which revealed a lack of Republican support for the measure. In the Senate, despite the resistance of some Southern and mid-Western lawmakers’ who continued to depict CRSP as “lavish, extravagant, and unjustified, … [a] waste of taxpayers’ money [and] utterly ridiculous, …” the bill passed 58 to 23.\textsuperscript{130}

During the intervening months following the Senate passing its version, the House recalled its bill and approved it by a vote of 256 to 136. Differences between the Senate and House bills were worked out in a Conference Committee report, which both chambers approved on March 28, 1956. President Eisenhower signed the “Colorado River Storage Project-Authority to Construct, Operate and Maintain Act” into law on April 11, 1956.\textsuperscript{131}

Highlights of the law authorized the construction and operation of the Curecanti, Flaming Gorge, Navajo and Glen Canyon dams. Importantly, CRSP established the Upper Colorado River Basin Fund for the deposit of funds generated from the sale of hydroelectric power and revenue from M & I water sales. The Fund also functioned as a depository for appropriations and would disburse to the Treasury Department costs for construction and operation. The Act authorized 11 participating projects in four upper-basin states, including the CUP (initial phase) and the Emery County Project. It authorized further investigation of the Gooseberry Project.

Sanpete County was not happy about being relegated for “further study.” Furthermore, once CRSP was signed into law, squabbling for funds became a serious problem. Having failed to derail CRSP, California interests used the appropriations
process to delay construction. “I have an inherent objection to putting up money, first, a year in advance of its necessity when we are trying to balance a budget,” Congressman John Phillips, a Representative from California’s Imperial and Riverside counties informed William Dawson. Perennial foe, Representative John Saylor introduced House Resolution 96 in April 1957, which called for the revocation of all authorized CRSP projects where funds had not yet been appropriated. In the same vein, Orange County, California, Representative James Utt introduced H. R. 6575, which would have repealed CRSP.

Both of these legislative proposals failed. Yet, during a time when Congress was particularly conscious of an exploding federal budget, competition for funding was intensely acute. Even reclamation projects within the State competed with one another. When the Weber Basin Conservancy District complained that it felt slighted by all the attention being directed towards CRSP, Representative Dawson confessed his frustration. It is “extremely disheartening,” he wrote, to have worked “so hard in trying to advance all Utah Projects…” only to have conflicting opinions paraded before Congress. The “Utah Water and Power Board and other local agencies should settle these problems rather than [bringing] them back here…” It gives “the appearance that our state is divided on these issues.”

As the struggle for CRSP had demonstrated, water could be a powerful unifying force. It could also be divisive, particularly as different groups contended for a limited amount of funding. Garfield County water users campaigned to have the CUP’s ultimate phase started immediately. “We…feel that sufficient funds should be put in the federal budget for the beginning of full development of the Central Utah Project,” Thomas
Dodds wrote. T. Clark Callister agreed that CUP water should be re-directed to the Sevier River Basin. “Millard County is deeply interested in the Central Utah Project. It is vital not only to the economy of the state but also to the welfare and in some cases for the existence of many of its people.”\textsuperscript{134} The Associated Civic Clubs of Southern and Eastern Utah forwarded its resolution on to Representative Dawson that urged funding for the Emery County Project. Rehearsing the project’s history, Civic Club members pointed out that the project known as Joe’s Valley Project had been in the planning stages since the 1930s and that Emery County was in dire need of water. Immediate construction of the project would be a “great step toward the solution of many of the economic problems of the county.”\textsuperscript{135}

CENTRAL UTAH PROJECT (INITIAL PHASE)

Obviously, the most important aspect of CRSP’s passage for Utahans living along the Wasatch Front was funding for the CUP’s initial phase. Although far less encompassing than the ultimate phase, the initial phase of the CUP was also transformative. Like the ultimate phase it involved a significant transfer of water from the Uinta Basin to the Bonneville Basin. In lieu of taking water directly from Green River through one of the enormous aqueducts leading from either Echo Park or Flaming Gorge, Reclamation proposed to begin the process of replacing the Uinta Basin’s water by constructing seven storage reservoirs. These included, the Tyzack on Brush Creek, 10 miles northeast of Vernal; the Steinaker; the Upalco, near the town of Upalco, to store surplus water from the Yellowstone and Lake Fork rivers; Starvation on Strawberry
River, northwest of the town of Duchesne; the Upper Stillwater on Rock Creek; Hanna on the Duchesne River; and Currant Creek, all located to the northeast of the town of Duchesne.\textsuperscript{136}

Otherwise, most development under the \textit{initial phase} would go to benefit the Bonneville Basin. Only the western most 37 miles of the Strawberry aqueduct would be constructed. It would begin at Rock Creek, and capture in turn the flow of Hades Creek, Wolf Creek, the West Fork of the Duchesne River, Currant Creek, Layout Creek and Water Hollow. The enlarged Strawberry Reservoir still held the pivotal position in the workings of the \textit{initial phase}. As water spilled from Strawberry into the enlarged portal, it followed a near identical path as outlined in the \textit{ultimate phase}. On its descent into the Bonneville Basin it would pass through four power plants, where at Monks Hollow it would be diverted into the Wasatch Aqueduct. The aqueduct’s southern arm would flow to York Ridge near Santaquin for regulation in the proposed Goosenest Reservoir. Under the \textit{initial phase} irrigation water would be delivered through the Mona-Nephi Canal only as far south as Salt Creek near Nephi. The existing Mona Reservoir in Juab County would be enlarged to store excess water, but developments in the Sevier River Basin would be postponed until construction of the \textit{ultimate phase}.

Most of the developments involving Provo River, such as constructing Bates Dam near Heber City, along with exchanges and agreements regarding Deer Creek Reservoir and the Provo Reservoir Canal, were nearly identical to those enumerated in the \textit{ultimate phase}. Likewise, the diking of Utah Lake remained a feature of the \textit{initial phase}, as did the deepening of the Jordan River channel from Utah Lake to the Jordan River Narrows, and construction of the West Valley Canal.\textsuperscript{137}
As would occur under the *ultimate phase*, a portion of the Provo River water developed by the CUP would be conveyed through the Salt Lake Aqueduct. Operated by the Metropolitan Water District of Salt Lake City, the Salt Lake Aqueduct was completed in 1950 as part of the Provo River Project. The Aqueduct supplied municipal water throughout the Salt Lake Valley.\(^{138}\)

The amount of CUP water committed to municipalities and industry has progressively increased since the 1950s. Supplying the West’s burgeoning cities and factories from federal water projects has been a predictable shift in policy. Especially along Utah’s Wasatch Front have thousands of acres been converted from irrigated farms to residential sub-divisions and shopping centers. This shift began, in part, from the impact of WWII.

The war brought an exodus of rural Americans into the nation’s urban centers, and the economy that emerged following the war reflected this transformation, emphasizing manufacturing and industry, rather than farming. During the 1930s, Utah’s farm population fell by nearly 10 percent, a trend that accelerated greatly during the war. Only seven Utah counties gained population through 1946. Twenty-two counties lost population, with the hardest hit being those with a mostly farm economy.\(^{139}\) “The increase has concentrated along the base of the mountains from Provo to Brigham City,” a post-war planning committee reported. Growth along this corridor “has been partially at the expense of other areas of the state.”\(^{140}\) Forty-five percent of the Wasatch Front’s population increase accrued from losses in Utah’s rural counties.\(^{141}\)

During subsequent years, as Reclamation continued to revise and refine the CUP, the importance of municipal and industrial water would eventually eclipse its importance
for irrigation. This has been particularly true in recent years. As the CUWCD now
guides the CUP towards its ultimate completion, it must balance the needs of Utah
agriculture with the demands of its expanding urban landscape.

\[\begin{align*}
1 & \text{R. Thomas Quinn, “Out of the Depression’s Depths: Henry H. Blood’s First Year as Governor,” } \textit{Utah Historical Quarterly}, \text{ vol. 54, no. 3 (Summer 1986), pp. 216-219.} \\
2 & \text{Ibid, p. 225.} \\
3 & \text{Ibid., p. 219.} \\
4 & \text{[Utah Emergency Relief Administration], “Drouth Relief Program,”, 1935, p. 1} \\
5 & \text{http://www.usbr.gov/projects/Project.jsp?proj_Name=Provo%20River%20Project} \text{ Accesses 11 May 2012.} \\
6 & \text{Leonard J. Arrington, “Utah’s Great Drought of 1934,” } \textit{Utah Historical Quarterly}, \text{ vol. 54, no. 3 (Summer 1986), pp. 253-254.} \\
7 & \text{Arrington, “Utah’s Great Drought of 1934,” p. 251.} \\
8 & \text{Ibid.} \\
9 & \text{Ibid., p. 257. The pumps at Pelican Point enabled an additional 12 foot drawdown of Utah Lake. The} \\
\text{water discharged into a separate canal specifically constructed to carry the water to the Jordan River, and} \\
\text{hence to farmers in Salt Lake County. When more normal conditions returned after about 1940, the} \\
\text{emergency pumps were dismantled. See } \textit{Central Utah Project, Initial Phase Bonneville Unit: Criteria for} \\
\text{Investigations} \text{ (Salt Lake City, Bureau of Reclamation: 1961), p. 10.} \\
10 & \text{Utah Emergency Relief Administration, Drought Relief Program, 1933-1935.} \\
11 & \text{Ibid., p. 250.} \\
12 & \text{Henry Blood to Franklin Delano Roosevelt, 11 October 1935; Thomas C. Adams to T. H. Humpherys, 17} \\
\text{October 1935. Copies in Charles S. Peterson Collection, Mss B 1608, box 46, fd 2. Hereafter referred to as} \\
\text{Charles S. Peterson Papers.} \\
13 & \text{Ibid.} \\
14 & \text{For more on Weber River developments, see Richard W. Sadler, } \textit{The Weber River Basin: Grass Roots} \\
\text{Democracy and Water Development} \text{ (Logan: Utah State University Press, 1994.)} \\
15 & \text{Salt Lake Tribune, 16 March 1929.} \\
16 & \text{Ibid., 24 October 24 1928.}
\end{align*}\]
17 Ibid., 27 March 1930.


19 Salt Lake Tribune, 27 October 1928. The UBIC a Uinta Basin-wide organization established in the early 1920s was similar in nature to county fairs that included cultural celebrations and educational activities for the entire Basin. The UBIC often took on the role of regional chamber of commerce promoting developments in the Basin. See Doris Karren Burton, A History of Uintah County: Scratching the Surface (Uintah County Commission and the Utah State Historical Society, 1996), pp. 362-63; and John D. Barton, A History of Duchesne County (Duchesne County Commission and the Utah State Historical Society, 1998), pp. 196-201.

20 Uintah Basin Record 11 March 1932.

21 Ibid.

22 Ibid.


25 Metropolitan Water Districts, Chapter 110, Laws of Utah, 1935; and Fisher Sanford Harris, 100 Years of Water Development: A Report Submitted to the Board of Directors of the Metropolitan Water District of Salt Lake City, the Board of Commissioners of Salt Lake City (Salt Lake City, 1942). Members of the first elected board of directors for the Salt Lake County Metropolitan District included Herbert S. Auerbach, Samuel A. Kennedy, Robert L. Judd, George A. Critchlow, Phil J. Puredell, and George D. Keyser.

26 Salt Lake Tribune, 5 February 1937.


29 Salt Lake Tribune, 17 July 17 1932; 21 February 1933.

30 Henry Blood to Harold Ickes, 18 October, and 19 October 1933. Copy in Dern papers, Colorado River Compact subject folder, accn 20988, Series 206.


35 *Central Utah Project, Utah: A Supplement to the Colorado River Storage Project*, Project Planning Report no. 4-8a.50-2 (Salt Lake City: Region 4, Bureau of Reclamation, 1951), p. 25. Hereafter referred to as *Central Utah Project, Utah: A Supplement to the Colorado River Storage Project*, 1951.


39 *Uintah Basin Record*, 18 September 1931.


43 Minutes of the Upper Colorado River Representatives, March 17 and 18, 1938, Santa Fe, New Mexico, p. 40; and State Engineer/Division of Water Rights, series 13912, box 7, fd. 22,

44 *Manti Messenger* (Manti, Utah), 17 November 17 1900.

45 *Ibid.,* 8 February 1902.

46 Petition to the Honorable Charles R. Mabey, from Price River Irrigation District, 8 October 1921; Proclamation To Whom It May Concern by Governor Charles R. Mabey, 10 October 1921; Proclamation To Whom It May Concern by Governor Charles R. Mabey, 26 October 1921. Utah State Engineer, Correspondence, Series 847, Box 16, Utah State Archives, Salt Lake City, Utah.


Manti Messenger, 13 August 1926.


Salt Lake Tribune, 14 February 1939.


Salt Lake Tribune, 7 January 1945.

Salt Lake Telegram, 23 August 1944.


Governor Herbert B. Maw, Message to the Twenty-seventh State Legislature, January 13, 1947.


Ibid.

FN Vernal Express, 11 February 1948.
The Upper Colorado River Compact in Article II, line (f) indirectly approves trans-basin diversions when it defines Upper Basin as “those parts of the States of Arizona, Colorado, New Mexico, Utah, and Wyoming within and from which waters naturally drain into the Colorado River System above Lee Ferry, and also parts of said States located without (authors’ emphasis) the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters diverted from the Colorado River System above Lee Ferry.” See Margaret G. Young, comp. Federal Reclamation Laws Annotated, A Chronological Compilation of the Public Statutes of the United States relating to the Federal Irrigation of Arid Lands….. (Washington, D. C.: GPO, 1937), fn 399.


Vernal Express, 21 July 1948.

Upper Colorado River Basin Compact, 1948, Article I, paragraphs (a ) and (b ).


Ibid , p. 38.


Ibid., p. 5.

Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, p. 1.


Ibid., p. 73.

Ibid.

These savings would accrue to the Upper Colorado River Basin Fund. See, Twenty-seventh Biennial Report of the Utah State Engineer, July 1948 to June 1950, p. 82.

Ibid., p. 75.


Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, p. 17.

Delegates to the League of the Southwest had often talked about the need to use the water as high up in the drainage as possible. See Carpenter and Family Papers, Series 7, Box 59, fd. 7

Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, p. 17.


U.S. Bureau of Reclamation, The Bonneville Basin, p. 73.


Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, p. 73.

Ibid., p. 76.

Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, p. 15.

Ibid., p. 16.

Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, p. 73.

Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, p. 16.

Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, pp. 16-17.


Ibid., Box 9, fd. 6.

Salt Lake Tribune, 12 April 1946.

Reva Beck Bosone (1893-1983) was born in American Fork. Following her education she and her husband practiced law in Helper. In 1932 she was elected to the state legislature where she was identified as a “progressive” Democrat. In 1948 she was elected to the U.S. House of Representatives and was the first woman to serve on the House Interior Committee. Elbert D. Thomas, a native of Salt Lake City, taught political science and history at the University of Utah before being elected to the U.S. Senate, defeating Reed Smoot in 1932. A supporter of President Roosevelt’s New Deal, he was largely responsible for the establishment of the Department of Education and Public Welfare as well as the Civilian Conservation Corps. Wallace F. Bennett defeated Thomas in 1950.

Watkins Papers, box 4, fd 2.
108 Vernal Express, 7 September and 14 September 1949.

109 Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, Project Planning Report no. 4-8a.50-2 (Salt Lake City: Region 4, Bureau of Reclamation, 1951), p. 25. Hereafter referred to as Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951.


112 Ibid., p. 306.

113 Federal Register (microfilm), v. 3, no. 140 (July 20, 1938), pp. 1765-1766.


115 Ibid., p. 80.

116 Deseret News, 16 April 1956; and Salt Lake Tribune, 17 April 1956. Copies in William Dawson papers, Ms 31, Box 2, fd 5, Special Collections, Marriott Library, University of Utah, Salt Lake City, Utah. Hereafter referred to as Dawson Papers.

117 Other co-sponsors were Colorado Senators Eugene Millikin (R) and Edwin Johnson (D); New Mexico Senators Clinton Anderson (D) and Dennis Chavez (D); Senators Frank Aloysius Barrett (R) and Lester Callaway Hunt (D) from Wyoming; Arizona Senators Barry Goldwater (R) and Carl Hayden (D); and Utah Senator Wallace Bennett (R). In the House, two separate bills were introduced by Colorado Representative Wayne Aspinall (R), and by Utah’s two Representatives, William Dawson (R) and Douglas Stringfellow (R).

118 Watkins Papers, box 27 fd. 11.

119 Mike Brown, Interview with Hugh Colton, 18 December 1978. Mss A 2868, Utah State Historical Society, Salt Lake City, Utah. Each state had a chapter of Aqualantes.

120 Upper Colorado River Commission meeting minutes, Farmington, New Mexico, 30 April 30. Contained in Colorado River Project records, State Engineer/Division of Water Rights, series 13912, box 1, fd 11. A handful of county commissions also contributed county funds to Aqualantes: Duchesne County contributed $809, Emery, $1,000, Salt Lake County, $27,000, Sanpete County $1,294, Sevier, $500, Uintah, $1,371, Utah County, $10,767, Wasatch County, $643, Salt Lake City, $59,488, and the state association of county officials $300. Emery County’s contribution reflected the hope that the Emery County Project would be part of the CUP, and the Sanpete and Sevier county commissions were equally hopeful that the Gooseberry project would be included in the CRSP. See Fifth Biennial Report of the Utah Water and Power Board, July 1954 to June 1956.

121 Watkins Papers, box 28 fd. 2.


123 Watkins Papers, box 26, fd 5.
124 Ibid., box 33, fd 15.

125 Ibid., box 33, fd 2.

126 Upper Colorado River Commission, Sixth Annual Report, April 1, 1955.


128 Ibid.

129 Dawson Papers, box 2, fd. 11.


131 Chapter 203-Public Law 485.


133 Ibid. William Dawson to George Q. Spencer, 27 July 27 1956, Box 6, fd 3.

134 Ibid., box 6, fd d.

135 The Associated Civic Clubs of Southern and Eastern Utah represented clubs in Beaver, Carbon, Duchesne, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Piute, Sanpete, Sevier, San Juan, Uintah, Wasatch, Washington and Wayne counties. These telegrams were likely choreographed by Grass Roots, Inc. See Ibid. J.R. Bingham to William Dawson, box 6, fd. 5.

136 *Central Utah Project, Utah: A Supplement to the Colorado River Storage Project*, 1951, pp. 18, 27, 30-34.

137 Ibid., p. 20.


139 Joseph A. Geddes, *Migration: A Problem of Youth in Utah*, Utah Agricultural Experiment Station, bulletin 323, (May 1946), pp. 6-8.

140 *An Analysis of the Agricultural Situation in the Wasatch Front Area Resulting from War and Post-War Changes*, (Logan: Utah Agricultural Experiment Station, 1943), p. 10.

The Central Utah Project Proposal: Support and Opposition

In 1951, Reclamation estimated the cost of the initial stage of the CUP at nearly $205 million. Comprehensive development, which included construction of all features of the CUP in both basins, Reclamation estimated at more than $1 billion.\textsuperscript{1} These figures Reclamation calculated using 1949 prices. As more than 60 years has elapsed since the CUP’s initial conception prices have obviously escalated. The project’s spiraling price tag significantly altered its ultimate outcome, as Reclamation and the CUWCD have modified and adjusted the project to meet changing conditions.

CUP advocates had to confront a number of details before construction could begin. Not only did they need to convince Congress of the merit of the entire Colorado River Storage Project (CRSP), but they also needed to persuade legislators that the CUP warranted inclusion as an authorized CRSP project. Finally, Congress would have to provide funding for the project. Contending with these legislative obstacles has made the CUP’s supporters, particularly the CUWCD, prominent participants in the history of western water development.

Congress authorized the CUP as a CRSP project in April 1956. Reclamation compartmentalized the complicated project into four different units, including the Jensen, Vernal, and Upalco units in the Uinta Basin (Congress latter authorized the Uintah Unit in 1968), and the Bonneville Unit, which included the Starvation Complex and Strawberry Complex. Reclamation released its Definite Plan for the Initial Phase of the Bonneville Unit in August 1964.
Between 1951 and 1964, Reclamation refined and modified some features of the Bonneville Unit. These modifications resulted from “unprecedented population growth in the Wasatch Front area, with residential, commercial, and industrial developments taking over irrigated farm lands…” This trend, Reclamation remarked, has reduced “the requirement for irrigation water in some areas and increase[ed] the requirement for municipal and industrial water.” As Reclamation fully expected growth to continue along this corridor, it began to reexamine its water supply studies, refining them to “bring them up to date…. with a greater emphasis on…long-term needs. “ Furthermore, the re-assessment of some “land classifications, … water quality studies…[and] structural sites” required engineers to make additional adjustments. Lastly, 1951 prices had skyrocketed. Reclamation’s 1951 estimate of $205 million to construct the initial phase for the entire CUP, which included the Vernal, Jensen, Upalco and Bonneville units had increased to nearly $324 million for the Bonneville Unit alone.

Although Reclamation reassured its constituents that the “basic purpose of the development remain[ed]] the same,” the CUP’s escalating price tag had altered some of the plans. Hanna Dam on the Duchesne River, for instance, became a victim of cost/ benefit analysis. Costs and benefits probably also affected changes made to the Diamond Fork hydro-electric complex. The enlarged tunnel leading from Strawberry to the crest of the Bonneville Basin was redesigned as the “new Syar pressure tunnel.” This allowed for the continuous generation of power during the irrigation season at the proposed Syar power plant located immediately at the west end of the tunnel. Two power plants followed in succession, the Sixth Water plant and the Dyne plant. Reclamation concluded that the Castilla power plant at the confluence of Diamond Fork and the Spanish Fork River was not economical, and eliminated it. But even as Reclamation eliminated the need for one power plant, it also streamlined the system
to more than double the hydro-electric power potential of the Diamond Fork system from 61,000 kilowatts to 133,500.

Revenue from power production was crucial in formulating a realistic repayment plan for irrigators. Irrigation costs for the Bonneville Unit totaled $177.5 million, paid for in annual installments of $859,000, over a 50-year period. These installments would be paid for by the water users, and through an ad valorem property tax. The more than $123 million that remained would be paid for from power revenues in the Upper Colorado River Basin Fund. At the conclusion of the 50-year period Reclamation estimated that more than $59.5 million would have accumulated in the fund from the Bonneville Unit, and an additional $63.5 million would have accrued as Utah’s apportioned share under the Colorado River Storage Project Act.\(^6\)

Reclamation developed water projects initially as a way to settle families on small, irrigated farms. Hence, irrigators paid no interest. Developments made specifically for municipal and industrial water users, however, were charged interest. Interest accounted for at least $65 million of the nearly $137 million expended for municipal and industrial water under the Bonneville Unit. Water users were to pay more than $89 million during the contract period, with the balance raised through property taxes.\(^7\)

WATER CONSERVANCY ACT

The plan proposed levying these taxes under authority of a water conservancy district, which also acted as legal agent for the project to contract with Reclamation for repayment. Utah law prohibited municipal and county governments from entering into contracts, which might create “debt in excess of taxes for the current year…” It further prohibited governmental sub-
divisions from leasing, selling, alienating or disposing of “any waterworks, water rights, or sources of water supply...”\(^8\) In 1941, the Legislature circumvented these restrictions on local governments by enacting the Water Conservancy Act. Much as the aforementioned 1934 Metropolitan Water District Act provided municipalities with the tools to levy taxes and enter into contracts for the development of water resources, the Water Conservancy Act extended these to the county level, particularly into the unincorporated areas. Based on preceding acts passed in Colorado, New Mexico and Ohio, the Legislature created water conservancy districts that were “an arm of the government separate and distinct... with powers and rules of its own, ...” and therefore not constrained by the laws that affected other units of local government.\(^9\)

The Legislature declared that the act would provide for the “greatest beneficial use of water within this state.” It benefitted all industries, provided municipalities with an increased water supply, provided farmers with supplemental irrigation water and improved access to water through construction of new facilities, and promoted “the comfort, safety and welfare of the people of... Utah.”\(^10\)

As the Legislature advanced the Water Conservancy Act, it also established one of the state’s first contemporary water policies. This policy included the following declarations:

1- To control, make use of and apply to beneficial use all un-appropriated waters in this state to a direct and supplemental use of such waters for domestic, manufacturing, irrigation, power and other uses.

2- To obtain from water in Utah the highest duty for domestic uses and irrigation of lands in Utah within the terms of interstate compacts or otherwise.

3- To cooperate with the United States and agencies thereof under the federal reclamation laws or other federal laws now or hereafter enacted and to construct and finance works in the state of Utah as herein defined and to operate and maintain the same.

4- To promote the greater prosperity and general welfare of the people of the state of Utah by encouraging the organization of water conservancy districts...\(^11\)
In 1943, Carbon County established one of the earliest water conservancy districts in Utah for the purpose of cooperating with Reclamation on reconstructing Scofield Reservoir. The creation of the Carbon Water Conservancy District resulted in the first legal challenge to the new Water Conservancy Act. Among other objections, the contestant argued that the act violated constitutional “due process,” an essential component of our legal system that restrains the government from depriving individuals of “life, liberty and property.” The Utah Supreme Court disagreed with the plaintiff, and in sustaining the act’s constitutionality, solidified Utah’s preferred approach for developing its water resources. While the legislature has amended Utah’s Water Conservancy Act many times, nearly forty years passed before it was again subjected to judicial review.

As the Legislature declared, and the court affirmed, the Water Conservancy Act was a means of conserving valuable water resources, a benefit that accrued to the entire state. In order to achieve these benefits, the act allowed water districts to raise revenue for water development by levying a tax on property within the district. History had confirmed from time to time the difficulty of building large projects with private capital. Constrained in its ability to raise taxes, state government also struggled to find funds for water development. In part, the Water Conservancy Act was a way to circumvent this financing problem. Utah’s citizens were generally loath to taxation. They were, however, more receptive to the idea of water development. A thriving and prosperous economy depended on an adequate water supply. Like its constituents, the Legislature often expressed its aversion to taxes. Nevertheless, it remained very committed to developing Utah’s water resources.

Creation of a water conservancy district required solicitation of signed petitions from a percentage of property owners within both the unincorporated and incorporated areas of its
boundaries. Proponents then filed these petitions with the district court. The petition process was a demanding task, but much less difficult than the task of opposing a district’s establishment. A district could be established with the approval from as little as 10 percent of landowners in the unincorporated area, and only five percent within city limits. Petitions protesting a district’s establishment had to include the signatures of 20 percent of landowners from both the unincorporated and incorporated areas. Furthermore, opponents had a very short window, sometimes as little as 30 days, in which to gather signatures and file a protest petition.  

Clearly, the Legislature intended to discourage opposition and encourage the formation of water conservancy districts. Furthermore, Reclamation required a centralized organization with which it could negotiate, and which could act as a project’s legal agent. Implicit, as well, was the fact that those who worked in water development preferred to work with others similarly engaged, and as one long time participant recently observed, the “government works better with government, than government works with private.”

The original Central Utah Water Conservancy District embraced the counties of Duchesne, Wasatch, Utah, Salt Lake and Uintah, along with parts of Juab and Summit. A water conservancy district had existed in Salt Lake County since 1951. Several cities within the area also had metropolitan water districts. Uintah County created a conservancy district in 1956 to contract with Reclamation for repayment, maintenance and operation of the Vernal Unit. Completed in 1961, and discussed in greater detail below, the Vernal Unit was the earliest CUP component constructed.

The CUWCD would be the first district established in areas, such as Uintah County, with pre-existing water conservancy districts. In 1961, the Legislature specifically amended the original act to allow for the inclusion of other water conservancy districts within the anticipated
CUWCD. Under this amended act, the CUWCD acted as the *master* district while all other districts within its boundaries became *sub-districts*.

County governments, civic groups and chambers of commerce throughout the proposed seven-county area advanced and promoted the CUWCD. A drafting committee operating under the Utah Water and Power Board took the lead in promoting the initiative at the state-level. It reported that the district had “no major opposition” in Salt Lake and Utah counties, and enthusiastic and near unanimous support in the small counties.  

The Water and Power Board’s reporting may have been overly optimistic. Considerable resistance to the CUWCD developed in the Uinta Basin. “It’s easy to join a conservancy district,” opponents in the Uinta Basin cautioned, “but it is next to impossible to get out of them.”

We “are being put under tremendous pressure to join the master conservancy district,” State Senator and Uintah Water Conservancy District Board member Leland Sowards wrote, but “we already have our own county conservancy district…. adequate for our reclamation needs.” The Water and Power Board along with other supporters of the CUWCD spent considerable time in Vernal and Roosevelt trying to reassure basin residents. “The Uinta Basin felt like the Wasatch Front was stealing their water and those feelings ran pretty high,” the District’s engineer Carl Carpenter remembered. Beyond the subordination of the Uintah Water Conservancy District, Sowards and others had additional concerns. The CUP’s initial phase would develop water mostly for the Bonneville Basin. Few new features were planned for the Uinta Basin until construction of the ultimate phase. The ultimate phase included development of the Uinta and Whiterocks rivers, and the importation of Green River water from Flaming Gorge. The ultimate phase, however, was still years away from its purported completion.
During summer 1963, local, state and federal officials arrived at an understanding giving some consideration to the Uinta Basin’s concerns. In Uintah County, a study committee obtained agreement on several important issues. One of these addressed the concern over replacing high quality water from the mountain streams with water of questionable quality from the Green River. The ultimate phase of the CUP would take virtually all the water flowing in the mountain streams for export to the Bonneville Basin, and replace it with water diverted from the Green River through the proposed Flaming Gorge Aqueduct. The Water and Power Board reassured the counties that “municipal water supplies [would] not be diminished by diversions to the Bonneville Basin, either in quality or quantity, …” and that “planning and development [would] provide for an industrial water supply needed in the development of [the basin’s] many natural resources.”

The study committee was also adamant that “dry stream beds…not result from diversions to the Bonneville Basin and that the overall fishing and recreation industry…be enhanced.” Furthermore, the committee insisted “stream flows…be established following consultation with Fish and Game agencies.” Fish and Wildlife Service questioned de-watering of streams nationally as early as 1951. In the Uinta Basin the Vernal Rod and Gun Club took the lead in questioning the wisdom of drying up the Basin’s trout streams. Stream depletion remained problematic for the balance of the CUP’s history.

Lastly, exporting water to irrigate lands in Utah County seemed inverse to many in the Uinta Basin while many thousands of acres remained dry in Uintah and Duchesne counties. “I am not opposed to central Utah getting water from our basin,” Leland Sowards declared, “as long as our needs are taken care of first.” Therefore, the study committee pressed to advance the ultimate phase of development in the Uinta Basin before exporting any water to the Bonneville
Basin. This included development of “a water supply…to irrigate all lands that can be feasibly irrigated in Uintah and Duchesne counties (both Indian and non-Indian lands)…including the Jensen and Uintah units and importation of water from the Green River…”

The complexity of providing CUP water to both Indian and non-Indian land would be ongoing. On September 22, 1965, the CUWCD, along with agencies of the federal government, reached an agreement with the Ute Indian Tribe for the use of the Duchesne River and its tributaries in development of the initial phase of the Bonneville Unit. This agreement culminated nearly three years of study and negotiation in which the Ute tribe agreed to defer development on 15,242 acres of irrigable Reservation lands. The tribe agreed to defer development until construction of the ultimate phase of the CUP, or until 2005. In the event that “the ultimate phase of the project [was] not completed sufficiently to supply the deferred Indian water rights by 2005,” the agreement stipulated that “equitable adjustment [would] be made in available water deliveries to permit the immediate Indian use of water to meet deferred demands.”

Project Manager Palmer DeLong, who had represented Reclamation at most of the meetings, confessed to feeling “lucky” in having obtained the agreement. As the Ute Tribe’s hope for water development hinged on completion of the project’s ultimate phase, Reclamation and the CUWCD were sensitive to any proposals that may challenge future access to the water necessary for ultimate phase construction. During summer 1964, the Arizona Resource Company filed an application with the Utah State Engineer to appropriate water from Lake Powell for use at a coal-fired power plant in Kane County. The proposed plan envisioned using coal reserves available along the Kaiparowits Plateau to generate electricity for urban centers such as Phoenix and Los Angeles. The largest ever planned for in the U.S., the 3,000-megawatt
power plant would eventually require 200,000 acre-feet of water from Lake Powell. While Reclamation had made the requisite water rights applications for ultimate phase construction as early as 1948, that stage of development was not expected to be concluded for at least 35 years. Lake Powell was an essential component of CRSP. Only by storing water behind Glen Canyon Dam could Utah develop its share of the Colorado River in the upper basin while still meeting its lower basin obligations. Furthermore, it would obviously be difficult to reclaim that water once the power plant was up and running. Most importantly, as the entire Bonneville Unit depended on the cooperation of the Ute Tribe, any hint that the ultimate phase may not be built would likely derail the negotiations then underway with the Ute Tribe. Extreme care should be taken, the CUWCD Board explained to Arizona Resource Company officials, “so as not to cloud the issue of the Ultimate phase and develop concern as to its development in the minds of the Indians.”

With the promise of bringing 10,000 to 12,000 new jobs to the struggling economy of Southern Utah, the Kaiparowits proposal had strong support from elected officials locally and across the state. Utah’s congressional delegation overwhelmingly supported the project, and both Reclamation and the CUWCD Board were anxious to find a way where both the power plant and the CUP could be fully developed. In May 1965, the CUWCD resolved to accept the Arizona Resource Company’s filing, agreeing to “subordinate” its rights incrementally until 2030. At that point, the Arizona Resource Company’s rights to the entire 200,000 acre-feet would become secondary, or junior, to the District’s senior rights. The agreement, CUWCD attorney Ed Clyde stated, “protects the Central Utah Project and the District in both the initial and ultimate phase.” It should, however, “be subject to the United States signing the Indian [deferral] agreement.”
The 1965 deferral agreement with the Ute Tribe cleared the way to begin constructing the initial phase of the Bonneville Unit. Certainly to those involved, forty years must have seemed ample time to complete the CUP. The issue would, however, persist beyond the 2005 deadline. The Kaiparowits Power Project would itself linger for more than a decade before, in the face of mounting opposition from environmental advocates, as well as changes in the electric utility industry, the project’s parent company, Southern California-Edison, abandoned its plans in 1976.27

The need for ultimate phase construction was crucial for both Indian and non-Indian in the Uinta Basin, both of whom actively urged, “all phases of the Central Utah Project be diligently pursued.” In August 1965, the CUWCD drafting committee met to discuss the points raised by the Uintah County study committee, and “approved and concurred” with its proposal to develop water for the irrigation of all lands in the Uinta Basin. It was the consensus of opinion that Uintah County’s “proposals were basically the objectives of the project and all present concurred that the proposed Central Utah Water Conservancy District should work for a practical accomplishment of these proposals.”28

Officials in Duchesne County exacted similar concessions before they finally agreed to join the CUWCD.29 After receiving reassurance from the drafting committee, the Duchesne County Commission and Duchesne Water Users Association agreed to support formation of the CUWCD in June 1963. Uintah County officials followed suit a month later.30 Unquestionably, opposition in the Uinta Basin and elsewhere still existed to the CUWCD and to the CUP; yet, none filed protest petitions with the Fourth District Court at Provo. Following a hearing held March 2, 1964, the court created the CUWCD (hereafter the District) the same day. Three weeks later, the court named the following members to the District’s first Board of Directors:
Leo Harvey, Sterling Jones and G. Marion Hinckley, Utah County; Robert Hilbert, Clifford Ashton, Herbert Smart, Royden Derrick and Rell Swenson, Salt Lake County; LeRoy Morrill, Briant Stringham and L.Y. Siddoway, Uintah County; Leo Haueter, Leo Brady and William Ostler, Duchesne County; John Lambert, Summit County; Clyde Ritchie, Wasatch County; and Roscoe Garrett, Juab County. The Board elected Sterling Jones as chairman, Leo Brady as vice chairman, and Robert Hilbert as secretary-treasurer. The Board hired agricultural engineer Lynn Ludlow of Sevier County to serve as the District’s first manager. For the next 20 years Ludlow piloted the District during the CUP’s most ambitious period of construction.31

Carl Carpenter, whom Ludlow hired as the District’s engineer in 1965, recalled the make-up of the Board, and how the court endeavored to achieve a balance between Democrats and Republicans, rural and urban, and between irrigation and municipal interests. They “were all good men,” Carpenter maintained. “They were all knowledgeable about water…evenly Democrat and Republican [and]… split between rural and urban.”32

Many of the District’s first Board members came from farm backgrounds, particularly those from the Uinta Basin, other less populated counties, as well as parts of Utah County. Although Reclamation recommended a substantial increase for municipalities and industry in 1964, supplying the needs of agriculture still accounted for most of the water developed under the CUP. The Bonneville Unit proposed to provide approximately 23,000 acre-feet for the Duchesne River area of the Uinta Basin, 22,000 acre-feet in the vicinity of Heber and Francis, nearly 50,000 acre-feet for Spanish Fork; 22,000 acre-feet for Mona and Nephi; 22,000 acre-feet for Elberta and Mosida; nearly 5,000 acre-feet in the vicinity of Payson; and 10,000 acre-feet for storage in Utah Lake. The estimated 154,000 acre-feet of irrigation water invited strong support
for the project from agricultural interests throughout central Utah, which would be reflected in
the composition of the District’s Board of Directors for at least the next 20 years.

Other members of the Board, mostly from Salt Lake and Utah counties, were practicing
attorneys, businessmen, or directors of municipal water systems. All Board members had a long
tenure with water issues. Most had served in some public service capacity, or as elected officials
within their respective counties, and all occupied positions that would positively impact the
District’s agenda.

DISTRICT HEADQUARTERS

Since practically its first meeting, the Board had discussed the selection of a site for its
headquarters. It considered real estate in both Orem and Provo. “Provo was the original
headquarters of the District,” the first chairman of the District’s Personnel Committee Ross
Garrett remembered. After Lynn Ludlow’s employment as District Manager, “they hired Cleo
Heppler to be the secretary and office manager,” added Carl Carpenter, who Ludlow would soon
hire as the District’s first engineer. “They had to have an office and so the Bureau of
Reclamation…in Provo…provided a little cubbyhole in there for Lynn and Cleo. That is the way
they operated.”

The District preferred to stay in Provo, in order to be in close proximity to Reclamation;
but after looking “all over Provo for a place to have an office building…[we] just couldn’t find
any place that we felt was suitable.” Instead, the Personnel Committee selected a picturesque
site at 355 West 1300 South in Orem, but had to petition the Fourth District Court to change its
place of business from Provo to Orem. “We had to get the district headquarters transferred
from Provo to Orem; which didn’t seem to me like…a big deal,” Garrett continued. “But then, the Provo Chamber of Commerce invited [us] up to meet with them. And they were really upset that we would move from Provo out to Orem.” The remote area in south Orem offered few amenities at the time. As Garrett recalled, Provo officials told them they would be “out there where you can’t [even] get anything to eat. There’s nothing there…” Garrett remembered the Chamber warning them.37

Still, the 7.5-acre site provided ample room for future expansion, and convenient access to Interstate 15. Designed by architects Dixon and Long, Leland Howell built the original building, while Boyd Datwyler landscaped the grounds. The grounds and building were dedicated at an open house and ribbon cutting held May 10, 1968.38

Between 1991 and 1992, a new engineering building was added. The building was enlarged with the addition of another wing beginning in 2003. Following completion of this new facility, the original 1968 building underwent asbestos removal and was razed in 2004.

REPAYMENT CONTRACT

At Board member Royden Derrick’s suggestion, standing committees, including Legal and Legislative; Finance; Engineering and Construction; Operation and Maintenance; Personnel; and Public Relations and Information; were formed to help build relationships and a consensus among the District’s perceived stakeholders.39 The latter was of particular importance as a number of critical issues faced these first Board members. The failure of Echo Park had taught CUP supporters a valuable lesson in the power of public opinion, and in the necessity of taking
prompt, decisive action. Utah Senator Wallace Bennett admonished the District’s supporters that after “fighting for so many years we must not lose the battle by inviting delays.”

The repayment contract with Reclamation required voter approval, and it would be the District’s responsibility to sell the idea to the public before the issue would be decided at a December 14, 1965, special election. From the outset, the Public Relations and Information Committee endeavored “to determine the most effective method to disseminate news media.”

This emphasis has continued to the present day. “Prior to my hire,” Christine Finlinson recounted, “it was called the Public Affairs Director. And when I was hired it [became] the Governmental Affairs Director.” Finlinson acts as the government liaison with the counties, with the other water districts, but especially with the legislature. “I work extensively with the legislature on all of their interim committees… I watch for any bills that will affect the district… legislation, for land use, for water rights; anything that has to do with anything we do.”

In 1965, the District employed the services of the David Evans advertising firm, which had been particularly effective during the 1956 CRSP negotiations. The Evans firm advised the Board, and prepared news releases and promotional information that accentuated the CUP’s most positive points, especially the project’s economic impact. Of the estimated $323 million cost for the Bonneville Unit, $220 million would be spent on materials and equipment; $80 million would go for wages, and $24 million for transportation. The firm indicated that construction of the project would provide approximately “9,000 man-years of employment…” Furthermore, the seven counties within the District would see an uptick in property values, estimated at $500 million, while the income of farm families would increase by more than $15 million. All told, the Evans firm proclaimed, the CUP was “the key to development of Utah’s resources and economy for the next 100 years…”
A successful election to approve the repayment contract was imperative. If the District hoped to gain funding from Congress, it would have to demonstrate that the CUP had the public’s support. The subject of fish and minimum stream flows, a thorny issue that seemed to defy solution, continued to shadow the CUP. In more than a decade, little progress had been made between Reclamation, and its sister federal agency the Fish and Wildlife Service, to resolve their differences. Of the eleven Uinta Basin streams affected under the 1964 initial Bonneville Unit plan, the Fish and Wildlife Service reported that “only…. Sixth Water Creek, Spanish Fork River, and Provo River below Jordanelle Reservoir [could] be maintained under project operation.” Maintenance of the remainder, it asserted, would be “incompatible with the…Bonneville Unit. The flows could be maintained only by reductions in project water supplies or increases in costs, or both, to the point where the Bonneville unit would not be economically justified.”

These were hard choices, ones which the Fish and Wildlife Service clearly had no intention of making for the people of Utah. Maintaining that its investigation was still ongoing, the agency made no recommendations in 1964. For the District, the issue spelled trouble. During spring 1965, Senator Wallace Bennett sent a copy of a letter to the District Board that he had received from Provo journalist Hartt Wixom. Wixom’s outdoor columns were well known to readers of Utah’s daily newspapers. His readers regarded him as an expert fisherman. He, as well, enjoyed national celebrity for articles that had appeared in outdoor magazines, such as Outdoor Life and Field and Stream. The Board expressed concern over Wixom’s critical account of the CUP, noting how it “was not good for the project, and gives the opinion that the project is not ready for construction and could very well give the project a bad name.” Anxious that any negative publicity could potentially impact the upcoming vote to approve the repayment
contract, the District feared that it would “find itself in a hole if it didn’t get busy on…public relations and information right away.” The Board resolved to approach the Salt Lake Tribune and Deseret News to talk with them about the need of “selling this project.”

These early Board members were resolute in their belief that Utah’s economic future centered on the CUP. Their perseverance and tenacity characterize a part of the District’s history that continues to the present day. But unlike successor board members a stubborn reluctance to compromise also characterized these early Board members. As a young biologist working for the Fish and Wildlife Service, Ralph Swanson began evaluating the CUP’s impact on fisheries and wildlife habitat, and found the District’s board members, as well as most Reclamation engineers “very resistant to making any concessions…” Some Board members and many CUP proponents persisted in viewing opponents, such as Hartt Wixom, as mere “obstructionists [who] have…handicapped us…[with their] vicious and unwarranted criticism of progress.”

Environmental activist Fred Reimherr related how in the past there were “people who were incredibly antagonistic.” Reimherr conjectured that they lacked the capacity to look at the CUP and ask, “Okay, how are we going to do this in a responsible manner? What constitutes environmental responsibility here?” Historically, the CUP was “a mechanism to develop Utah’s share of the Colorado River flows, and bring them into the Salt Lake Valley… I think the desire…wasn’t so much to do something productive; “Reimherr claimed, as “it was to get the water out of the Colorado…any way possible.”

Knowing that any decrease to the water supply would jeopardize the CUP’s feasibility, the District Board resolved in 1965 to forego any further study regarding fisheries and simply approve and support the “Bureau’s plan, … wholeheartedly against [any] changes or revisions…” Elected officials, although aware of the CUP’s precarious feasibility, were less
inclined to fully support Reclamation’s plan. In April 1965, Governor Calvin Rampton announced that the Utah Water and Power Board and the Utah Department of Fish and Game had reached an agreement “regarding fish and game aspects of the Bonneville Unit…” The state resolution suggested designing and installing screens to prevent fish from entering tunnels or aqueducts leading to power plants, and the maintenance of fish conservation pools at all reservoirs. Undoubtedly, some of the points adopted by the two state agencies consisted of concessions already obtained from Reclamation. These concessions included $250,000 for the State Fish and Game and the federal Fish and Wildlife Service to study how best to use the limited amount of available project water for fish conservation; $40,000 for the U.S. Forest Service to rehabilitate Sixth Water Creek; and another $1.5 million for the Forest Service to rehabilitate the lakes at the head of Provo River, changing them from storage reservoirs into fishing lakes. This component would not be undertaken in earnest until much later, but remains a key feature in the CUP’s history.

Outside of the minimum flows at Sixth Water Creek, Spanish Fork River, and Provo River below Jordanelle Reservoir, all of which were compatible with Reclamation’s plan, the agencies’ resolution also recommended keeping a modicum of water in Rock Creek below Upper Stillwater Dam and in Strawberry River below Soldier Creek Dam. While this agreement may have been a small step in the direction of compromise, the state’s agencies asked only that 6,500 acre feet be allocated for fisheries, far less than the amount suggested by fishery biologists. More than protecting the state’s fisheries, the agreement was an effort to protect “project feasibility [by] preserving the limited project water supply…” The State’s fish and game department withdrew its previous requests to maintain minimum flows in the West Fork of the Duchesne River, Currant Creek, and Duchesne River at the Knight Diversion Dam.
Prior to the December special election District Board members optimistically reported that its public relations effort had eliminated the “need for [a] special advertising campaign.” Nevertheless, the District remained vigilant. Its concerted effort to publicize the CUP’s substantial economic benefits and minimize its environmental consequences had temporarily disarmed fish and wildlife advocates. The specter of dying fish and dry river beds was a powerfully vivid image, however, one which CUP detractors would continue to conjure, and one which would haunt the District for years to come.

Voters overwhelmingly supported the repayment contract. Of the nearly 33,000 votes cast during the special election only 2,205 voted in the negative. Only in Uintah County did the proposition fail, with 276 votes against, and 258 votes for. Obviously, the District’s promotional and educational program had not completely convinced a majority of voters in Uintah County.

Following the negative vote, long time CUP advocate Briant Stringham rehearsed for his fellow Board members the history of support for the CUP in the Uinta Basin. Recalling the county’s efforts to gain authorization for the Colorado River Storage Project and the Echo Park Dam, Stringham asserted, “We have never relinquished our efforts.” Stringham attributed the negative vote to “people being misled and… confused at the polls… We feel,” he concluded, “that they still support the project and will even more so as the true facts are revealed.”

VERNAL UNIT

The Vernal Project had been the first CUP project constructed. It included as its centerpiece the dam on Steinaker Draw, located 3.5 miles north of Stringham’s hometown of Vernal. Local farmers and federal engineers alike had long envisioned the location as a viable
reservoir site. Reclamation Engineer Howard Reed conducted the first survey of dam sites in the Uinta Basin, and in 1904 determined that water from Ashley Creek could be profitably stored in an “off stream site [at] the Steinaker Draw…” The decision by Reclamation to instead put its energies toward constructing Strawberry Reservoir prompted Reed to ruefully remark how the dam would have presented the perfect opportunity to demonstrate the “immense amount of good small projects constructed at little cost [could] do, especially when situated and surrounded …by people who would endorse any solution [to] their irrigation problem.”

Even as Reclamation began work on the Strawberry Tunnel in 1906, the Utah State Land Board investigated the Steinaker site for a possible state project. Having only limited funds, however, it was unable to do anything further. Local irrigators throughout the Uinta Basin proposed building a number of small reservoirs. They constructed Oaks Park, for instance, using Federal Emergency Relief Administration funds during the 1930s, while many other small mountain lakes were also converted to storage reservoirs in the Ashley Creek, Lake Fork, and Yellowstone River drainages. Some of these were associated with the Moon Lake Project initiated by Reclamation during the 1930s.

Still perennially short of water during the dry summer months, irrigators redoubled their effort following World War II to build the long anticipated dam on the Steinaker Draw. Reclamation remained supportive, even promoting Steinaker during the war under its *Food for victory* program. Following the war, Reclamation included it as one of several in the Colorado River Basin that if constructed would potentially provide homes and employment for retuning servicemen. After passage of the CRSP in 1956, Steinaker became a component project of the CUP, and authorized for construction as the Vernal Unit.
Ashley Valley water users quickly recognized the importance of CRSP’s passage, and went to work immediately to build support for the Vernal Unit. By October, attorney Hugh Colton had collected the necessary signatures to petition the court to establish a water conservancy district in Uintah County. The Uintah Water Conservancy District would act as legal agent for the project and negotiate a repayment contract with Reclamation. The Utah Water and Power Board gave the dam at Steinaker Draw its first priority, and urged Congressman Dawson to use all his influence in Congress to secure funds. L. Y. Siddoway, Uintah Water Conservancy District manager, informed Dawson that Reclamation’s Vernal Unit plans were ready to be implemented. All that was missing was the funding. Uintah County Republican Party Chairman Ralph Preece added that the federal government should not lose track of the importance of capital investments. Projects such as the Steinaker “will create more wealth, more taxes and a better place to live,” he advised the congressman. Dawson fretted over the shrinking federal budget, and asserted that he was not “dragging his feet.” I am working to preserve the entire Upper Colorado River project, he responded. “I am certain if we will all do our best we should have no difficulty in getting it included in next year’s appropriation.” Next year was not good enough for Vernal’s water users and their Water and Power Board allies who continued to badger Dawson. Yet, Congress had tied the Vernal Unit to the Paonia Project in Colorado, which had yet to complete its plans. These two would be the first CRSP segments funded, Dawson countered, but the House Appropriations Committee would not appropriate funds for one without the other.

A year later in June 1958 officials from the Uintah Water Conservancy District and the Bureau of Reclamation met in the office of Interior Secretary Fred Seaton and signed the repayment contract. “I am extremely pleased that we have been able to get this project over the
last remaining hurdle,” Senator Watkins stated, adding that he hoped the Senate would act quickly to appropriate funds. Voters subsequently approved the contract by an overwhelming margin at a special election held July 8, 1958.

Historian Adam Eastman has written about the jubilant response in the Uinta Basin, after Congress finally authorized funding. Shops on that “mild afternoon in late August 1958,” closed early in anticipation of the “largest parade in the city’s history,” Eastman related. Utah Governor George D. Clyde and members of the Utah Water and Power Board, seated in a float made to resemble “a large river raft christened the S.S. Flaming Gorge,” led the parade down Vernal’s Main Street. The Uintah Water Conservancy District board members followed in the “S.S. Steinaker,” another raft meant to depict the new dam to be constructed northwest of town. The parade lingered for miles, as other floats, bands “and celebrating citizens in cars, on tractors and horseback…” followed in turn.

Construction began on Steinaker Dam in 1959 and was completed in January 1961. In addition to providing irrigation water for nearly 15,000 acres, the reservoir also increased the municipal supply by 1,600 acre feet for the communities of Vernal, Maeser, Naples, Gines, Davis and Ashley. “Steinaker is one of the greatest things that ever happened to this valley,” Briant Stringham, one of the project’s primary boosters exclaimed. “It has helped people to become more content. It is taking away the worry of crop failure. It has nearly doubled our crops, and we’re all a lot better off because of it.” Steinaker Dam and Reservoir, and its associated feeder canal taking water from Ashley Creek at the Fort Thornburgh Diversion Dam remain as one of the few entirely completed features of the CUP.

Former Chairman of the Uintah Water Conservancy District Dave Rasmussen took a position with the Ashley Valley Water Users Association shortly after Steinaker Dam’s
construction. It was his job to try and facilitate the release of water from the service canal below the dam to the multiple canal companies, each of which had its own board of directors, its own water masters, and its “own little secretary in a basement somewhere, scattered all over the Valley. There was no central office to keep track of all this stuff,” Rasmussen related.67

Deliveries were further complicated in that users above the service canal were required to obtain project water by “exchanging High Mountain Reservoir storage and Ashley Creek natural flow with users below Steinaker Service Canal…” Working up a system to deliver project water proved chaotic. “One of the Bureau people actually [went] nuts and wound up in Provo at the…Mental Hospital,” Rasmussen mused.68

In an effort to streamline the system, water-users formed the Ashley Valley Water Users Association. Its formation required countless meetings, the input from the State Extension Service and other experts from Utah State University, not to mention trips around the state to observe how other local irrigation companies interacted on federal projects. The intention was to create a central office, which could represent the needs of all the individual canal companies, and enable the canal companies to move from a system of rotation to a call-system, where water users would request the release of water being stored in Steinaker. Rasmussen, who eventually became water commissioner for the Association compared this call-and-demand system to a bank account. Each “water user [has] an account,” he explained. “And every year they…get so much…as prescribed from the contract we have with the Bureau of Reclamation.” As water was delivered Rasmussen would subtract that amount from the user’s account “just like…drawing money out of a bank.”69

In 1990, Reclamation concluded from geologic assessments that Steinaker Dam’s foundation could liquefy in the event of an earthquake.70 Between 1993 and 1994 the California
firm of Stimpel-Wiebelhaus used a process called dynamic compaction to stabilize the dam. Crews removed the top 15 feet of soil, and then using a crane, dropped a 30-ton weight on the embankment from a height of more than 100 feet. After compaction, the contractor constructed a 550-foot long berm downstream from the toe of the dam.

The Uinta Water Conservancy District was responsible for operations and maintenance at Steinaker, and such safety modifications added additional expense to the repayment contract. The “Vernal Unit’s been paid off once,” remarked Dave Rasmussen. “It was a fifty year contract. But [then]…they decided it was built on a liquefiable sand base and they…modified it… So, we are going on our second fifty years to pay for that. That was actually about as much as the original project cost…”

The modification was also delayed for several months when crews unearthed some human remains. When “we hit underneath the footprint of the berm, [we] ran into an old burial ground,” recalled Bruce Barrett, who at the time was Reclamation’s Construction Engineer for the project. We hired “archeologists to come out and do the dig and complete the investigation. [It] delayed the project three or four months.”

JENSEN UNIT

Even as crews from the Morrison-Knudsen Company prepared to turn the first dirt at the Steinaker Dam site in 1959, farmers in the Jensen area of Uintah County anticipated approval of the 8,000 acre foot Tyzack Dam on Brush Creek. Farmers expected the Jensen Unit to supply water to more than 1,200 acres of new land.
Projects intended to supply irrigation water only were becoming increasingly difficult for Reclamation to justify. Part of the reasoning behind the amended 1939 Reclamation Act had been to give irrigators greater flexibility in repaying construction costs by emphasizing the multi-purpose aspects of Reclamation projects. The problem in Uintah County was that the Vernal Unit would take care of most municipal needs, leaving irrigation as the only benefit for the Jensen Unit. In 1958, Reclamation engineer Parley Neely informed the Uintah Water Conservancy District that the Jensen Unit project may not be economically feasible. 

Fortunately, the San Francisco Chemical Company purchased mineral rights along Brush Creek the following year, and announced its intention to open a phosphate mine. The operation would require large amounts of water, and potentially bring an influx of thousands of workers. Reclamation seized this opportunity to revise the scope of the Jensen Unit, suggesting an enlarged Tyzack Reservoir to impound an additional 18,000 acre feet to supply municipal and industrial water. The impounded water from Brush Creek would be exchanged with irrigators for water pumped from the Green River to satisfy their prior rights.

Reclamation’s concern for the Bonneville Unit, however, delayed final approval and construction of the Jensen Unit for a number of years. Not until June 1976 did Reclamation and Uintah Water Conservancy District sign the contract for repayment and construction of the Jensen Unit. By then, the name of the principle feature of the project had been changed from Tyzack to Red Fleet Dam and Reservoir, a change meant to reflect the unique sandstone formations around the reservoir; formations that for many looked like a fleet of ships. “I remember particularly Hugh Colton, who was our attorney here for years,” Dave Rasmussen recalled. “He said, ‘that looks like a fleet of red ships up there…’” And “that old Navajo sandstone coming off the mountain does…” Rasmussen acknowledged.
“Tyzack…came from the original land owner of the property,” UWCD Facilities Manager John Hunting related. There “were some feelings between…land owners…[who] didn’t like the Dam having that [family’s name]... [T]he name was changed to Red Fleet. But the pumping plant, the substation, the aqueducts have all stayed Tyzack.”

Although the anticipated phosphate industry that had initially spurred Reclamation to expand the size of Red Fleet Reservoir never materialized, gasoline shortages occasioned by the 1970s oil crisis brought a renewed expectation for a substantial increase to the Uinta Basin’s population. They “projected that there would be fifty thousand people in Vernal,” Dave Rasmussen remembered. “They were going to develop the oil shale and all this stuff to get out of importing oil from overseas; try to get it all back to domestic.”

As with the phosphate industry before it, oil shale production failed to attract the anticipated population growth. Even so, at the height of the oil embargo the boom seemed eminent; at least likely enough that Reclamation could still justify the Jensen Unit. Brown and Root Western of Denver, Colorado, commenced construction on Red Fleet Dam in May 1977, and completed work during fall 1979. The Uintah Water Conservancy District hosted a dedication ceremony on July 19, 1980.

Although construction went according to schedule, dam building hardly ever proceeded entirely as expected. Red Fleet was no exception. While working on the dam’s left abutment the construction company encountered the remnants of an old landslide. This geologic anomaly required extensive excavation and a redesign and reconfiguration of the spillway to insure the dam’s safety.

Dam safety assumed greater urgency after June 5, 1976, when the Teton Dam, a Bureau of Reclamation project on the Teton River in Eastern Idaho, collapsed. The federal government
accepted full responsibility for the dam’s demise. Eleven people died in the resulting flood, which destroyed nearly 400 homes and caused an estimated one billion dollars in damage. As the entire Reclamation community waited, the government began an intensive and extensive investigation into the Teton Dam.

The Teton River cut a gorge into the Idaho plain as it turned west toward the confluence with Henry’s Fork of the Snake River. Cultivated fields nearly came to the edge of the canyon. Consequently, the Teton Dam filled an existing gorge and flooded the canyon, not farmland. The canyon walls on each side of the river had been created by ancient lava flows. Engineers had worried that the fissures and caverns inside the walls might weaken the dam, and had proposed using a time and project tested solution of grouting (a mixture of cement, sand, and water) the walls to prevent leakage. Theoretically, this method should have kept the fissures from leaking; but at the conclusion of a series of grout tests in which the holds did not fill, many Reclamation geologists began questioning the suitability of the location. Consequently, Reclamation decided to build key trenches to augment the grouting. Seventy-foot deep trenches were dug under and on each side of the dam site. Grout holes were drilled, filled, and then native clay was packed into the trenches. Ideally, three such grout curtains would be sufficient to prevent leakage into the earth-filled dam.

Some geologists recommended postponing construction at Teton until there could be a determination on the potential success of the curtains installed at Fontenelle Dam on the Green River in Western Wyoming. One of the last dams finished prior to the Teton, Fontenelle was drained and eight grout curtains were added to the original two after it developed leaks. Reclamation, however, decided to move forward on the Teton. As excavation began, it became apparent that the north abutment of the dam cutoff trench was a catacomb of rooms, cracks, and
caverns. During a period of two weeks, eight million gallons of water was pumped into one hole and it never filled. Another fissure required 33,000 cubic feet of grout, which is enough cement to form a concrete block eleven feet high by thirty feet wide and one hundred feet long. Finally, more than twice as much grout as the original estimate was used to fill the cutoff trenches and construct the grout curtains. Engineers within Reclamation as well as those in private practice tensely watched the developments.

As the dam neared completion, the reservoir began to rise. The outlet tunnel was not completed by June 5 and the run off after a huge 1975-76 snowpack proceeded more rapidly than anticipated. Consequently, the water behind the dam rose at a rate of four feet a day (twice the authorized level) and the ground water increased at a rate of seven feet a day. The dam began to erode early on a Saturday morning and within four hours collapsed, hemorrhaging more than a million cubic feet per second of water into the canyon and beyond.

As panels and experts analyzed the reasons for the Teton Dam’s demise, all other projects were put on hold. The engineers working on the CUP knew that every imaginable and possible reason for the collapse would have an impact on future dams. The mistakes made at Teton could not be allowed to happen again. Every engineering project from then forward would undergo intense scrutiny.

If a silver lining existed in the tragic failure of Teton Dam, it was the federal government’s acceptance of responsibility. The added work to insure the safety of Red Fleet Dam had more than doubled the project’s final cost, from $12.7 million to $28.4 million. Passage of the 1978 Dam Safety Act stipulated that costs incurred as a result of “changes in state-of-the-art criteria deemed necessary for safety purposes shall be non-reimbursable and nonreturnable…” Uintah Water Conservancy District attorney Hugh Colton was convinced that
“the Jensen Unit contract…fit right into this act…[It] may be an answer to our prayer,” he
confided.81

Utah Congressman Gunn McKay sponsored an appropriations bill amendment in 1980,
which enabled Uintah Water Conservancy District to meet its repayment obligation by cancelling
more than $11 million from the Jensen Unit contract. Two years later, however, the District was
again confronted with financial exigency. The oil crisis of a few years earlier had by 1982
turned to an oil glut. Prices plummeted to barely $10 a barrel. Interest in domestic production
from oil shale evaporated, as did the Uinta Basin’s population, which declined by as much as 20
percent. This decrease in population meant less demand for the municipal and industrial water
from Red Fleet Reservoir, and a potential financial disaster for the Uintah District.

“The oil shale thing flopped,” Dave Rasmussen recalled, “and we were sitting with a
repayment obligation of well over a million dollars a year to pay for the project. Our tax base at
that time…could collect maybe four hundred thousand dollars.” It was becoming an all too
familiar scenario for the Uintah Water Conservancy District Board. Rasmussen remembers
many meetings and a memorable trip to Washington, D.C. with fellow board members L.Y.
Siddoway and Willard Wall. We “plead the case that we couldn’t pay for it.”82

 Negotiations between the federal government and Uintah District extended through much
of the decade. The District obtained a one year deferral on the payment in 1987, and in 1988
bargained for an amended contract that reduced its obligation from more than one million dollars
annually to just over $226,000. The amended contract required the Uintah District to purchase
only 2,000 of the 18,000 acre feet of municipal and industrial water in Red Fleet Reservoir, and
assigned the remaining 16,000 acre feet to the federal government. It was a superb deal for
Uintah, but needed congressional approval before it could be finalized.
The amended repayment contract for the Jensen Unit would ultimately be merged into the Central Utah Project Completion Act (CUPCA), part of the Reclamation Projects Authorization and Adjustment Act, signed into law in 1992. CUPCA would provide the cooperative framework between the District and the Department of Interior to complete the CUP.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The Jensen Unit was no stranger to legislative and political obstacles. It was the first CUP unit subjected to the provisions of the National Environmental Policy Act (NEPA). Signed into law in 1970, NEPA had a huge impact, generally, on Reclamation’s dam building. The act required federal agencies to assess the environmental consequences of all projects before construction could begin. In cases where the assessment revealed an environmental consequence, the act required agencies to produce an environmental impact statement (EIS). As the impoundment and alteration of rivers and streams was bound to have an impact on the environment, virtually all CUP projects funded after 1970 required Reclamation to develop full environmental impact statements.

“[W]e started a major environmental statement on the entire Central Utah Project that hadn’t been constructed yet,” recalled Harold Sersland, who was hired by Reclamation in 1970 to manage the process. Only in his early thirties at the time, Sersland was faced with having to “go out and teach these project managers…an environmental ethic.” In an organization that “had never really been very environmentally sensitive in building projects,” Sersland found it challenging.83
Frankly, retired Reclamation engineer Kurt Carpenter contended, “guys like Harold
Sersland had never been a part of Bureau of Reclamation, and he was…a pain in the neck
because he didn’t fit into the way Reclamation had worked all the years before.” Complying
with NEPA became “a whole technical field to itself. It was every bit as technical (and maybe
more so) than the actual design and construction of features…” Reclamation found this new
environmental paradigm as difficult to accept, as Sersland did to promote. “Reclamation had a
whole learning scheme that it had to go through… Having worked in the Floyd Dominy era,”
Carpenter remembered a time when “they just didn’t give the consideration… to the
environmental factors. I never felt Reclamation deliberately left [it] out,” he insisted; “it
just…wasn’t there.”

Compliance with these federal provisions involved an enormous amount of study, which
added years to the CUP’s completion, as well as millions of dollars to its cost. “[I]t increased the
cost of the project,” Sersland acknowledged, “and that was a whole new concept that nobody
wanted to deal with.” Between 1964 and 1988 the estimated cost of completing the
Bonneville Unit, for instance, rose from $312 million to more than $1.8 billion. “NEPA…changed… things, as far as the cost allocations, and the amount of engineering that is
required…” retired Interior Department economist Mike Hansen declared. “The costs [went]
from 300-and-something million, to nearly two billion for the whole project in that period of
time…” In 1973, Reclamation estimated that reducing environmental impacts would increase
construction costs by more than $1.5 million on Soldier Creek Dam. Costs associated with the
preparation of the Bonneville Unit environmental impact statement could approach $700,000.

The process of inviting public comment as mandated by NEPA contributed to further
delays. Project opponents routinely used this venue to raise concerns and air grievances. These
provide a “forum free of charge from which the hard-core, obstructionists…gain publicity, recognition and promotion of their negativism,” complained Upper Colorado River Commission Director Ival Goslin. Although costly in both time and resources, the process mandated by NEPA did compel Reclamation and the District to begin addressing a range of unresolved environmental issues, although it was by no means an instantaneous, mass conversion. It “was probably a very good thing,” Mike Hansen acknowledged. At the time, both Reclamation and the District were focused only on building the project. When “NEPA came on board everyone had to stop and say, ‘What are we doing to the environment – short-term and long-term.’” 

This eventually resulted in a significant reformulation of the CUP, particularly during the last 20 years. Some of the project’s key features have been removed, while others have been specifically added or altered for environmental reasons.

Reclamation began preparing a draft EIS for the Jensen Unit in March 1971, only 14 months after NEPA’s enactment. It contracted with Brigham Young University’s Center for Health and Environmental Quality to conduct a biological survey and to inventory the flora and fauna associated with the area. Features of the Jensen Unit certainly engendered less opposition than would the larger Bonneville Unit; however, environmental activists routinely assessed the impact on all aspects of the CUP. Although most of the 15 or so speakers commenting at a public hearing in Vernal did so favorably, independent consultants continued to raise concerns over the thoroughness of the Jensen Unit EIS as late as 1980.

The fortunes of the Jensen Unit and all other components of the CUP seemed intractably linked with those of the Bonneville Unit. Reclamation delayed work on the Jensen Unit EIS until 1975 after problems with constructing the Bonneville Unit had been resolved. Reclamation immediately went to work preparing the EIS for the Bonneville Unit, releasing a hulking nearly
800-page draft in less than six months. A public hearing convened at Orem, Utah, on September 22 and 23, 1972.

Lillian Hayes recalled the public hearing being attended by “bus-loads of students from Delta, …” which were used by project supporters to “pack the seating area.”93 Adam Eastman has also written how “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 travelled to the meeting by bus.”94 Mayor Hatch Farnsworth of Delta, as well as the Millard County Commission, declared September 22-23 as “water days” and urged all Millard County residents to attend the hearing in Orem.95 Hayes offered her comments at the public hearing, but “they told me that I could only have so much time for my talk.”96 In fact, of the 95 scheduled speakers, only Hayes and fellow activist David Raskin, spoke critically of the project.97

SIERRA CLUB LAWSUIT

Clearly, project proponents made a concerted effort to demonstrate public support. Conversely, project opponents felt constrained by the public hearing process, and after release of the final EIS a year later, filed suit in the Utah District Court for the Central Division to “enjoin [Reclamation] from continuing construction on the Bonneville Unit…”98 Plaintiffs in the case included the Sierra Club, Trout Unlimited, Natural Resources Defense Council, and Environmental Defense Fund.

Litigants were never sure which way the scales of justice might tip in Chief Judge Willis W. Ritter’s court. Arguably one of Utah’s most colorful and inscrutable jurists, Ritter made few
friends among water development officials in 1973 when he sided with the Sierra Club over the issue of Lake Powell encroaching on the Rainbow Bridge National Monument. He had generally been sympathetic in cases involving “wildlife, nature, or conservation, …” and undoubtedly the Sierra Club and the other organizations, which questioned the Bonneville EIS hoped he would continue leaning in that direction.

Ritter was nothing, however, if not a slave to the rule of law. True, he had expressed his appreciation for the grandeur of Rainbow Bridge, but his decision to protect it from the rising waters of Lake Powell did not center on the environmental consequences of it being inundated. Rather, his decision focused on the statutory prohibition against waters entering a national monument. In the case of Rainbow Bridge, this was a condition agreed to by proponents and opponents at the time of CRSP’s passage in 1956. “Solemn promises, particularly by officials as high as the Congress and the secretary of the interior,” Ritter decreed, “should be honored and given effect.”

As they presented their complaint against the Bonneville Unit before Ritter’s court, the plaintiffs based their case on three main points. One, that Reclamation had failed to abide by NEPA provisions because the final EIS inadequately addressed the project’s environmental consequences; two, that Reclamation was developing plans and studies for projects without first conducting environmental assessments; and three, that plans and studies being prepared by Reclamation violated the Water Resources Planning Act, federal legislation enacted during the 1960s to develop “the Nation's natural resources through the coordinated planning of water and related land resources…” The court agreed to rule on only the first point, and dismissed points two and three.
As the contestants outlined their concerns with the Bonneville EIS, they established the basic argument they would use against the CUP for the next 20 years. Particularly, they endeavored to show how Reclamation failed to consider possible alternatives. The environmental community suggested that a greater reliance on ground water, the streams along the Wasatch Front, construction of Little Dell Reservoir in Parley’s Canyon, and reuse, recycling and conservation of existing supplies, could furnish water for the Wasatch Front without having to import water from the Uinta Basin. Other possible alternatives to the CUP included the importation of water from the Weber and Bear River basins.

The Sierra Club and its co-plaintiffs also expressed concern over Reclamation’s plan to build dikes in Utah Lake to lessen evaporation, fearing it would have a deleterious effect on wetlands and wildlife habitat. Still, they advocated the plan so long as the water saved was not used for irrigation. Irrigation “cannot be justified,” wrote David Raskin. “Reclamation subsidizes irrigation interests, at public expense and counter to the public interest.” The environmental community accurately foresaw the economic infeasibility of building expensive federal systems to supply agricultural water. Their reasoning from nearly 30 years ago is not too dissimilar to that of the District, today. You “don’t have to be a rocket scientist to see it,” the District’s General Manager Don Christiansen stated. The “more agriculture you put in your project the more [difficulty] you [will] have from the enviros [environmentalists] and from Congress…to…authorize them and fund them.”

As a technician, Mike Hansen worked on developing the formula used by Reclamation to set the cost of irrigation water. “Ag water is based on what the farmer can afford to pay for it,” he stated. Agricultural water users pay “five dollars and sixty cents an acre-foot,” whereas municipal water users pay “something over $200.”
Water was more valuable to the environmental community if left in the streams than it was going to irrigate farmers’ crops in Utah, Juab or Millard counties. Understandably, farmers in line to receive CUP water viewed this as an affront to their lifestyle. “You in the Sierra Club with your posh background, …” chastened the editor of the Millard County Chronicle, “don’t tell us about environment and nature…” We have “walked the plains and we carved and we tamed the lands, and above all we love this land and this soil and these mountains.”\textsuperscript{109}

The Bonneville Unit would doubtless have a devastating effect on stream flows in the Uinta Basin, a fact that Reclamation did not contest. Just as conservationists viewed another crop of alfalfa as a bad trade-off for a dry streambed, irrigators found it equally as inconceivable that farmers were not more important than fisherman. Besides, as accounted for under Reclamation’s CUP plan, the dams and reservoirs would actually increase fishing opportunities, providing many more fishing-days to a much broader part of the population than would be lost through the de-watering of some streams and rivers. Like “it or not,” wrote outdoor columnist Casey Bown, “we’d best reconcile our fishing feelings to the fact that…our changing way of life…long ago doomed the stream fishing of the good old days.” Even so, he asked, who “would argue that more fish are creeled by more people…from the likes of Deer Creek or Strawberry impoundments than in the good old days before they were built?”\textsuperscript{110}

There was a growing disconnect between different segments of the population, one which continued championing the economic aspects of water development, and another that advocated for the aesthetic. For the latter, stream fishing and reservoir fishing had nothing in common. Fishing was not necessarily about the number of fish “creeled,” but about the total experience of being a part of nature. For environmental advocates, anything that threatened to undermine nature, regardless of the economic consequences, was worthy of opposition.
Not only did CUP opponents object to dry streambeds, they also worried over the impact of construction within, or in close proximity to the High Uintas Primitive area. This area of the Ashley and Wasatch National Forests had been set-aside in 1931 by proclamation of the Forest Service. By the mid-1960s, advocates were championing the idea of including it as the core of a greatly expanded wilderness area. The original primitive area had been created under Forest Service regulations, and was subject to economic considerations. The Chief Forster or the Secretary of Agriculture could supposedly change its management. On the other hand, the proposed wilderness area would be set aside by Congress, and would require congressional action to change or alter its management.

Local environmental advocates fastened on to the wilderness issue as another avenue of attack to use against the CUP. “We need to be shouting at the top of our lungs that these wild rivers should be part of the magnificent High Uintas Wilderness area,” activist Dorothy Harvey submitted. We have not yet “succeeded in projecting an IMAGE of the kinds and significance of the natural resources which will be affected by CUP development…A WILDERNESS IMAGE is a far stronger concept which [should be] dramatically exploited…”

The wilderness proposal alarmed the District, particularly in how it might affect development of the CUP’s ultimate phase. In October 1966, the District Board “strongly [urged] that any action on the Wilderness Proposal be delayed until it can be demonstrated…that the construction of works of the Central Utah Project will not be required within the boundaries…” Specifically, the Board requested the exclusion of any lands in the Uintah River drainage because it would “conflict with the…interests of the State…in providing water storage facilities for the Ute Indian Unit…” This unit proposed to divert water from Flaming Gorge Reservoir through a 22 mile long tunnel, which included an aqueduct that traversed the Basin towards the
southwest for more than 130 miles. It would provide irrigation to 43,000 new acres and a supplemental supply to more than 143,000 acres, much of it land with an Indian water right. “This project is essential,” the Board asserted, “to enable the District and the Federal Government to keep their commitments with Uintah-Ouray Indian Tribes and to permit Utah to utilize its Colorado River water.”

Although Utah Senator Frank Moss introduced wilderness legislation in 1973, not until the Utah Wilderness Act of 1984 passed Congress was the High Uinta Wilderness actually designated. Its passage concluded at least a decade of tension between those who advocated for wilderness and those fearful that its creation would block Utah’s access to resources and development. The issue divided Utahans regionally and politically, and still today the debate resonates. As with many other issues confronting the CUP, its impact would not be resolved until after passage of CUPCA in 1992.

In their interpretation of NEPA, the plaintiffs’ in the lawsuit also contended that Reclamation was required to place a dollar and cents value on “environmental amenities,” and give them equal weight along with other considerations in the “decision-making process.” The environmental movement often cited the 1971 Calvert Cliffs decision, a ruling concerning nuclear power plants, to insist that federal agencies needed to “identify and develop methods and procedures…which will insure that presently unquantified environmental amenities and values…be given appropriate consideration in decision making along with economic and technical considerations.”

It is certainly debatable whether or not Reclamation successfully struck that balance, and while it took practically no steps to alleviate the environmental damage, it did honestly assess many of the Bonneville Unit’s environmental impacts. “Construction and operation of the
Bonneville Unit would cause significant changes in the natural environment of the area,”
Reclamation acknowledged in its final environmental impact statement. “In [eleven] Uinta
Basin streams there would be a reduction of flows in about 100 miles of waterway…below
minimums suggested by fishery biologists.” Similar impacts would occur within the Bonneville
Basin, where the “diking of Utah Lake…would reduce lake area by one-third and adversely
affect a substantial amount of high quality fish and wildlife habitat.” Additionally, the project
would increase salinity levels in the Colorado River, and “cause extensive land disturbance…
permanently alter[ing] existing esthetics.”\textsuperscript{116}

Preparation of the EIS and consideration of environmental amenities did not alter the
original premise of the CUP, which was to provide Utah with the means to use its share of the
Colorado River. Regardless of the environmental ramifications, Reclamation freely admitted
that the Bonneville Unit’s primary purpose was to “facilitate continued industrial and population
growth in the Wasatch Front…”\textsuperscript{117}

This focus clearly diverged from that of the environmental community, which views were
that the “highest priority should be given to environmental quality.” David Raskin of the Sierra
Club’s Uinta Chapter recognized the CUP’s economic importance, but added, “if we destroy our
life support systems in our efforts to promote economic development the only result can be a
total disaster. Long-term economic viability is totally dependent on a quality environment.”\textsuperscript{118}

Many years would pass before the District could even begin to acknowledge the validity
of Raskin’s sentiments. During the last 20 years, the District has been much less
confrontational. These are our natural resources, too, Don Christiansen has explained, “our
mountains and streams...We want to be as concerned about how we develop our natural
resources as [are] you guys…We’ve got kids and we want our kids to be able enjoy them too.”\textsuperscript{119}
In 1974, however, the need to preserve a quality environment made anemic legal argument in Judge Ritter’s court. He ruled that the plaintiffs had “failed to prove any of their claims…” and that the EIS complied with NEPA and “all [other] applicable laws and regulations…” Judge Ritter’s decision was later upheld on appeal to the Tenth Circuit Court. Quieted in this instance, the environmental community was far from silenced, and its members would continue to voice their complaints for many years to come.

Duchesne Government Camp

Some of the early features of the Bonneville Unit’s initial phase had already been constructed prior to NEPA. The District Board lobbied extensively for funding to begin construction of the Bonneville Unit, and received a small appropriation of $3.5 million in 1966. The District enjoyed overwhelming bipartisan support from Utah’s congressional delegation, which consisted of two Democrats, Senator Frank Moss and Representative David King; and two Republicans, Senator Wallace Bennett and Representative Lawrence Burton. Democratic Governor Calvin Rampton, who succeeded Republican Governor George Dewey Clyde, continued as an ardent supporter of the CUP. Until recently, bipartisan support from Utah’s elected officials has remained constant and important, as untangling the congressional purse strings would become a perennial process impacting the balance of the District’s history.

During spring 1966, however, after bids for the Starvation construction camp at Duchesne had already been let, the District discovered that Reclamation had taken nearly $700,000 of the small appropriation to make up for shortfalls on other more advanced projects.
Perplexed and clearly incensed, Board members grilled Reclamation officials only to discover that Reclamation often played such funding shell games.

This may have been the District’s first experience with this Reclamation policy, but it certainly would not be its last. It would continue to needle the District Board and Utah congressional delegates, and play a decisive part later during the negotiations leading to CUPCA. In May 1966, Regional Director David Crandall explained how the “law provides that the Bureau Commissioner [can] shift funds within the Upper Colorado River Basin so long as it does not exceed 15 percent.” More than a year earlier, Reclamation Commissioner Floyd Dominy had penned a stiff letter to his regional directors explaining that the “steadily declining ability to effectively utilize appropriations made to the Bureau is unacceptable…Repeated failure to perform effectively will inevitably lead to…a general deterioration of the reclamation program. I cannot and will not tolerate…such a situation.” Dominy instructed his subordinates to carefully analyze the available appropriations and construction schedules in order to anticipate “unexpended funds…Based on this analysis,” he declared, “decisions will be made by this office as to the shifting of funds available to the Bureau.”

Crandall’s remarks did little to appease the District Board, which faced a year-long delay if the construction camp contract could not be awarded. That a $106,000 “contract could not be awarded after the bid opening because of insufficient funds… is inconceivable to our people,” District President Sterling D. Jones remarked before a subcommittee of the Senate Appropriations Committee. In an effort to rescue the project, the District resolved to contribute its own funds towards the camp’s construction. “Our District, in its determination to see this contract saved,” Jones informed the Senate, advanced “$40,000 of local tax money to cover the estimated earnings of the contractor during the remainder of Fiscal Year 1966.”
The Government Camp became “an integral part of Duchesne,” recalled Lynn Hansen, who as a Reclamation employee lived at the community for seven years during the 1970s. At its zenith, upwards of 200 Reclamation employees and their families lived in the camp’s mobile homes. Hansen remembers the closeness of the community. You “not only work[ed] with people, they were [your] neighbors; you lived next to them… So you really got to know them pretty well.”

Being an Idaho farm boy, Hansen remembers blending “right into the community” in the “very rural” Uinta Basin. “Generally,” he mused, “the wives all knew each other pretty well [and] the kids all [went to] school together.” Reclamation engineers and analysts also participated in community activities, where Hansen remembers probably “half the little [league] teams were coached by Reclamation employees. I coached my son’s little league team for a couple of years,” he was reminded; “most everybody was kind of involved in that.”

The influx of Reclamation employees to the camp, as well as construction crews, which set up housekeeping in a variety of locations, spurred the local economy. “The Uintah Basin can look forward to a possibility of $100 million… being pumped into its economy over the next fifteen years from work on the Bonneville Unit of the CUP,” reported the Vernal Express. Local wage-earners also found ready employment as “equipment operators, electricians, carpenters [and] laborers.” Lynn Hansen remembers the “local folks” operating bulldozers, scrapers, rollers and compactors. “They’d operated equipment their whole life as a farmer; it didn’t take them long to pick up this other stuff.” The government camp at Duchesne remained Reclamation’s hub of operations until completion of Stillwater Dam in 1989. Its closure concluded a chapter of Reclamation construction projects in the Uinta Basin that began at Starvation Flats in 1967.
Located three miles upstream from the town of Duchesne on the Strawberry River, Starvation Dam would supplement the irrigation needs of farmers in the Duchesne River area of the Uinta Basin. Water for storage in Starvation Dam originated from the surplus flows of Strawberry River, as well as water transported from the Duchesne River through the Starvation Feeder Canal. The feeder canal would head at the Knight Diversion Dam five miles upstream from the town of Duchesne. A key component of the Bonneville Unit, the Starvation Complex would free water for export to the Bonneville Basin that had previously been used in the Uinta Basin.

For a project intended to sustain the crops of Duchesne County farmers and provide the replacement water necessary to divert water from the Uinta Basin and quench a thirsty Wasatch Front, Starvation may have seemed an inaccurate appellation. The name is believed “to have originated with the cattlemen and homesteaders, …” those who experienced firsthand the merciless environment of an unsettled eastern Utah. Stories abound of prospectors “trapped by an early fall snow storm…” forced to devour their pack burrow as they waited out the long, cold winter; or cowboys robbed of their food cache, who nearly starved before finally making their way across the divide, nearly 60 miles to Heber City. Regardless of its derivation, CUP promoters now asserted that the name would “belong only to history,” and that construction of the Starvation Complex would “open up a bright future for all Utah citizens.”

The District had hoped to secure a larger congressional appropriation for 1967, but in November 1966, received word that construction funds for new reclamation projects faced likely cuts. Governor Rampton protested the repeated delays to properly fund the CUP as
“unconscionable.”

Furthermore, Senator Moss expressed his dissatisfaction before the House Appropriations Committee when he told them that the “people of Utah are angry and frustrated...They have completed all the necessary prerequisites to construction...[and] the federal government...has failed to live up to its commitments.” Other members of the Utah delegation expressed similar outrage, as they collectively appealed for a $10 million appropriation.

Both Utah senators remained cautiously optimistic. “I would not be candid,” Moss wrote the District’s General Manager Lynn Ludlow, “if I didn’t tell you we have an uphill fight...There is a determined effort to cut the federal budget...Unfortunately, the election of last fall has been interpreted...as a demand for a drastic cut in federal spending and this has compounded our problem.” Nevertheless, Moss vowed to “fight with everything I have....”

In January 1967, Moss announced that while not entirely successful, the delegation had gained a nearly $8 million appropriation for construction of CUP projects, allowing the “Bonneville Unit [to] move ahead at an acceptable pace.” The District had of course hoped for the full $10 million, but Lynn Ludlow reported that the District’s “persistent and determined efforts...[had] been productive, ... at least to the point where we can see the start of construction on...the Bonneville Unit.”

In May 1967, the District announced plans for a ground-breaking ceremony at the Starvation dam site. Heralded as Bonneville Unit Day, the celebration commemorated “the beginning of the Bonneville Unit...a project that will greatly benefit the citizens of Utah [by providing] a future water supply...to meet the needs of agriculture, growing cities and industries.” Additionally, the Bonneville Unit would allow Utah “to utilize a portion of [its]
allocated waters of the Colorado River… [and] include benefits for flood control, fish and wildlife, and recreation.”

The Bonneville Unit Day program included a distinguished group of participants, many of whom had played a pivotal role in the CUP’s history. Former Utah Senator Arthur Watkins, who as discussed earlier had introduced some of the earliest legislation to authorize the CUP during the 1940s, opened with the invocation. Governor Rampton welcomed the participants, while former Governor and stalwart CUP supporter George Dewey Clyde, along with Utah’s congressional delegation offered their remarks. Following a ceremonial dance performed by members of the Ute Tribe, the durable Floyd Dominy, Reclamation Commissioner since 1959, introduced the guest speaker, Colorado Congressman Wayne Aspinall. The acknowledged architect of legislation that created the Colorado River Storage Project, Aspinall advocated for unity in water resources development. He urged his Utah audience to think outside the confines of state boundaries and embrace regional or “West-wide” planning. Aspinall then joined Dominy, Governor Rampton and District Vice President Leo Brady in simultaneously igniting “Three thunderous blasts…” of dynamite. This concluded the ceremonies for the more than 1000 spectators who had braved the blustery, rain-soaked day, signifying the official groundbreaking for Starvation Dam.

While the harsh Uinta Basin winters slowed construction on Starvation Dam for Washington State based Goodfellow Brothers, the contractor still completed the project ahead of schedule. Along with the dam’s construction, two other contracting firms, United Structures, Inc. from Colorado, and Utah’s W.W. Clyde, worked on completing the Knight Diversion Dam, and the Starvation Feeder Conduit, respectively. The diversion dam re-directed water from the Duchesne River, while the feeder conduit conveyed the water through two miles of tunnel and
pipeline for storage behind Starvation Dam. All three contractors had completed their work sufficiently so that as the Strawberry River began its rise behind Starvation Dam in November 1969, crews could simultaneously spill the Duchesne River at the Knight Diversion Dam into the Starvation Feeder Conduit.\textsuperscript{138}

As construction progressed on the dam and other features of the Starvation Complex, road crews relocated Highway 40 and constructed a bridge across the dam site. Reclamation considered the bridge’s construction an imperative for the project’s “orderly development.”\textsuperscript{139} The bridge and road opened a month prior to the dam’s completion. Later named \textit{Freedom Bridge}, it now transects Starvation Reservoir, offering motorists along Highway 40 a particularly picturesque view.

BOTTLE HOLLOW

One of the first projects constructed after initiation of Starvation Dam, was Bottle Hollow Reservoir in 1969. This off-stream impoundment was intended to replace the loss of fisheries incurred on the reservation as a result of water lost through Bonneville Unit diversions from Rock Creek. The initial development included the reservoir near Tribal Headquarters at Fort Duchesne, along with other recreational amenities, including a motel, swimming pool, crafts store and restaurant. A dedication ceremony was held July 5, 1971 at Ft. Duchesne, which included ceremonial dances performed by members of the Ute Tribe, comments by Governor Rampton, and the presentation of the Miss Ute Indian Tribe award by nationally syndicated columnist Paul Harvey.\textsuperscript{140}
Little of this original development remains. Furthermore, the reservoir suffered from an inadequate water supply, and as such became too warm during the summer to support populations of native trout. Its failure as a cold-water fishery disappointed tribal leaders, some of whom became concerned that the site may be contaminated.

The name Bottle Hollow derived from the time when the U.S. Army garrisoned Ft. Duchesne in 1875. As the military prohibited intoxicants among enlisted men, the soldiers routinely left the compound to drink. Hoping to conceal their indiscretion, they threw their empties into the ravine that has since been known as Bottle Hollow. As time passed, the spot became home to much more than just empty whiskey bottles. Reclamation performed a thorough clean up before the reservoir ever began filling; yet tribal leaders still suspected that the reservoir was contaminated. Not until passage of CUPCA in 1992 would the Tribe’s repeated complaints be recognized.

An inadequate water supply likely contributed to the failure of Bottle Hollow to support a cold water fishery. Filled initially in 1972 from the surplus flow of the Uintah River through the Bench Canal, a remnant of the Indian Irrigation Project, Reclamation planned to provide a permanent water supply for the reservoir after completion of the Uintah Unit. For myriad reasons, however, these major CUP features intended for the development of Indian lands - the Ute Indian, Uintah, and Upalco units - were never built.

UPALCO UNIT

As mentioned previously, Upalco was one of four CUP units authorized in 1956 as a Colorado River Storage Project. The principal feature would be Taskeetch Dam, located on the
Lakefork River north of Mountain Home, a small community in Duchesne County, approximately six miles downstream from Moon Lake Reservoir. In addition to capturing water from Lake Fork River at Taskeetch Dam, the Upalco Unit also intercepted surplus flows of the Yellowstone River at the Boneta Diversion Dam, and conveyed it to the reservoir through the Taskeetch Feeder Canal. Reclamation estimated that 16,000 acre-feet would be available from Lakefork, nearly 14,000 acre-feet from the Yellowstone, and an additional 4,000 acre-feet would come from the rehabilitation of 14 high mountain lakes in or near the proposed Uinta Mountains Primitive Area.

Irrigators converted these lakes to reservoirs between 1910 and 1930.\textsuperscript{141} The Forest Service had expressed concern over the safety of these structures for many years, and hoped that the lakes could be restored back to their original state. More than 30 years elapsed, however, before restoration could begin under the Uintah Basin Replacement Project, also authorized in 1992 as part of CUPCA.

Water would be released to irrigators through a service canal extending 3.6 miles from the outlet of Taskeetch Dam to connect with Yellowstone River. Service to irrigators would be through diversions from the Yellowstone into pre-existing canals. In order to prevent seepage, Reclamation proposed to line 11 miles of these canals with concrete, or enclosed them in concrete pipe sections. Reclamation estimated that the canal project could salvage more than 4,000 acre-feet of water.\textsuperscript{142}

As much of the water to be developed by the Upalco Unit would be supplemental for lands of the Moon Lake Water Users Association, Reclamation proposed that the operation of Taskeetch “be coordinated with that of Moon Lake Reservoir to meet…existing demands…”\textsuperscript{143} Reclamation had worked with the Moon Lake Water Users to construct their dam and reservoir
during the 1930s. The relationship between Reclamation, the Association and the District, while at times contentious, has endured to the present day, and has demonstrated that negotiation, cooperation and compromise are essential ingredients for creating mutually advantageous water projects.

Similar efforts by the District and Reclamation to establish cooperative relations with the Ute Tribe have not always produced the same results. Only about 20 percent of the water developed under the Upalco Unit would actually benefit lands directly controlled by the tribe or its individual members. Of a total 42,600 acres, 8,500 acres were intended for Indian lands. Of these, 1,146 acres would be for lands held in trust for the tribe by the federal government, 177 acres would be for allotted lands held in trust for individual tribal members and their heirs, and 900 acres would be for tribal enterprises. Of the remaining 6,278 acres of Indian land, non-Indians leased 4,572 acres from tribal members. The differentiation between land ownership and water rights, however, is an important distinction affecting the irrigation of lands under the Upalco Unit. The Dawes Severalty Act initiated on the Uintah and Ouray Indian Reservation in 1905 had provided farming allotments to each tribal family. Many allottees subsequently sold their land to non-Indian farmers. Between 1913 and 1937, for instance, non-Indian ownership of former Indian allotments receiving water through the Uintah Indian Irrigation Project increased from approximately 1,500 acres to nearly 24,000 acres. Although these former Indian allotments were no longer under Indian control, the lands still benefited from the early priority of the Indian water right. The final disposition of the Upalco Unit, along with that of the Uintah Unit would also become part of CUPCA after 1992.
Closely related to the Upalco Unit was the Uintah Unit, authorized in 1968. This portion of the CUP consisted of two reservoirs, to be constructed on the Uinta River within the Uintah and Ouray Reservation, and another on the Whiterocks River within the Ashley National Forest. As with the Upalco Unit, the Uintah Unit also included an extensive canal rehabilitation project. A majority of these, the Uintah, Bench and Harding Lateral, were legacy components of the Indian Irrigation Project.

Unlike the Upalco Unit, water developed under the Uintah Unit would go primarily to benefit the Ute Tribe. Of the estimated 52,000 acre-feet of developed water, more than 38,000 acre-feet would be used to irrigate nearly 42,000 acres of Indian lands. The remaining water would be used to supplement non-Indians on approximately 11,000 acres. More than twice this amount of non-Indian land still remained short of supplemental water, placing irrigators in the unenviable position of having to select which farms received water and which did not. “To extend service to all the qualifying lands available,” Reclamation asserted, “would result in intolerable water shortages for the entire project.”

UTE INDIAN UNIT

Ostensibly, these remaining acres, along with thousands of acres of Indian lands, would be covered following development of the ultimate phase of the CUP. Congress authorized investigation of the Ute Indian Unit in 1968. During the “early years there was a big… plan,” Keith Mortensen recounted, “to take water to Utah County from our headwaters, and replace it with Green River water…” Mortensen’s “first recollection…was when…governor…J. Bracken
Lee…[came] to the UBIC (Uintah Basin Industrial Conference) and presented…[to] our people what the Central Utah Project would be.” Mortensen remembered people’s reaction when they heard the proposal for the ultimate plan, which supposedly provided water to all the farm ground in the Uintah Basin. The response was “Wonderful!” he recalled, the same response repeated in most other areas of the arid West whenever Reclamation presented the prospect of additional irrigation water.147

This same proposal had likely motivated the Ute Tribe’s participation in the CUP, and convinced tribal leaders to concur with the 1965 deferral agreement. E.L. Decker, employed by the BIA in 1958 to survey and evaluate land under the Uintah Indian Irrigation Project, reported that even with storage, both the Lakefork and the Uintah river basins were inadequate to irrigate all the available Indian lands. Decker “recommended that the Tribe become a participant in the Central Utah Project because of the possibility of importing water into the Basin (through the Ute Indian Unit) and the favorable cost structure associated with repayment of storage.”148 As late as 1973, Decker reiterated this opinion to the Ute Tribal Business Council. “The cheapest and most practical way for the Ute Tribe to obtain water from the Green River for irrigation purposes,” Decker wrote, “is through the Ute Indian Unit of the Central Utah Project…As a participant in the Central Utah Project, …” he continued, “the cost to the Ute Tribe per acre served would be a small fraction of the cost of facilities.”149

Decker completed his report in 1962, and identified Indian lands as belonging to one of seven groups.

1- Lands included in the Uintah Indian Irrigation Project, the water right to which has been certified by the State and decreed by the Federal Court. This includes all of that part of the project served from the Lakefork, Yellowstone, Uintah and Whiterocks Rivers, totaling 59,222 acres...Group (1) lands have been decreed in the Federal Court and are not now required to be adjudicated...
2- Lands included in the Uintah Indian Irrigation Project, the water right to which has been certified by the State. This includes all of that part of the Uintah [Irrigation] Project served from the Duchesne River and the townsite of Duchesne consisting of 18,615 acres. Although certified by the State, a water right for this land is claimed under the "Winter’s Doctrine".

3- Lands that are or can be served from the Duchesne River through the facilities of the Uintah Indian Irrigation Project, a water right for which is claimed under the “Winter’s Doctrine." These lands have been placed in two classes: (1) lands certified by the State of Utah for which a supplemental right to the area certified is claimed consisting of 450.32 acres, and (2) lands not having a State certificate but have been designated as irrigable. A water right for this land is claimed under the "Winter’s Doctrine" and included in the Uintah Irrigation Project by Secretarial designation, consisting of 665.00 acres.

4- Lands which have been found to be productive and economically feasible to irrigate from privately constructed ditch systems diverting from the Duchesne River or its tributaries above Pahcease Canal, now in operation, or to be constructed, a water right for which is claimed under the “Winter’s Doctrine,” consisting of 1,480 acres

5- Lands which have been found to be productive and economically feasible to irrigate and are proposed to be included in the ultimate phase of the Central Utah Project, the water right to which attaches by the principal of law annunciated in the Winter’s.....Doctrine. While a water right for these lands is claimed under the "Winter’s Doctrine," if included as participating units in the ultimate phase of the Central Utah Project...the Uintah Basin water required would be more than offset by exchange water that could be supplied by gravity flow to the presently constructed Uintah [Indian] Irrigation Project from the Flaming Gorge Aqueduct. It has been estimated that 63,000 acres of the 78,841 acres now comprising the ultimate area of the Uintah Irrigation Project can be supplied by gravity flow from the proposed Flaming Gorge Aqueduct. It has also been estimated that 4,000 acres of the 29,118 acres now being proposed as participating units in the Central Utah Project can be supplied by gravity flow from the proposed Flaming Gorge Aqueduct...If …the remaining area of 25,118 acres now proposed for inclusion in the Central Utah Project is deducted from the 63,000 acres of exchange water, there would remain a net of 37,882 acres of Uintah Basin exchange water that would be available for transmission by the Central Utah Project to the Bonneville Basin.

6- Lands lying east of Green River for which applications...were filed with the State of Utah, to be served from White River. Although application was filed with the State, a water right for this land is claimed under the "Winter’s Doctrine" consisting of 5,360 acres.

7- Lands lying east of Green River which have been found to be productive and economically feasible to irrigate from privately constructed ditch systems diverting from....various streams enumerated under this group, now in operation or to be constructed. A water right for this land is claimed under the "Winter’s Doctrine"150
The lack of a sufficient water supply had a deleterious effect on the Uintah Unit, eventually bringing into question its viability. Furthermore, following geophysical studies the sites for both the Uintah Dam and Whiterocks Dam revealed significant problems, and required relocation to alternative sites. Reclamation proceeded anew to develop plans, but even these alternative sites continued to frustrate engineers.

The Ute Tribe grew increasingly frustrated by the persistent delays. In 1974, the District and the State of Utah had entered into a water resources planning agreement with the Interior Department and Ute Tribe. Aimed to avoid the kind of costly litigation the District was then encountering with the Sierra Club, the agreement allowed that there was “not at the present time any…definite and final plans for meeting the total commitments to the Ute Indian Tribe…[and that] development of the water resources…for the benefit of the…Tribe…must be expedited.” 151 Furthermore, in the event that the Upalco and Uintah Units could not be expedited, the District conceded to the possibility of providing water to the Tribe through the Current Creek Dam and Reservoir, then being advertized for bid. Current Creek, the agreement stated, could operate “independently of the remainder of the Strawberry…Collection System…and the Current Creek facilities will physically permit the bypass of the entire stream flow of Currant Creek…if found necessary.”152

Adding to the District’s consternation was Reclamation’s decision to close the Provo Office in 1973. Headed by its conscientious Assistant Regional Director Palmer B. DeLong, the Provo Office had been ground-zero for CUP planning and construction since 1964. DeLong and his staff had proven their effectiveness in working with a variety of stakeholders, including municipalities, irrigators and the Ute Indian Tribe. Many of these viewed Reclamation’s plan to
consolidate the activities of the Provo Office with that in Salt Lake City as a mistake. The CUP “is extremely complex,” they informed Reclamation. “Much know how, grass roots understanding of the problems involved, and the skills of many people…will be lost if the Provo Office…is closed…” These water district and irrigation company officials, requested that Reclamation reconsider its decision and maintain the Provo Office “with Palmer DeLong being retained as Project Manager until the Central Utah Project is finished…”  

Even if Reclamation had reconsidered and not “forced” DeLong and his staff into retirement, their tenure as federal employees certainly would not have persisted until the conclusion of the CUP. Nonetheless, Reclamation’s plan to economize and increase efficiency did prove to be ill-conceived. In July, Regional Director David Crandall informed Salt Lake County Conservancy District Director Bob Hilbert that many of the “Projects Office staff people have been integrated into key positions in the [Salt Lake] Regional Office…” Furthermore, “Palmer DeLong has been assigned full time as a reemployed annuitant in the position of Special Assistant to the Regional Director.” This, so he could “concentrate on major problem areas in Utah and the Central Utah Project…” 

DeLong and the Provo Office staff had been particularly successful in working with the Ute Tribe. As the State and District endeavored to placate the Tribe’s concerns with the 1974 agreement, completion of the Uintah Unit became more paramount. It could at least partially fulfill the 1965 deferral agreement with the Ute Tribe, and also comply with some of the nine points stipulated by Duchesne County at the time of the District’s formation. Yet at best, the Tribe was only lukewarm to Reclamation’s plan for the Uintah Unit. “With regard to the proposed Uintah Unit,” the Tribe’s legal counsel informed Reclamation, our “clients favor the construction of lower, mid-elevation reservoirs rather than the proposed Uintah and Whiterocks
Reservoirs…” Tribal leaders urged the Interior Secretary to delay certifying the feasibility of the Uintah Unit if it “would necessitate funding for and construction…according to the 1968 plan…”\textsuperscript{155}

Even as attorneys with the Native American Rights Fund alleged the Tribe’s opposition to the project, four years later both Indian and non-Indian interests were still campaigning for its construction. In 1978, the Uintah Basin Water Alliance, an organization composed equally of Ute tribal representatives and non-Indian water-users, resolved to “vigorously oppose and take whatever action is necessary to prevent any future trans-basin diversion via the Central Utah Project unless and until the Uintah and Upalco Units…are funded and under construction…”\textsuperscript{156}

Still, construction stalled as Congress withheld funding while it debated the merits of the CUP. President Carter’s administration would take particular aim at the CUP and other features of CRSP that it suspected of not being cost-effective or environmentally compliant. These delays only increased the likelihood that irrigation projects like the Uintah and Upalco units would eventually fail cost-benefit analysis. With an inflationary rate of more than 10 per cent during the late 1970s and early 1980s, it did not take long before construction costs exceeded benefits.

Plans began unraveling in May 1980 when Reclamation confessed its inability “to determine the need for development of the Ute Indian Unit and to develop a feasible plan.”\textsuperscript{157} In 1983, Reclamation geologists advised against building the Uintah Dam because of the depth to bedrock, and the fear that the dam would overlay an ancient landslide. The dams at “Whiterocks and Uintah [were] very difficult,” stated Roger Hansen, who worked as a team leader planning irrigation and drainage systems for Reclamation. “[We] like to seal the dams off to bedrock…[and] it was fairly deep to bedrock, through cobble; if you’ve been out in that area,
[it]… is littered with cobbles. Every time they have a significant flood, it rolls those cobbles out of the canyon.”

Two years later the merciless combination of inflation and project delays overwhelmed the Upalco Unit, as Reclamation announced that its cost had surpassed permissible expenditures by $15 million. The District offered to make up the $15 million shortfall, if Reclamation would move to condemn tribal land needed for the Taskeetch dam site. Reclamation refused.

Kurt Carpenter was in charge of negotiations at the time between Reclamation and the Tribe. Carpenter had established a relationship with the Tribe’s natural resources director, the late Jason Cuch, and fondly recalls it being “built on trust; it wasn’t built on agreements. There [were] lots of agreements, … but to make them work was man-to-man trust.” The Tribe simply did not “want us to build,” Carpenter asserted, “and that was one area we couldn’t condemn. They had to agree to go along with it.”

Rather, Reclamation and the Bureau of Indian Affairs proposed to the Ute Tribe an alternative that included revenue from power generation at Flaming Gorge, along with a storage right in the reservoir for 116,000 acre-feet. The proposal stipulated that the stored water could be used to irrigate tribal lands in the basin, or leased to other parties either within or outside Utah.

The State, however, adamantly opposed leasing across state lines because it involved “a number of problems associated with compacts and the other States…” The Tribe, as well, found the federal government’s proposal unacceptable. For starters, water stored in Flaming Gorge could not be used on reservation lands without pumping, or building the ultimate phase aqueduct and tunnel implicit in the Ute Indian Unit. Moreover, the revenue stream from power generation was insufficient and subject to fluctuations in pricing.
In 1982, Chairman of the Ute Business Committee Homey Secakuku addressed a letter to the State and the District, wherein he relayed the Tribe’s expectation and apprehension for future water developments in or near the Uintah and Ouray Reservation. Secakuku “set forth [the Tribe’s] views as to how…the Ute Tribe [could] best share in federally-financed Colorado River project benefits as envisioned under the 1965 Deferral Agreement.” The chairman expressed the Tribe’s concern that “the presence of larger than anticipated agricultural development and water use by non-Indians…and the presence of larger than anticipated private storage facilities…but not permit sufficient water storage from the CUP….to fully satisfy Indian rights.”

The Tribe and its legal advisors persistently argued that private developments dating back as far as the original Strawberry Valley Project in 1906 had contravened its water rights. Others, such as the Moon Lake Project diverted substantially from the Lakefork and Yellowstone rivers to irrigate non-Indian lands in Duchesne County. Even though Reclamation had intended for the Midview Project to mitigate the loss of Lakefork water, full function of the formalized Midview Exchange was still contingent on the completion of the Upalco Unit. Without the added storage of Taskeetch Dam, neither Indian, nor non-Indian irrigators would receive their full water supply.

In 1965, Moon Lake Water Users completed constructing Big Sand Wash Reservoir, an off-stream impoundment filled from the Lakefork River through a diversion dam and feeder canal. The dam’s construction was in opposition to Reclamation’s plan for development of the Upalco Unit, although Moon Lake Water Users agreed to coordinate management of Sand Wash with the proposed Taskeetch Reservoir, after its completion. Sand Wash would subsequently play a seminal part in providing alternatives for the Upalco and Uintah units as authorized by
CUPCA in 1992. But in 1974 when the Moon Lake Water Users announced its intention to construct another private, off-stream reservoir at Brown’s Draw in the Lakefork drainage, it raised considerable concern among the District’s Board members. The District had just finished hammering out the aforementioned agreement with the Ute Tribe concerning the development of water on Tribal lands. Of particular concern was the outcome of the Sierra Club lawsuit. “At the beginning of our trial,” attorney Ed Clyde wrote, “a group of Indians…objected to the construction of the Strawberry Aqueduct…The matter was resolved by the signing of an agreement…[which stipulated] that developments…[would] be done in close cooperation and close consultation with the Indians. If the Indians concluded that there was…even a threat to violate the agreement, …” he worried, “they could file a brief…and it [would] have serious adverse consequences.”

The canal companies comprising the Moon Lake Water Users Association had faced the unforgiving environment of the High Uintas to construct and put into service most of the mountain reservoirs. Furthermore by 1905, the affiliated Dry Gulch Irrigation Company had applied under state law to appropriate more than 2,000 second feet of water from the Uintah, Lakefork and Duchesne rivers, envisioning an irrigation system encompassing nearly 600 square miles. Along with its application to appropriate direct flows, Dry Gulch also applied for 50,000 acre-feet of storage from the rivers’ excess floodwaters. This, in part, had been used to supply storage water for several reservoirs, including Moon Lake, Twin Pots and Big Sand Wash that operated under the Association’s System. The tribe adamantly informed Moon Lake and the District that it did not desire to have any further construction go forward until their water requirements [were] met through the construction of the Uintah, Upalco and Whiterocks reservoirs.” Even so, the Utah Division of Water Resources informed the District that the
“Dry Gulch Irrigation Company...has an approved...water right to divert 42 cfs (cubic feet per second) from the Uintah River...[and] propose using this water right as their primary source...to supply Brown's Draw reservoir.”

Long-time manager of Moon Lake Water Users Association Lynn Winterton recalled how the Association’s Board of Directors instructed him “to build...Brown’s Draw... So we put it up on bid, and got it into construction, and in the mean time I’d been dealing with the tribe because the old-timers had got a right of way across tribal ground to bring water off the Uintah River down, and put into Brown’s Draw. I went over to the tribe and told them what I wanted, and then they just said, ‘No, that was the former tribal people that signed it, not us; so you can’t do that.’”

Winterton had the dam about half built, but was now forced to look for alternatives. He settled on bypassing reservation lands and bringing the feeder canal in from the other side. We “went to the neighbors and talked to them and they said, ‘Oh, yeah go ahead.’” Typical of the Association’s resourcefulness, Winterton bought land and employed “an old friend that did caterpillar work, and he built the canal for us, to bring water off this other side...”

Although Brown’s Draw was a relatively small reservoir, impounding only 6,000 acre feet, each new diversion made the Uintah Unit increasingly less practicable. The “Tribe has been advised,” wrote Chairman Secakuku, “that the Upalco Unit has been revised so that its Indian benefits (which were never very substantial) are today even of less benefit to the Ute Tribe...”

Furthermore, the “Uintah Unit...will in all likelihood not be funded by Congress. Thus,” he lamented, “the Tribe is confronted with the fact that nearly seventeen years after commitment...[to] the 1965 Deferral Agreement...the principal benefit components are unlikely to ever be developed.”
In view of the Ute Business Committee’s dire predictions, it identified several alternatives to fulfill the conditions of the Deferral Agreement.

a) Direct revenue compensation…in exchange for..relinquishment of waters from Rock Creek and its deferral of 15, 242 acres of Group 5 lands. An appropriate compensation level can be calculated on the theory that, because no mitigating project has been timely developed, the relinquishment of rights on Rock Creek should be treated as a lease of water and compensation paid accordingly.

b) Modification of the Upalco Unit to provide additional water to certain Ute Indian lands originally designed to be served by the Uintah Unit

c) Development of an Indian-only version of the Uintah Unit…

d) The rehabilitation of the existing irrigation and canal systems with special emphasis on providing benefits to Indian-owned water rights lands.

e) Creation of a fund to permit the Ute Tribe to consolidate over a time former Indian lands to which Indian water rights currently attach.

f) Acquisition of a permanent Ute tribal allocation to water stored in the Flaming Gorge Reservoir.

g) Development of a tribal ownership interest in the proposed White River Dam project…

The Tribe’s aspirations for water development and compliance with the 1965 deferral agreement would be discussed and negotiated throughout the 1980s. The issues would ultimately take form as a major component of CUPCA, which Congress intended would settle Indian claims regarding the deferral agreement. It would also allow for the quantification of the Tribe’s reserved water rights through adoption by the State, the Tribe and the federal government of a Ute Indian Compact. These issues would, however, remain largely unresolved throughout the balance of the CUP’s history.

---

1 Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, Project Planning Report no. 4-8a.50-2 (Salt Lake City: Region 4, Bureau of Reclamation, 1951), p. 11. Hereafter referred to as Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951.


3 Ibid., p. 5 and Central Utah Project, Utah: A Supplement to the Colorado River Storage Project, 1951, p. 11.
4 *Central Utah Project, Initial Phase, Bonneville Unit, Definite Plan Report, 1964*, p. 30.


15 Randy Williams, Interview with Keith Mortensen, Roosevelt, Utah, 8 August 2012, p. 12. Mortensen’s long involvement with Moon Lake Water Users began as a boy irrigating crops on his father’s farm. He subsequently served as a board member for the Association and for the Dry Gulch Irrigation Company. Hereafter referred to as Mortensen Interview.


19 *Vernal Express* (Vernal, Utah), 9 August 1962, p. 15.

20 Randy Williams, Interview with Carl Carpenter, Orem, Utah, 10 June 2013, p. 9. Carpenter was the first engineer hired by the District, and worked on most of the early projects, particularly water treatment facilities. Hereafter referred to as Carl Carpenter Interview.


24 Commonly referred to as the Deferral Agreement, the document is dated 20 September 1965, and is signed by officials of the Bureau of Reclamation, the Bureau of Indian Affairs, the Department of Interior, the Ute Indian Tribe and the Central Utah Water Conservancy District. Document in files of the CUWCD. For background and
antecedents, see “Proposed agreement among the Ute Indian Tribe of the Uintah and Ouray Reservation, the Central Utah Water Conservancy District, the Bureau of Indian Affairs, and the Bureau of Reclamation on deferment of development of Indian lands for irrigation and other matters.,” from the Secretary of Interior to Commissioner of Reclamation and Commissioner of Indian Affairs, 22 June 1964. Contained in the Dorothy Harvey Collection, Western Waters Digital Library. [http://content.lib.utah.edu/cdm/ref/collection/wwdl-neh/id/10808](http://content.lib.utah.edu/cdm/ref/collection/wwdl-neh/id/10808) Accessed 22 August 2012. Hereafter referred to as Harvey Collection.

Director’s Packet, Central Utah Water Conservancy District, 11 June 1965, Book Collection 26, Special Collections and Archives, Merrill-Cazier Library, Utah State University, Logan, Utah. Hereafter referred to as Director’s Packet.

Ibid., 14 May 1965.

Garfield County News (Tropic, Utah), 15 April 1976.


Director’s Packet, 14 January 1966. Among these requirements were the active pursuit of the adjudication of the Duchesne River; priority for construction of Starvation Reservoir; maximum development of storage on the Lake Fork and Uintah river systems; and early provision for development of the Green River.

Vernal Express, 13 June 1963; and 25 July 1963.


Carl Carpenter Interview, pp. 5; 9.

Randy Williams, Interview with Roscoe Garrett, Nephi, Utah, 11 September 2012, p. 3. Garrett was appointed to the original CUWCD Board of Directors. He has had a long and distinguished career in water resources development in Juab County. Hereafter referred to as Garrett Interview.

Carl Carpenter Interview, p. 6.

Garrett Interview, p. 3.

Director’s Packet, 9 September 1966.

Garrett Interview, p. 3.

Central Utah Water Conservancy District Scrapbook, p. 29. Files of CUWCD. Hereafter referred to as Scrapbook.

Ibid., p. 21.

Ibid.

Director’s Packet, 12 February 1965.

Director’s Packet, 12 March 1965.
43 Randy Williams, Interview with Christine Finlinson, Salt Lake City, 6 August 2012, p. 5. Ms. Finlinson is Government Affairs Director for the Central Utah Water Conservancy District. Hereafter referred to as Finlinson Interview.

44 Director’s Packet, 13 August 1965.

45 Central Utah Project, Initial Phase, Bonneville Unit, Definite Plan Report, pp. 168-169.


47 Director’s Packet, 14 May 1965.

48 Randy Williams, Interview with Ralph Swanson, Orem, Utah, 11 July 2012, p. 3. Swanson worked for the U.S. Fish and Wildlife Service, and later as an assistant to the Interior Secretary as environmental impacts coordinator. Hereafter referred to as Swanson Interview.


50 Randy Williams, Interview with Dr. Fred Reimherr, Salt Lake City, 10 July 2012, p. 10-11. Dr. Reimherr is a long-time activist, who through Trout Unlimited opposed the CUP’s de-watering of Uinta Basin streams.

51 Director’s Packet, 14 May 1965.


53 A Resolution of the Utah State Department of Fish and Game, the Utah Water and Power Board, the Governor Concurring therein, Requesting the U.S. Bureau of Reclamation to Amend the Definite Plan Report for the Bonneville Unit of the Central Utah Project to Incorporate Provisions of This Resolution Relating to Certain Fish, Wildlife, and Recreation Proposals. Contained in Director’s Packet, 14 May 1965.

54 Ibid.

55 Director’s Packet, 11 February 1966.


57 Ibid., p. 9.

58 For description of the dam constructed on Oaks Park Creek, see Papers of O.W. Israelsen, Mss. 31, box 42, fd. 19, Special Collections and Archives, Merrill-Cazier Library, Utah State University, Logan, Utah.

59 Vernal Express, 23 September 1943, p. 1


61 Dawson papers, box 6, fd 3.


67 Randy Williams, Interview with David Rasmussen, 26 June 2012, Vernal Utah. Rasmussen has been affiliated with the Uintah Water Conservancy District for nearly 40 years. He has also served as a Uintah County representative to the Board of Directors of the Central Utah Water Conservancy District. Hereafter referred to as Rasmussen Interview.


70 *Deseret News*, 16 March 1992


73 Rasmussen Interview, pp. 9-10.

74 Randy Williams, Interview with Bruce Barrett, Orem, Utah, 11 July 2012, p. 7. Barrett worked more than 20 years on the CUP, part as Construction Engineer, and later as Area Manager for Reclamation’s Provo Office. Hereafter referred to as Barrett Interview.


76 Rasmussen Interview, p. 20.

77 Randy Williams, Interview with John Hunting, Vernal, Utah, 26 June 2012, p. 4. Hunting has been employed as manager of Steinaker Dam and other facilities with the Uintah Water Conservancy District for many years. Hereafter referred to as Hunting Interview.

78 Rasmussen Interview, p. 7.

79 Eastman, Jensen Unit, p. 20.

Hugh W. Colton to David Lee, 4 January 1980. Contained in Papers of Gunn McKay, Mss. 86, Box 471, fd. 22, Special Collections and Archives, Merrill-Cazier Library, Utah State University, Logan, Utah. Hereafter referred to as McKay Papers.

Rasmussen Interview, p. 8.

Randy Williams, Interview with Harold Sersland, Mequite, Nevada, 18 August 2012, p. 2. Sersland had been employed early in his career with Reclamation to oversee the preparation of environmental impact statements. Hereafter referred to as Sersland Interview.

Randy Williams, Interview with Kurt Carpenter, Kanab, Utah, 18 August 2012, pp. 11-12. Carpenter was largely in charge of most of Reclamation’s planning for CUP construction in the Uinta Basin. Hereafter referred to as Kurt Carpenter Interview.

Sersland Interview, p. 3.


Randy Williams, Interview with Mike Hansen, 12 July 2012, Orem, Utah, p. 4. Hansen was intimately involved as a Reclamation economist in many segments of construction in the Uinta Basin. Hereafter referred to as Mike Hansen Interview.


Ibid., p. 4.

Upalco Unit, Central Utah Project, Draft Environmental Statement, (Salt Lake City: Bureau of Reclamation, 1979), p. I-1.

A.G. Cook, Analysis and Critique of the Environmental Impact Statement of the Jensen Unit Project, unpublished data. Contained in McKay Papers, Box 471, fd. 25.

Randy Williams, Interview with Lillian Hayes, 12 July 2012, Provo, Utah, p. 7. Lillian Hayes is a retired environmental activist who worked closely on issues involving the CUP.


Millard County Chronicle (Delta, Utah), 21 September 1972.

Hayes Interview, p. 7.

Final Environmental Statement, Authorized Bonneville Unit, Central Utah Project, Utah, ([Salt Lake City]: Bureau of Reclamation, 1973), p. A-160.


105 Importation of Weber River Basin water to the Salt Lake Valley would require agreement with the Weber Basin Water Conservancy District. Importation of water from Bear River would require extensive negotiation with water users in Utah, Idaho and Wyoming. Interestingly, this was proposed by the Jordan Valley Water Conservancy District later during the 1990s. Reaction from the environmental community, particularly the Utah Rivers Council, was deafening.


107 Randy Williams and Ross Peterson, Interview with Don Christiansen, Orem, Utah, 25 September 2012, p. 29. Don Christiansen is General Manager of the Central Utah Water Conservancy District. Hereafter referred to as Christiansen Interview.

108 Mike Hansen Interview, pp. 17-18.


113 Directors Packet, 14 October 1966.


115 The case involved construction of a nuclear power plant. Judge J. Skelly Wright wrote that NEPA obligated federal agencies to “identify and develop methods and procedures…which will insure that presently unquantified

116 Final Environmental Statement, Authorized Bonneville Unit, Central Utah Project, Utah, ([Salt Lake City]: Bureau of Reclamation, 1973), summary.

117 Ibid.


119 Williams, Interview with Don Christiansen, p. 23.


124 Ibid.

125 Randy Williams, Interview with Lynn Hansen, Smithfield, Utah, 22 June 2012, pp. 9-10. Hansen worked for many years with Reclamation in the Uinta Basin, and later with the Bureau of Indian Affairs. He is presently with the CUPCA Office. Hereafter referred to as Lynn Hansen Interview.

126 Vernal Express, 5 January 1967, p. 1

127 Lynn Hansen Interview, p. 10.

128 Scrapbook, p. 35. Still another version for the name “Starvation” is the story of A. C. Murdock who had wintered some of his cattle in the area. In the aftermath of a terrible snowstorm, they were unable to find feed and died of starvation. See John D. Barton, A History of Duchesne County (Salt Lake City: Utah State Historical Society and Duchesne County Commission, 1998), 327.

129 Ibid.


132 Director’s Packet, 22 December 1966.
133 Salt Lake Tribune, 11 January 1967.

134 Director’s Packet, 13 January 1967.

135 Scrapbook, P. 35.


137 Ibid., and Eastman, Bonneville Unit, p. 25.

138 Eastman, Bonneville Unit, pp. 25-26.

139 Scrapbook, p. 50.

140 See Delong Papers.

141 Draft Environmental Statement, Upalco Unit, Central Utah Project, Utah, p. A6.


144 Draft Environmental Statement, Upalco Unit, Central Utah Project, Utah, p. A2.


147 Mortensen Interview, pp. 4-5.

148 Tom Fredericks to Anne J. Castle [and] Alleta Belin, 13 July 2012. Letter shared with the authors by Jeremy Patterson, Ute Indian Tribe attorney with Fredericks, Peebles & Morgan.


151 Ute Indian Water Resources Planning Agreement, 23 May 1974. CUWCD offices.

152 Ibid.


Hereafter referred to as Eastman, Uintah, Upalco and Ute Indian Units. Unless otherwise noted, information on the above CUP units comes from this source.

Randy Williams, Interview with Roger Hansen, Provo, Utah, 24 September 2012, p. 2-3. Hansen worked on CUP projects for Reclamation as a planning engineer during the early construction of the Bonneville Unit, as well as other features in the Uinta Basin. Hereafter referred to as Roger Hansen Interview.

Kurt Carpenter Interview, pp. 20-21. Carpenter also offered an alternative reason for the Tribe’s reluctance to cooperate on Taskeetch Dam: “clear back…when the Spanish were there….” Carpenter related, “the Navajos and the Utes rose up (because they were slaves of the Spanish, and they were forced to mine gold)….they rose up, took the gold away…and killed the Spanish; put it back in the mountain. In the Uintas are these [alleged] storage vaults of refined gold. The Utes have people who their whole life calling is to protect those sites. I don’t know how much…truth [there] is, because I never did want to challenge it.” P. 19

Ute Indian Water Rights Settlement, Hearing before the Committee on Interior and Insular Affairs, 100th Congress, 2nd session, H.R. 5307, serial no. 100-77, Washington, D.C., 4 October 1988, p. 133.

Homey J. Secakuku to Scott Matheson, Clifford Barrett and Lynn Ludlow, 28 April 1982, p. 3. Files of CUWCD. Hereafter referred to as Secakuku letter.

Tom Fredericks to Anne J. Castle [and] Alleta Belin, 13 July 2012, pp. 11-12.

As part of the Moon Lake Project, Reclamation constructed Midview Dam, to regulate waters that would be diverted from the Duchesne River into a feeder canal and lateral, and used by exchange to irrigate Indian lands below those lands of the Moon Lake Water Users. In 1967, the Tribe and the Association formalized this arrangement as the Midview Exchange, wherein Moon Lake Water Users transferred the operation and maintenance of the Midview Project to the Bureau of Indian Affairs.


Daniel Lawrence to Clyde Richie, 9 July 1974, contained in Director’s Packet 9 August 1974.

Randy Williams, Interview with Lynn and Carolyn Winterton, Ioka, Utah, 8 August 2012, p. 12. Lynn and Carolyn have been involved with the Moon Lake Water Users Association for much of their lives.

Secakuku letter, p. 4.

Ibid., pp. 4-5.
Chapter 7
Final Draft September 2014

The Bonneville Unit: “it is all downhill.”

STRAWBERRY COMPLEX

Even while construction crews labored to raise and compact the 155-foot high dam at Starvation, Reclamation awarded contracts to begin the most complicated, crucial element of the Bonneville Unit, the Strawberry Aqueduct. Reclamation envisioned the initial phase of the Strawberry Aqueduct commencing at Upper Stillwater Dam, and extending to the southwest through 37 miles of tunnels and pipelines to intercept the flow of nine Uinta Basin streams. The aqueduct terminated in an enlarged Strawberry Reservoir, made possible by construction of Soldier Creek Dam.

In December 1967, Reclamation began the Strawberry Aqueduct by constructing the last segment first. Water Hollow Tunnel intercepted the flow of Water Hollow Creek, the last tributary in succession to be captured in the aqueduct before it emptied through a mile-long open canal into Strawberry Reservoir. The 10-foot diameter, 620 cubic-foot per-second capacity Water Hollow Tunnel eventually served as the outlet for the entire Strawberry Collection System.

In order to connect the creek and reservoir, Utah contractors, Boyle Brothers Drilling and Gibbons and Reed, drilled a four-mile long tunnel through the mountain to the creek, and constructed a diversion dam and feeder pipeline to redirect the creek into the tunnel. The approach utilized one of several Tunnel Boring Machines, or “moles,” to drill through the mountain ridges that separated the various drainages. The borings were then reinforced and lined
with concrete. Contractors used a similar approach to capture succeeding streams, as they moved northeast along the south slope of the Uinta Mountains.

In some instances, tunnel construction for the Strawberry Aqueduct proceeded smoothly. In other instances, contractors and Reclamation encountered significant difficulty. On April 15, 1969, excavation of Water Hollow Tunnel resulted in the only casualty during the more than two decades of constructing the Strawberry Aqueduct. The risks are considerable anytime “you go underground, …” Reclamation engineer Curt Pledger elaborated; “you just never know what you’re going to encounter until you get there.”

Miners or “tunnelers,” as District engineer Dave Pitcher referred to them, “are just unique breed.” They are “underground for eight hours; they have a shift change, another crew of people comes on, and they go another eight hours – they [are] going twenty-four/seven. And… it’s a dangerous environment.” Living and working in such a confining space day after day was not for the faint of heart. “I could only go down there for a visit,” Pitcher admitted. “I couldn’t be down there all day…”

The crew at Water Hollow Tunnel had shut down for a few minutes to eat lunch, which was unusual, Robert “Rabbit” Maxwell explained, because we generally just grabbed “a quick sandwich or you put it in the bib of your pants and you [ate] it while you [were] working…” The “oiler [who] runs around and greases things…[had] crawled up through what we call the throat…[to] get in front of this big giant head and grease what they call the water swivel. It sprays the dirt as it cuts to keep the dust down. The operator…[Ivin W. Johnson] didn’t know he was in there. He gobbled his sandwich down and hit the go button…” Maxwell paused as he recalled the sound of the machine starting up. “I was in the back,” he vividly remembered. “And the only part that wasn’t cut in half was his head.” The miners waited in the tunnel for
hours while the coroner investigated the death. He was “scattered 300 feet on that belt and in the muck cars.” Maxwell could only shake his head slowly from side to side. It “was a nightmare.”

Afterwards, Reclamation implemented a “lockout” system that required anyone doing maintenance on the machine to padlock the breaker box. The oiler would pull the handle down and put “his padlock on it. And maybe somebody else will do something and they’ll put theirs on his, and his and his.” The idea was that the first padlock could not be removed until all the subsequent locks had been taken off. It was an attempt to minimize the risk of what was unavoidably a very dangerous job.

Tunneling operations required a crew of thirty, comprised of “guys laying the air and ventilation and pipe back behind, … guys laying the railroad…And the miners setting the ring steel to secure the ground, everyone working together trying not to shut the mole down…It’s all very dangerous,” Maxwell emphasized. “You must be alert at all times: no bad habits, no spouse problems, keep a clear head, always looking for a problem that could hurt. No one has been where you are going except God when the earth was made.” There are “belts and carrier rollers…turning continuously at high speed. And long hair or clothes, shirts can get caught…” The machine is powered “with 4,160 volts, so we’ve got transformers everywhere that short out, the miners hit them with shovels or they break, and [they can] electrocute you.” The machine and gantry weighs nearly 100 ton, and it “is moving continuously… It is so heavy [that] if it touches you, you are going to lose a finger, and arm, a leg.”

The tunnel boring machines (TBM) as described by Maxwell, and as employed on Water Hollow Tunnel and earlier to construct the tunnel portion of the Starvation Feeder Conduit, had only recently been adopted by Reclamation. The concept had been around for more than a century, but it was not until James Robbins adapted a coal-mining machine for use in
constructing a water tunnel near Pierre, South Dakota, in 1952, that these large complex machines prove practical.\(^8\) Robbins and others improved and enhanced the equipment’s design, gradually perfecting a machine that by 1965 Reclamation used with great success on the Navajo Indian Irrigation Project in northern Arizona.

**ENLARGED STRAWBERRY RESERVOIR**

Water captured in the tunnels and pipelines of the Strawberry Aqueduct along the base of the Uintas was transported to Strawberry Reservoir. The enlarged Strawberry Reservoir provided storage for the water ultimately diverted to farmers and homeowners along the Wasatch Front. Strawberry Reservoir was the key component of the CUP. “We…call[ed] Strawberry Reservoir the ‘heart of the project’,” former Reclamation engineer Lee McQuivey recalled.\(^9\)

In November 1970, Burgess Construction Company began preparing the site and constructing an access road for Soldier Creek Dam. Located downstream seven miles from the original Strawberry Dam, Soldier Creek Dam eventually raised the level of Strawberry 40 feet above the old dam. The reservoir more than doubled in size and increased in capacity by nearly four-fold.

In July, recently appointed Reclamation Commissioner Ellis Armstrong joined a slate of Utah officials at groundbreaking ceremonies. A native of Cedar City, Utah, Armstrong graduated from Utah State Agricultural College (USU), and began his Reclamation career in 1936 working on the aforementioned Moon Lake Project. Armstrong spoke glowingly about mankind’s ability to positively impact his environment through the development of water resources. Particularly, Armstrong recalled Utahans’ long history in “making the desert blossom
as the rose.” Armstrong then joined Senator Frank Moss and CUWCD President Clyde Ritchie, among others, in detonating a dedicatory charge of dynamite to officially break ground for the Soldier Creek Dam.

Another native Utahan, Chief Forester Edward Cliff of Heber City, also spoke at the groundbreaking ceremony and offered his praise of the Beehive State. Cliff emphasized how the enlargement would enhance recreation and fishing at Strawberry, long one of Utah’s most popular and celebrated trout fisheries.

Even prior to construction of the original Strawberry Reservoir, a select number of anglers reported the “prime trout fishery…” available on the Strawberry River and its tributaries. After completion of the Strawberry Project, an increasing number of sportsmen visited the reservoir during the 1920s. The State began stocking Strawberry with fingerling trout as early as 1925. The fishery at Strawberry suffered periodically from winterkill and from the invasion of chub, carp and other trash fish.

State fish and game officials had struggled to maintain trout populations in advance of these other non-game species, and planned an extensive eradication and rehabilitation program before Soldier Creek began filling. The State had to push forward these plans, however, as the Burgess Company expediently completed work on the mammoth earthen dam nearly a year ahead of schedule. As the waters slowly rose behind Soldier Creek, the State cooperated with Reclamation and the U.S. Bureau of Sport Fisheries to treat the waters of Strawberry River and Indian Creek with chemicals and explosives during July 1973. Reportedly, the quantity of chemical required to treat the huge impoundment nearly depleted the world’s supply of Rotenone, a substance derived from an indigenous South American plant.
Reclamation announced other prospective recreational improvements, as well. The ultimate filling of the enlarged Strawberry would require the removal of all facilities that had previously been constructed. Reclamation’s plan called for construction of two major campgrounds at Soldier Creek and Strawberry Bay. In addition to the usual campground amenities that included tables, shelters, fire circles, grills, and tent pads, plans for these new facilities also included electricity and sewer service.¹²

Reclamation viewed as inadequate the previous efforts to serve the recreational needs of Strawberry visitors. After completion of the original Strawberry Valley Project, the Strawberry Water Users Association assumed responsibility for managing shoreline recreation around the reservoir. In 1926, Reclamation transferred operation and maintenance of the Strawberry Project to the Association. This included responsibility for the more than 56,000 acres of land that had been withdrawn from the Uintah Indian Reservation for use in the Strawberry Project. Much of this land the Association leased to cattlemen for grazing, the revenue from which it applied towards paying down the project’s costs. The Association also leased some of the land for recreation, which resulted in a somewhat ramshackle assortment of cabins and house trailers dotting the Strawberry shoreline. “Recreation development of Strawberry Reservoir has…evolved in an unplanned manner from the…outset,” reported researchers from Utah State University. It “reflects a pattern…that has evolved over 50 years.” These researchers and Reclamation agreed that Strawberry’s enlargement would offer “the first new opportunity for recreational management since the reservoir was impounded.”¹³

A lawsuit filed by the Strawberry Association, however, constrained Reclamation from fully implementing its recreation plans at Strawberry. The Association maintained that although in 1973 it had completely retired its debt for constructing the Strawberry Project, it was still
entitled to the revenue generated from the recreational and grazing lands. Among other evidence, the Association based its assertion on various contracts and on the opinions of the Interior Department Solicitor’s Office prior to 1976. The trial judge agreed, but ruled, “in the absence of a showing that they would lose revenues currently being credited to the project, they would not be entitled to recover.”

For different reasons, both the Association and the federal government disagreed with Judge Harkins’ ruling and appealed to the circuit court. The circuit court concurred with part of the trial judge’s decision, but disagreed that the Association had any right of ownership in the lands. Citing a 1940 contract in which the Association conveyed its property interest to the United States, ostensibly to avoid paying Wasatch County property taxes, the court ruled that the Association was “divested of any property interest, … that entitles them to recover for a taking of the project lands…and that there was no taking of a property interest owned by them…”

The court’s ruling in favor of the government did not deter Strawberry. The Association had been expressing concerns ever since passage of CRSP in 1956 and the unveiling of the CUP’s Bonneville Unit. Regarding the proposed enlargement of Strawberry Reservoir, the Association’s Secretary Robert Huber questioned Utah Representative William Dawson’s contention that the “enlarged project will provide greater recreation facilities for the general public. Our immediate concern is in what manner is it proposed to compensate the purchasers of the Strawberry Project for our properties that will be effected [sic] by the Central Utah Project.” Huber cautioned that the Strawberry Water Users would have to resort to the courts to protect their interests in the Strawberry Valley. In reply, Dawson assured the Association that it would receive full compensation. “Certainly the Strawberry Water Users Association should not be
required to lose a single penny through the construction of the Central Utah Project,” Dawson promised, “and I am convinced that they will have much to gain.”

Twenty years later, the Association appealed to Congress, which in 1986 awarded the water users a $2.9 million compensation for approximately 17,000 acres of land submerged by the reservoir’s enlargement. In 1988, the so-called Garn Bill, sponsored by Utah Senator Jake Garn, provided the Association with an additional $15 million compensation package for the remainder of the 56,775 acres.

The Strawberry provision comprised part of a stripped-down bill that had been intended to reauthorize the entire CUP. These critical negotiations had begun during the late 1980s, experienced several setbacks, but would culminate in the Central Utah Project Completion Act. Garn’s legislation looked like a classic “sweetheart” deal to some. A critical report prepared by the General Accounting Office alleged that “the government was spending the money essentially to buy land it already owns…” Utah’s senior senator quickly pointed out that “settling this type of controversy to the satisfaction of all the very disparate groups…[was] well worth it.” Garn further reminded the bill’s critics that the $15 million was taxable, and that “$5.5 million…will immediately come back to the Federal Treasury…[and] does not go to anybody’s personal profit.” Strawberry Water Users must use the remaining $9.5 million, Garn stressed, “for the improvement of their system.”

Although the courts had ruled against it, the Association never wavered from its position of being “entitled to…compensation. …” In answer to the GAO report, the water users asserted that it would “not, under any circumstances, relinquish its…rights and interests in the…SVP lands until payment of the entire $15,000,000 is made…” Strawberry Water Users did not accept the “notion” that it was “United States property,” attorney Shawn Draney maintained.
“That’s not the perspective of the folks who were there first…” The Association’s former General Manager Gary Aiken expressed a similar opinion when he stated that Strawberry clearly “had the rights for operating and maintaining and the revenues from those lands…”

The Forest Service, which had responsibility for rehabilitating the property, removed the last of the Association’s old fishing cabins from the Strawberry Reservoir shoreline in 1986. As the waters steadily rose behind Soldier Creek Dam, Reclamation announced plans to merge the old Strawberry Reservoir with Soldier Creek. Safety concerns, however, delayed these plans until 1985. Triggered by the 1976 collapse of the Teton Dam mentioned previously, Reclamation began a concerted effort to re-evaluate the safety of all projects. Engineers identified several potential hazards at Soldier Creek, and beginning in 1983 supervised the installation of an inventive drainage system. The system involved the drilling of small drainage holes into the space between the outlet tunnels and the dam embankment, re-routing any seepage from the embankment back into the outlet tunnel. In 1985, the gates of the old dam, which had been closed since 1912 were forced open to allow equalization of the two reservoirs. Afterwards, construction crews removed the old dam and the dike separating Indian Creek, and drilled out the center core of the original Strawberry Dam. The enlarged Strawberry Reservoir would reach its full capacity for the first time in June 1998.

As the whirlwind of construction activity continued, Reclamation awarded contracts for the next succeeding tunnels in the Strawberry Collection system in August 1970. The 3.3 mile Layout Tunnel breached the mountain ridge dividing Layout Creek from Water Hollow, and the
1.7 mile Currant Tunnel connected Currant Creek with Layout Creek. A diversion dam and feeder pipeline intercepted flows from Layout Creek, which connected to the system through the Layout Siphon. The siphon also connected Layout and Current tunnels. Both projects proceeded with only minor setbacks. The contractor, S.A. Healy Company of Illinois, completed boring the Layout Tunnel in July 1972, making near record time. In October, crews emerged from the Currant Tunnel, and during the spring and summer installed the concrete lining to both. The 200-foot siphon they fitted the following spring to join the two tunnels across Layout Canyon, and by late January 1975, water from Layout Creek was flowing through the aqueduct in route to the enlarged Strawberry Reservoir.

The foregoing features of the Bonneville Unit were all authorized and funded prior to NEPA. Congress, however, did not appropriate funding for Currant Creek Dam and the Vat Tunnel, the next two features of the Strawberry Aqueduct, until 1973. This, as discussed in the previous chapter, required Reclamation to prepare an EIS, which the Sierra Club and others contested in court, delaying the start of construction until July 1974.

Reclamation designed Currant Creek Dam and Reservoir to regulate the flow of Currant Creek and five of its tributaries, along with the flow of the West Fork of the Duchesne River, which was conveyed to the reservoir through the Vat Tunnel. Contractor S.J. Groves and Sons of Minneapolis, Minnesota, began work on the 130 foot high, 1,600 foot-long Current Creek Dam during summer 1974. The reservoir impounded more than 15,000 acre-feet of water. As its primary purpose was to serve as a regulating reservoir, engineers designed Current Creek to remain nearly full year around, making it an ideal recreational facility for fishing, boating and kayaking.
The relatively trouble-free construction of the preceding features of the Strawberry Aqueduct would not be repeated on the Current Creek Dam. Its construction triggered the process of preparing a Program Decision Option Document (PDOD). Designed to provide a more “uniform approach to decision-making, …” the Interior Department required a PDOD whenever the “environmental impact statement involves a major new Federal policy or action…[or] a potential conflict between environmental and other considerations.” The process was to include, background and analysis of project and an explanation of the issue or problem, together with a discussion of possible alternatives and budget considerations. All interested parties, both agency and non-agency were to be identified and given the opportunity to comment.25

As the most recent segment to be proposed for the Strawberry Complex, the Current Creek Dam placed the entire Bonneville Unit under the microscope. Alternatives identified in the PDOD included suspension of construction, delaying construction until further studies were made, and continuing with the plan as authorized by Congress. The Bureau of Sport Fisheries and Wildlife, Forest Service and the Utah Division of Wildlife Resources still objected to the de-watering of Uinta Basin Streams, each recommending an increase in minimum flow. After weighing “carefully the environmental impacts projected for the Bonneville Unit, …” Reclamation recommended against any further modification of the “Strawberry Aqueduct Collection System…” Such modification, Reclamation concluded, would seriously reduce “the Unit water supply, this definitely threatening its economic stability, or necessitate costly expansion of facilities.”26

While the Governor and Utah’s congressional delegation supported Reclamation’s tough stance, the PDOD revealed the serious flaw of a diminishing water supply that would badger the
Bonneville Unit for the balance of its history. In September 1973, Assistant Interior Secretary for Land and Water Jack Horton advised his boss, Secretary Rodgers Morton, to proceed with construction of Current Creek Dam. “My recommendation on a go-ahead…is conditioned with the firm assurance that there will be no construction beyond Current Creek Dam…” Horton determined that 35,000 acre-feet of water would remain in the Uinta Basin if construction was halted at Current Creek, giving the State, the Forest Service and Reclamation an opportunity to re-evaluate “the proper use of this water.” Horton believed it would be more profitable to use the reserved water within the Uintah Basin to boost “oil shale development…” than it would to ship it out of the basin for irrigation. There is a need to reexamine “the use of the water which is presently planned to be diverted to the Bonneville Basin for irrigation purposes,” he concluded.27

Even as the Interior Department gave Reclamation the “green light,” construction at Current Creek Dam experienced some significant problems. Groundwater became a critical concern. The dozers and scrappers usually employed by contractors to excavate a dam’s foundation often became mired in the waterlogged soil. This necessitated the use of track hoes, and eventually required a complex de-watering procedure to drain the excess water into catch basins.

While this slowed progress, Reclamation engineers authorized the necessary changes to keep the Current Creek project moving forward. By July 1976, the contractor completed work on the embankment and outlet works, as well as on the nearly 4,000-foot Current Creek Pipeline that connected the dam’s outlet with the previously constructed Current Tunnel.

While adept at responding to such unexpected circumstances, Reclamation was also resolute in its insistence on quality work. “Our job…was to oversee the contract…to be sure that the work…being done…was according to…specifications,” recalled Lynn Hansen of his days
with Reclamation. “There were times when the contractors…weren’t real pleasant when we’d say ‘That concrete is no good. You have to dump a whole load.’”\textsuperscript{28} Actually, Hansen allowed, the concrete probably exceeded that typically used in residential construction. “We threw more concrete away than you can believe, because it didn’t meet [Reclamation’s] very tight specifications.”\textsuperscript{29}

Release of water into the Current Creek Pipeline in March 1977 revealed a number of leaks in the structure. For the next two years, Groves and Sons met with Reclamation officials to determine responsibility for the pipeline’s failure. Early in 1979, Reclamation informed the contractor that the entire pipeline was unacceptable, and proposed two alternatives, either complete replacement, or mortaring a steel pipe insert into the pipeline. Grove and Sons did not accept liability for the problem and sought relief through both the federal court system and through the Department of Interior Board of Contract Appeals.

During the more than four-year period of litigation and appeal that followed, the leaky pipeline sat as a reminder to the difficulty of constructing reclamation projects. After being warned by Reclamation that its contract might be terminated, the contractor relented and began installing the steel liner in June 1980. In July, the Interior Department board dismissed the contractor’s appeal, and in August the District Court claimed it lacked jurisdiction to even rule in the case. In May 1981, the Second Circuit Court gave the final word on the dispute when it also dismissed the contractor’s case.\textsuperscript{30}

Even so, Reclamation reached a settlement with Groves and Sons that provided the contractor with nearly six million dollars to make repairs to the leaky pipeline. It completed installing the steel liner in September 1981. A year later, after inspecting, testing and approving the work, Reclamation closed the gates and water began to rise behind Current Creek Dam.
Each new segment of the aqueduct brought new challenges. “For many, many years, before they ever started on [a project] they did investigation work,” Lynn Hansen recalled. “I was…actually out there digging test pits looking for borrow source material or working with the drillers to take core samples from the foundation…” This all had to be “in place before you ever start[ed] the job.”

As Reclamation planned, designed and supervised the construction of projects, contractors actually built them. “I’ve always been of the opinion that contractors don’t get the recognition or the praise that they deserve,” District Assistant General Manager and CUPCA Program Manager Lee Wimmer maintained. They “are the ones that build things…[A] good contractor can make anybody else look really good; and a bad contractor can make the best person look kind of bad.”

Former Salt Lake Regional Director Rick Gold is often astonished by “what the Reclamation guys,” and their contracting partners, “did in constructing some of those major Uinta Basin features.” The Vat Tunnel was one, which certainly tested the resolve of Reclamation and construction crews with the Walnut, California, based J.F. Shea Company. They “ran into water and…flooded the tunnel,” Gold exclaimed. They never knew what they were going to “find [in] the ground…”

Designed to take water from the Duchesne River’s west fork through Red Creek Mountain a distance of 7.4 miles, Vat Tunnel would be the second longest in the system. Began in May 1976, Reclamation anticipated completion of Vat Tunnel by November 1979. It would not, however, be completed until February 1983.

Construction had an auspicious beginning; the TBM excavated nearly 3,000 feet, averaging 10 feet per hour, between October 1976 and winter shut down in January 1977. The
following season took the tunnel past the halfway mark, and by December 1978, the miners had bored the tunnel to within one mile of the inlet portal. At that point, a rush of underground water entered the tunnel. The nearly four second foot stream entered under extremely high pressure, quickly overwhelmed the pumping system, and immediately forced the contractor to shut down.

Excavation slowed to a near standstill. The contractor increased the volume of pumping, and hoping to create a seal, began pumping grout into the chamber. Between December 1978 and January 1981, more than 1000 tons of grout was applied to the face of tunnel. Still the deep fissures embedded within the bedrock continued to hemorrhage water. At most, the TBM could only move forward a few hundred feet at a time, before being forced to shut down, and await the application of more grout. The total distance excavated during the entire year of 1980 amounted to only 814 feet. Not until the TBM moved from the porous shale to sandstone, did the water subside, which enabled the excavation of more than 3,000 feet during May 1981. With only about 85 feet remaining, however, the rock gave way to sand, and the remainder of the tunnel had to be largely dug by hand.

STILLWATER TUNNEL AND UPPER STILLWATER DAM

In its degree of difficulty, the Vat Tunnel may have been only prelude to construction of Stillwater Tunnel. The longest of the tunnels comprising the aqueduct, the 8.1 mile long Stillwater Tunnel connects the North Fork of the Duchesne River with Rock Creek. Not only was it the longest, it was also the deepest and the steepest. The tunnel dropped more than 80 feet between its inlet portal and its outlet above the North Fork of the Duchesne River.
Knowing that the Stillwater Tunnel would present a challenge, Reclamation proposed to experiment with the project. Reclamation had engaged in an “intensive research program…. to develop new and effective investigative methods and to refine equipment and procedures for tunnel excavation, support, and lining.” In short, Reclamation hoped its efforts might “provide a breakthrough in…deep tunnel construction technology.” Reclamation modified a TBM specifically for the project to include a feature that would assist in placing pre-cast, cement tunnel liners.

As the installation of the precast liners would be synchronized with the tunnel’s excavation, Reclamation and its contractors’ thought the simplified process might revolutionize tunnel construction. Up to this point, tunnels were first bored, and then lined using “collapsible forms” into which concrete was pumped. Basically, Lynn Hansen explained “a set of folding, collapsible forms that form a circle, and then when they are done, the[y] collapse them and move them…and…set them back up and pump some more concrete in. They just keep moving closer to the end.”

The experimental TBM and use of precast tunnel liners proved problematic from the outset. Contractors Harrison Western/Cowper completed the first 6,000 feet of the tunnel by drilling and blasting from the tunnel’s west end outlet portal. A year later, in May 1978 they assembled the modified TMB. The machine, however, frequently stalled, and on several occasions required laborious pick and shovel work to free it from the chamber. Furthermore, many of the precast liners required replacement after they cracked and separated. After advancing only about 1.5 miles in 18 months, Reclamation terminated the project in September 1979. “They got the mole stuck,” mused Lynn Hansen. “And it sat there for several years…”
Not until February 1982 did Reclamation award a subsequent contract to complete the remaining 5.4 miles to Taylor Brothers, Inc., and Fruin-Colnon Contracting Company, a joint venture from Evansville, Indiana. The contractors spent the next nine months completely revamping the experimental mole. Concurrently, they used another machine to begin boring from the inlet side of the tunnel. By comparison, the modified TBM never performed as anticipated, averaging only about 30 feet a day, while the other, smaller machine employed from the inlet side of the tunnel averaged 135 feet. Finally, the main bearings in the experimental mole seized and the contractor completed the tunnel with the second machine. Construction crews finished forming the tunnel lining in May 1985, seven years after the experiment began.

While the experiment at Stillwater Tunnel may have fallen short of expectations, Reclamation continued to look for opportunities to enhance water delivery systems and improve its dam building technology. The Upper Stillwater Dam presented some unique opportunities to experiment. Geologic anomalies, slope stability and evidence of past seismic activity convinced Reclamation geologists and engineers in the wisdom of using concrete at the Upper Stillwater site. The site’s more than 8,000 foot elevation, however, severely limited the construction season, making construction of the 200 foot high structure impractical using conventional concrete. Alternatively, engineers elected to use a relatively new technology called Roller Compacted Concrete (RCC). The technique used a drier mix of concrete that could be delivered to the construction site in dump trucks, as opposed to traditional cement trucks. The drier mix could also be placed without the use of forms required for wet concrete. They “modified a curb and gutter machine,” explained the current manager at Stillwater Kevin Workman, “and they would take that out onto the dam [and] just slowly drive that…machine and pour [conventional] cement into it.” Measuring roughly two feet at the bottom, by six inches at the top and three feet
tall, “[they] would run that all the way along the face of the dam. And then…come in with the
roller compact concrete, [to] put between those elements.”

Rock Harrison currently works on operations and maintenance for the District at
Stillwater. During the dam’s construction, he operated one of the roller compactors. It was an
impressive process, he recalled.

They had the entire batch plant set up right behind the dam, they made their own dry
ice…They set up two different crusher sites: one behind the dam, and one down on lower
Rock Creek, where they produced their own aggregate, and their own sands…for the
dam. They had their own concrete plant…; their own mechanic shop; they had all their
offices – everything – right there behind the dam.

The recipe for mixing this roller-compacted concrete included large amounts of fly ash, a
by-product from coal-fired power plants. The addition of fly ash minimized the heat that
cement normally generated as it cured. This eliminated the need for the cooling pipes required
in large conventional concrete dam structures. By employing the RCC technique, Reclamation
was able to reduce construction time by more than 30 percent.

Before the project began in earnest, we “did a little pilot project,” Lynn Hansen
remembered. We “built a little miniature dam right out there on the site to…test the techniques
of how they were going to lay it down and roll it. [The] curb machine, … they actually tried it
out as a little miniature prototype right there on the site.”

Upper Stillwater Dam holds a unique place in Reclamation’s history, as it is the only
example of this type of construction. “It had been used in Europe a little bit, … [but the]
technology hadn’t really caught on too much in the United States,” Lynn Hansen related. “It was
the first RCC project for Reclamation…” At the time of construction, it was the biggest RCC
dam in the world. The dam’s celebrity attracted “visitors from all around the world,” Hansen
boasted, “international visitors [were] out there all the time to see that particular job because it was new technology and new construction…”

For Hansen, Harrison and others, Upper Stillwater holds a special significance. For 25 years, Upper Stillwater Dam has defined the professional career of the District’s Uintah Manager Tom Bruton. “I cut my teeth on Upper Stillwater,” he recalled fondly. “I remember when it was a hole in the ground; I remember those various layers of concrete… the first day that the gates were shut… I’ve been there every hour of the day and night… I’ve seen it fill…[and] I’ve seen the most gorgeous spills… Upper Stillwater is a little bit taller than Niagara Falls and two football fields wide, …” he exclaimed. Pictures can never do the experience justice. “[Y]ou just stand there in awe of it.”

But, for Bruton “It is more than just the physical facility; it is the people I have been with for a quarter of a century now,” he continued.

My family has grown up…with this organization. We, as a group here, remember when we were having kids and as they grew up and went to school together and some of them dated each other… But that time of our lives, that special time when [our] families [were] growing up, we did it here. And a lot of that time for me was at Upper Stillwater. And, whether it is Scout trips or family trips, I’ve been up there in January when the inversion sets in and you can be in short sleeves and you’ve got the whole canyon to yourself. And the only thing that it is broken by is maybe a little bit of a rock fall[ing] or the ice moving… if you’ve [ever]heard ice buckle on a reservoir… It is just… like thunder almost. You know being up there face to face with everything from bear, moose, mountain lions, mountain goats, it’s just a little piece of heaven up there to me. If I had to pick one, that’s my spot.

The firm of W.W. Clyde began work on the dam’s foundation in 1980. By 1985, the Springville, Utah, based company had the layering of the concrete sections well underway. Despite being constrained by the five-month work window allowed for in the High Uintas, the contractor moved rapidly, placing the last load of concrete atop the dam in August 1987.
Stillwater Dam would be the last crucial piece added to the Strawberry Collection System. As already mentioned, it impounds surplus water from Rock Creek, and it is here where the Strawberry Aqueduct begins. “It is [a] main component of the Bonneville Unit,” Lynn Hansen asserted. “Stillwater Dam is what makes it work; without that you would not have your water supply.”

The reservoir began filling in November 1987. The “process included a period of operation under Reclamation’s direction,” Tom Bruton recounted. “And…once they had, basically, a shakedown of the facility, they turn[ed] it over to…Central Utah…to operate…It [was] like getting a new car and taking it out for a spin… We’ve been able to push the system to its hundred and twenty mile-an-hour limit, [and we’ve] also been able to run it on idle…”

The early test-drive and operation of Stillwater Dam did not always proceed as smoothly as either the District or Reclamation expected. While the RCC design had saved time, it proved far more expensive than initially anticipated. A report prepared by the Interior Department Inspector General’s Office indicated that the experimental RCC design had exceeded the original budget by 77 percent. It had required Reclamation to amend the original contract 13 times and make an additional 79 modifications, which added more than $46 million to construction costs.

Problems with the dam’s operation became evident immediately after it began filling. Safety regulations, imposed following the previously mention Teton Dam failure, required that the reservoir fill slowly, which compelled Reclamation to spill a substantial amount of water back into Rock Creek. The water had mixed with 800,000 cubic yards of sand left in the reservoir basin after construction. As it spilled, the water carried the colored sediment down Rock Creek, turning the water red and depositing silt as it coursed through the Uintah and Ouray Indian Reservation. Several members of the Tribe filed suit in Tribal Court against the
CUWCD, claiming the murky water had “destroyed the fishery on Rock Creek.” When it was discovered that Reclamation, not the District, still had control of operations at Stillwater the suit was enjoined to federal court. During summer 1988, Reclamation drained the reservoir and awarded a contract to Torno America, Inc. of San Francisco to cap the piles of sand with soil cement. This added another $1.6 million to the price of completing Upper Stillwater Dam.

Further expenses accrued as a result of cracks that formed along the down-stream face of the dam. Although the use of lean-concrete minimized the heat generated from curing, engineers still conjectured that the cracks may have occurred as a result. The dam had also been constructed without benefit of contraction joints, which during the rigorous eastern Utah winters added stress to the compacted cement sections. Efforts to seal these persistent cracks in 1988 and 1992 using a variety of methods, including urethane and cement grout, caulking, rope, oakum and lead, failed to check the leaks. In 2003, Reclamation solicited designs to permanently repair the largest cracks, and awarded a contract to Salt Lake City’s Nicholson Construction Company. The company’s innovative design included a program to chemically re-grout at least seven of the previously grouted cracks, drilling holes from the foundation gallery up to intersect and drain the cracks, and the installation of a unique stainless steel membrane that for the largest cracks would cross “the crack plane…from the top of the dam into the underlying bedrock.” The longest of these measured 240 vertical feet. Lastly, the company back-filled the membrane slots with a special mixture of hot asphalt and Portland cement. Reclamation selected Jan Ringle, who had worked on Upper Stillwater during its initial construction between 1983 and 1987, as engineering supervisor for the project. While monitoring continues, the estimated five million dollar repair has effectively stopped the leaks at Upper Stillwater.
From its highest point, water flows from Stillwater Dam through the aqueduct to Strawberry Reservoir, dropping approximately 400 feet in elevation. From Strawberry Reservoir to its ultimate place of use along the Wasatch Front, the water collected from streams along the south slope of the Uinta Mountains falls an additional 3,500 feet. “The beauty of the Bonneville Unit,” emphasized Lynn Hansen, “is that it is all downhill.”57

The outlet of Stillwater Dam is linked with Stillwater Tunnel through the Stillwater Pipeline, a short section of pipeline that also serves as a connecting point for the waters of the South Fork of Rock Creek. The South Fork is intercepted at Docs Diversion, and conveyed more than 4,000 feet to the Stillwater Pipeline. Constructed between 1986 and 1988, Docs Diversion and Feeder Pipeline became operational in May 1989.

HADES AND RHOADS TUNNELS

A short section of pipeline connects the outlet of Stillwater Tunnel to the North Fork Siphon. The siphon crosses under the North Fork of the Duchesne River, descending 700 feet from east to west a distance of about 2 miles to the inlet of Hades Tunnel on the other side of the canyon. Building the North Fork Siphon demonstrated once again Reclamation’s ingenuity and determination. “We had a lot of experienced people who’d built big projects,” former head of projects and construction Bruce Barrett noted.58 Reclamation’s role in overseeing these projects was indispensable. The steep terrain of the North Fork Canyon required Lakewood, Colorado, contractor Harrison Western to employ helicopters to carry the concrete used for building the pad to support the huge pipeline. Each of the 23-ton sections of pipeline was grouted in place using
airsbags for support. The contractor began work on the Siphon in May 1984 and completed the project during fall 1986.59

At its terminal end the siphon was designed to accommodate the flow of Hades Creek, diverted near its confluence with the North Fork of the Duchesne, and conveyed to the siphon through about 2.5 miles of pipeline. The Seattle, Washington, based firm Osberg Construction began work on the Hades Diversion and Feeder Pipeline in July 1986 and completed the project just before Christmas 1987.

The combined flow of the North Fork Siphon empties into Hades Tunnel on the western side of the canyon. The Hades and Rhodes tunnels were the last two tunnel segments contracted as part of the Strawberry Aqueduct. Reclamation awarded the contract for both tunnels to Harrison Western in June 1980. The Hades Tunnel would extend 4.2 miles through the divide separating the North Fork of the Duchesne from Wolf Creek. The Rhodes Tunnel breaches the less than one-mile ridgeline between Wolf Creek and the West Fork of the Duchesne. The Wolf Creek Siphon connected the two tunnels across Wolf Creek, a distance of 237 feet.

Given the difficulties encountered on the Vat and Stillwater tunnels, Reclamation reported work on both Hades and Rhodes tunnels proceeding much more according to plan. In little more than four months, the contractor had bored the shorter Rhodes Tunnel, disassembled the TBM, moved it across the canyon, reassembled it, and prior to the onset of winter, had excavated nearly 1,500 feet into the outlet of Hades Tunnel. Less than a year later in November 1981, the TBM emerged from the inlet side of Hades Tunnel, completing the excavation of both tunnels well ahead of schedule.

Robert “Rabbit” Maxwell recalled his experience working on these two tunnel segments, and remembered the magnificent “environment, the mountain; I was finding stuff down in this
black...[shale]. I found a bee all cased in iron pyrite. Clams, lizard tails. And we had 2,500 feet of cover over us. [It] amazed me,” Maxwell exclaimed. “God must have been stirring something when he made this Hades and Rhodes.”

No amount of study and investigation on the part of Reclamation, however, could ever entirely prepare construction crews for what may await them beneath the surface. Rock and soil conditions could change rapidly historian Fred Hapgood wrote, “from tough limestone to water-saturated gravel to sand to granite to mud...[These could] plunge an excavation into disaster, either by flooding or collapsing [the tunnel].”

Notwithstanding Reclamation’s optimistic appraisal of constructing Hades and Rhodes tunnels, Maxwell recalled his and twenty other miners’ near brush with death. “We got washed out of the tunnel,” he exclaimed. After the “water hit us; it pushed the engine and everything out of the tunnel... When the wave of water hit the [outlet] portal...Jimmy Giles... thought we [were] all dead. It washed the fuel tank off the hill...It was just a big gush of water,” Maxwell stressed.

Compounding the dangerous situation, the water had submerged the high voltage lines used to power the TBM, and with the water nearly chest deep, Maxwell confessed that everyone was “afraid we would get electrocuted, [and] in thirty eight degree [water], we should have frozen to death.” The miners managed to walk out of the tunnel, more than a mile, by standing “tip toe” on the rails, with only their miner lights to guide them. “And this was the thing,” Maxwell confided, “we didn’t know how much more water was coming.”

As it turned out, the burst of water was an anomaly. “To this day,” Maxwell asserted, “we don’t know where it was coming from.” Afterwards, however, the miners kept four “self-inflating” rubber rafts with them at all times, so “if it happened again we could get out fast.”
Following the above, construction crews installed tunnel linings, and connected the Hades and Rhodes tunnels through the Wolf Creek Siphon. Two additional features contribute to the aqueduct in this vicinity. The flow of Twin Creek, a tributary of Wolf Creek, is intercepted at the Win Diversion Dam and conveyed from the west to Wolf Creek Siphon through 3,400 feet of feeder pipeline. The Rhodes Diversion Dam diverts Wolf Creek and conveys it approximately 700 feet into the siphon. Reclamation awarded contracts for both features to Western Utility in September 1986. Less than two years later, the company had completed its work, and Reclamation made its first diversions from these Duchesne River tributaries in May 1988.

WEST FORK PIPELINE, VAT DIVERSION DAM AND THE 1980 STREAMFLOW AGREEMENT

From the outlet of Rhodes Tunnel, water from the Strawberry Aqueduct entered the canyon of the West Fork of the Duchesne River. It was conveyed along the canyon’s north face through the West Fork Pipeline to the inlet of Vat Tunnel. The Vat Diversion Dam, stretching more than 500 feet across the river and rising 22 feet above the streambed, captured water from the West Fork. A 600-foot feeder pipeline connected the diversion dam to the West Fork Pipeline near the inlet to Vat Tunnel. Water taken from the West Fork at the Vat Diversion Dam had the potential to nearly double the flow of the Aqueduct as it entered Vat Tunnel.

Once again, the Springville, Utah, firm of W.W. Clyde submitted the low bid and was awarded the contract for the West Fork Pipeline, the Vat Diversion Dam and the Feeder Pipeline. Not only would the Vat Diversion potentially double the flow of the Aqueduct, it would also de-water the West Fork of the Duchesne below the diversion. Furthermore, it could contribute to the sediment load above the dam, and potentially impact water quality throughout the drainage.
As streams and river beds were under its purview, the Army Corps of Engineers issued a public notice, and took comment on the Vat dam and pipeline at a public meeting held in August 1979. In January 1980, the Corps released another notice for a public meeting to receive comment on subsequent features of the Strawberry Collection System yet to be constructed, including the aforementioned Rhodes, Win, Hades and Docs diversions; and those associated with Rock Creek and the Upper Stillwater Dam.

In 1979, the State Division of Wildlife Resources joined with a chorus of other concerned agencies and organizations in criticizing the CUP’s impact on Uinta Basin streams and wildlife. Responding to this criticism in February 1980, Governor Scott Matheson arbitrated an amended agreement between the State, Reclamation and the District that would incrementally increase the amount of in stream flow from 6,500 acre feet to 44,400 acre feet.

In addition to the 6,500 acre feet allowed for under the 1965 agreement, the District agreed to leave an additional 15,800 acre feet, mostly in Rock Creek, Current Creek, and the West Fork of the Duchesne for fish habitat. The District could conserve, purchase, or use any other lawful means to achieve this figure. Failing to find an alternative, however, the 15,800 acre-feet would have to be met through a reduction in project water. The agreement assigned the responsibility for the remaining 22,100 acre-feet to the other signatory state and federal agencies. They were, however, no better equipped to make up the deficit than the District.

Not surprisingly, Reclamation tried to engineer its way out of the dilemma. Planners proposed a pump-back, recirculation system that included two pumping stations, one on Current Creek at its confluence with Deep Creek, and the other on the North Fork of the Duchesne River. Water sufficient to maintain the in-stream flow requirements in Rock Creek, the West Fork of the Duchesne, Currant Creek and Strawberry River, would be allowed to bypass diversions to the
Strawberry Aqueduct, and be captured downstream at the pumping stations, where it would be lifted back into the aqueduct, or transported directly to Strawberry Reservoir through a pipeline. The beauty of the system, Reclamation claimed, was that it maintained the flow for fish habitat while it also maintained “the full trans-basin diversion.”

Utah Congressman Wayne Owens derisively characterized the idea as “the most Rube Goldbergian, enormously expensive water pump-back scheme [imaginable].” Unfortunately, though the pump back system was an intriguingly clever idea to circumvent the problem of losing project water, it could not function because in the High Uintas, electric “power [was] not…available for operating the pumping plants.”

For more than 30 years, Utah officials and political leaders had been clear in the direction they expected Reclamation to take the CUP: develop as much of Utah’s share of the Colorado River as possible. In response, Reclamation had accounted for nearly every acre-foot of water, and had remained largely indifferent to environmental concerns. You have “to remember from where Reclamation’s background comes from,” insisted Bruce Barrett. The agency had built more than 350 “big dams west of the Mississippi River…back in ‘50s and ‘60s…[And] when that’s been your history and…environmental laws didn’t even exist [until 1973], making that transition…to a new world… is not an easy task.”

Removing more than 37,000 additional acre-feet from the project would severely test the CUP’s feasibility. Shortly “before I came on board,” Reclamation engineer and CUPCA coordinator Lee Baxter stated, there had “been a terrible fight… out in the Uinta Basin for the Strawberry Aqueduct to cross the North Fork of the Duchesne River.” Baxter saw this episode involving Reclamation, the District, fish and wildlife agencies and the environmental community as “the line in the sand…. they kind of went to war over that,” he recalled.
The increase in the amount of water from 6,500 acre-feet to 44,400 acre-feet “was a huge change,” he continued. “[They] were only developing 132,000 acre-feet. So that was on the order of a third of the total project water supply that you’ve…left in the stream for fish…”

Indeed, it may mark the point when the CUP began its transformation from what the District and CUP supporters believed it would be when Reclamation released its definite plan for the Bonneville Unit in 1964, to what it ultimately became.

The agreement would almost certainly mean less water at the end of the ditch. Sevier, along with Millard, Piute and parts of Sanpete and Garfield counties, had elected to join the CUWCD after Utah officials requested that Reclamation find a way to deliver CUP water to the Sevier River Basin during construction of the initial phase, rather than postponing deliveries until the ultimate phase. Farmers in the Sevier River Basin had high-hopes, as they canvassed the counties and collected the required signatures for inclusion within the District. If there was “a chance we [could] get more water here, in the county,” former Sevier River Water Commissioner Michael Styler stated, recalling the desert mindset in the southern counties, then “we need to get it here; and we’ll pay the price, whatever the price is, if we can get more water into the county.”

As early as 1964, Reclamation began studying the water situation in the Sevier River Basin, “to determine the suitability of lands for sustained irrigation…” Project Manager Palmer DeLong intimated that a report on Reclamation’s findings would be forthcoming in 1966, and in April 1967, acting on the advice of Governor Calvin Rampton the District and the Utah Water and Power Board passed a resolution requesting the Bureau of Reclamation to modify its plan for the Bonneville Unit to provide water to the Sevier River Basin during the initial stage of construction. Reclamation determined that as much as 36,000 acre-feet of project water would
be available for the Sevier River Basin. In March 1967, the District Board of Directors consented to include the counties within the District’s boundaries, and in May, the Fourth District Court approved the annexation. At its May meeting, the Board adopted a resolution recognizing Reclamation’s conclusion that the diversion of 36,000 acre-feet was both “feasible and desirable” and that the District concurred with Reclamation’s “plans and recommendations…to deliver water to the Sevier River Basin.”

Leaving 44,400 acre-feet in Duchesne River tributaries for fish, as was required under the 1980 agreement, dimmed the hopes of Sevier River Basin irrigators, and would undoubtedly contribute to the eventual withdrawal of Sevier and Millard counties from the District a decade later. Nevertheless, the stream flow agreement paved the way for construction to continue on the Bonneville Unit. State and federal officials immediately rallied in support of the CUP, and requested that the Army Corps issue the stream permit for the Vat Diversion Dam and West Fork Pipeline. The Corps complied, and by fall 1981, the contractor had completed laying most of the pipeline, as well as making considerable progress at the Vat Diversion Dam site.

The early 1980s, however, brought heavy snowfall to Utah, particularly in the high reaches of the Uinta Mountains. The West Fork and other tributaries of the Duchesne River experienced extremely high runoff during spring 1982. The floods eroded the partially completed Vat Dam and filled portions of the West Fork Pipeline with sand and gravel. Crews from the W.W. Clyde Company spent much of the summer repairing the damage, only to have heavy winter storms visit the area again in 1983, bringing further delays to the project. Not until March 1986 did the pipeline and West Fork diversion finally enter the Vat Tunnel.

ENVIRONMENTAL REPRISALS
Although the stream flow agreement may have appeased state and federal agencies, it did little to soften the opposition of conservationists. Among those organizations that continued to contest the features planned for the Strawberry Collection System, as well as most other parts of the Bonneville Unit was the Citizens for a Responsible Central Utah Project (CRCUP). The organization defined itself as:

- a coalition of stream fly fishermen, taxpayers, and citizens concerned with continuing destruction of free-flowing streams, wetlands and wildlife habitat, [who] believe that neither Utah residents or Congress have been informed of the real water situation in Utah or the costs to the nation's taxpayers for developing CUP water for Utah.  

The CRCUP found the proposed Upper Stillwater Dam on Rock Creek particularly vexing. Activist Lillian Hayes remembers the surprise of some when Reclamation proposed Upper Stillwater. “Oh, they’ll never build a dam [there],” she recalled her husband once remarking. “But they did,” Lillian exclaimed, because according to Reclamation they could “build a dam anywhere; it’s the design that counts,” she remembered one engineer asserting.

The “one dam that hadn’t [yet] been constructed [that] really should have been looked at…was Upper Stillwater,” maintained Fred Reimherr, who along with Dorothy Harvey co-chaired the CRCUP in 1980. It “turned out to be a very, very expensive dam… If it would have been a true cost benefit calculation looking at the construction of that dam, versus other sources of water – the decision might have been…made that there’s other ways to get water into the reservoirs on this side of the Wasatch Mountains.”

Sheldon Talbot, District engineer, also disagreed with Reclamation’s decision to experiment, not for environmental reasons, but because of costs. Although Reclamation claimed the roller compacted dam could be built for less money, Talbot argued for “an earth-filled
dam…” that could be constructed “for only twenty-five million dollars…I lost the argument…but they spent over a hundred million dollars…”

While the CRCUP scrutinized nearly every aspect of the CUP, from its economic feasibility to its impact on fisheries, wildlife, and water quality, its primary complaint against the project was simple: the organization believed much of it was unnecessary. The CUP’s promoters never “wanted to exam whether or not water…was being used effectively in the Great Basin, before they took water out of the Colorado Basin,” Reimherr asserted. “They wanted to have more water… available in this area, under their control. [The] state of Utah could have looked at water use up and down the Wasatch Front and said, ‘Gee, you know, this water is not being used effectively; let’s try and transfer the water into…a different system…” [They] haven’t done [that] as effectively as they could have.”

The CRCUP often contended that other, less expensive, water development options existed, and that the single-minded goal of the CUP was only “to keep Utah’s guaranteed entitlement to Upper Colorado River water within the State boundaries for its growth and development.” Neither Reclamation nor the District necessarily disagreed with the latter part of this assertion; however, Reclamation, took exception to the contention that other alternatives were readily available. Assistant Regional Director Palmer DeLong contended that further development of local “water supplies would be available only at the expense of other uses.”

Conversion of agricultural water for a municipal source, as championed by some in the CRCUP, could not be accomplished “on a one-for-one basis, …” DeLong reported. Irrigation “supplies usually include high shortages, lower quality…water, … differences in time and place of use…[and require expensive] storage and conveyance facilities…” Furthermore, most “of the
irrigation…supply…that might be available…comes from Utah Lake…[which] is too saline to be used for municipal water.”

To those who agitated for greater use of Salt Lake’s mountain streams, DeLong estimated that these could only produce an estimated 27,800 acre feet of additional water. “Most of this…occurs [during] spring flood[s] and cannot be economically captured.” He also argued against the increased development of groundwater, unless “long-term ground water yield…[equaled] that of surface supplies…Those who…contend that an additional 74,000 acre-feet of groundwater can be developed…without ‘serious adverse effects’ are ignoring the environmental impacts…” Enumerating these, DeLong estimated that increased withdrawals would deplete the “base flows and effect…existing rights of the Jordan River in the order of 50,000 acre-feet per year…, [reduce]… ground water supplies to…wildlife area[s]…40,000 acre-feet per year…,” and reduce the discharge of flowing wells by “15,000 acre-feet per year.” Increasing the withdrawal of groundwater “would only divert the water away from…existing uses and would require replacement supplies.”

Water use along the Wasatch Front was projected to increase by more than 1.5 million acre-feet by 2020. Even if the total “residual water supply…” available in the Bonneville Basin was put to use, at least a 500,000 acre-foot deficit would remain. Ultimately, DeLong countered, local “sources will not be sufficient to meet the needs…” of a growing Wasatch Front, without the importation “of high quality water from the Upper Colorado Region…”

As DeLong speculated, the population and economy boomed along the Wasatch Front. While it may have been anathema to those CUP opponents who argued for greater conservation and austerity, water developed under the CUP would be an important factor in sustaining this growth. Even so, the sustenance provided in the Bonneville Basin would likely have been far less
beneficial and the CUP’s legacy far less admirable had developments been left unrestrained by environmental concerns and built entirely as originally authorized. Although often provocative and at times sensational, coalitions such as the CRCUP played a vital role in revealing the project’s environmental weaknesses. Harold Sersland, who Reclamation hired to manage the environmental impact process, interacted a good deal with environmental groups, such as the Sierra Club and Trout Unlimited. He particularly recalled his relationship with David Raskin who led “the charge for the Sierra Club…Dave and I actually got to be good friends,” Sersland recalled. “[My] job was to find out what the [environmental community]…wanted; come back [and] talk to the Bureau of Reclamation, explain to them.” It was not usually an easy sell, Sersland confessed. “Part of them would be ‘Ah, hell no.’ And, I’d say ‘Well, okay. But here’s the consequences of doing that[:] You are going to get sued. Or, [you are] not going to have support.”

PRESIDENT CARTER’S HIT LIST

The environmental consequences of the CUP moved under the national spotlight in 1977, when President Jimmy Carter identified it as one of a number of questionable federal water projects. Hoping to fulfill his campaign promise for the “prudent and responsible use of taxpayers’ money and [for the] protection of the environment,” Carter recommended significant cuts in CUP appropriations, and insisted that Reclamation re-examine the project’s environmental impact and economic feasibility. While widely applauded by CUP opponents, Carter’s so called “hit list” of water projects touched off a congressional firestorm. Utah’s delegation immediately went on the defensive.
“No congressman ever won anything by de-authorizing a project,” retired Assistant Commissioner of Reclamation Cliff Barrett stated. The “Carter Administration [would]…send [someone] down to the Bureau, ‘We'd like to de-authorize some projects. Give us a list of projects we can de-authorize.’ And I'd say, ‘Sure, …I can sit down and write it for you right now on the back of an envelope. Take it and run.’ And nothing ever happened, because they couldn't find a congressman who was willing to introduce a de-authorization bill. I mean, that's suicide for a congressman to do that.”

Reclamation convened a Salt Lake City meeting in March 1977, attended by Utah’s two most prominent Democrats, Governor Scott Matheson and Congressman Gunn McKay. Both McKay and the Governor took exception to the President’s meddling in what McKay claimed to be a congressional matter. Matheson reminded the audience that Utah was presently in the midst of drought, and to the delight of some in attendance, emphasized Utah’s long suspicion of federal authority.

For three hours proponents rehearsed the merits of the CUP. District spokesman and legal counsel Ed Clyde told the audience that the President’s announcement had fallen “like a sledgehammer…” He reminded everyone that the District had contractual obligations with water companies, municipalities, and with the Ute Indian Tribe that it was legally obligated to fulfill. If the CUP was not funded and completed the District may have no recourse but litigation.

Earlier in February Clyde had made this case even more forcefully in a letter to the District’s Board.

Five different presidential administrations have approved this project. It has had continuous support from Utah’s congressional delegation and its elected officials. Local areas have designed their facilities to receive the water, and there is no backup or contingency plan, because we have assumed that the federal government was a reliable partner. It is neither legally nor morally proper for the federal government to turn its back
on its formal contracts with this District and with the Ute Tribe, and preachments will not make it so. The decision is unacceptable. It should be fought in every available arena - including Congress, and, if necessary, in the courts.\textsuperscript{96}

The Salt Lake City meeting’s afternoon session was filled with some of the CUP’s most passionate opponents. David Raskin read from a report prepared by former Assistant Interior Department Secretary Laurence Lynn. In it, Lynn asserted that the CUP was in no one’s best interest, not for those in the Uinta Basin, or the Bonneville Basin; not for members of the Ute Tribe, and especially not for “the American taxpayers.”\textsuperscript{97} Raskin then reviewed the major objections to the CUP, many of which the environmental community had been raising for years. Among these was the perceived failure of the CUP to deliver any water to the Wasatch front, despite having spent nearly $200 million; the failure of water officials to investigate alternative water sources, such as underground wells and transfers from agriculture; the failure to consider conservation measures as a source of additional water; the potential geologic hazards of constructing Stillwater Dam, those associated with the proposed Uintah and Upalco units in the Uinta Basin, the proposed Jordanelle Dam in the Bonneville Basin; and the unmitigated destruction of aquatic wildlife in 11 Uinta Basin streams.\textsuperscript{98}

Most Utahans did not share the environmental community’s approval of President Carter’s decision to investigate the CUP. “Nothing in the 12 hours of hearings at the Salt Palace persuaded us that the CUP… is so inherently bad that it should be abandoned…” the \textit{Salt Lake Tribune} editorialized.\textsuperscript{99} A majority in Congress also remained unconvinced, and during the next several months, members from states targeted by the President’s investigation banded together to protect their projects. By June 1977, the President and congressional leaders had reached a
compromise on an appropriations bill that included funding to continue construction on the CUP.\textsuperscript{100}

As a member of the Stonefly Society, the local affiliate of Trout Unlimited, Fred Reimherr remembered his disenchantment at the time. “Unfortunately it became a political decision. There wasn’t a decision to sit down and really look at…the reasonable alternatives…It became sort of a political power struggle, and the CUP moved forward without a realistic assessment of the need for the project, or the need for the facilities that were being constructed.”\textsuperscript{101}

It is perhaps ironic that during negotiations to reauthorize the project a decade later, Congress would subject the CUP to scrutiny similar to that suggested by the Carter Administration in 1977. The District, Utah’s congressional delegation and representatives from the environmental community would, in fact, reassess the project, air their differences, and negotiate a compromise that eventually resulted in the Central Utah Project Completion Act.

Until then, however, opponents continued attacking the CUP hip and thigh. In April 1978, Salt Lake County Attorney Paul Van Dam issued a scathing report on the CUP, in which he repeated the arguments that the Strawberry Collection System was both unnecessary and excessive. “Salt Lake County water demands can be met,” Van Dam claimed, “with a combination of Little Dell Reservoir, full utilization of canyon streams along the Wasatch Front, coordinated management of the aquifers underlying the Salt Lake Valley, a State funded, scaled down version of Jordanelle, and the development and utilization of re-use, re-cycling technology.” Furthermore, Van Dam hinted that the approach taken by state water developers to circumvent the “Utah State appropriation system, [and] the levying and use of tax dollars by non-elected officials to pay for water projects…” might be unconstitutional. This oft-repeated charge
would gain greater traction over the next several years, and would eventually result in significant changes to the District’s Board of Directors.\textsuperscript{102}

Van Dam’s criticism was especially alarming to CUP supporters because it came from outside the usual coalition of fly fishermen and environmental organizations. Similar censure followed in 1978 when researchers with the Utah Water Research Laboratory in Logan examined the CUP’s construction schedule and funding and determined that after 13 years and an expenditure of millions of dollars, only about 20 percent of the CUP had been finished. They estimated that if current funding levels continued at $33 million annually, it would take an additional 22 years to complete the project.\textsuperscript{103}

The 1980s clearly brought increased opposition to the CUP. The District found itself having to redefine and justify the project to some who had formerly been their strongest allies. Only the increased demand for municipal and industrial water along the Wasatch Front sustained the CUP as a viable option for meeting this meteoric growth. Even taking into account the development of groundwater, increased use of streams, and water conservation practices, Salt Lake County still forecasted water demand to exceed supply by 1985. By the year 2000, the county expected a nearly 70,000 acre-foot deficit.\textsuperscript{104} These projections largely eclipsed the arguments used against the CUP by Van Dam and others, as water agencies in the county began looking “forward to completion of key facilities in the Bonneville Unit of the Central Utah Project to alleviate their water supply problems.” Unfortunately, Salt Lake County lamented, delays in funding, along with “environmental and safety concerns…have pushed back the anticipated delivery-date [for this] block of water…”\textsuperscript{105}

Not until 1989 would water flow unobstructed and uncontested through the entire length of the Strawberry Aqueduct. Still, many of the key features needed for delivery and use of this
water along the Wasatch Front had yet to be completed. Furthermore, negotiations between the District and other entities that would coordinate the complex exchange of Strawberry Reservoir water for Provo River water was still ongoing. With the congressional cost ceiling fast approaching, the District entered a critically important and difficult period of its history, as it tried to convince Congress to reauthorize one of the most expensive, complex trans-basin water projects in Reclamation’s history.

---

1 Eastman, Bonneville Unit, pp. 27-52. Unless otherwise noted, information on construction of the Strawberry Collection System comes from this source.

2 Randy Williams, Interview with Curtis Pledger, Provo, Utah, 25 September 2012, p. 20. Pledger’s involvement with the CUP began in 1980 as a civil engineer working for Reclamation on mapping the Jordanelle Dam. Hereafter referred to as Pledger Interview.

3 Randy Williams, Interview with Dave Pitcher, Orem, Utah, 15 September 2012, p. 20. Pitcher is Assistant General Manager for the District, who among other projects, worked on the Olmstead Tunnel. Hereafter referred to as Pitcher Interview.

4 Randy Williams, Interview with James “Rabbit” Maxwell, Hanna, Utah, 15 October 2012, pp. 8-9. Maxwell was for many years an underground miner who worked on many of the tunnels associated with the CUP. Hereafter referred to as Maxwell Interview.

5 Ibid., p. 9.

6 Ibid., p. 7.

7 Ibid., p. 8.


9 Randy Williams, Interview with Lee McQuivey, Orem, Utah, 12 July 2012, p. 9. McQuivey worked on engineering many aspects of the Strawberry Collection System. Hereafter referred to as McQuivey Interview. CUWCD attorney Ed Clyde used this analogy to great effect, referring to Strawberry as the “heart” of the Bonneville Unit, and Utah Lake as the “hub.” See Owens Papers, Box 79, fd. 8.


13 Lawrence Royer and Emily Dekker, An Inventory of the Recreational Use of Strawberry Reservoir: 1975 Summer Season, (Logan: Utah State University, 1976), pp. xii-vx.


15 Ibid.


18 Deseret News, 8 September 1989.


20 Ibid., pp. 20449-20450.

21 Randy Williams, Interview with Shawn E. Draney, Salt Lake City, Utah, 10 July 2012, p. 15. Draney is a water attorney, who among others represents the Strawberry Water Users Association. Hereafter referred to as Draney Interview.

22 Randy Williams, Interview with Gary Aitken, Orem, Utah, 11 July 2012, p. 9. Aiken is the former General Manager of Strawberry Water Users Association. Hereafter referred to as Aiken Interview.

23 Ibid., p. 8.


28 Lynn Hansen Interview, p. 3.

29 Ibid.


31 Lynn Hansen Interview, p. 7.
32 Randy Williams, Interview with Lee Wimmer, Orem, Utah, 25 September 2012, p. 23. Wimmer is an Assistant General Manager for the CUWCD. His involvement with water and construction date back to his formative years. Hereafter referred to as Wimmer Interview.

33 Randy Williams, Interview with Rick Gold, Salt Lake City, Utah, 10 July 2012, p. 17-18. Gold is the former Salt Lake City Regional Director for Reclamation. Hereafter referred to as Gold Interview.

34 Central Utah Project, Bonneville Unit – Utah, Draft Supplement to Definite Plan Report, p. 68.

35 Eastman, Bonneville Unit, p. 45.

36 Lynn Hansen Interview, p. 20.

37 Ibid., p. 19.

38 Richard A. Martin, Jr., et al, Seismotectonic Study for TasKeetch Dam and Reservoir Site, Upalco Unit and Upper Stillwater Dam and Reservoir Site, Bonneville Unit, Central Utah Project, Utah, Seismotectonic Report no. 85-2, (Denver: Bureau of Reclamation, 1985), pp. viii-1.

39 Randy Williams, Interview with Kevin Workman, Duchesne, Utah, 9 August 2012, p. 4. Workman is the current manager at Stillwater Dam. A native of the county, he worked at a number of construction sites involving the CUP. Hereafter referred to as Workman Interview.

40 Randy Williams, Interview with Rock Harrison, Duchesne, Utah, 25 June 2012, p. 4. Harrison worked as an equipment operator on Stillwater Dam, and is presently employed by the CUWCD doing operations and maintenance on facilities in the Uinta Basin. Hereafter referred to as Harrison Interview.

41 Lynn Hansen Interview, p. 18.

42 Ibid., p. 4.

43 Ibid.,

44 Randy Williams, Interview with Thomas J. Bruton, Duchesne, Utah, 25 June 2012, p. 25. Bruton is the Duchesne- area manager for the CUWCD. Hereafter referred to as Bruton Interview.


46 Lynn Hansen Interview, p. 18.

47 Bruton Interview, p. 4.


50 Ibid., 9 September 1988.

51 Ibid., 11 March 1989.


54 Deseret News, 8 February 2000.

55 Ron F. Hall, “Remediation of RCC Dam Seepage, Upper Stillwater Dam Rehabilitation – Phase 1.”


57 Lynn Hansen Interview, p. 18.

58 Barrett Interview, p. 4.


60 Maxwell Interview, p. 21.


62 Ibid.

63 Ibid., p. 22.

64 Ibid., p. 21.

65 The Division had been agitating for an increase in minimum stream flow for fish habitat since at least 1972. See Daily Herald, 24 October 1972. Copy contained in DeLong Papers.

66 Eastman, Bonneville Unit, p. 50.


69 Central Utah Project, Bonneville Unit – Utah, Draft Supplement to Definite Plan Report, p. 74.

70 Barrett Interview, p. 12.

71 Randy Williams, Interview with Lee Baxter, Provo Utah, 24 September 2012, p. 3. Baxter had been hired by Reclamation as a technical computer modeling specialist at a time when the repercussions of NEPA and other environmental regulations began taking their full effect. Hereafter referred to as Baxter Interview.

72 Ibid.

73 Central Utah Project, Bonneville Unit – Utah, Draft Supplement to Definite Plan Report, p. 52.
Randy Williams, Interview with Warren Peterson and Michael Styler, Salt Lake City, Utah, 10 September 2012, p. 21. Styler is an attorney who also served as River Commissioner in the Sevier Basin. Warren Peterson is an attorney from Millard County who specializes in water. Hereafter referred to as Peterson and Styler Interview.


Director’s Pact, 12 May 1967. See also “Resolution of the Utah Water and Power Board, the Governor concurring therein, Requesting the U. S. Bureau of Reclamation to Amend the Definite Plan Report of the Central Utah Project to provide for irrigation service to the Sevier River Basin,” 7 April 7. Files of CUWCD.

Eastman, From Cadillac to Chevy, p. 42.

Director’s Packet, 12 May 1967.

Executive Committee Report, 5 March 1980, contained in Director’s Packet, 13 March 1980.

Citizens for a Responsible Central Utah Project, Harvey Documents, p. 32.

Hayes Interview, p. 3.

Randy Williams, Interview with Fred Reimherr, Salt Lake City, Utah, 10 July 2012, p. 4. Dr. Reimherr has been involved with sportsmen organizations such as Trout Unlimited in questioning the environmental outcomes of the CUP.

Randy Williams, Interview with Sheldon Talbot, Utah Valley, Utah, 7 August 2012, p. 5. Talbot was chief engineer for the CUWCD.

Ibid., p. 2.

Ibid.

Citizens for a Responsible Central Utah Project, Harvey Documents, pp. 32-38.


Ibid.

Ibid., p. 3.

Ibid., p. 2.

Sersland Interview, p. 1.

Ibid.


Barrett, Clifford (Cliff) I., Oral History Interviews, pp. 169-170. Transcript of tape-recorded Bureau of

96 Edward Clyde to Central Utah Water Conservancy District, 21 February 1977. Files of CUWCD.
98 McKay Papers, box 448, fl. 1.
100 Frisch and Kelly, Jimmy Carter and the Water Wars, pp. 81-87.
101 Reimherr Interview, p. 2.
103 Trevor C. Hughes, L. Douglas James, Frank Haws, and C. Earl Israelsen, Feasibility of Accelerating Construction of the Central Utah Project. Ibid.
105 Ibid., p. 18.
Extending the CUP: Municipal and Industrial

In June 1971, as construction crews worked feverishly on the beginnings of the Strawberry Aqueduct and on building Soldier Creek Dam, Reclamation simultaneously awarded bids for portions of the Jordan Aqueduct, the pipeline that would deliver municipal and industrial (M&I) water to the southwestern Salt Lake Valley. The need for municipal water in this rapidly growing area influenced the decision to open construction on two fronts and begin installing the aqueduct. Coupled with the District’s decision to expedite this feature of the Bonneville Unit was Salt Lake County Water Conservancy District’s (SLCWCD, now the Jordan Valley Water Conservancy District) agreement to purchase the first 50,000 acre feet of CUP water.¹

WATER TREATMENT PLANTS

Until completion of the Jordan Aqueduct and other segments of the Bonneville M&I system, SLCWCD would be obliged to purchase non-project water from Salt Lake Metropolitan Water District (Metro District, now the Metropolitan Water District of Salt Lake and Sandy).² At the time, the Metro District had surplus water from various mountain streams, and from Deer Creek Reservoir, part of the previously mentioned Provo River Project, built during the 1930s. The main municipal water feature of the Provo River Project was the Salt Lake Aqueduct, completed in 1951. It diverted water from Deer Creek Reservoir, and ran along the east side of the county.
Four different facilities existed to treat water for communities east of Jordan River in Salt Lake County. These included one constructed by the Metro District to treat water from Little Cottonwood Canyon and from water originating at Deer Creek Reservoir through the Salt Lake Aqueduct; and three other facilities built by Salt Lake City to treat water from City Creek, Parleys Canyon and Big Cottonwood Creek. The county master plan had divided Salt Lake County into seven areas, including Salt Lake City, Big Cottonwood, Little Cottonwood and Draper on the east side, and Jordan, Valley and Magna on the west.\(^3\) The west side precincts were served by the SLCWCD. The Metro District had encountered significant problems in trying to deliver water to SLCWCD across the Jordan River. In 1967, SLCWCD approached the District to determine if a treatment plant could be built on the west side of Jordan River near the Point of the Mountain to alleviate this problem.

The District had completed a water requirement and facility study for Salt Lake County in October 1968, which contained recommendations for raw and treated water storage and water treatment facilities. Until the Jordan Aqueduct could be completed, Reclamation proposed conveying water to the west side through the Murdock Canal (Provo Reservoir Canal). Constructed in 1911, the canal wound for 22 miles through Utah County, from the mouth of Provo Canyon to the Point of the Mountain. Between 1940 and 1950, Reclamation renovated, realigned and enlarged the canal as part of the Provo River Project. The Provo River Water Users Association operated the Murdock Canal. While neither the Murdock Canal, nor the Salt Lake Aqueduct was part of the CUP, everyone understood the mutual advantage of having the CUP work “in harmony with features of the Provo River Project…” With the west side communities contributing much of the growth in the Salt Lake Valley, it would be essential to “deliver water to both the east and west sides…as needs require[d].”\(^4\)
Reclamation remained adamant, however, that it was not in the business of delivering treated water, nor had treatment plant construction been part of the CUP plan. Reclamation would build the aqueduct, but if the District wanted a treatment facility, it would have to cover the construction costs itself. Nevertheless, Reclamation believed that the sections of the Aqueduct needed to deliver Murdock Canal water could be completed by 1974 to correspond with the District’s plan to build a treatment plant for Salt Lake County. These initial segments of the Jordan Aqueduct, referred to as Reach 1 and Reach 2, commenced near the Point of the Mountain. Reach 1 consisted of a pipeline connected to the Murdock Canal and siphoned under the Jordan River near the boundary between Salt Lake and Utah counties. Reach 2 extended the aqueduct as far north as the community of West Jordan.

As Illinois contractor S.A. Healy Company began laying pipe for this first reach of the Jordan Aqueduct in January 1972, the District advertised bids for the Jordan Valley Water Purification Plant. Reach 1 of the aqueduct would terminate at the Jordan Valley Plant. In February, the Salt Lake City based Jacobsen-Jelco Company began construction, and completed work on the Jordan Plant in August 1975. Costs for the facility totaled $8.6 million. Until such time that it would need to borrow capital to implement treatment facilities throughout the District, the Board agreed to pay the costs of these M&I facilities as pre-paid capital investments with no repayment obligations.

In accordance with the recommendations from the 1968 water requirement study, the first-phase of the plant was designed to serve a population of approximately 128,000, or 36 million gallons a day. The plant was expanded to treat 60 million gallons in 1979 and to 180 million gallons in 1986. A terminal reservoir to store treated water was constructed in phases following completion of Reach 3 of the Aqueduct in order to match the capacity of the treatment
plant. Reach 3 of the Jordan Aqueduct was completed in 1983, and anticipated delivering water to the southern boundary of Salt Lake City.\textsuperscript{8}

In August 1984, only a year after completion, Reach 3 of the aqueduct ruptured, flooding a square city-block of residential property in South Salt Lake County. The failure sent a plume of water 20 feet into the air, flooding a dozen or more homes with four feet of water.\textsuperscript{9} Reclamation’s investigation identified a problem in the manufacture of the concrete pipe sections used to construct a portion of the aqueduct. Reclamation acknowledged, however, that its findings did “not necessarily agree” with those of the manufacturer “who had conducted their own investigation of the failure.”\textsuperscript{10}

“We put it into service and within a few months it ruptured and we had a … $35 million additional bill,” complained District Manager Don Christiansen. “I’m going to pay for this line twice and had only used it for 5 months.” Christiansen nevertheless accepted the fact that Reclamation’s only option was to repair the breach and “add the cost onto the project. So we came up with a little gimmick,” he divulged. The District resolved to “prepay” the cost of the repair back to the federal government. The prepayment decreased the amount of interest the District would pay on the project, enabling it to save more than $30 million. The idea worked so well that the District would later convince Congress to allow for discounted prepayments on other projects, as well.\textsuperscript{11}

As Reclamation worked on the M&I system north into Salt Lake County, the District studied the water requirements and facility needs for Utah County, and then planned the construction of the Utah Valley Water Purification Plant. The plant’s construction coincided with completion of Reach 1 of the Alpine Aqueduct to the south. Designed by the Utah engineering firm of James Montgomery, the Utah Valley plant was the first direct filtration
facility in Utah. Positioned on the terrace at the mouth of Provo Canyon, it was built between 1977 and 1979 by the Utah firm, Jacobsen Construction Company. As with the previous Jordan Valley plant, the District paid for the $14 million facility entirely through tax revenues. The plant’s initial capacity of 42 million gallons a day was initially designed to serve the needs of 150,000 people. Moreover, the Utah Valley plant was constructed and connected to aqueducts that could be used to deliver treated water through the Alpine Aqueduct, situated immediately adjacent to the Jordan Aqueduct once it was completed. This feature could potentially serve the communities in North Utah County.

In 2002, the District expanded the treatment facilities, increasing the plant’s output to 80 million gallons, while also expanding storage capacity to 15 million gallons. In addition, a raw water bypass aqueduct was constructed around the Utah Valley plant to convey raw water through the Alpine Aqueduct to communities in North Utah County.

Each of the District’s treatment plants was “built to a capacity…. equal to the conveyance and treatment of Central Utah Project water,” District engineer Dave Pitcher recently explained.

[For] example, the Jordan Aqueduct was sized to deliver 270 cfs of project water. That’s equal to 180 million gallons a day of capacity…And…our District took on the obligation to build a treatment plant with the ultimate capacity of 180 million gallons a day. It initially built it at thirty-six mgd, and then seventy-two mgd…, and…ultimately…to 180 million gallons a day… We…have…done that [and] we’re completing a design project next year on the Utah Valley Treatment Plant…

Early on, the District Board made a deliberative decision to build and operate water treatment plants. Reclamation was only interested “in the storage and delivery” of municipal water. But for CUP water to effectively supplement local water supplies and be beneficial to “our local constituents,” Pitcher continued, “it needed to be treated…So our board of directors said, ‘Okay, should we get into this game or not?’” The District’s first engineer, Carl Carpenter,
had early oversight for water treatment plants, and remembered considerable discussion among Board members. Some believed the District “should just be the wholesaler of the raw water… Salt Lake County already had [four] water treatment plants in operation and… the Utah County communities…were supplied with ground water from springs and wells. They really couldn’t see the need for treated drinking water.”

Dave Pitcher believes the Board acted wisely, however, when it decided to formulate a policy on municipal and industrial water. Its effort resulted in the construction of uniform “water treatment plants throughout the District, …” two along the Wasatch Front, and two in the Uinta Basin.

Water shortages and quality issues chronically affected most areas of Duchesne County. “Altamont had wells [that] quite often went dry [during] the late fall,” Duchesne County Commissioner Kent Peatross recalled, and you absolutely could not drink the water “east of Duchesne.” At a place “my Dad owned…[there was] so much sulfur in it [that] it just tast[ed] terrible.” The high mineral content of water “in the Upalco area…west of Roosevelt, …” he continued, “would turn their sinks yellow.”

When the District met with rural residents from the county in 1967 it reported that the area had practically no source for culinary water, “except for the City of Myton, which [used] chlorinated canal water.” Kent Peatross remembers vividly the problems associated with using this source. Once, while visiting his grandmother in Myton, she complained that her outside tap had quite working. Kent’s father “got a wrench and…took the faucet off…A little frog squirted out of it.”

The Board informed the Duchesne County group that while they could not provide the delivery system they were open to helping “develop a source of supply, …” particularly if the county could demonstrate that CUP developments had impacted “existing water supplies.”
Starvation Reservoir did not include any provision for municipal and industrial water; yet the
District proposed that it “may be able to provide…a feeder line to your distribution reservoir in
exchange for storage of winter domestic and stock water in Starvation Reservoir.” In 1974, the
District authorized a study to determine the water needs in the western Uinta Basin. The study
concluded that the best, most economical means of providing a municipal supply in the area of
Duchesne City would be treated water from Starvation Reservoir. Among other possibilities, the
report suggested investigating another treatment plant at Big Sand Wash Reservoir for Roosevelt
City. While the Roosevelt proposal did not materialize at this time, a pipeline from Big Sand
Wash to supply water for Roosevelt City would be pursued later as part of the Uintah Basin

Duchesne County residents explored a number of options, including digging wells and
taping spring-water, but all proved either too expensive or impractical. By 1978, with most other
options exhausted, the recently created East Duchesne Culinary Water Improvement District
petitioned the District for treated project water from Starvation Reservoir. In August the District
Board retained an engineering firm to explore the possibilities for a Duchesne complex,
including “a treatment plant, raw water pumping station, and a treated water aqueduct.” Bids
for the Duchesne complex were awarded to Dexon, Inc. for the pumping station; Alder
Construction for the treatment Plant; and LaMar D Construction for the aqueduct, all Utah-based
firms. The companies completed construction in 1982, with the first treated water produced in
May. As with other treatment plants, the Duchesne facility was paid for from District tax
revenues.

The water treatment plant has had an enormous impact in Duchesne County. It has
provided the greatest benefit for “the largest portion of the population of any part of the project,”
Kent Peatross maintained. We have “had at least five…culinary water districts formed…[that] deliver water to thousands of people throughout the east half of the county…When it comes to culinary you just can’t say enough about…a good drink of water…”

Unlike Starvation Reservoir, Reclamation had provided ample water for cities and industry in both Red Fleet and Steinaker reservoirs. Reclamation had in fact expanded the size of Red Fleet because of anticipated growth in the Vernal Area. As examined previously, the oil shale industry failed to materialize as expected, which left the Uintah Water Conservancy District with 12,000 acre-feet of municipal water that it could neither use nor afford.

Agreements entered into during the planning and construction phases of the Jensen Unit had stipulated that the District would “participate in the marketing of all Jensen Unit municipal-type water on the same basis as for any other Central Utah Project municipal water…” Part of this obligation included a provision for water treatment. The initial plan was to pump Red Fleet water to Ashley Creek through the Tyzack Aqueduct for exchange of Ashley Spring water. Residents of Vernal were well aware, however, that the quality of their drinking water changed with the seasons. Each year during spring runoff the water from Ashley Spring turned cloudy. This turbidity, Reclamation concluded, resulted from the higher velocity of water flowing through the limestone aquifer. Ashley Spring “comes …from Dry Fork,” explained Uintah Water Conservancy District Manager John Hunting. The water disappears into a sink, “travels underground…” and reappears as Ashley Spring farther down the drainage. During “that process it is filtered somewhat, …” and except during snowmelt, requires only minimal treatment.

After enacting more stringent drinking water regulations during the 1970s, State officials began questioning this seasonal turbidity. Concurrently, the District initiated a Water
Requirement and Facility Study in 1978. The objectives of the study were to establish the present and future water needs in Ashley Valley, evaluate various sources to meet those needs, assess treatment requirements and alternatives, and prepare cost estimates and consider economic feasibility.  

The study produced the following conclusions:

1 – M and I water demand in Ashley Valley would double by the year 2000.
2 – The existing water supply in Ashley Spring was not adequate to meet the anticipated demand.
3 – That Ashley Spring, Steinaker Reservoir, and Red Fleet Reservoir be combined for best management, and that treatment facilities be provided to meet the Safe Drinking Water Standards.
4 – That direct filtration using a combination of reservoir water with Ashley Spring was feasible.
5 – That the initial capacity of such a plant be 15 mgd, and the best location was at “Doc’s Beach” where water from all sources could be treated and delivered throughout most of the valley by gravity.

After completing preliminary studies and operating “pilot plants” to demonstrate the project’s feasibility, the District awarded a contract to Clegg Construction Company of Woods Cross, Utah, to build the $7 million treatment plant. The plant was paid for in the same manner as other District treatment facilities.

Additionally, Reclamation redesigned the Tyzack Aqueduct to terminate at the treatment plant, rather to convey pumped water from Red Fleet to Ashley Creek as initially intended. This, Reclamation referred to as Tyzack One. Another aqueduct, termed Tyzack Two, Reclamation designed to bring treated water from the plant to the delivery systems for Vernal City, and to the delivery systems serving the Jensen and Maeser areas. Since that time, Hunting explained, the Uintah Water Conservancy District has “built Tyzack Reach Three, which takes the water to Reach Two from…another pumping plant…[This] allows us to pump water…to the whole Valley…”


The water is drawn from either Ashley Spring or Red Fleet Reservoir. “In the early spring during high flows Red Fleet is easier to treat,” Hunting stated, confirming what Reclamation geologists had discovered during their earlier investigation. They “can treat Red Fleet water cheaper than they can the spring water…[But] sometime generally in June…the waters just switch. Red Fleet…becomes harder to treat and the springs become easier…”

The operation of the Ashley Plant is unique because the District does not operate and maintain the storage reservoirs or the aqueducts. As already mentioned, the Uintah Water Conservancy District preceded formation of the District by seven years. “We are kind of a different animal,” Hunting explained. Other “places…tie directly into Central Utah…We are our own District…” Dave Pitcher affirmed, “Vernal…operates as kind of an island. We don’t operate the facilities that convey water from the…Vernal or Redfleet Units... They convey water to our treatment plant, we treat it, and we deliver it right back to them.”

Each of the four treatment plants built by the District has unique requirements. The Metro District staffed the Jordan Valley Plant during its early years of operation. Beginning in about 1980, the District shared this responsibility, but as the plant’s primary purpose was to provide treated water to the Metro District and the SLCWCD, these agencies eventually assumed control of operations. In 2007, the District Board discussed the future of the Jordan Plant, and concurred that its intention had always been to turn them over “to the operating agencies.” In May, the Board resolved to transfer ownership of the Jordan Valley Plant and terminal reservoir jointly to the Metro District and the Jordan Valley Water Conservancy District (formerly the SLCWCD).

The primary mission of the District has been to provide wholesale water. “For example, Jordan Valley Water Conservancy District,” Rich Tullis elaborated, “we wholesale this massive
Central Utah supply to them that we develop…[from] the Colorado River…They take it…combine that with other sources…and…sell it to a city…And then that city…bills the water user who is drinking the water and watering his lawn…” Our charge, Tullis emphasized, is to develop and deliver water.30

Completion of the aqueduct system enhanced the delivery of municipal water. Finished in 1987, Reach 4 of the Jordan Aqueduct supplanted for a time the Murdock Canal as a means of delivering water to the Jordan Valley Plant. It connected directly with Reach 1 of the Alpine Aqueduct coming out of Provo Canyon, and was constructed north through Utah County to join the previously constructed aqueduct segments for treatment and distribution. Reach 3 of the Alpine Aqueduct constructed at the same time and in parallel with Reach 4 of the Jordan Aqueduct extended to the eastern limits of Lehi. Alpine Reach 2, begun in 1987 would provide water to Orem and points south.31

OLMSTED TUNNELL AND FLOWLINE

The Alpine Aqueduct conveyed water from the Provo River by connecting with the Olmsted Pipeline (Union Aqueduct) below Deer Creek Reservoir, near the mouth of Provo Canyon. The Olmsted Pipeline was part of L.L. Nunn’s expansive hydroelectric system that operated as Telluride Power Company at the turn of the Twentieth Century. Constructed in 1904, the pipeline delivered water to a power plant of the same name. Utah Power and Light Company acquired the system in 1912 following its absorption of Telluride Power. Utah Power and Light (UP & L) enlarged the power plant in 1922, and in 1949, replaced the original wooden
flume with a steel pipeline. The distinctively green Olmsted Pipeline wound for decades precipitously along the cliffs of Provo Canyon.32

In 1987, Reclamation declared its intention to take the Olmsted pipeline, the diversion structure and other appurtenant facilities for use in delivering M&I water to Utah and Salt Lake counties. Also included in the condemnation was UP & L’s 429 cubic-foot per second water right for power generation. In 1989, Reclamation amended its declaration to include all the facilities associated with the production of hydroelectric power below Deer Creek Reservoir.33 In order to make the CUP possible, Provo River Commissioner Stan Roberts explained, Reclamation had to acquire “the Olmsted Diversion Dam, and the…Olmsted Flow Line…They [also] bought the water rights to make power.” Following several years of negotiation, and the realization that litigation would likely become protracted and not in the best interests of the project, the District, Reclamation and UP & L agreed to a settlement. There “would be a cash payment made up front,” Roberts continued, and additional payments made “over a period of time…based on how much water was withheld…from making power.” The agreement obligated the District to compensate UP & L for water that had historically been used to generate power.34 It was “a very successful negotiation for the CUP, District operations, and for UP&L,” District Assistant General Manager Dave Pitcher stated.35

Daryl Devey began his career with the District tending and maintaining the Olmsted Pipeline. “It was built as a hydro-electric conduit, not really to deliver a municipal water supply.” The old pipeline developed frequent leaks and cracks, and to “top it off, there was an area…between Canyon Glen Park and Nunn’s Park [where] there was a major landslide going on…[The] whole earth was moving underneath the pipeline…It was like I had a twenty-
Devey remembered, “and… all I did was take care of this landslide and pipeline.”

The Olmsted was “one of the major water delivery arteries for the Central Utah Project…” It supplied water to “Orem, … north Utah County, … Jordan Valley, and [the] Metropolitan Water District of Salt Lake and Sandy.” As such, it became a priority for the District to fix the aging conveyance system. We “fixed the landslide first with a tunnel,” Devey related. Completed in 1991, the 5,000-foot tunnel replaced that section of the pipeline through the Glen Park area, where it then tied into above ground pipe farther down the canyon. In 1992, CH2M Hill, a Utah engineering firm, achieved national finalist status in the American Consulting Engineering Excellence Awards Competition for the project.

It was “probably one of the most interesting jobs I’ve [ever] been involved in,” District Assistant General Manager Dave Pitcher stated. The plan used a tunnel-boring machine to excavate two-thirds of the tunnel’s length from the down-stream side, while crews used conventional methods to drill and blast through the limestone from the other. The tunnel “had a lot of vertical curves, and horizontal curves,” Pitcher recalls, making for “some really interesting encounters…” One of those encounters occurred when workers intercepted a spring in the cavernous limestone that supplied a part of Provo City’s drinking water. It “completely dried up the springs… Provo City was quite nervous about having it restored, because [that was] their best, cheapest source of water for their culinary system.” It required about two months of extra work, but eventually the entire flow of the city’s springs returned. We encased it in concrete “right above the tunnel and it’s been flowing ever since,” Pitcher reported.

The Provo River was diverted into the pipeline at the Olmsted Diversion Dam. The District completely rebuilt the structure between 1995 and 1996. Prior to replacing the
diversion, Dave Pitcher advised the District that the project might disrupt a critical Brown trout spawning area. Pitcher advised that immediate action would be necessary in order to mitigate the impacts. Operating within a very short window of only a month, the District elected to complete the mitigation a year before construction began in order not to disrupt the spawning area the next year.  

Acceptance of environmental responsibility has been a hallmark of the District during its recent history. Similarly, involving staff in the decision-making process has also been a distinguishing feature of the District. As planning for the diversion dam commenced, project engineers “came up with two or three designs,” Daryl Devey recalls, none of which seemed practical. Devey had spent “many hours up there [and] just knew…what they had [wouldn’t]…work.” Having taken the initiative to learn autoCAD, a computerized drafting and drawing program used by engineers, Devey redesigned the diversion dam, and showed it to the “consulting engineers…” They liked it, he said, and “the next iteration that we saw was almost identical [to]…what I had done… So that’s my claim to fame, …” he stated with a degree of satisfaction. “I did the initial design on the Olmsted Diversion Structure in Provo Canyon.”

Devey’s ability to identify problems and find solutions is widely heralded among his co-workers. The District has encouraged this kind of initiative. It has, in fact, become part of its culture. One “of the great things about the District, …” Devey confided, has been its willingness to let “operation staff review plans, review designs, be involved with the value engineering….”

Assistant General Manager Rich Tullis also believes this is one of the benefits “of working for this agency…where the construction arm…[overlaps with] those that have to operate and maintain [the system].” His counterpart in construction “Lee Wimmer…involves us from
day one…Daryl is in practically…every design review meeting…[and at] times Daryl’s suggestions from the operating side [will] affect how they complete [the project].”

Including both the tunnel and pipeline sections the Olmsted Replacement Project took upwards of 15 years to complete. W.W. Clyde finished the last $36.5 million section of the project between 2001 and 2004, which included the rehabilitation or replacement of more than four miles of pipeline and construction of a concrete storage reservoir and outlet structure. The outlet connected with Reach 1 of the Alpine Aqueduct through a short section of tunnel bored through the ridgeline at the mouth of Provo Canyon.

When Reclamation initially planned for the municipal system during the early 1970s, the rights-of-way for the Jordan and Alpine aqueducts lay outside most city limits. Likewise, when the Murdock Canal was reconstructed following World War II it flowed through farm fields. As city limits expanded, open space contracted, and by the early 1980s cities had to contend with open canals and large pipelines that would either transect established neighborhoods, or interfere with proposed sub-divisions.

Communities in northern Utah County were among the fastest growing communities in Utah. Between 1970 and 1988 the population of Alpine more than tripled. The population of American Fork grew from 7,700 to more than 15,000, while neighboring Pleasant Grove skyrocketed from approximately 5,000 to nearly 15,000 during the same period.

The Murdock Canal was fine years ago, former Chairman of the District Board Bob Hilbert remarked. People admired “that pretty canal…[But] then we get this subdivision, and that subdivision…[and] now we have…little kids running around.” Twenty-two people have, in fact, drowned in the Murdock Canal during its history.
TIMPANOGOS PLANNING AND WATER MANAGEMENT AGENCY

As city officials considered these challenges they remained ever mindful that the continued growth of their cities depended on a consistent water supply. They reasoned, however, that if both aqueducts and the canal were placed in one, large box-culvert, perhaps it would curtail the loss of city property, reduce construction costs, minimize evaporation and seepage losses and promote public safety.50

To advance this idea, and to cooperate on other water issues, the mayors from seven cities in northern Utah County formed the Timpanogos Planning and Water Management Agency in 1981 (Agency). Alpine Mayor Don Christiansen chaired the organization. Christiansen confessed to not knowing much about water when he became mayor, beyond just turning “on the tap…” and trusting that it would come out “clean and pure.”51 His experiences in Alpine and in chairing the Timpanogos Agency, however, proved abundantly educational. During the 1980s, he would go from being one of the District’s most committed critics to one of its most devoted supporters, being elected to the Board of Directors in 1984, and hired as General Manager in 1985.

Christiansen is credited by many as the person most responsible for rescuing the moribund CUP from an almost certain demise during the late-1980s. “Don, in my opinion, saved the Central Utah District,” Bob Hilbert contended. He “moved it out of a slow moving, earthworm activity, to a jack rabbit moving forward.”52 Similarly, retired Board member Dave Rasmussen recalled how opponents during the early 1980s had nearly “killed the Central Utah Project…” It was only “through [Don’s] efforts and some lobbying in Washington, [that] we got the thing reinstated.”53
Christiansen and the other members of the Timpanogos Agency believed their boxculvert idea had considerable merit. But as Christiansen later recalled, Reclamation simply told them that “this was the plan and [we could] like it or lump it.” The Agency chose the latter, and continued agitating to have comparable costs prepared for both systems. In “order to do a comparative cost estimate on the consolidated box conduit system, a considerable amount of time, effort, and expense would be required,” Reclamation informed Christiansen. “With this in mind, we feel that the engineering information presently available is adequate…”

Two months later, the Agency brokered a “Good Faith Resolution” with the Salt Lake County Council of Governments, by pledging to work with Salt Lake County “in a spirit of cooperation…to reach a solution which will provide the water to Salt Lake County and mitigate the impacts of the conveyance system in Northern Utah County.” Furthermore, the resolution urged the District and Reclamation to expeditiously “develop information…to evaluate the effectiveness of this system…” by exploring five specific areas. These included:

1 – The cost of a single conveyance system compared to the cost of Jordan Reach 4 and Alpine Reach 3.
2 – The protection of the water rights in the existing canal and the proposed aqueducts, including reconciliation of use of the Provo River Water Users Canal.
3 – Construction delays which might occur if the decision is made to build a single conveyance system.
4 – The means by which water deliveries could be made to Salt Lake County and Utah County during construction of a single conveyance system.
5 – The allocation of the repayment costs among the users of the single conveyance system.

In lieu of Reclamation’s reluctance to provide the comparative cost estimates, the District proposed contracting with an independent engineering firm. But Reclamation was resolute, feeling that since “the project must be built by the Bureau, … the Bureau [is] the only qualified entity to make the comparison.” Reclamation had protocols, engineer Howard Pearson abruptly
reported to the District Board. Any cost estimate would have to be prepared by the Engineering and Research Center in Denver, Colorado, and as the “Center has a back log of work…an answer [on the box culvert] will not be forthcoming tomorrow.”

During summer 1982, the U.S. District court dismissed a complaint that had been filed by Pleasant Grove City against Reclamation and the District. As a member-city in the Timpanogos Agency, Pleasant Grove’s complaint repeated many of the same concerns. The city contended that the dual aqueduct system would burden Pleasant Grove with most of the risk, but that the city would receive none of the project’s benefits. Furthermore, the project would deflate property values and violate the city’s planning and zoning ordinances. The city also claimed that Reclamation had not yet acquired all the necessary easements and rights-of-way, and that its environmental assessment was insufficient. Most importantly, the complaint argued that Reclamation and the District had refused to consider the box culvert option, a better, more efficient and less costly alternative.

Even though it may have been so, Provo River Water Users Association attorney Joe Novak informed the District Board that after reviewing the re-payment contract between Reclamation and the Association he had determined that the “box culvert concept would impair the rights of the Association…” As a consequence, Novak asserted, the Association had voted to oppose and “resist any efforts to implement the single conveyance system in its canal.”

Following Novak’s disclosure the District passed a resolution early in 1983 to support Reclamation’s aqueduct proposal. The SLCWCD and the Metro District passed similar resolutions, as well. After “several months of negotiations, series of cost estimates of numerous alternatives, careful consideration of comments from various political entities and concerns expressed by the Timpanogos Planning and Water Management Agency,” District Manager
Lynn Ludlow affirmed, the “board of directors of the district established its official position, in favor of proceeding with the most cost effective and most expedient method of delivering municipal water to Salt Lake County Water Users…”

The Agency continued its protest even after the District’s announcement, however. In January 1984, Reclamation Project Manager Kurt Carpenter reported that the “Timpanogos Agency had passed a resolution that the Mayors should resist signing crossing agreements for Jordan IV Aqueduct.” Carpenter submitted, “some of the Mayors would resist signing…right up to when condemnation proceedings are filed in federal court.”

In April, the Board attempted to allay the impasse with the mayors by resolving to expend “District funds to help mitigate local adverse impacts to cities from construction of the Jordan Aqueduct…and Alpine Aqueduct…through presently developed areas…[of] cities…” The District was adamant that the funding could not be used to compensate individuals, and that the cities be required to negotiate the amount of funding with District staff.

The Timpanogos Agency accepted the offer immediately, just “to make the field level,” Christiansen implied. “They had a big treasury and we… didn’t have much money to spend…” Some Board members worried that if the District gave the Agency money that they would use it to sue the District, to which Christiansen replied, “I’ll never use that money to sue you… And I never did, …” he asserted. “We used other sources.”

For Christiansen and the other members of the Agency’s Board, it was not so much that Reclamation and the District had dismissed their grand notion for a single conveyance system, as it was the manner in which they did so. Christiansen perceived the District as having been unresponsive to the public’s will. It operated largely with impunity, he inferred, a rationale of the Water Conservancy District Act that likely was not entirely unintentional.
The State Legislature intended water conservancy districts to act outside the usual political boundaries. Having water conservancy district boards appointed by the judiciary rather than being elected by the constituency they served would provide consistency and, supposedly, shelter board members from the pressures of special interest groups. However, it also established a system of recurrent appointment. Most of the early District Board members served as long as they wanted. Christiansen suspected this “was not a proper procedure…” The Board members were not…”representative of the people…that were going to be affected…” The Board “had taxing authority, …” Christiansen maintained, and that violated the constitutional separation of powers.

Assistant Salt Lake County District Attorney Gerald Kinghorn may have been first to advance that the appointment process was unconstitutional in 1977. Candid in his censure of the CUWCD, and of Utah’s Water Conservancy Act, in general, he wrote:

A Conservancy District can condemn private property without the consent of the owner, the property of the district is exempt from taxation, the district has the power to make and collect assessments against various classes of lands and a Water Conservancy District has the power to levy and collect general property taxes from every real and personal property owner in this valley. In the last five years alone, the Central Utah Water Conservancy District has levied and collected over 8 million dollars from taxpayers in Salt Lake Valley.

Under Utah’s Water Conservancy Act, none of the members of the governing boards…are elected by the people. No one in this valley has ever voted for or against…any of the men who control our water and have virtual life and death power over all development in Salt Lake Valley…The lack of an election process for the selection of individuals having general property taxing power raises grave questions about the Constitutionality of the Utah Water Conservancy Act.

Ever watchful for ammunition that it could use against the CUP, the environmental community quickly added Kinghorn’s inference to its arsenal. Their appropriation may in part explain the dismissal of Kinghorn’s reasoning by Utah’s mainstream. As they resurrected the
constitutional question, however, Christiansen and the other mayors affiliated with the Timpanogos Agency were able to enlist the support of the political establishment. We sat “down with Scott Matheson, who was then governor,” Christiansen recalled. “And I can remember very, very plainly sitting in front of Scott in his office and explaining to him what our concerns were. And Scott looked over at me and said ‘Don, I agree with you. And a second year law student would tell you it is unconstitutional. And if you want to change it, I’ll help you.’”

The Agency hired Jim Jardine as legal counsel and worked with State Senator Paul Rogers of Utah County to draft legislation to amend the Water Conservancy Act. As they investigated various options, including the direct election of board members, they settled on Governor Matheson’s preference for executive appointment. “Essentially [it is] the process that we operate [under] today,” Christiansen declared. “Scott Matheson made the decision that it would be a person nominated by the county commission of the county that had the vacant seat. [They] would be appointed by the governor from [a] list of three…. and …be confirmed by the senate.”

Passage of this amended Water Conservancy Act by the State Legislature in 1983 jeopardized the positions of six District Board members that had recently been re-appointed by the court. When the District refused to vacate the offices, the Timpanogos Agency did sue the CUWCD in District Court. “We lost,” Christiansen admitted. “I think we could have guessed… the way it was going to go because it was very controversial…” But whichever way the court ruled, he continued, “the losing party was going to appeal it to the Utah Supreme Court; which we did.”

The Supreme Court took a decidedly different view of the case. “Whether implied, as in our federal constitution…” the Justices declared, “or whether expressly stated, as in our own
state's constitution, the doctrine of separation of powers is the control gate harnessing the reservoir of powers of a government which functions at the will of the people.” Although considering Patterick vs. Carbon County Water Conservancy District, the case discussed earlier that had stood for nearly 40 years, the court implied that the constitutionality of judicial appointments had not been fully vetted in the Patterick case. Nevertheless to the “extent that Patterick attempted to hold that the power of the court to appoint the board of directors of water conservancy districts was constitutionally sound,” the Supreme Court ruled, “it is hereby expressly overruled.” Furthermore, the Court directed that “the offices held by six court-appointed directors are vacant and are now subject to being filled by gubernatorial appointment, with Senate confirmation.”

Whether the change in the appointment process really altered the nature of the District Board depended, according to former Board member Dave Rasmussen. “It made it a little more political,” he surmised.

It didn’t change things near as much out in the rural counties as it did in Salt Lake County. I [sat] there for twenty seven years. Scott Matheson was the Governor when I first went there. And I went through that whole line of Governors, reappointed, reappointed, reappointed... You [were] almost there ‘til you die. But in Salt Lake County and Utah County it [was] much more political. [I]instead of water buffalos like most of us were out in the rural counties, they were putting lawyers on there and those kind[s] of people. And even county commissioners were appointing themselves and the Governor would approve it. So it did change a lot in the metropolitan counties like Salt Lake and Utah…

One new appointee to the District Board unquestionably had an impact. After the legislation passed, but before litigation began, Governor Matheson prevailed on a reluctant Don Christiansen “to get your name on the list [because] I want to appoint you to the board.” I was “pretty much an outcast…” Christiansen admitted. “I was the guy from outside that had caused
them all kinds of problems…”74 Furthermore, following the Supreme Court’s decision the District Board was reduced to only 13 members. Some of the remaining Board members blamed Christiansen and the Timpanogos Agency for their predicament. “It was very, very controversial,” Christiansen confided. “A very hard fought battle…”75

The controversy continued, as less than a year following his appointment to the Board, Christiansen resigned to apply for the position of District General Manager. “I became Don Christiansen’s campaign manager,” joked Bob Hilbert, allaying the seriousness of the situation. There was growing dissatisfaction among some Board members that things were not getting done, and that the District needed new leadership. We needed someone who would “go back to Congress, and pound [their] fist on the desk, and say, ‘Now, this is what we’ve got to do. We need water, [no more] messing around…”76

Hilbert felt Christiansen was the man for the job, the one who would “go back there and…get something done.”77 Dave Rasmussen, another Christiansen booster, affably remarked in his distinctive Uinta Basin drawl that he “even threatened to stomp on a few people if they didn’t vote right.”78 Kent Peatross, who as a new appointee came on the Board just as the controversy erupted, remembers “being politicked on both sides…”79 Bob Hilbert allowed that it “took some arm twisting…some negotiating,” but in the end “Don was named general manager…”80

The vote was close; with only a few separating Christiansen’s supporters from his detractors. “I cannot in good faith give a unanimous vote of approval to Don for manager,” one board member proclaimed. “I did not feel that he had the qualities that we were looking for… However, if he is the choice of the majority…I will support him. I hope he will prove me wrong, but if he doesn’t, I see no reason why we cannot replace him.”81
The hiring of Christiansen as General Manager in May 1985 had no influence on Reclamation’s decision to build the Jordan and Alpine aqueducts through northern Utah County, which proceeded much according to plan. By 1987, both reaches had been completed. In fact, by that date Reclamation had finished nearly 97 percent of the delivery system both to the north and south.\textsuperscript{82}

Moreover, until recently the Murdock Canal continued to meander through the communities of northern Utah County. In 2011, the District approached the Provo River Water Users with a generous offer to pay half the cost of piping the canal for rights to the estimated 8,000 acre feet of water that had previously been lost to seepage. The District would use the saved water to maintain additional flows in the Provo River for the benefit of fisheries.\textsuperscript{83} “Thirty years later,” Bob Hilbert exclaimed, “somebody [finally] said, ‘I think we ought to cover that canal.’” Hilbert, who had supported the box culvert project three decades before, took little satisfaction that it will "cost ten or twenty times more than it would have cost, had they yielded back in the ‘80s, when Don and I said, ‘Let’s cover it now…”"\textsuperscript{84}

JORDANELLE DAM

Some features of the M&I system, specifically Jordanelle Dam, still awaited construction. Only rudimentary planning for Jordanelle Dam had commenced before the release of the Bonneville Unit definite plan in 1964. Reclamation had initially proposed building much smaller dams at the Bates site on Provo River, located two miles farther upstream from the present Jordanelle site and at the Keetley site, located near the small farming community of the same name. These impoundments would operate in unison with a greatly enlarged Deer Creek
Reservoir, the capacity of which would have flooded the city limits of Heber City. Wasatch County, understandably, opposed this scenario. In February 1963, Reclamation met with officials from irrigation companies and Wasatch County to propose that Jordanelle Dam would be built in lieu of the Deer Creek enlargement. “This new proposal,” Project Manager Palmer Delong recorded, “was enthusiastically accepted by the Heber people.”

To account for increased population projections in Utah and Salt Lake counties, the storage capacity of Jordanelle would need to parallel that of the previously proposed Bates, Keetley, Deer Creek enlargement. Although Heber City residents were initially more favorably inclined towards Jordanelle and relieved that Deer Creek would not be enlarged, opposition to Jordanelle Dam was swift and unrelenting. The Jordanelle site was situated on land settled by John Jordan in 1875. One of three original pioneers, Jordan came to Wasatch County in 1859. Along with his sons, John established one of the first cattle and sheep ranches near Heber City. Continuing the tradition, John’s son George continued the operation, and in addition by 1931 had established a small resort along the reaches of the Provo River. Drawing upon the distinctive Jordan-L brand that identified the family’s livestock, the area eventually became known as the Jordanelle Ranch.

Reclamation had adopted the name by the time it released its definite Bonneville Unit plan in 1964. In 1985, John’s great-great grandson, Clift, proposed to build a mobile home park to the south of the reservoir site on land still owned by his family. When Clift inquired about the possibility, Reclamation advised him that all the land needed “to construct the dam [had been] acquired and none of your land will be required for the project.” Proceed with “any uses of your land that you choose,” Reclamation told him.
Clift Jordan submitted plans for the RV Park to Wasatch County. As the site would require sewage disposal, the county health inspector requested that the Utah Geological Survey investigate whether or not septic tanks and leach fields could be used for that purpose. The agency reported that the area was prone to periodic floods. Furthermore, it was characterized by a shallow, unconfined aquifer that likely flowed towards the river. The Geologic Survey concluded that the absorption system being proposed for sewage disposal would contaminate the aquifer and eventually pollute the Provo River.\textsuperscript{88} Although the Survey made no mention of the fact, its characterization of the RV Park site clearly made it a candidate for wetland status. In 1990, Reclamation condemned two-thirds of the property for wetland mitigation, a situation that forever colored Clift Jordan’s opinion of the CUP, and one he ascribed as retribution for his opposition to Jordanelle.\textsuperscript{89}

Clift Jordan’s predicament was only one of many conflicts that arose over Jordanelle. The reservoir site would inundate more than 3,000 acres of farm ground and displace or disrupt the lives of 38 families. The decreased tax base concerned Wasatch County officials. “Private land is continually being used here for public uses,” complained County Commissioner Tom Baum. “We have two reservoirs, fish and game land, mitigating land, and [now]…the possibility of [another] reservoir…”\textsuperscript{90}

The necessity of relocating Highway 40 to link with Highway 189 caused further consternation in the county. It threatened to split farms and isolate several communities. The Utah Department of Transportation (UDOT) proposed three alternatives. Route A kept the present alignment of Highway 40, but moved it further up along the foothills. Route B provided for a bridge that would cross the reservoir to the south, while Route C proposed to join the two roads at the reservoir’s north end.
Residents of Wasatch and Summit counties differed over which route they preferred. Summit county citizens preferred either Route B or Route C, which provided for faster speed limits, while those from Wasatch County worried that if Route A was not selected “a portion of the county would be landlocked and isolated.” The District gave consideration to the wishes of both counties, but as the highways’ relocation would be charged as a non-reimbursable expense to the CUP budget, the District wanted Reclamation to pursue the project as economically as possible. The District Board resolved to support construction of the main highway to the north of the reservoir along Route C, and a secondary road along the foothills to the south to serve residents in Wasatch County. The District further urged UDOT to work closely with both counties in the planning and design of the routes, and to make every effort to eliminate the “need and cost for additional detour routes.”

Reclamation engineer Jay Henrie performed many of the early operation modeling studies for Jordanelle. As a “team leader” he also had “a lot of public involvement…” and remembers road relocation being a “big issue. We worked considerably with the county commission. In fact the road north of Jordanelle originally wasn’t going to be built. It was going to come down across the dam and tie in…[The] county didn’t like that…” and put enough pressure on Reclamation and UDOT that they eventually redesigned the road to its present alignment.

Support for Jordanelle waxed and waned in Wasatch County. Initially, county officials enthusiastically endorsed the project because of its potential to increase tourism, add jobs, and provide local irrigation companies with additional water. But as time passed, more and more people in Wasatch County saw the project’s advantages being outweighed by its disadvantages.
“There was a general suspicious attitude in Wasatch County towards the Central Utah Project,” District Board member Claude Hicken recalled. “People have the tendency [that] if [they] don’t understand something [they’re] suspicious of it.” Some suspected that that District’s plan was “to steal our water.” They perceived the District as some big downstream “irrigation company…wanting to put in a reservoir in our county, and then [saying] ‘But you’ll be protected, you’ll have your water…”’ Many irrigators doubted the District’s sincerity. There “was general…opposition…” from multiple angles, Hicken related. Landowners “didn’t want their ground to become underwater ground. And …those that lived below the proposed dam…[worried] that it was being built on a fault line.”

Living immediately downstream from a large reservoir was perhaps the greatest concern for Heber City residents. The catastrophic Teton Dam failure was still very much a part of recent memory. Moreover, geologist Leon Hansen’s repeated allegations that the dam site would overlay one or more fault lines amplified concerns, both in Wasatch County and beyond.

In 1978, Hansen moved back to his hometown of Heber City to consult for the Jordanelle Task Force, a group comprised of mining interests and major property owners in the vicinity who opposed building Jordanelle Dam. Hansen’s dogged determination to discredit Reclamation and scuttle Jordanelle Dam would lead to more than a decade of investigation and congressional inquiry. Nevertheless, it would also result in Jordanelle being one of the most closely studied and scrutinized dam sites in Reclamation’s history.

Jay Henrie recalled how Hansen’s claims invited this intense scrutiny. “Leon Hansen was…extremely vocal. [He] presented a lot of reasons why Jordanelle would fail.” Henrie and others in Reclamation began wondering, “if it would ever be built. There [was]…so much
controversy that [we] really doubted it. Some of [us] were giving it [a] ten percent chance of even going through, …” he confessed.97

Hansen had assembled a cadre of experts, all shared his suspicion that if built, Jordanelle Dam would fail. “The Dam must be stopped in its tracks now,” former BOR engineer and Hansen ally John Dooley told a congressional panel. When the “dam breaks it will destroy Heber, then Deer Creek Reservoir, then Provo…And in the process, it will destroy the water supply for Salt Lake. Many lives will be lost.”98

To counter these contentions Reclamation had impaneled a group of experts to look at the dam site and evaluate Reclamation’s plan and design. The panel consisted of Walter Arabasz, a seismologist from the University of Utah; Ralph Peck, a consulting engineer and authority on dam design; and Richard Jahns, noted geologist from Stanford University. The group made its first visit to the dam site in November 1982.99 “Reclamation was confident that we were right,” Henrie intimated. “Leon Hansen was good…as a mining geologist. But as a dam safety geologist he was out of his league… So there wasn’t any worry about anybody overturning what we had done. It was just kind of a frustration that we had to go through all that effort…”100

In February 1983, the Arabasz group released its report, in which they concurred that “a dam of the proposed size at the Jordanelle site [was] entirely feasible…” After examining drill holes into the river’s flood plain, the group found “no definitive evidence for the existence of a major shear or fault…” Furthermore, the group approved of Reclamation’s design for “earthquake ground motions, …” noting how it would be “appropriately…governed by [a] magnitude 7.5 on the Wasatch Fault, as close as 19 miles west of the damsite; and [a]…magnitude 6 to 6.5…for a local random earthquake beneath the damsite.”101
Although the consultants’ report had largely validated Reclamation’s plan and design for Jordanelle, further recriminations followed. Opponents argued that even if the dam held, the reservoir would likely leak, flooding the mines in neighboring Park City. Moreover, the reservoir basin was itself littered with mining debris and abandoned mine shafts, which would not only contaminate the reservoir but potentially the entire Provo River, below. Finally, many doubted that Jordanelle would ever fill. People “felt that there wasn’t enough [water] to fill Deer Creek, let alone fill Jordanelle,” recalled Reclamation hydrologist Lee McQuivey, who also worked on developing most of the early water supply studies for Jordanelle. However, “if you study the water supply for the Provo River Project,” he explained, “it depends primarily on water brought in from the Weber River and the Duchesne River, and not very much from the Provo, because early water rights required bypass water to meet Provo River and Utah Lake demands.”

Successful operation of the Bonneville Unit had always been contingent on the exchange of water between Strawberry Reservoir and the Provo River. It is “a series of rather complex exchanges, …” water attorney Shawn Draney stated, adding with a tip-of-the-hat that the “hydrologist that thought through all that in the planning stages of the CUP, I give him a lot of credit.” Rather than using Provo River water to satisfy the early rights on Utah Lake, the CUP would use water released from Strawberry Reservoir into Diamond Fork, a tributary of the Spanish Fork River. “Utah Lake really [did not] care,” Jay Henrie elaborated. It would have “the water; it [would be] getting it from Strawberry and not Provo [River].” This process, added Lee McQuivey, enabled Reclamation to use Provo River “for project purposes. Utah Lake rights were made whole – in other words, they were assured a water supply – and then [Reclamation] could withhold the Provo River water for…municipal and industrial water [which
While the procedure seemed simple enough, it would require years of negotiation, and in some cases litigation, before Reclamation and District worked out the details of agreement with other water users.

Among the most vocal antagonists, Provo City and the Provo Metropolitan Water District argued that only by impinging on the city’s Morse Decree rights could Reclamation acquire enough water to fill Jordanelle. The Morse Decree, or Provo River Decree, had been sacrosanct since being decided in Utah’s Fourth District Court by Judge C.W. Morse in 1916. Provo City claimed rights to 130 second-feet from Provo River for irrigation of farm ground and city lots. Additionally, the city also had a 65 second-foot power right from the river. When Reclamation applied with the State Engineer for Jordanelle storage rights on the Provo River, Provo City protested. When the State Engineer granted Reclamation’s application, pending a determination of water rights, the city filed suit in district court.

In February 1987, the District attained a compromise, wherein the city agreed to drop its lawsuit in exchange for the perpetual right to store 10,000 acre-feet of water at Jordanelle. The District and Reclamation reciprocated by acknowledging the city’s Morse Decree rights. Both parties agreed not to involve themselves in each other’s business until after the State Engineer had finished his determination of water rights on Utah Lake, a determination that is still pending.

Although antagonism over Jordanelle continued, Don Christiansen must have felt some vindication after the Arabasz group released its corroborating report. In June 1985, as he circled the reservoir site in a helicopter, he announced to confidant Marcus Faust and Senator Garn’s assistant, Bob Weidner, that “if we [are] ever going to build this dam we need to get going…within twelve months.” If not, then Christiansen perceived the controversy festering,
and the whole project just becoming “too political.” Moreover, the District was nearing the cap on funding, the so-called congressional cost ceiling, and likely could afford only one more major project. Reclamation was ready to move forward with construction on the Diamond Fork System and on building the irrigation system to deliver water south to Juab County and the Sevier River Basin. It would require a great deal of finesse and diplomacy to convince Reclamation otherwise, but perhaps more so to persuade the District’s rural Board members to support Jordanelle, and wait a little longer for their irrigation water.

Later, Christiansen made the pitch to begin construction to BOR officials Cliff Barrett and Wes Hirschi. Christiansen recalled Hirschi looking at him and exclaiming: “Are you crazy? If you think we’re going to build a political dam at Jordanelle, you’re out to lunch!” Christiansen countered, “Wes, if you think you are going to build anything but a political dam at Jordanelle, you have wasted all these years of experience.” A month later, Reclamation informed the District that it had formulated a plan to begin work on the dam’s foundation, and anticipated awarding a contract the next summer. Initial excavation work on the dam’s foundation began in October 1986.

Two months later, the Arabasz group released its report of a second reconnaissance. Reclamation requested the second site visit and evaluation because of continued opposition, and because of the need “to examine the new exposures and data derived from the work done at the site since 1982…” With the death of Professor Jahns, this second group consisted of Walter Arabasz and Ralph Peck, along with Douglas Campbell, president of Campbell, Dolmage and Associates, a Vancouver, B.C. geological engineering firm; and Glen Tarbox, chief engineer with PRC Engineering in Denver, Colorado. The group’s second report largely affirmed their findings from 1982.
Furthermore, at the request of Governor Matheson state agencies had initiated a major review of the entire Bonneville Unit. “It is important,” Matheson insisted, “that you make a concerted effort to involve local elected officials, interested citizens (both advocates and opponents of the CUP) and the general public in your review. The perceptions of the public in an undertaking of this type are as important as the findings…”\textsuperscript{114} The State’s review, as will be discussed periodically, would affect the direction of some Bonneville Unit features. Most importantly to the future of Jordanelle, however, the review committee concluded that unless “surprising new information is discovered in the next few months, the conclusions of the consultants’ report [Arabasz Group] appear valid that a safe dam can be built at the Jordanelle site”\textsuperscript{115}

The dam’s detractors remained unconvinced. So obvious was the evidence of faulting to Leon Hansen and his associates that they concluded the panel of experts must not have had access to all the information and that Reclamation had purposefully misrepresented the facts and concealed evidence. “It’s a blatant, damnable lie,” Hansen retorted. “The Bureau of Reclamation misrepresented rock formations, fissures, mineralization, toxic minerals and the faulting scene…[while] previous water studies were reversed or ignored….”\textsuperscript{116}

In response, Utah’s congressional delegation requested that the United States Geologic Survey re-examine Reclamation’s data and look again at the dam site. Additionally, the delegation requested that the Interior Department Inspector General’s Office investigate the allegations of a Reclamation cover-up. In February 1992, Senator Jake Garn convened a public hearing in Heber City, where opponents aired their grievances and proponents defended the validity of their studies. USGS Assistant Director James Devine testified that the Survey “found no safety concerns relating to geologic or seismologic issues that remain to be resolved at the
Jordanelle damsite.” Elaborating further, Devine stated that the “near-complete exposure of the foundation rock, an effort which is virtually unprecedented for a damsite such as Jordanelle, has provided an excellent base for the USBR comprehensive and detailed mapping of the foundation exposures and has allowed them to integrate extensive subsurface drill-hole data with surface geology. We have reviewed the USBR investigations, …” he continued, “with reference to purported hazards from faulting, leaking and crumbly foundation rock, land-sliding, embankment failure due to ground shaking from earthquakes, and induced seismicity - each of which are important considerations in the design and construction of a critical facility. The panel is satisfied,” he concluded, “that the USBR has fully demonstrated that these issues do not constitute a bona fide threat to the dam.”

On January 30, 1992, Interior Department Inspector General James Richards informed Senator Garn that although his agency’s investigation revealed instances where “corrections to reports and disagreements with conclusions drawn by…former BOR employees did occur, we found no evidence to support an ‘evil intent’ in such action.” Such disagreements, Richards contended, “were the product of the working environment, which by its very nature, produced numerous professional disagreements and much discussion on data interpretation as part of the process.”

Although issues over Jordanelle’s safety and feasibility were not entirely resolved at the hearing, the dam was already visible 100 feet above its foundation, making the reality of Jordanelle obvious to all but the most despondent of critics. Furthermore, Leon Hansen’s bluster had begun to wear thin. When Hansen contended that Reclamation had not only duped the experts and the public, but elected officials, as well, and equated its methods with Adolph Hitler’s extermination of six million Jews, Jake Garn shot back. Let “us not relate a democratic
Government that has elected a lot of different people over the years of this dam development…with Adolph Hitler and the Jews…I will not sit and accept that kind of an analogy,” Garn chastened.119

By the time of the Heber City public hearing in February 1992, Jake Garn’s involvement with the CUP stretched for more than 17 years. He had heralded Jordanelle’s commencement with a single blast of dynamite at formal groundbreaking ceremonies on June 27, 1987. Among those in attendance at the ceremony were Reclamation Commissioner Dale Duval and District officials Bob Hilbert and Don Christiansen. District President Ross Garrett, along with spokesperson and attorney Ed Clyde offered remarks.120

By 1988, contractor, Torno America, had concluded excavation of the dam site, which included the removal of all unconsolidated material down to bedrock. This is a unique feature of Jordanelle, Bruce Barrett explained, as “the entire footprint of the dam was excavated to bedrock with the exception of the deep channel downstream of the dam centerline.”121 In April 1989, Reclamation began negotiating with a number of contractors for Phase II construction of the dam. Rather than using the usual sealed bid process, Reclamation elected to negotiate in order to secure the most advantageous contract. It chose Utah-based Granite Construction for the $87 million project.

Phase II construction consisted of pressure grouting “all joints and fractures within the foundation bedrock…”122 This was performed through a computerized system in order to insure consistency and closure for the grout curtain, and to make the foundation as “impervious as possible…” The dam itself would sit on a clay core more than 100 feet wide, and would be equipped with a “chimney filter and drain to collect any seepage water…” All of this was
essential in making the dam safe by providing “greater stability, both statically and during an earthquake.”

The contractor found excellent construction materials available within the reservoir basin. The granular material deposited over time by the Provo River proved particularly suitable. Using large 20 ton vibrating compactors, Granite Construction was able to compress the material to nearly the same density as concrete. This enabled Reclamation to steepen both the upstream and downstream side slopes of the dam, saving “millions of dollars in the final cost.”

Despite the constant opposition, work progressed rapidly on the dam, and in October 1992, nearly a year ahead of schedule, Granite Construction crews placed the last load of materials atop the 300-foot structure. The dam consists of approximately 12.5 million cubic yards of material. It rises 400 feet above its base and extends 100 feet below the surface. It is highest dam in the CUP, as well as the most costly, and its 315,000 acre-foot capacity “is the key feature…for the M&I System of the Bonneville Unit…”

Finish work continued at the dam site for another year, but during the winter and spring of 1993, Reclamation decided to allow the dam to begin filling. This was a fortunate decision, historian Adam Eastman has written. A substantial snowpack had accumulated during the winter, and the “new dam helped check what would have otherwise been catastrophic flooding.” Moreover, the reservoir filled “at a rate of two to three feet per day with two days topping out at over four feet.” By June, the water level in Jordanelle had reached a depth of more than 100 feet, largely answering the question of whether or not Jordanelle would ever fill.

On a blustery Saturday, September 19, 1993, a small crowd gathered atop the dam to officially dedicate what had undoubtedly been one of the most contentious CUP features thus far constructed. But as District Board member Claude Hicken asserted, “water has always been
the source of controversy in Utah.” It brings “out the worst and the best in people…both conflicts and cooperation. And Jordanelle has had its share…”

It had taken six years and $114 million dollars to complete. An additional $126 million had been spent on highway construction, not to mention the time and money involved with an exhaustive number of investigations. Yet, even the previously unsympathetic Reclamation Commissioner Dan Beard, who had served as an assistant secretary of Interior during the Carter “hit list” period, admitted that the District “made the right choice five years ago.” Beard’s reversal from adversary to ally is indicative of the significant changes made in District policy since 1977.


2 Sandy City joined with Salt Lake City to form the Metroploitan Water District of Salt Lake and Sandy in 1990.

3 Owens Papers, Box 79, fd. 8.

4 Central Utah Project, Bonneville Unit, Municipal and Industrial System, Final Supplement to the Final Environmental Statement, p. 9. These early efforts to coordinate the function of the various water delivery systems would prove particularly advantageous. When construction crews damaged part of the Jordan Aqueduct, water managers were able to make adjustments with minimal interruption to water users. These “were made possible by critical infrastructure, interconnections between the various systems, alternative water reserves and splendid cooperation among the County’s water managers.” See http://www.slcclassic.com/utilities/NewsEvents/news2011/news10282011.htm Accessed 21 November 2012.

5 Palmer Delong to Lynn Ludlow, 11 August 1967. Owens Papers, Box 79, fd. 8.

6 Ibid.

7 Central Utah Project, Bonneville Unit – Utah, Draft Supplement to Definite Plan Report, (Denver: USBR, 1988), p. 77. See also Final Environmental Statement, Authorized Municipal and Industrial System, Bonneville Unit, Central Utah Project, Utah, (Salt Lake City: Bureau of Reclamation, 1979), p. 13; and Central Utah Project, Bonneville Unit, Municipal and Industrial System, Final Supplement to the Final Environmental Statement, (Salt Lake City: Bureau of Reclamation, 1987) p. 10.

8 Unless otherwise noted, discussion of the Jordan Valley Water Treatment Plant is taken from Carpenter, “Jordan Valley Water Purification Plant,” pp. 1-5.
9 Salt Lake Tribune, 8 August 1984.


11 Adam Eastman, Interview with Don Christiansen, 20 September 2005. Files of CUWCD.

12 Utah Valley Water Purification Plant, commemorative brochure for the facility’s dedication, August 13, 1980. Files of CUWCD.


14 Randy Williams, Interview with Dave Pitcher, Orem, Utah, 15 September 2012, p. 13. Pitcher is Assistant General Manager for the CUWCD with particular responsibility for the water treatment facilities. Hereafter referred to as Pitcher Interview.


16 Ibid.

17 Randy Williams, Interview with Kent Peatross, Duchesne, Utah, 9 August 2012, p. 17. Peatross has served on the Board for the CUWCD, and as a Duchesne County Commissioner. Hereafter referred to as Kent Peatross Interview.

18 “Duchesne Valley Water Purification Plant, March 1984.” Files of CUWCD. Unless otherwise noted, information of the Duchesne Water Treatment Facility is taken from this source.

19 Kent Peatross Interview, p. 17.

20 Ibid., pp. 18-19.

21 “Ashley Valley Water Purification Plant,” April 1984. Files of CUWCD. Unless otherwise noted, information on the Ashley Valley Water Purification Plant is taken from this source.

22 Hunting Interview, p. 11.

23 “Ashley Valley Water Purification Plant,” April 1984, p. 3.

24 Hunting Interview, p. 11.

25 Ibid., p. 9.

26 Ibid., p. 3.

27 Pitcher Interview, p. 12.

28 Minutes of the CUWCD Board of Directors, 22 February 1985. Files of CUWCD. Hereafter referred to as Minutes.

30 Randy Williams, Interview with Rich Tullis, Orem, Utah, 24 September 2012, p. 14. Tullis is operations and maintenance manager for the CUWCD. Hereafter referred to as Tullis Interview.

31 Central Utah Project, Bonneville Unit, Municipal and Industrial System, Final Supplement to the Final Environmental Statement, p. 10.


34 Randy Williams, Interview with Stan Roberts, Orem, Utah, 27 June 2013, p. 10. Roberts is the long-time Commissioner on the Provo River System. Hereafter referred to as Roberts Interview.

35 Dave Pitcher to Robert Parson, 12 March 2013. Email correspondence in possession of authors.

36 Randy Williams, Interview with Daryl Devey, Orem, Utah, 24 September 2012, p. 3. Devey is manager for operations and maintenance for the CUWCD. Hereafter referred to a Devey Interview.

37 Ibid., p. 2.


40 Pitcher Interview, p. 4.

41 Minutes, 13 October 1993.

42 Devey Interview, p. 3.

43 Ibid.

44 Tullis Interview, p. 17.

45 Pitcher Interview, p. 11.


47 Statistical Abstract of Utah, (Salt Lake City: Bureau of Economic and Business Research, University of Utah, 1996), pp. 31; 35.

48 Randy Williams, Interview with Robert Hilbert, 6 August 2012, Cottonwood Heights, Utah, pp. 11-12. Hilbert is a former member of the CUWCD Board of Directors, past president of the Board, and former manager of the SLCWCD. Hereafter referred to as Hilbert Interview.
The mayors from northern Utah County were evidently unconcerned that the Alpine Aqueduct was intended to carry treated drinking water, or that by combining it with the raw water in the Murdock Canal and in Reach 4 of the Jordan would contaminate it. This is supported today, as Reach 3 of the Alpine Aqueduct carries only non-treated water that northern Utah County communities use in secondary irrigation systems for yards and gardens. Ostensibly, when and if the need arises, the aqueduct could be converted to convey treated water.

Adam R. Eastman, Interview no. 1 with Don Christiansen, p. 1. Files of CUWCD.

Rasmussen Interview, p. 7.


Ibid., 13 May 1982.

Ibid., 10 June 1982.

Ibid., 12 August 1982.

Ibid.

Ibid.


Ibid., 12 April 1984.

Williams, Don Christiansen Interview, p. 4.

Ibid.

Ibid., p. 3.

Harvey Collection, pp. 180-183.

Williams, Christiansen Interview, p. 3.

Ibid.
The statute as amended in 1983 reads: “Districts which consist of more than a single county shall have directors appointed by the governor with advice and consent of the Senate from submitted as follows: (i) In a division composed solely of incorporated cities, each city within the district shall submit two nominees per director; (ii) In all other divisions, the county governing body of the county in which the division is located shall submit three nominees per director; (iii) If a director represents a division located in more than one county, the county governing bodies of those counties shall collectively compile the list of three nominees. See Utah Code Annotated, title 73-9-9 (1) (b), (Charlottesville, Virginia: The Miche Company, 1989), p. 219.

71 Williams, Christiansen Interview, p. 5.


73 Rasmussen Interview, p. 17.

74 Williams, Christiansen Interview, p. 3.

75 Ibid., p. 7.

76 Hilbert Interview, p. 13

77 Ibid.

78 Rasmussen Interview., pp. 5-6.

79 Kent Peatross Interview, p. 12.

80 Hilbert Interview, p. 12.

81 Minutes, 9 May 1985.

82 Central Utah Project, Bonneville Unit, Municipal and Industrial System, Final Supplement to the Final Environmental Statement, p. 10.

83 Minutes, 9 May 1985.

84 Hilbert Interview, p. 13.


89 Safety of Jordanelle Dam, Central Utah Project, p. 123.

90 Embry, History of Wasatch County, p. 297.

91 Minutes, 22 February 1985. See also Central Utah Project, Bonneville Unit, Municipal and Industrial System, Final Supplement to the Final Environmental Statement, p. S-9.

92 Minutes, 14 March 1985.

93 Randy Williams, Interview with Jay Henrie, Provo, Utah, 11 July 2012, p. 10. Henrie conducted many of the modeling plans for Reclamation on Jordanelle Dam. Hereafter referred to as Henrie Interview.

94 Embry, History of Wasatch County, p. 298.

95 Randy Williams, Interview with Claude Hicken, 6 August 2012, Salt Lake City, Utah, pp. 3-4. A native of Wasatch County, Hicken has served on the boards of various irrigation companies and on the CUWCD Board of Directors. Hereafter referred to as Hicken Interview.

96 Safety of Jordanelle Dam, Central Utah Project, p. 26.

97 Henrie Interview, p. 7.

98 Safety of Jordanelle Dam, Central Utah Project, p. 59.


100 Henrie Interview, p. 8.

101 Ibid., p. 4.

102 Randy Williams, Interview with Lee McQuivey, Orem, Utah, 12 July 2013, p. 3. McQuivey is a retired Reclamation engineer who worked on hydraulic modeling for Jordanelle Dam. Hereafter referred to as McQuivey Interview.

103 Draney Interview, p. 5.

104 Henrie Interview, p. 3.

105 McQuivey Interview, pp. 7-8.


107 Agreement between Provo City and the Provo Metropolitan Water District and the Bureau of Reclamation and Central Utah Water Conservancy District, 9 February 1987. Files of CUWCD.

108 Ibid.
109 Williams, Christiansen Interview, pp. 10-11.

110 Ibid.

111 Ibid.

112 Eastman, Bonneville Unit, p. 61. Unless otherwise noted, information on construction of Jordanelle Dam is taken from this source.


114 State Review of the Bonneville Unit, Central Utah Project, Final Report, (Salt Lake City: Department of Natural Resources, 1984), p. i.

115 Ibid., p. xi.


117 Safety of Jordanelle Dam, Central Utah Project, p. 115

118 Ibid., pp. 187-188.

119 Ibid., pp. 88-89.

120 Eastman, Bonneville Unit, p. 62.

121 Bruce Barrett comments to authors, 22 March 2014.

122 Ibid.

123 Ibid.

124 Ibid.

125 Ibid.

126 Eastman, Bonneville Unit, p. 68.

127 The dedicatory prayer was given by then LDS Apostle Thomas S. Monson. See Deseret News, 19 September 1993.


129 Ibid.
SUPPLEMENTAL REPAYMENT CONTRACT

Although the completion of Jordanelle represented a major victory for the District and Reclamation, the successful project exacted a price. “Jordanelle Dam…exhausted the existing authorization of the [cost] ceiling...[that] Congress sets to build a project,” Don Christiansen explained. Retired Regional Director Cliff Barrett elaborated on how that process worked. The original 1965 contract had required voter approval, “and they couldn’t have an election and sign a contract that was open-ended.” At the time, “we gave them the best number we had…[But] things catch up with you, …” he confessed. “We ended up having to do a bunch of environmental impact statements. We had construction delays because of lawsuits.” Costs escalated as well because of “problems that came up during construction. Some of the tunnels cost a lot more than we thought they would because of geology conditions we found inside.”

In August 1980, Reclamation had announced that it would open negotiations with the District to draft an amended contract. The initial contract that resulted from these negotiations, however, met with disapproval from the Interior Department. “I do not believe it would be in the Federal Government’s interest to sign the contract in its present form,” Assistant Interior Secretary for Land and Water Resources Guy Martin wrote. Martin characterized the contract as containing “several provisions which are clearly illegal, others that have questionable legal basis, and several provisions, which are not fiscally prudent.” Most disturbing, Martin alleged, was that “the contract mask[ed] costs of hundreds of millions of dollars from the clear view of the people who must pay for the project and the taxpaying public.”
Although some District officials tried to minimize Martin’s criticism “as just a parting shot from the outgoing assistant secretary who is sympathetic to extreme environmentalists,” Attorney Ed Clyde cautioned the Board to take Martin’s comments seriously. Costs for constructing the M & I features of the Bonneville Unit had risen from $76 million to $417 million since 1966. Ultimately, the contract would have to go before District voters and there was really no way to paint a pretty picture of a 450 percent cost increase. In April, Clyde requested that the Interior Department return the contract “so that the Board could review and analyze the concerns…”

In June 1981, Reclamation “indefinitely postponed” awarding bids on several key features of the Strawberry Collection System, until the District agreed to reopen the repayment contract. Federal law mandated that Reclamation “recoup the M and I costs with interest,” Barrett continued. He remembered having to inform the District that Reclamation would not “spend any more money until you guys change your repayment contract…[It] was a hard fight,” he emphasized. Hoping to persuade Reclamation to reopen the construction contracts, the District Board proposed using an additional $38 million of property tax revenue, to help defray costs for the M & I system. Additionally, the District requested, “the execution of and election on the…supplemental repayment contract be delayed…” until Reclamation made a final decision on building Jordanelle Dam.

During the next month, representatives of the District and Reclamation met at length to consider the possibilities. The upshot of their deliberations was to use provisions of the 1958 Water Supply Act that would allow deferral of a portion of its contracted supply of M & I water. As suggested by the Federal Office of Management and Budget, the 1965 contract allowed “the District [to] contract for all of the water and/or defer a portion of the repayment.”
Reclamation had entered into a similar arrangement for the Upalco Unit. The “secretary…agreed to defer a portion of the water supply,” Reclamation spokesperson Wayne Cook explained to the Board. The Interior Department agreed that a “second repayment contract [could] be entered into at some future date.” The Bonneville Unit should be eligible for the same consideration, Cook reasoned, and “a second contract…negotiated…after the collection system is completed…when the…Bureau and District…have a better definition of the Jordanelle Dam…”

Of the total 99,000 acre-feet of M & I water developed under the Bonneville Unit, the District designated 60,000 acre-feet as future supply. The deferral of nearly two-thirds of the water, also allowed the District to defer a like percentage of repayment. Most importantly, it allowed Reclamation to resume its construction of the CUP. On August 5, Reclamation advised the District that “construction…on the Bonneville Unit’s municipal and industrial service” could continue. During a particularly dark time in the District’s history, the innovative scheme to use the Water Supply Act must certainly have brightened the CUWCD Board Room. Ed Clyde “highly recommended” approving the joint resolution.

Nevertheless, the idea met with stiff resistance from some corners of the federal government. The General Accounting Office (GAO) issued a report in which it alleged that the “Bureau’s use of the Water Supply Act…was illegal.” The agency argued that the Water Supply Act only intended to provide the means to defer future water needs through enlargement of a project, not for projects already planned. The Act “allows the Bureau to enlarge a project…to meet an anticipated future demand,” the GAO contended, “not…to defer repayment obligations and…continue planned construction of facilities…already under contract…” If
allowed, the GAO concluded, the devise would end up costing the federal government $97 million in lost interest revenues.

Not surprisingly, the District and Reclamation disagreed with the GAO. Ed Clyde asserted that the Water Supply Act had been contemplated as part of the 1965 contract to develop M & I water before any construction began. “I played a leading role in the negotiation and in the drafting of the 1965 Repayment Contract,” Clyde reminded those unfamiliar with the District’s history. “I can state of my own personal knowledge that the use of the Water Supply Act was discussed and the possible need for its use recognized.”

Not only had Clyde served as the District’s attorney since its inception, but he had also become its institutional memory. For much of the preceding decade, Clyde had represented the District as its public face and spokesperson. Multi-purpose reclamation projects had always been planned to develop more municipal water than could be immediately used. Continuing with the history lesson, Clyde declared that the Deer Creek project, for example, “was completed in about 1938 and we are only now reaching the point where the municipal water is all needed.”

On November 19, 1985, the District held a special election to approve the supplemental contract. The new contract did not replace the original 1965 contract, but supplemented it by adding $335 million to the Bonneville Unit’s M & I features. Otherwise, Clyde reported, it sought “to preserve the benefits of the 1965 repayment contract, and not to change the irrigation repayment obligations.” According to Reclamation, the repayment plan included four components: (1) the original contract with a ceiling of $140 million; (2) a supplemental contract with a ceiling of $335 million, “plus a 10 percent adjustment for contingencies;” (3) a $10 million direct contribution from the District; and (4) subsidiary contracts signed with the
SLCWCD and the Metro District, obligating them to repay $42 million for construction of the Jordan Aqueduct.15

The District had followed its usual game plan in preparation for the special election. It assembled its cast of supporters, including representatives of local and state water organizations, and past and present elected officials. Even Brigham Young University head football coach LaVell Edwards joined with his University of Utah counterpart Jim Fassel to make a pitch for the CUP. As the election would precede the schools’ traditional Thanksgiving Day rivalry by only a few days, the coaches’ claim that the only two things they agreed on was “you should pass the football and pass the election,” may have been corny, but it was effective.16

The District also worked with Utah’s major news outlets, and conducted hundreds of educational programs. District Public Affairs Director Elden Laird met at least three times a week with various civic groups, while Board Chairman Bob Hilbert and Manager Don Christiansen were similarly engaged. The District had budgeted $125,000 for the election, although its promotion was limited to educational outreach, Laird clarified, “absent any overt promotion for the project.”17

The District’s promotional effort received a boost when longtime CUP advocate, and one of the State’s most popular former governors, Scott Matheson, agreed to head the privately funded Water for Utah’s Future Committee. Joining Matheson on the committee were former Senators Frank Moss, a Democrat, and Wallace Bennett, a Republican. Although these partisans had opposed each other on many issues during the 1960s, they both announced that their support for the CUP and the CUWCD had never wavered. The committee was able to raise nearly $150,000 in private donations, which it used to blanket Salt Lake and Utah counties with
television ads. Unlike the District, as a private organization the committee was not constrained by impartiality.

Even though a Dan Jones and Associates poll had shown “overwhelming support for the project, …” there were a number of variables that could tip the election the other way.\textsuperscript{18} Ed Clyde worried that low voter turn-out might “benefit their opposition,” that opponents might be more motivated than supporters, who were already weary from two previous municipal elections, or that “bad weather could discourage people from going to the effort.” Ironically, Clyde observed, the public poll that had shown nearly 75 percent support for the repayment project, could “lull supporters into thinking they don’t need to participate…”\textsuperscript{19}

Although better prepared and funded than their adversaries, substantial opposition existed to increasing the repayment obligation. Water users on the Provo River were nervous about protecting their water rights. Provo City formed the vanguard on this issue, and in October 1985, the city council proposed spending $6,000 on a campaign urging Utah County electors to vote “no.” The council also took exception to a letter it had received from former Governor Matheson, reproving the council for its opposition. In its reply to Matheson, the council summarized its concerns, which included Jordanelle’s threat to the city’s water rights; the subsidizing of water for Salt Lake County and Salt Lake City by the other 11 CUWCD counties; the imponderable cost of the Bonneville Unit, with no guarantee that it would ever be finished; the GAO report claiming the repayment contract was illegal; and lastly, that if the project were extended through another repayment contract the federal government would take control of Utah’s water supply.\textsuperscript{20}

Several years would elapse before the District, Reclamation and Provo City reconciled their differences. The city’s resistance was portentous, however, particularly if the remainder of
Utah County followed its lead, and voted “no” in the special election. Other detractors were also busy taking issue with the Bonneville Unit, the District, and the repayment contract. As the perennial voices of the environmental community continued attacking the project in predictable ways, University of Utah professor Jon Miller began scrutinizing the economics of the Bonneville Unit. Economic theory dictated, “rational individuals would develop the cheaper sources of resources first.” Conversely, Miller asserted, we are “developing more expensive water first…” Miller attributed this reversal in human nature to a water policy based on the uncertainty of “our share of the Colorado River water…” The fear that the “water in the Uintah Basin is…going to go away,” has led to “building water projects before they are economically justified,” he maintained. “The Colorado Compact gives us our share. We live upstream.”

As the Dan Jones poll had demonstrated, a large majority of those living along the Wasatch Front still supported the objectives of the CUP. While some may have gravitated towards the views expressed by Miller, most were far more likely to agree with Reclamation’s contention that the “CUP is not designed to provide water for today or tomorrow.” This is not a “short-term analysis,” Reclamation spokesperson Kathy Loveless explained. “It’s the long term that we need to consider.”

A cold, winter storm greeted voters on Tuesday, November 19. Even so, turnout was not appreciably lower than usual for special elections. The vote swung decidedly in the District’s favor, where a majority in 290 of the 307 precincts voted in favor of the repayment contract. The proposition carried Utah County, where, despite the Provo City Council’s opposition, it passed by a margin of 58 percent. Only in Wasatch and Uintah counties did the proposition fail.

The election was just one of many obstacles facing the District, and the mood at the next Board meeting following the successful election was anything but celebratory. Don Christiansen
informed the Board that it had become abundantly clear during the election process that the District needed “to take a much more forceful position in leadership.” Christiansen accentuated the Board’s determination by introducing a strongly worded resolution.²⁴

Christiansen would soon confront Reclamation officials on the necessity of beginning Jordanelle Dam. Additionally, the District resolution ended the debate as to whether releases from Strawberry would be through a revamped Strawberry Tunnel, or whether it would be through a newly designed Syar Tunnel. The resolution stipulated “the plans to rehabilitate the existing Strawberry Tunnel as part of the project be forthwith abandoned.”²⁵ While the District and Reclamation would continue to negotiate with the Strawberry Water Users Association “for development of power facilities,” the District agreed with Reclamation’s decision to suspend construction of the proposed “pump back” power facility at Diamond Fork, and elected to have Reclamation install a smaller system that would provide only enough power to operate pumps needed for irrigation.²⁶

The District’s recommendation on power facilities conformed to those made by the State’s review board a year earlier. Referring to Reclamation’s “pumped-storage facility,” the review board noted that it would have had the greatest “benefit-cost ratio…” Significant, as well, the enlarged power system would have enhanced the project’s benefits for power users, and allowed “costs for municipal and industrial water to be lowered dramatically…” Unfortunately, the review board stated, the “weak demand for the facility’s large quantity of power…” made it impractical. In June 1984, Reclamation canceled construction of the pumped-storage system, and opted for a flow-through system, similar to that described in the 1964 Definite Plan Report.²⁷

The District’s suggestion that Reclamation immediately build a plant sufficient to accommodate the needs of irrigators corresponded with its recommendation to have both the
municipal and the irrigation features of the Bonneville Unit constructed simultaneously. The District’s resolution expressed its “intent and desire” to have both systems “completed at approximately the same time.” It urged Reclamation to construct the Wasatch Aqueduct, the Mona-Nephi Canal and the Nephi-Sevier Canal, elements of the irrigation system that would deliver water south to Utah, Juab, Sevier and Millard counties.28

The District’s direction shifted significantly following the election and approval of the resolution. Don Christiansen had implored the Board to approve the resolution, cautioning “We are looking at a mid-1992 completion date and are already behind schedule.”29 Cliff Barrett, who had just recently been appointed as regional director, perceived that the District’s resolve may have been “the beginning…of the whole division between the Bureau and the Central Utah Water Conservancy District.”30 Cracks in the relationship may have been evident to discerning public servants like Barrett, but the schism was still a number of years, and countless congressional inquiries away.

CONGRESSIONAL REAUTHORIZATION

The Central Utah Water Conservancy District had always been political, but it became much more so after 1985. “I went to Congress many, many times…every year and pleaded our case,” Bob Hilbert recalled of his time as Board chairman.31 Similarly, Don Christiansen remembered, “spending at least half my time in Washington, DC…”32 Christiansen also recalled that the District was disadvantaged in not having permanent representation in Washington, DC. Utah’s elected officials were “doing a wonderful job,” he allowed, “but they had a multitude of things that they had to worry about. And Central Utah Project was just one of them.”
Christiansen and Hilbert set to work convincing “the board…to hire a representative in Washington, D.C.,” and the two of them were put “in charge to go interview [candidates] and bring recommendations back to the board.”

The District would have to “work with a Democratic Congress and a Republican administration, …” Christiansen affirmed. This political reality complicated the decision. “Bob kind of liked a guy by the name of Hal Furman, [who] was very close to…the Reagan Administration… I was kind of partial to Marcus Faust who…had been staff for [Democrat] Gunn McKay until Jim Hansen beat him.” When Hilbert and Christiansen presented their choices to the Board (“Don wants this person and Bob wants that person”) the Board “authorized us to hire them both,” Christiansen noted. We “went forward with the two of them and had a very, very fine team.” Furman, and Faust, would play pivotal roles as the District worked with a variety of stakeholders to raise the cost ceiling for the CUP.

Interfacing with congressional committees had largely been Reclamation’s domain, but the District had now inserted itself into the mix, and the melee that the District entered extended far outside local concerns. In October 1987, Utah’s congressional delegation introduced bills in the Senate and House to raise the cost ceiling of the CUP by $754 million. It is doubtful that seasoned senators such as Jake Garn and Orrin Hatch, along with House members Jim Hansen, Howard Nielsen and Wayne Owens seriously believed that the one page bill would pass. It was “dead on arrival at the hill,” Christiansen remarked. “We knew it wasn’t going to go anywhere because the environmental community, locally and nationally, was targeting Central Utah Project.”

It was more than just concern for the environment, however. The merit of federal water projects, generally, had been closely scrutinized ever since President Carter’s administration, and
the contentiousness of the CUP, in particular, was bound to provoke questions from other members of Congress. Moreover, the appearance of *Cadillac Desert* in 1985, Marc Reisner’s critical examination of Reclamation’s checkered past, significantly influenced public opinion.\(^{36}\) Even Senator Hatch admitted to having read the book, and while he did “not think anybody…would fail to conclude that it [was] biased against the Bureau of Reclamation…” he indicated that “it raise[d] some pretty interesting issues.”\(^{37}\)

Some members of Congress had become especially disparaging. Characterizing himself as one of Reclamation’s “strongest critic[s], …” California Congressman George Miller (D) had been a principle author of legislation to reform Reclamation in 1982.\(^{38}\) Miller complained that water users had generally disregarded the 160-acre limit stipulated in the original 1902 Reclamation Act. More so, he and a growing number in Congress questioned whether Reclamation’s founding principle of creating small, irrigated family farms still had any relevance in modern, twentieth century America.

Reclamation had for many years “recognized that it took more than 160 acres, or 320 acres for a family, to make a living on.”\(^{39}\) Arizona Congressman Morris Udall agreed that the “limit is now outmoded.”\(^{40}\) Congress proposed in 1982 to raise the limit from 160 to 960 acres, but required assurance that the new limit would be enforced, that farmers irrigating more than 960 acres would be required to pay the full cost for developing that water. Reclamation had not been particularly aggressive in enforcing acreage constraints, former Reclamation Commissioner John Keys conceded. “Most of the time it just kind of turned its head…” The problem was that “Congress wrote a bill [that would] take care of…California,” not one “to cover places like Idaho [or] Oregon and Washington.” The law “turned our constituency against us. We had people that just thumbed their nose at us [when] we sent them a bill for a couple of hundred-thousand
dollars.” Sometimes “little old ladies in rest homes…ended up with big bills,” because they had leased their farms to other operators. “The law was just miserable.”

The Reform Act impacted every federal water user. Linda Ivie hired on with the District during the early 1990s “working with farmers in the Uinta Basin doing the Reclamation Reform Act paperwork…” She recalled the onerous number of forms that irrigators were required to complete to comply with the act. Its purpose was to make certain that “somebody doesn’t get all the water,” she explained. Big corporations and other entities with too “many people…can’t receive water without paying full price for it…[It’s] a way to make sure everyone gets a share of…project water.”

Farmers using project water “had to file every year,” explained Keith Hooper, who supervised the program for the District. They had declared “where they [would] apply the water,” and only lands “classified by the Bureau of Reclamation [could] get project water.” That was a problem, initially, Hooper recalled; “people didn’t want to give us that information…They felt like it was an invasion of privacy.”

Few farms in the Uinta Basin or elsewhere in Utah that received federal water exceeded the acreage limits imposed by the Reform Act. The most egregious examples of federal water fraud occurred in California. For instance, some conjectured that the Tenneco Company controlled “a million acres…” in California’s Central Valley, and that thousands of acres in California’s Westland Water District were owned by corporations and absentee landlords.

Although the law sought to target large agribusinesses, its provisions also impacted family operations that had been functioning for years. The farming practices that “had evolved under the old 160-acre limitation” provided farmers with an “unlimited ability to lease land.” There “were cases where every member of an entire family owned 160 acres of land. That was
all farmed as a single unit under lease arrangements.” Former Reclamation Commissioner Dale Duvall explained:

it was possible that a granddad had five sons and four daughters and each of them, [plus] grandma and grandpa might own 160 acres of land. Their children might have married and had children and acquired land either by purchase, gift, or inheritance. All these family-owned units could be put together in a large network and then farmed as a single operating entity…[There was] a lot of heritage and a lot of roots in that soil. They coveted it, and they protected it as though they owned it even though ownership was spread throughout complex family groupings. They may have operated a lot of it through farming partnerships. Regardless, the land was everything that their family had ever [known] and…nothing is as sacred to a farmer as his land…You take care of it, and you mother it, and you nurture it. And then the Government comes along and passes a law that says we don't care about this…equity arrangement that you had in order to farm 4,500 acres as you've done in the past. Under this new law you've got to change everything around, you've got to break up your units. You and your three brothers can no longer farm as a partnership and operate all this land together. You [have to] break it up into four different farms. And the single set of buildings and machine shed that you own, you've got to do something about those kinds of things because you've got to avoid all appearances of being a single-farm unit.45

Obviously, implementation of the 1982 Reclamation Reform Act did not prove satisfactory. Not only did it disrupt the lives of “traditional, law-abiding families,” some irrigators continued to circumvent the act by splitting large farms into 960-acre parcels. These so-called “paper farms” gave the appearance of compliance, but particularly in some areas of California, the farms were simply “restructured…into separate 960 acre parcels, each owned by a different business partner…”46 Although Congress imposed additional safeguards in 1987, problems still remained. Senator Bill Bradley (D New Jersey) put his senate colleagues, “the Department of Interior and certain water users [on notice] that this is not the end of the issue.”47 Non-compliance with the 960-acre limit continued to needle some members of Congress, and Bradley’s declaration would later impact the reauthorization of the CUP.48
Bradley and Miller would be among Reclamation’s foremost detractors, and as respective chairs of their chambers’ Subcommittee on Water and Power, the two would also become formidable opponents of the CUP. Bill Bradley reportedly told Jake Garn at the outset of the debates to raise the CUP’s cost ceiling, “Your Central Utah Project is dead. I will never support it. You can’t arrange it and make it in such a manner that I will support it.”

At least five years of deliberation, negotiation and compromise would follow that reported exchange between Bradley and Garn, and as a result, a decidedly different CUP emerged in 1992. Eventually, the transformation would even impress the obdurate Bill Bradley, who admitted to Jake Garn: “I didn’t think you could ever do it…” Bradley would end up offering his full support for the CUPCA legislation, promising to “push…as hard as I can to get it done.”

The 1980s were also a transformative period for Reclamation. Under the niggling directives of Congress, Reclamation slowly began to shift away from constructing large projects and towards the management of water resources. Not only did powerful chairs of key committees like Miller and Bradley beleaguer Reclamation, but members of Congress who had usually been supportive also began raising concerns. “Even some of our friends… [like] Jake Garn, with the Central Utah Project, bashed the Bureau,” former Commissioner Dennis Underwood declared.

Utah’s senior senator took particular exception to Reclamation’s excessive overhead costs. Utah’s Regional Director, Cliff Barrett, acknowledged that there was “a lot of criticism of the Bureau's overhead costs, and I think some of that’s pretty legitimate. Denver costs were extremely high.” Garn’s office had discovered that possibly 40 percent of funds appropriated for the CUP had been spent for overhead. This, in tandem with funds appropriated for the CUP,
but “reprogrammed” to other projects, had caused significant construction delays. “I discovered to my horror,” Garn testified “that well over $100 million…appropriated to construct this project had either been transferred…out of Utah to other projects, or wasted by the Bureau…in non-productive administrative overhead expenses…To put it mildly,” he emphasized, “I was and remain angry about this deception.”

Don Christiansen recalled how “Jake Garn and Orrin Hatch would work to get an eighty million dollar budget, and I didn’t feel like I was getting ten million dollars’ worth of concrete and bulldozers… Where the hell did all the rest of our money go?” he asked. When we “got into it I found some [funding] was being transferred…to projects over in Colorado that were [still] on the Carter hit list [and] had never been taken off…” We also “found that they had an engineering center in Denver [and] that we were funding a good part of that…out of the Central Utah Project.”

Following these discoveries, Garn pushed through legislation to “limit overhead spending to not more than 20 percent; …” but, the legislation was evidently not iron-clad. Reclamation “found all kinds of loop holes,” Christiansen alleged. Garn imposed further restrictions the next year that “put a dollar number on the overhead.” That seemed to work better, Christiansen continued, because Cliff Barrett actually “began to invite me into his budget meetings with his department heads…to try and help figure out a way they could get the job done with the amount of money they were allocated.”

Undoubtedly, Reclamation had extremely high overhead expenses, and had admittedly “reprogrammed” CUP funding to other CRSP units. “I think it was a legitimate issue,” former Regional Director Rick Gold allowed. “The delegation would go get money in the budget for the Central Utah Project. It would be appropriated by Congress; but it couldn’t be spent.”
of lawsuits and other delays, “construction lagged,” Gold explained, and “what happens in the Bureau is if you have extra money that you can’t spend it gets reprogrammed...” If Reclamation couldn’t spend it on the CUP it moved “it to a project where it was needed.” Interestingly, Gold concluded, during some years when “there was money in Central Arizona Project that couldn’t be spent it was moved to Central Utah Project.”

It all came down to money, and there was never enough of it. Since the project’s beginnings, Utah had been clear that construction, building the features that would allow the State to utilize its share of the Colorado River and allow delivery of that water to users should be the number one priority. Reclamation listened, and in large measure complied. As a result, CUP features intended to develop recreational facilities, restore fish and wildlife habitat, or rehabilitate the natural landscape had been postponed. Reclamation argued that it would turn its attention back to the environment once it had completed construction. Activists, however, had long maintained that the CRSP Act of 1956 had intended for construction and environmental enhancement and mitigation to proceed, concurrently.

Utah Congressman Wayne Owens agreed. The purpose of the CRSP legislation was to mitigate the inevitable damage that would occur as a result of building “dams, canals and power plants,” he stated. “But the hunters, fisherman and recreational users of this State have watched and waited anxiously for this mitigation, only to see it pushed further and further back in time, over and over again. Out of nearly $1 billion expended thus far,” Owens emphasized, “only $10 million, approximately 1% of all expenditures, … have gone to fish and wildlife.”

Hoping to rectify this oversight, as well as effectuate increased appropriations for the CUP, Owens introduced legislation in October 1987. Owens spoke candidly about the detrimental effects that the CUP would have on the environment. While CUP opponents had
frequently peppered Congress with similar misgivings, it was remarkable for a supporter to admit that the project would have “a devastating impact on the natural environment… By the time we have completed the Central Utah Project, we will have destroyed, through inundation or stream flow alteration, approximately 245 miles of stream fisheries.” Even if the enhancements stipulated in his bill were implemented, the CUP would still reduce “significant habitat areas for deer, moose, waterfowl and many non-game species. Great natural areas will be destroyed and altered forever.”

Owens’ comments gave him significant cachet with the environmental community. Hoping to broaden this support, he solicited the opinions of sportsmen and environmentalists. Owens’ administrative assistant and former law partner, Kensely Brunsdale, chaired the Utah Sportsmen and Conservation Roundtable, an association of more than 100 “sportsmen, environmental and wildlife organizations.” The Roundtable worked with the Congressman to help draft the bill. Brunsdale reported that the local group felt “optimistic and enthusiastic about the direction…” of Owens’ bill, but were “anxious to consult with our National organizations and our environmental big brothers…”

Knowing the importance of securing “water sources for the growth of [the] Salt Lake area,” the Utah delegation tried to reflect a unified front. The bill, however, embodied Owens’ views more so than it did those of the other members, and Utah Republicans vigorously protested some of its provisions. Particularly they complained about the creation of a special fish and wildlife commission that would be responsible for all environmental mitigation. They objected to the $15 million the commission was to receive each year from proceeds generated through CRSP power revenues. “As currently written, …” Jake Garn complained, “the commission… would become a permanent $15 million per year entitlement program under the guise of
environmental protection because funds for the commission would be derived by increased power rates from the Colorado River Basin fund. Electrical consumers throughout the basin will have to foot the bill for this provision.”

Under Reclamation law, revenue from the generation of hydroelectric power could only be used to pay the debt of constructing the power plant and to offset the expense of developing irrigation water. Owens’ proposal to tap power revenues for fish and wildlife mitigation was unprecedented. If other upper Basin states established similar funds, the “precedent…could destroy the economic benefits of the federal power system,” complained American Public Power Association spokesperson Deborah Sliz.

George Miller, however, strongly supported the concept, contending that it made little sense to debate “the allocation of power resources and whether they’re going to go to fish and wildlife or whether they’re going to go to subsidized irrigation…This is an integrative project,” he insisted. “The difference is that it was not a national…or local priority in 1956 to worry about the environment. In 1988, it is.”

Environmentalists and fiscal conservatives alike had argued that the agricultural subsidy was a waste of taxpayer money. Economist Jon Miller calculated that the cost irrigators would pay per acre under the Bonneville Unit would be $9.41, while the cost to develop that water amounted to nearly $4,000 per acre.

There was little appetite in Congress for subsidizing irrigation projects. Yet, Owens remained committed, and continued to try and find ways to deliver irrigation water into those southern counties, which were part of the Irrigation and Drainage (I & D) System. “Let me just clarify…I strongly support the I and D parts of this bill, …” he reassured Thorpe Waddingham, an old friend and attorney for the Sevier River Water Users Association. “The entire
congressional delegation, including the boy from Panguitch,” Owens asserted with reference to his hometown, “favors the transportation of 36,000 acre-feet over into the Sevier.”

For Utah Congressman Howard Nielsen, the figures simply did not add up. The bill endeavored to guarantee irrigators in the Sevier River Basin 36,000 acre-feet, while at the same time demanding that more than 44,000 acre-feet be left behind in Uinta Basin streams for fish habitat. “I am not entirely convinced that the 44,000 acre-feet of in stream flow is justified,” he questioned. Nielsen accurately foresaw that the increased stream flows would either come at the expense of the downstream irrigators, or municipal water users in Salt Lake City.

Nielsen’s assertion was certainly not lost on District officials. Both Reclamation and the District had been grappling with prospects of a shrinking water supply ever since they signed the stream flow agreement in 1980. Less water quickly translated into fewer benefits, and it did not take long to “pencil out” the reality that some features would either be terminated, or drastically curtailed.

Between 1987 and 1988, as these thorny issues were being negotiated in a Washington, DC hotel room, Don Christiansen remembered it becoming “very plain…that we were not going to be the Central Utah Project [as] authorized in…the past.” There was really no way to resurrect the CUP that might have been, one that would deliver the promised water to Indian and non-Indian irrigators in the Uinta Basin, and to Juab, Sevier and Millard counties. That CUP was 20 years in the past. “We had to find a…new way, …” Christiansen realized, one that would meet “the conditions we were in right then.”

With an estimated price tag of $400 million, everyone involved with these negotiations understood the futility of funding the irrigation component in the traditional sense. The District countered these concerns with an idea to “privately” finance the irrigation system, again by using
federal power. If granted the exclusive right to operate and profit from the Diamond Fork power system, the District reasoned that it could issue power revenue bonds to finance the irrigation system, or at least meet its cost-sharing obligation.

This approach deviated from the District’s position of just two years before, when it had urged Reclamation to abandon its plans for a large “pump back” power facility and construct a small, flow through power plant with a capacity only large enough to support irrigation pumps. Under the new plan, the District recommended a larger facility. “It makes more economic sense to purchase irrigation pumping power on the open market…and to build a larger power plant at Diamond Fork for the purpose of developing commercially marketable power.” The District agreed to issue $209 million worth of bonds, the funds from which it would give to Reclamation to build the plant. After completion, the District expected to operate and profit from the plant. As this new proposal eliminated the need for the smaller plant included in Reclamation’s plan, the District proffered to use this $106 million savings to meet its cost share obligation.73

This scheme granted “an exclusive and perpetual license…to the CUWCD,” Deborah Sliz protested. If allowed, public control of power generated under the Bonneville Unit would be lost. “This proposal is totally unacceptable… Federal power,” she emphasized, “is not a cash register to be raided to finance other activities…”74

But, that may have been precisely the point. Most of the cash cows in the federal treasury available to fund Reclamation projects had long since dried up. It required a good deal of creativity to devise funding, and federal power was about the only reclamation feature left for Congress to milk. Using federal power revenue to meet the District’s local cost share, or for environmental mitigation, however, would require making changes to Reclamation law. Some, like George Miller and Wayne Owens, were certainly favorably inclined towards that. Others in
Congress, including members of Utah’s delegation, would need convincing that the environment merited a subsidy from federal power revenues equal to that of irrigation.

In some ways, Owens’ bill was plainly an effort that began with the Carter Administration, and continued with George Miller, Bill Bradley and others during the 1980s to reform Reclamation. Owens bill was yet another test of Congress’s enthusiasm for additional reform. Most irksome to Deborah Sliz, others involved with federal power, and the balance of Utah’s congressional delegation was Owens’ stipulation that the National Academy of Sciences, conduct a detailed study of hydroelectric facilities under the Colorado River Storage Act.

During the 1980s, a similar study had been authorized to study the release of water for hydroelectric power below Glen Canyon Dam and its effect on the Grand Canyon ecosystem. “There was never any doubt that Glen Canyon Dam would change the Colorado River, … but many of the environmental effects downstream…were not fully understood at the beginning of the GCES [Glen Canyon Environment Studies].”75 In 1986, a joint National Academy of Sciences/National Research Council committee was authorized to review GCES reports and make recommendations on the operation of Glen Canyon Dam. The product of these investigations still resonates throughout the Colorado River Basin.

The scope of environmental justice is sweeping. Whereas now the emphasis is on trying to restore ecological balance, previously most of those involved with western water development largely considered environmental consequences to be “secondary or even frivolous.”76 Offering its support of the CUP during the early 1970s, for instance, the Weber Basin Water Conservancy District had urged “Congress to disregard as frivolous the efforts of a very few short sighted individuals and groups who oppose the Central Utah Project.”77 Many in Congress were still inclined towards this view, and were reluctant to fund another study that may provide
ammunition to those wishing to constrain power production, or redefine the parameters of federal reclamation law. The study is “nothing more than a means to evaluate the use of CRSP and the Colorado River with intent to make significant changes,” federal power officials warned. “The study parameters will do nothing but challenge the present users of the river…” One lawmaker observed that the whole CUP reauthorization bill was revolutionary because it “is going to be used as a target of opportunity to revamp and revise the uses to which Federal power and Federal power pricing policies are put, to expand them beyond…those that were contemplated at the time this project was authorized.”

Republican members of Utah’s delegation were also suspicious, although aware that the “process in Congress… is [one] of give and take… None of us can have exactly the type of legislation we would like…” Senator Garn affirmed, “it is a process of getting together on compromises that we can support.” Nonetheless, both Nielsen and Garn renewed their objections of using public power to pay for “the wildlife costs and…for the irrigation part of the project.” Nielsen was particularly averse to conciliation. Feeling that he had been “largely excluded from the drafting of this bill,” he reverted to much the same hard-nosed position that had characterized water districts, most State agencies and elected officials, as well as Reclamation during the previous two decades.

Utah officials have “been against environmental safeguards all these years,” proclaimed Hartt Wixom, who had been denouncing the project’s effect on trout streams since before the first shovel of dirt was turned at Starvation Dam in 1966. “Owens has come up with a…bill that provides for some biological input into what has heretofore been strictly an engineering project.” For too long the “CUP has ignored environmental values and Owens wants to make certain he finally gets them in.”
Although Owens ended up deleting the National Academy study from the bill, he stubbornly clung to the other environmental and cost sharing measures, reasserting his belief that the bill had no chance without them. Chairman Morris Udall had, in fact, informed the Utah delegation that the full Interior and Insular Affairs Committee would consider the bill only "when agreements are in hand to provide non-traditional private financing of irrigation and drainage facilities and to provide for the financing of fish and wildlife enhancement measures."84

As arguments spilled out onto the pages of Utah’s newspapers, the disagreements became even more pronounced. Owens attributed the problems to “one member of Utah's congressional delegation (Nielson) and a small number of special interest groups," while Nielsen told the CUWCD Board that he did “not trust Wayne Owens, and that he [had] been burned by him before.”85

Furthermore, stories began circulating during spring 1988 that UP & L, a client of Kensely Brunsdale, and a chief competitor of federal power affiliates, had paid for him to make trips to Washington, D.C., in order to participate in the negotiations. Brunsdale had developed cozy relations with the Utah environmental community, and was perhaps as knowledgeable as anyone about the impacts of the CUP. Owens and Brunsdale had been former law partners, and as mentioned above, the two had worked closely in drafting portions of the bill. As both the wildlife commission and cost sharing measures of Owens’ bill centered on the use of federal power revenues, the stories alleged that UP and L was trying to peddle influence in Congress.86

UP and L had approached the District about three months before to see how they might help with the reauthorization bill. Don Christiansen told the company that the biggest obstacle was the environmental community. We “have to have the support of the local environmental groups…to be successful.” Any help the company could offer in “resolving the environmental
issues, …” Christiansen informed them, would be greatly appreciated.” Knowing of Brunsdale’s environmental proclivities and expertise on the CUP, UP and L retained him to assist the District.

As it turned out, Brunsdale’s intervention was effective. While Owens had not directly arranged for his services, he proved extremely valuable in bringing the environmental community forward. Nevertheless, consensus amongst the Utah delegation seemed impossible. Udall, however, had insisted on it, informing Owens that he would “not schedule the CUP measure for full committee consideration until there [was a] consensus on it among Utah's delegation.” Agreement aside, everyone knew the legislation stood no chance of clearing Miller’s subcommittee without including the fish and wildlife commission, and some means of privately financing the irrigation system. Representative Miller had been explicit on this point. The bombastic Miller chided the Utah delegation for their “notion that [they could] just…come and raise the ceiling. I mean, we ought to have you guys drug tested if you think that’s what’s going on in the Congress.”

Miller had strenuously objected to Representative Nielsen’s “bare-boned” substitute bill that proposed to “traditionally” fund the irrigation system. The bill, Miller informed Wayne Owens, was “fundamentally flawed…impossible to enact…and would have been overwhelmingly rejected…” by the committee. The District, too, had weighed the chances of passing traditional financing and concluded, “the political support necessary to reauthorize the irrigation feature…does not exist in Congress today.” We have “counted noses,” the District emphasized, “and determined the votes do not exist to authorize a $404 million irrigation project…”
With the environmental and cost sharing provisions intact, the House Subcommittee on Water and Power reported favorably on Owens’ bill. Miller congratulated Owens when the bill passed the subcommittee, stating that it was an important first step. “It reflects the changing water needs of your fast growing state,” he noted. It reduces federal expenditures, while incorporating “progressive and fair requirements for environmental protection and mitigation. It is a bill I am proud to support.”

When the bill reached the full committee, with consensus clearly still lacking among the Utah delegation, Udall, true to his word, refused to consider the bill. Rather, the Insular and Interior Committee reported out an amended version. The committee urged conciliation and compromise, recognized “the controversial nature of the issues,” but hoped that the Utah delegation could profitably work together with regional and local interest groups to figure how “best to finance completion of the Central Utah Project.”

This eviscerated bill only provided funding for one year, enabling construction to continue on those M & I features authorized as part of the Bonneville Unit. The $45 million appropriation also included some funding for fish and wildlife mitigation and for recreation, but did not create a commission to administer those funds. Once the bill arrived in the Senate, Jake Garn successfully included a provision to compensate the Strawberry Water Users Association for lands around Strawberry Reservoir. Garn’s efforts to finally settle this decade long dispute drew the fire of Senator Bill Bradley, who warned that he intended “to apply the most exacting degree of scrutiny to any – and I underline any - future proposals for central Utah project construction and funding…”

While the measure provided the District some breathing room, it only supplied sufficient funding to continue building Jordanelle Dam, Reach 2 of the Alpine Aqueduct, and other
portions of the M & I system. It fell far short of the nearly **one billion dollars** needed to complete the CUP.\(^98\) It was obvious, as Don Christiansen reported to a subdued Board after passage of the bill, “that we will not be successful in any of our efforts for funding…unless the Utah Delegation is together. There must be total support from our delegation if we are to accomplish anything in Congress.”\(^99\)

While Udall had insisted on consensus among the delegation, George Miller had gone a step farther, indicating that agreement should extend beyond Utah’s political leaders to include fish and wildlife advocates and other national environmental groups. One “of the reasons [the bill] had died,” asserted Mike Weland, who later became a member of Wayne Owens’ staff, “was because they had not…negotiated with the national environmental groups. George Miller [told]…Wayne Owens [that] ‘If you can work out something with them, we can look at this again.”\(^100\)

Whether at Owens’ solicitation, the intervention of Kensley Brunsdale, or of their own accord, eight local environmental and sportsmen organizations, along with nearly 50 other affiliates, released a critical review of the CUP in September 1989. The document did not equivocate in its censure of the CUP; yet, neither did it simply recommend that the project be abandoned, as had many past critiques from the environmental community. Rather, it acknowledged that the “imminent introduction of a Garn-Owens reauthorization bill…[would provide] the opportunity to reassess the CUP in terms of 1989 values, costs, impacts and needs.”\(^101\)

The report contained little that had not been part of the past arguments used against the CUP, the destruction of rivers and streams, over-estimation of the water supply, and the wasting of taxpayer money, to name a few. More importantly, however, while the authors stated that it
“made absolutely no sense to proceed with the Central Utah Project as it is currently constituted, …” they conceded to take “a step back and review available economic, environmental and water need options and alternatives. The CUP should be guided by the realities of today, rather than by conditions long past.”

This renewed reauthorization process would give environmental advocates their first seat at the table. But, along with that seat came an obligation. No longer could the environmental community be content to simply play the role of obstructionist. Rather than trying to halt the CUP, it would have to commit to completing the project. Likewise, members of the Utah delegation would have to commit to a program that would mitigate the CUP’s serious environmental consequences.

During the months of dialogue leading to CUPCA’s enactment, Don Christiansen claimed to have had only three nonnegotiable points. The project had to be affordable. It had to “deliver the benefits that the state of Utah [had] been counting on,” and lastly, it had to be a “doable” project. “Beyond that,” Christiansen graphically told his negotiating partners, you can “take my guts out and…spread them out on the table… You can arrange these parts and pieces just about any way you want, as long as I maintain those three things. I will not give on those three things.”

Christiansen recalled the “rather small group” that met to draft the legislation. In addition to Christiansen, the group included the District’s two Washington, D.C. counselors, Hal Furman and Marcus Faust, along with two representatives from the National Wildlife Federation, Ed Osann and David Conrad. Furman worked primarily as liaison between the negotiators and Senator Garn’s office, while Osann and Conrad worked with Dan Beard, chief of staff for
Representative George Miller. Christiansen and Faust worked closely with Wayne Owens, who periodically joined in the deliberations.

The Bureau of Reclamation did not participate in negotiating and drafting the bill. The agency may have been asked to join the deliberations, but “basically chose not to, …” Ron Johnston recalled. The “one participant who was not at the table… was the Bureau of Reclamation,” Dan Beard affirmed. Throughout “the late Reagan and…H.W. Bush years, the Bureau (and the Administration) took the position that they didn’t want to negotiate on this legislation: they were opposed.” Reclamation Commissioner at the time Dennis Underwood later testified how the “administration was not a party to the development of the [bill’s] provisions…Consequently, we oppose the legislative settlement.” Reclamation had opposed Owens’ earlier bill, and was skeptical that this new effort had any chance of passing. Reed Murray, who at the time was Regional liaison for Reclamation’s Salt Lake City Office, remembered the general attitude of his coworkers at Reclamation was that “it will never work. The district will never be able to get this to go…. It was a pretty tense time; … not a lot of love for…CUPCA…”

It would fall to Wayne Owens to push the bill through the democratically controlled House. In addition to being a member of the majority party, however, the “boy from Panguitch” also had close relations with both urban and rural water organizations, and a demonstrated report with the environmental community. After Brunsdale left Owens’ staff to challenge incumbent Jim Hansen for his House seat, Mike Weland became involved. Weland remembered the negotiations, the long hours spent during the evenings at either his boss’s office or at the home of Ed Osann “after he and his wife had put [their] kids to bed….I would facilitate the meetings, …
record everything, [then] have separate meetings with the staffers from Garn’s office, … Hatch’s office, [and]…Howard Nielson or Jim Hansen…”

With Owens’ leading the effort, Senators Garn and Hatch, and Congressmen Nielsen and Hansen each contributed to this renewed process, but most importantly agreed to support it. As mentioned, consensus among Utah’s elected officials was a requirement imposed by the chairs of congressional committees. The same would be expected of the negotiators drafting the bill. Each of the parties involved would have to give and take, sacrifice and accept, and eventually meet somewhere in the middle. It was a long ordeal, but in the end what allowed the process to succeed may have been the relative secrecy of the proceedings.

At some point, the Utah delegation and the District agreed to try and keep the issue out of the newspapers. It was hoped that this small group of negotiators, with admittedly divergent interests and aspirations, could compromise and better resolve their differences privately without the glare of the public spotlight. The plan worked reasonably well, particularly given that off-year elections were approaching fast during 1990.

Much of the construction, including the completion of Jordanelle Dam, would occur in the 3rd District, while most of the water developed under the Bonneville Unit would flow through the 2nd District. Howard Nielsen, who had been the 3rd District’s outspoken critic of Owens’ earlier bill, chose not to run in 1990. Nevertheless, as they campaigned for the vacant seat, Republican Karl Snow and Democrat Bill Orton hardly mentioned the CUP, or the bill to reauthorize it. The issue surfaced periodically in debates between Owens and challenger, Genevieve Atwood in the 2nd District race; however, because nothing of substance had been reported in the papers, Atwood had little on which to base her criticism. Even the guardedly
bipartisan Don Christiansen contested her claim that the CUP could be finished without federal assistance.\textsuperscript{110}

Oddly enough, the CUP figured most prominently where it would have the least impact, in northern Utah’s 1\textsuperscript{st} Congressional District. Coming to the defense of incumbent Jim Hansen, Jake Garn reproached challenger, Kensley Brunsdale, as a “radical environmentalist, [who had]…nearly killed the Central Utah Project.” Nevertheless, the Senator refrained from directly attacking Owens, or from mentioning the negotiation process, citing only Brunsdale’s membership in the Sportsmen Roundtable.

Otherwise, negotiations to draft the new bill proceeded with little fanfare in the media. Consequently, not much is known about what actually transpired during the negotiations. Notes were taken; drafts written, and new revisions of the bill were prepared for subsequent discussion. It seems most of the negotiation centered initially on the costs. The “fight was over the water development, and the enormous costs,” Mike Weland recalled. “Don and Marcus [were trying] …to decide on what was going to get developed, how much federal contribution was going to be there; what was going to be the co-pay. That was the big thing, the local share…”\textsuperscript{111}

The I & D system was a key component in these discussions. The environmental community had been uniformly opposed to building the expensive delivery system just to irrigate alfalfa fields in Millard County. Likewise, key members of Congress, especially Representative George Miller, expressed strong reservations about its feasibility. Wayne Owens and the balance of Utah’s delegation, however, strongly supported the project, while the District, as recent as July 1988, had expressed its “total support for the completion of the…Irrigation and Drainage System…”\textsuperscript{112}
Providing that the District could meet certain demands and the Utah delegation could finesse a bill through Congress, the environmental community agreed “not to oppose…funding for the CUP, including the I and D system…” Reaching a compromise with the environmental delegation required the District to make significant concessions. A new Definite Plan would have to be prepared to identify features from the 1988 Bonneville Unit supplement that would be deleted, and features that would be constructed. An Environmental Impact Statement for the I & D system would also need preparation and approval. Contracts for 90 percent of the water developed for the I & D system would have to be signed before construction could commence. A “realistic” cost-sharing proposal would have to be developed, and the irrigation component would lapse (sunset) after five years if funding had not been authorized.

In the event that the irrigation system could not be completed, either because of the sunset clause, or for other reasons, the bill included the means for affected counties to withdraw from the District. The local development option would take effect two years after passage of the bill, and permit any county except Salt Lake and Utah, to leave the District and receive a rebate on whatever ad valorem property taxes it may have paid less administrative costs and costs of benefits received.

The sunset clause also applied to the Upalco and Uintah units. If these units were not funded and cost-sharing agreements had not been finalized within five years, Congress expected that “less costly…more feasible and environmentally less damaging…” replacement projects would be explored. This would affect both Indian and non-Indian irrigators in the Uinta Basin, and have a significant impact on the bill’s Ute Indian Rights Settlement provision.

The Ute Tribe had anticipated the demise of the Upalco and Uintah units since at least 1982. The reauthorization bill made the prospect much more likely. In view of this, the Tribe
proposed a “more modest agricultural commitment” to refurbish the legacy canals and laterals of the Uintah Irrigation Project, and develop a 7,000 acre farm and feedlot. In recognition of its deferral of more than 15,000 acres and 60,000 acre-feet of water in 1965, the Tribe would also share in proceeds of the sale of municipal water. The Tribe would receive 26 percent of the M & I repayment obligation attributed to 35,000 acre-feet annually for 50 years, and seven percent of the revenue attributed to 35,000 acre-feet derived from municipal water sales after year 2042. In addition, the bill authorized the creation of a $125 million Tribal Development Fund; made provision for stream enhancement, and minimum flows; appropriated funds for wildlife areas; and allowed for the “decontamination” of Bottle Hollow Reservoir and the reconstruction of Cedarview Dam. In consideration of this settlement, the Tribe proposed to waive its claims “arising” out of the 1965 deferral agreement. “Since the purpose of the settlement is to resolve once and for all, these outstanding matters,” the House Subcommittee on Water and Power wrote, “it is appropriate that as a condition to receipt of the Tribal Development Fund and the other benefits…that a comprehensive waiver be undertaken by the tribe.” In Senate testimony, Tribal Council Chairman, Luke Duncan, portrayed the Tribe’s long history of frustration and disappointment with the CUP, but concurred with the settlement. Through my “frustrations,” he added, “we have met with the parties concerned behind closed doors, and we have done a lot of overtime in putting our differences aside and sitting down and looking at what is best for the people of the State.”

Howard Nielsen and Wayne Owens had first introduced the Ute Indian Rights Settlement as bills in 1988. Nielsen’s intent was to include the settlement as an amendment to the first reauthorization bill, but Morris Udall advised that it may distract from the CUP bill and should be considered as a separate measure. Both bills had been prepared in consultation with tribal
leaders and their attorneys. Owens, for instance, divulged that his bill “was prepared by the Ute Indian Tribe’s counsel and introduced by me at their request…” These two bills differed little, and both partisans intimated that they could reconcile their differences. In substance, both bills are nearly identical to that which became part of the subsequent reauthorization bill, and which is now part of CUPCA. That part of the act “was written by the tribe and their attorney,” Reed Murray asserted. What is “there is what the tribe developed. And…it’s different than any other settlement. In the other settlements, the tribe...[had] to sign the compact, and then they received the funds. Under CUPCA, the tribe received the funds, and then they’re supposed to sign the compact, which they never have.”

The State of Utah, the Tribe, and the United States Government negotiated the Ute Indian Company, which also required ratification at the state and federal level, and acceptance by the Tribe through referendum. Its purpose was “to remove the causes of present and future controversy over the quantification, distribution, and use of all waters claimed by or through the Ute Indian Tribe.” The compact recognized the Tribe’s earlier “reserved” water rights, as set forth in the “Winters Doctrine.” It granted a priority date of 1861 for land in groups one through five, and 1882 for land in groups six and seven, as described in the Decker Report. It made allowance for 10,000 acre-feet of water from Green River for municipal and industrial use, and the right to irrigate 120,157 acres. Importantly, the compact obligated all parties “to use their best efforts in the expeditious planning and development of water projects…”

The State Legislature moved early to ratify the compact in 1980, and while the Tribe’s Business Committee considered the compact to be “a fair and equitable quantification of tribal water rights,” it expressed concern as to how those rights would be protected if some CUP Units, particularly the aforementioned Uintah Unit, were never built. In 1981, the Tribe employed
the Billings, Montana, consulting firm of H.K.M. to analyze the compact and advise them on the CUP. Not until 1988 did the Tribe vote to accept the compact; but by then it had become entangled in the CUP reauthorization effort and in tribal politics. Consequently, Congress never ventured to ratify it. Rather, as part of CUPCA, Congress ratified a revised Ute Indian Compact [; the State and the Tribe are still weighing that revision.] [Delete that revision is still being weighed by the State and Tribe.] “Hopefully we can get that passed, …” stated former Ute Tribal Business Committee Chair Irene Cuch. “We still got to go through our membership, explain and educate them…”

While provisions of the Ute Indian Rights Settlement would deeply impact District revenue, this new reauthorization bill further burdened the District by demanding a 35/65 split between non-federal and federal funding. The District’s earlier proposal to use the $106 million difference in construction costs on the Diamond Fork System for its cost share on the I & D system, the House Interior Committee viewed as “unrealistic.” It would never “approve a project without real up-front cost-sharing by a non-federal entity.” Most “Reclamation projects, historically, [were]…very low – five, ten, fifteen percent…” More than doubling the local contribution to 35 percent was a hard pill for Utah to swallow, but Congress insisted. George Miller’s assessment was that “federal taxpayers are not going to pay for these things anymore.”

The new bill would also preclude the use of federal power to pay for construction costs. There would be no private development by the District on Diamond Fork. Federal power officials had successfully blocked the efforts of congressional reformers to amend or make changes to the Reclamation Act. During the negotiations, Deborah Sliz would call or drop by
Neither would federal power be the only source of funding for the fish and wildlife commission. The renamed Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission) would be supported by a $5 million annual contribution from “Utah public power entities,” rather than the $15 million proposed in the earlier bill. In addition, the Commission would receive a $5 million federal appropriation, and $750,000 annually from the CUWCD. Although tentative, the legislation also anticipated a three million dollar voluntary state appropriation. A state task force empaneled to investigate and offer solutions to meeting the local cost share later concurred that the State should make the three million dollar contribution. It benefitted Utah’s fish and wildlife, and at the conclusion of the project the fund would accrue to the State Wildlife Division.

The state funds, together with the federal appropriation were to be placed into an account and “treated as principal…” Revenue from federal power and the District’s contribution could be expended each year. All sources of funding would cease after completion of construction, except those from federal power, which would continue for as long as federal power “entities make payments under contracts with the Department of Energy.”

Many of the bill’s provisions were less than charitable towards the Bureau of Reclamation. The House Committee on Interior and Insular Affairs rebuked Reclamation for its “mismanagement, cost overruns, and runaway overhead with this project…” Moreover, the bill required that Reclamation re-calculate expenditures for the CUP to comply with Interior Department guidelines. This provision aimed to discourage the style of “creative accounting” that had incurred the wrath of Senator Garn, the practice of borrowing from “dormant…projects
for continued construction of active projects…”136 Infractions perceived by the Committee persuaded it that the project could “be completed sooner and for less cost if construction management is assumed by the District.”137 In light of this, the bill effectively transferred construction responsibility from Reclamation to the District, and designated the District “as a federal agency for purposes of compliance with all…environmental laws…”138

Don Christiansen recalled discussing details of the bill with George Miller and Dan Beard, about how the project might unfold and ultimately get completed. “Miller looked at me and said ‘Don, you can’t have it both ways.’” Either Reclamation will remain in charge, Miller told him, or “we’ll take the authority from the Bureau and give it to the Central Utah Water District and essentially make you a federal agency for the completion of this project.”139

Christiansen acceded, although accepting that responsibility must have been a chilling prospect. After all, the bill proposed that the District replace the Bureau of Reclamation, an agency with an 80-year legacy of dam building in the West, and a cadre of engineers, hydrologists, geologists, economists, and other scientists, with internationally recognized resumes. Harold Sersland remembered sitting through a couple of meetings where Reclamation officials were simply incredulous that Congress would consider taking “the completion of the CUP from the Bureau of Reclamation and make the CUWCD responsible...There is no way Congress is going to take away this billion dollar water project from the Bureau of Reclamation and give it to this little water district to try and complete.”140 Fortunately, the bill did not preclude the District from using Reclamation’s expertise. Although it required a good deal of artful diplomacy, under CUPCA the District and Reclamation would eventually forge a new cooperative and productive relationship, one that would redefine the parameters of water resource development.
During summer 1990, negotiators worked with the Utah delegation, other members of Congress, the Interior Department, and Utah water officials to address a number of last minute concerns. The bill’s water conservation provisions received a particularly icy reception from Utah officials. It was one of the last sections added to the bill, Mike Weland recalled. Water officials had been given some assurance that it would not be substantially different than the section contained in Owens’ earlier bill, “you know [about] four paragraphs…” When Ed Osann and David Conrad finally finished putting the document together it consisted not of four paragraphs, but “seven…sophisticated, well-constructed [pages], …” entitled Water Management Improvement. It was a “hand grenade” that nearly blew “up the negotiations,” Weland confided.141

With only a handful of negotiators, Don Christiansen may have been the most likely choice to represent the interests of Utah water officials. He quickly disabused that notion, however. “I never said I was,” he stated. “Wayne, bless his heart, used to keep telling everybody that ‘Don represents all the water interests in Utah.’” The implication was that if Christiansen is “representing” all those interests, then “Utah’s on board” with the water conservation proposal.142 Utah was not. State officials and water districts affiliated with the CUWCD not only resented the characterization of Don as their spokesman, but also objected to the conservation provision. “So I had to…. bring them [all] to Washington,” Christiansen continued, “[and] buy them breakfast and let them have their say…”143

The confab extended well beyond breakfast into three days of “non-stop negotiations,” some held at the midnight hour in Wayne Owens office.144 Salt Lake County officials strongly contested a point that would have prohibited the importation of water from the Bear River to the Salt Lake Valley.145 After considerable discussion, Osann agreed to remove the prohibition, and
SLCWCD (Jordan Valley Water Conservancy District after 1999) Director David Ovard agreed that the Bear River would be developed only after all other alternatives had been exhausted. As with other aspects of negotiation, those involved kept their disagreements out of the newspapers, which permitted them to eventually reach a consensus. Wayne Owens applauded the efforts of Osann and Conrad. “They have been tough and they have been assertive, and they have been able to lead in the give and take.” Owens, likewise, commended Utah’s “water development…leaders…” for their cooperation “in developing this innovative water conservation plan.”

The cooperation and support of Utah water officials, however, grew not so much from them suddenly developing a heightened environmental awareness, as it did from their understanding that the bill would never find its way out of Miller’s subcommittee without agreement from the environmental community. Accordingly, Mike Weland affirmed that with the exception of Bear River the language drafted by Conrad and Osann remained nearly identical to what ultimately became part of CUPCA. The provision imposed “the toughest and most comprehensive water conservation requirements ever included in major water project legislation,” acclaimed George Miller, one which Wayne Owens felt “confidant…[would] become a model for future water conservation policy.”

On October 15, 1990, the day the Central Utah Project Completion Act went before the House for a vote, Representatives received a letter of support signed by the leaders of several national environment organizations. Admitting to having been “frequent critics,” the leaders urged support for a bill that “culminates a unique four year effort among the Utah congressional delegation, conservationists, water development interests, state and federal agencies, and the
Uintah and Ouray Utah Ute Indian tribe to comprehensively reformulate one of the largest water projects of the Bureau of Reclamation.”

As documents go, the letter is unique in the annals of CUP history. Never before had the Sierra Club, American Rivers, the National Audubon Society and the National Wildlife Federation expressed anything but contempt for the CUP. Mike Weland recalled the surprise of George Miller’s staff when he informed them that a deal had been reached. “I walked in, and I said, ‘Here’s the CUP bill, it’s done.’” Staff member Steve Lannich’s “eyes got real big, and he said, ‘You mean there’s a deal with the enviros?’ And I said, ‘Yep, it’s all right here.’” Lannich walked briskly into Dan Beard’s office. “Weland says there’s a deal with the enviros, and here’s the bill,” he announced. “No way, no way!” Beard reportedly exclaimed.

It was a story that Beard and his boss, George Miller, probably never expected to see written, much less finished. Miller attributed the surprise ending all to Wayne Owens. “Many times when I threw in the towel,” he confessed, “the gentleman from Utah told me that it was still possible to get an agreement and get these parties to come around and work together…” But, like most members of Congress, Miller also had an agenda.

CUPCA became part of a large omnibus bill, not only to reauthorize the CUP but also several CRSP projects in Colorado and California, and additional Reclamation projects, elsewhere. George Miller seized the opportunity to insert language into the act that would define and further limit the number of acres that Reclamation water users could irrigate. As mentioned previously, the 960-acre limit imposed by the 1982 Reclamation Reform Act raised many complex questions. Some members of Congress had promised to revisit the 960-acre limitation after irrigators found ways to circumvent the stipulation. Congress furiously debated Miller’s amendments, but to no avail. The measure passed the House by a comfortable majority.
Nevertheless, the Utah delegation was apprehensive as the bill went before the Senate. Powerful agribusiness interests in California were united against the measure. Citing impacts to extended family operations, Senator Pete Wilson (R, CA) and others who opposed the reform measures, succeeded in stripping Miller’s amendments from the bill before sending it back to the House. Jake Garn admitted that he “did not have much hope that the bill would get through the House in its stripped form.”

Miller had vowed to kill the bill without measures designed to reform California’s Central Valley Project. It never left his committee after its return from the Senate. Utahans regrouped, promising “to introduce the CUP bill again on the first day…” of the next Congress. Senator Garn reiterated this resolve when he met with the District Board in November after the session ended. Garn emphasized that the CUP did not fail. It was a “California issue,” he asserted. The CUP still has overwhelming support. The bill, Garn observed, has been “carefully negotiated” by Don Christiansen and Marcus Faust, and going forward it will be important that it be kept in exactly its present form.

This may have been Wayne Owens’ bill, and it may have been “quite different,” as Jake Garn admitted, had he written it. Yet, Garn fully supported the compromise, and his nearly 18-year experience in the Senate would prove invaluable as the bill entered the next Congress. It would require a good deal of political acumen to assure passage. Clearly, the omnibus bill could not be passed in either of its amended forms. George Miller was adamant that certain reform measures be included; some senators were equally adamant that they not be included.

Fully aware of how the drama would unfold, a differential House moved its version of the bill quickly through the chamber. By June 1991, it had sailed through committee and passed the full chamber with only 24 dissenting votes. Politics is often plodding. Bills can sit in committee
for months, enabling partisans to build support for their particular measures. For nearly a year, the omnibus bill languished in the Senate. In April 1992, it moved to the floor, where it passed in much the same form as the Senate version of two years earlier.\textsuperscript{157}

The political process prescribed that when such an impasse occurs the two chambers “conference” to negotiate a compromise on the divergent bills. On October 5, 1992, the conference managers for the House and Senate reported their agreement. The agreed to bill basically conformed to the Senate’s version, with one additional amendment “to improve enforcement of acreage limitations, and for other purposes,” on California’s Central Valley Project.\textsuperscript{158}

Sitting in the gallery, Don Christiansen remembered his anxiety watching former House members, who “had the privilege to be on the floor, ... lobby against us…”\textsuperscript{159} After serious efforts by some California delegates to return the bill to committee failed, the House passed the measure. Even with the absence of Senator Pete Wilson, who had left the Senate to successfully campaign for the governorship, Californians offered strong resistance when the bill went before the upper chamber. Senators Garn and Hatch, however, had built a firewall of support, and only eight voting senators opposed it.\textsuperscript{160}

Passage of CUPCA would be Jake Garn’s swansong, a crowning achievement that began when he was first introduced to the CUP as Salt Lake City water commissioner in 1967. Garn would retire from public service at the conclusion of his term in 1992. Quite literally, he stated, “I have spent a quarter of a century working on this project, more than any other single thing in my political career…The first day started with CUP,” he continued, “and it is ironic that on the last day we are finally going to pass the final bill so it can be completed.” Emphasizing Garn’s achievements, Bill Bradley acclaimed, “Much of the credit” for this historic accomplishment
“goes to Senator Jake Garn.” Bradley’s praise is made more consequential given the fact that he and Garn routinely disagreed on the direction of water resource development. “Senator Bradley was not always a believer in the merits of the CUP,” Garn confessed, “but he has become one of its greatest advocates and has dealt with me honestly and in a straightforward way.”

Before CUPCA could become law, it would require the signature of President George H.W. Bush. California Governor Pete Wilson led a last minute charge to scuttle the bill by appealing to his old friend for a veto. Don Christiansen expressed the tenuousness of the situation when he returned from 10 days in the nation’s capital to encourage Board members to promptly write, phone or fax the White House. Perhaps hoping to neutralize the opposition of the Republican governor of the nation’s most populous state, Jake Garn offered one final plea. “I do hope the President might recognize, beyond the substance of the issues, that one of his Republican colleagues has spent a quarter of a century working on this. I would not like to see it go down at this point…Please Mr. President, do not veto it.”

Eight years before, Don Christiansen, Bob Hilbert, and the District’s two Washington, D.C. counselors, Hal Furman and Marcus Faust, had hatched a plan to work effectively with both political parties. Although it involved all members of the Utah delegation, the plan relied chiefly on Wayne Owens’ appeal to Democrats in the House, along with Jake Garn’s stature in the Senate, and his entrée with the Republican administration. As it turned out, the plan succeeded admirably. On October 30, 1992, President Bush signed the legislation, officially reauthorizing the Central Utah Project.

CUPCA’s passage would be a valediction of sorts for Wayne Owens, as well. With Garn’s retirement, Owens announced his intention to seek election to the Senate. Members of the District’s Board of Directors offered their praise for Wayne Owens when they expressed their
“sincere appreciation …for his un-daunting and dedicated support…Congressman Owens guided Resolution 429 on its arduous journey through the …House…until its enactment into law. Through his leadership,” the Board acknowledged, “the CUP has been able to blend the interests of the environmental community and Utah water users. The…District places great value on its association with Congressman Owens… He is to be commended for his dedicated service to all Utahns.”

Although unsuccessful in his bid for the Senate, Owens’ opponent Bob Bennett would carry on the long tradition of CUP support from Utah’s elected officials no matter what their political stripe.

CUPCA’s passage punctuated the career of another stalwart supporter of the CUP, as well. On July 17, 1991, Edward Clyde, the District’s enduring legal counselor and acknowledged architect of the CUP and CUWCD, had passed away. Senator Garn paid tribute to Clyde before the U.S. Senate as “a man who had the foresight and vision to bring Utah’s share of the Colorado River to the populated areas of the Wasatch Front and to the farms and ranches of Central Utah. The District honored him as the “guiding force behind the success of the Central Utah Project and the Central Utah Water Conservancy District…The Water Lawyer of the Century in the Western United States…”

Even prior to President Bush’s historic signing, the District had anticipated the CUP’s reauthorization. The District was well aware that the bill’s provisions would require an extraordinary effort to meet its stringent timelines. In November 1990, Senator Garn had told the District Board “to push ahead with the Project and accomplish as much as possible.” At least as early as June 1991, the District was actively negotiating agreements with water users, soliciting contracts for the I & D system and quietly assembling key personnel. A great deal remained to be done, as the District prepared to build the partnerships and the team of dedicated
staff that would attempt to accomplish what had not been done during the previous 25 years: complete the Central Utah Project.

1 Williams, Don Christiansen Interview, pp. 15-16.

2 Storey, Cliff Barrett Interview, pp. 176-177.


6 Storey, Cliff Barrett Interview, pp. 176-177.

7 Directors Packet, 13 August 1981.

8 Ibid., 10 September 1981.

9 Ibid.


11 Ibid., p. 78.

12 Ibid., p. 106.

13 Ibid.


15 U.S. Congress, House of Representatives, Committee on Interior and Insular Affairs, Supplemental Repayment Contract for the Bonneville Unit, Central Utah Project, p. 38. The District’s proposition comes from Minutes, 2 September 1985.


17 Ibid.

18 Minutes, 10 October 1985.


22 Ibid., p. 11.

23 Seventy percent of voters in Uintah County, and 56 percent of voters in Wasatch County opposed the measure. See Eastman, From Cadillac to Chevy: Environmental Concern, Compromise, and the Central Utah Project Completion Act, p. 80.

24 Minutes, 12 December 1985.

25 Ibid.

26 Ibid.

27 State Review of the Bonneville Unit, Central Utah Project, Final Report, pp. 79-80.

28 Minutes, 12 December 1985.

29 Ibid. 12 January 1986.

30 Storey, Cliff Barrett Interview, p. 175.

31 Hillbert Interview, p. 11.

32 Williams, Don Christiansen Interview, p. 4.

33 Ibid., p. 17.

34 Ibid., p. 18.

35 Ibid., p. 17.


37 Safety of Jordanelle Dam, Central Utah Project, p. 89.

38 Congressional Record, 97th Congress, 2nd session, vol. 128, pt. 19, p. 26076

39 Keys, John W., III, Oral History Interview, p. 139. Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Story, Senior Historian, Bureau of Reclamation, from 1994 to 2006, in Denver, Colorado; Boise, Idaho; Washington, D.C.; and Moab, Utah. Edited by Brit Allan Storey. Repository for the record copy of the interview transcript is the National Archives and Records Administration in College Park, Maryland. Hereafter referred to as Keys Interview.


41 Keys Interview, p. 139.
Randy Williams, Interview with Linda Ivie, Duchesne, Utah, 25 June 2012, p. 2. Ivie is a long-time employee of the District, working primarily in operations and maintenance on Uinta Basin CUP features. Hereafter referred to as Ivie Interview.

Randy Williams, Interview with Keith Hooper, Duchesne, Utah, 25 June 2012, p. 5. Hooper has worked for nearly three decades on District operations in the Uinta Basin. Hereafter referred to as Hooper Interview.


Candee, The Broken Promise of Reclamation Reform, p. 673.


Deseret News, 28 October 1990.

Williams, Don Christiansen Interview, p. 23.

Ibid.


Ibid.

Storey, Cliff Barrett Interview, pp. 176-177.


Williams, Don Christiansen Interview, p. 26.


Williams, Don Christiansen Interview, pp. 25-26.

Gold Interview, p. 15.
Specifically, section 8 of the act reads: “In connection with the development of the Colorado River storage project and of the participating projects, the Secretary is authorized and directed to investigate, plan, construct, operate, and maintain (1) public recreational facilities on lands withdrawn or acquired for the development of said project or of said participating projects, to conserve the scenery, the natural, historic, and archaeologic objects, and the wildlife on said lands, and to provide for public use and enjoyment of the same and of the water areas created by these projects by such means as are consistent with the primary purposes of said projects; and (2) facilities to mitigate losses of, and improve conditions for, the propagation of fish and wildlife. The Secretary is authorized to acquire lands and to withdraw public lands from entry or other disposition under the public land laws necessary for the construction, operation, and maintenance of the facilities herein provided, and to dispose of them to Federal, State, and local governmental agencies by lease, transfer, exchange, or conveyance upon such terms and conditions as will best promote their development and operation in the public interest. All costs incurred pursuant to the section shall be nonreimbursable and nonreturnable. See Colorado River Storage Project – Authority to Construct, Operate and Maintain, chapter 203, public law 485. http://www.usbr.gov/lc/region/g1000/pdfiles/crsruc.pdf Accessed 4 February 2013.

Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project, Hearings before the Subcommittee on Water and Power Resources on H.R. 3408, p. 37.

Ibid., p. 36.


Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project, Hearings before the Subcommittee on Water and Power Resources on H.R. 3408, p. 249.

Ibid., p. 450.

Ibid., pp. 42-43; 52.

Ibid., p. 45.

Ibid., p. 513.

Ibid., p. 551.

Ibid., p. 286.

Ibid., p. 219.

Ibid., p. 52.

Ibid., p. 18.

Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project, Hearings before the Subcommittee on Water and Power Resources on H.R. 3408, p. 509.


Ibid.

Owens Papers, Box 28, fd. 12.

Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project, Hearings before the Subcommittee on Water and Power Resources on H.R. 3408, p. 515.

Ibid., p. 555.

Ibid., p. 75.


Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project, Hearings before the Subcommittee on Water and Power Resources on H.R. 3408, p. 52.


Salt Lake Tribune, 29 April 1988. The stories also aired on local television news programs. See Owens Papers, Box 131, fd. 4.

Don Christiansen to Frank Davis, 28 April 1988. Ibid., box 131, fd. 4.

“Political Realities of Western Water Policies.” Remarks by Representative Wayne Owens of Utah, Western Regional Instream Flow Conference, p. 7.


Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project, Hearings before the Subcommittee on Water and Power Resources on H.R. 3408, p. 552.

As Nielsen explained during a press conference, his substitute proposed to fund the I & D features through a direct congressional appropriation. His bill also replaced the Fish and Wildlife Mitigation Commission with a Fish and Wildlife Task Force, comprised of State and federal officials. One of Nielsen’s proposals also included a Ute Indian provision, which Owens’ bill did not address. After consultation with Committee Chairman Morris Udall, Nielsen agreed to remove the Indian provision, and work towards consensus. See Owens Papers, Box 131, fd. 3.

George Miller to Wayne Owens, 14 July 1988. Ibid.
93 Ibid.

94 Ibid.

95 Increasing the Amounts Authorized for the Colorado River Storage Project, Report 100-915 (H.R. 3408), 100th Congress, 2nd session, 13 September 1988, p. 4.

96 Ibid., p. 5.


98 The amended bill cleared the House in September 1988, and the Senate in October. It was signed into law by President Reagan on October 31, 1988. See Eastman, From Cadillac to Chevy, p. 95.

99 Minutes, 8 December 1988.

100 Randy Williams, Interview with Mike Weland, 10 July 2012, Salt Lake City, Utah, p. 13. Weland is Director of the Utah Reclamation Mitigation and Conservation Commission. He worked as a staff member for Wayne Owens during this time period. Hereafter referred to as Weland Interview.


102 Ibid., p. 30.

103 Williams, Don Christiansen Interview, pp. 17-18.

104 Johnston Interview, p. 3.

105 Randy Williams, Interview with Daniel Beard, Washington, D.C., 10 July 2013, p. 13. Hereafter referred to as Williams, Beard Interview.


107 Randy Williams, Interview with Reed Murray, 7 August 2012, Provo, Utah. Murray is the Director of the CUPCA Office. Hereafter referred to as Murray Interview.

108 Weland Interview, p. 12.


111 Weland Interview, p. 14.

112 Minutes, 19 August 1988.

113 Agreement between the CUWCD and environmental community signed at Washington, D.C., 26 April 1990. Files of CUPCA Office.
114 Ibid.


116 Ibid., p. 102.

117 Secakuku Letter, p. 4.


119 Ibid., p. 127.

120 *Central Utah Project Completion Act, Hearing before the Subcommittee on Water and Power on S. 2969 To Increase the Amounts Authorized to Be Appropriated for the Central Utah Project, and For Other Purposes, 101st Congress, 2nd session*, S. hearing 101-1110, 18 September 1990, p. 225.


122 Ute Indian Water Rights Settlement, Hearing before the Committee on Interior and Insular Affairs, 100th Congress, 2nd session, H.R. 5307, p. 16.

123 Murray Interview, p. 17.


125 Ibid., p. 413.

126 Ibid., p. 4.

127 Secakuku Letter, p. 3.

128 Randy Williams, Interview with Irene Cuch and Jeremy Patterson, Fort Duchesne, Utah, 12 September 2012. Ms. Cuch is the former Chair of the Ute Tribal Business Committee. Patterson is an attorney representing the Tribe. Hereafter referred to as Cuch and Patterson Interview.


130 *Central Utah Project Completion Act: Hearing on S. 2969, Before the Subcommittee on Water and Power of the Senate Committee on Energy and Natural Resources*, p. 4.

131 Weland Interview, p. 16.

132 Ibid.

The Bear River is an interstate stream that flows circuitously from the north slope of the Uinta Range through Utah, Wyoming, Idaho, and back into Utah before emptying into the Great Salt Lake. An early proposal for developing water for the Bonneville Basin included a trans-basin diversion from the Green River in Wyoming near Fontenelle to the Hams Fork, a tributary of Bear River.

-Ibid.-
157 Eastman, *From Cadillac to Chevy*, pp. 116-117.


159 Williams, Don Christiansen Interview, pp. 23-24.

160 *Congressional Record*, 102nd Congress, 2nd Session, Senate, 8 October 1992, p. 34085.


162 Eastman, *From Cadillac to Chevy*, p. 117.

163 Minutes, 7 October 1992.

164 *Congressional Record*, 102nd Congress, 2nd Session, Senate, 8 October 1992, p. 34070.

165 Williams, Don Christiansen Interview, p. 18.

166 Eastman, *From Cadillac to Chevy*, p. 117.


169 *Congressional Record*, 102nd Congress, 2nd Session, Senate, 8 October 1992, p. 34069.


172 *Ibid.*, 19 June 1991. Harold Sersland, for instance, was recruited by the District, and his retirement from Reclamation was reportedly arranged. See Sersland Interview, p. 12.
For the District, the passage of CUPCA certainly accentuated the value of bipartisan compromise. It also revealed the merits of cooperation and its necessity in achieving consensus. As the District now mobilized to take charge of constructing the remaining features under CUPCA, the identically same attitude would be required in order to successfully complete the CUP. Of critical importance would be the staff members selected to guide the District through this transitional period. Many of those who began their employment with the District at this time remain with the District, still. “We don’t have a lot of turnover,” Assistant General Manager Rich Tullis affirmed.\(^1\) The District’s staff has demonstrated a commitment to purpose and an *esprit de corps* that is laudable and exceptional. Yet, whatever success the District has achieved, Tullis continued, has resulted from a “contribution of the whole…” From the Human Resources Department, to the computer technology experts, to the staff that maintains the buildings and grounds, “everybody [has] contributed…” Some are not out in the “limelight. They’re not out giving…speeches; …” they are not planning the projects or arranging for the “money we need. But without them…” we are not going to be successful. The District’s success,” Tullis concluded, is attributable to the “combination of everybody working together… [We] are a pretty close family.”\(^2\)

Of those who transitioned to the District from other agencies later during their careers virtually all of them stayed through retirement. Sheldon Talbot began his career with
Reclamation in 1961, performing computations “to determine…cost estimates, the location of the dams, and reservoirs, tunnels, and pipelines; where the water would go, where the lands for irrigation would be, where the municipal towns would be; … determine the most economical plans, and the most economical location for the different facilities.” He was an expert planner, and no one was better versed in the economic details of the CUP than Sheldon Talbot. For nearly 20 years, he had been assigned to Reclamation’s Provo Office. That “is unique…to stay that long in one office,” he acknowledged.3

Throughout his years with Reclamation Talbot had worked closely with the District, and developed a close relationship with District Manager Lynn Ludlow. In 1980, Ludlow convinced Talbot to accept the position of chief engineer for the District. The position had been vacant since Carl Carpenter, the first engineer hired by the District, left for private consulting work during the latter 1970s.4 Until after passage of CUPCA, Talbot coordinated “the design and construction and operation and maintenance of all the Central Utah Project, Bonneville Unit…”5

Ludlow may have been preparing Talbot to assume management of the District after he retired. Indeed, the Board’s choice in 1985 had been between Talbot and Don Christiansen. As discussed earlier, it narrowly elected Christiansen. Even so, Talbot remained as chief engineer through 1999, representing the District’s interests in, among other projects, the construction of Jordanelle Dam. Moreover, although Christiansen and he may have had dissimilar managerial styles, Talbot evidently had a keen eye for engineering talent. Talbot suggested that Christiansen hire three enterprising young prospects then working for the State Division of Water Resources. “Sheldon Talbot…suggested to me that those guys…were really outstanding young engineers, …” Christiansen confided. Sheldon “wanted to hire them…. And, those guys have turned out to be just Godsend; they’ve just been wonderful.”6 Dave Pitcher, Rich Tullis and Gene Shawcroft
would all be hired prior to CUPCA’s passage. They comprise three of the four current assistant general managers, and have represented the backbone of the District’s administration for engineering; operations and maintenance; and administration and finance; respectively, for nearly 20 years.

During the mid-1980s, Dave Pitcher’s work with the Division of Water Resources had taken him to the Heber Valley, where he interacted with irrigation companies. As users of the Provo River, irrigators in Wasatch County would also be impacted by CUP developments, and it was here that Pitcher became acquainted with Talbot. “I was hired by Sheldon Talbot in 1989,” Pitcher related. 7

Pitcher would spend the next several years working to restore and rebuild the Olmstead Flow Line down Provo Canyon. When construction crews intercepted the flow of a spring during tunneling operations, Pitcher contacted his former associate at the Division of Water Resources, Rich Tullis, who was experienced with the process of measuring and mapping the flow of water using red dye. Sheldon Talbot watched with interest the interaction of the two, and impressed by what he saw, selected Tullis for another of the District’s engineering positions.

Tullis had attended college at Brigham Young University with Gene Shawcroft, and after graduation they both went to work for the State, starting on the same day. Within a few months of Tullis’s employment with the District, Shawcroft was also hired. As a staff engineer, Shawcroft spent much of his time coordinating with Reclamation’s engineers. “I happened to come on right when they were doing their periodic inspections,” Shawcroft remembered, which provided him with a unique opportunity to actually go inside all the tunnels, and down into all the dams. I became “familiar with the facilities of the Central Utah Project very, very quickly,”
he remarked. Shawcroft began sensing the vastness of the project, “how things fit together;” but more importantly, “how people make the project work.”

One person that none of the three young engineers saw much of was Don Christiansen. Don was “spending all week long in Washington, D.C.; week after week after week. He’d come home maybe on the weekends and go right back…” In his absence, Christiansen’s longtime assistant Betty Bolander kept the office operating smoothly. Betty had worked with Christiansen since he was Mayor of Alpine. “She knows how I think…” sometimes better than I know how I think, Christiansen allowed. “She’s just a life saver. I couldn’t have accomplished the job without her.” Rich Tullis remembered when he first started at the District that “Betty did everything.” In fact, at least three months passed before by happenstance he actually met the General Manager as they passed on the stairwell. “Hi Don…I’m one of your new employees,” Tullis remarked, extending his hand. Don grasped firmly, looked up and simply said: “‘welcome.’”

Christiansen’s ability to make people feel welcome and comfortable is highly regarded by the District’s employees. During the long process of negotiation and passage of CUPCA, Christiansen had the same effect on Dan Beard. The two men developed a close friendship. “Bill Clinton became president and he appointed my good friend Dan Beard to be the Commissioner of the Bureau of Reclamation,” Christiansen affirmed. “I went golfing… more than a few times with Dan Beard.” Opportunities exist where “you can get personal with people in a…golf game…Dan was a good player from the beginning and helped bring George Miller along.”

The Senate confirmed Beard as Reclamation’s new commissioner in May 1993. Beard may have been adverse towards the old Bureau of Reclamation, but he was optimistic regarding the agency’s future. Most importantly, while serving as George Miller’s administrative assistant
Beard had been intimately involved with CUPCA throughout its legislative history. “I worked with the Utah congressional delegation on this legislation when I was up on The Hill,” he divulged. “They were very supportive of me becoming commissioner, and they did support me, and I am grateful for their support.”

The story might have unfolded entirely different had someone less supportive than Beard ended up heading Reclamation. Instead “of having a guy at the top of that organization who was against [us],” Christiansen confirmed “we [had] a guy at the top of that organization who helped us... So we had a very nice working relationship with the head of the Bureau of Reclamation at that time. That was very, very comfortable.”

Beard had championed the inclusion of much of the environmental component of CUPCA. If the District were to maintain its relations with Beard and others in the Interior Department, it would have to comply with CUPCA’s stringent environmental provisions. Harold Sersland had been detailed by Reclamation during the early 1970s to supervise the preparation of NEPA documents. Sersland had distinguished himself as a tough and uncompromising advocate for environmental enhancement, but at the time found little support for his enthusiasm within Reclamation. In 1991, Sersland received a call from Don Christiansen apprizing him of the pending CUPCA legislation and offering him the position of environmental specialist at the District. Sersland was anxious because of his future retirement, and worried that if he opted-out of federal service at this stage of his career he would suffer considerable penalties. Miraculously, Reclamation contacted Sersland a short while later and informed him that they were abolishing his position, but if he chose to retire, now, he would likely lose only a small percentage.
Even Gene Shawcroft, who had only barely started at the District, knew that Don had “helped” Sersland retire. Christiansen’s choice of staff was never coincidental, and never left to fate; he knew the type of people he wanted, and in most cases the exact person he needed. Don’s ability “to exude confidence and vision attracts [the] kinds of people that are willing to accept a challenge,” Shawcroft asserted. The sort of employee that is “willing to commit a hundred and ten percent to make it all happen.” Harold Sersland was that sort of employee. Don made the necessary arrangements to bring him to the District, and Sersland “was absolutely phenomenal at what he did.”

During the preparation of environmental assessments, Sersland had become acquainted with many local environmental organizations. As it moved forward to implement the provisions of CUPCA, it would be imperative for the District to maintain these local connections. As early as January 1992, Don Christiansen suggested that the Board provide office space and salary for a member representing a Utah environmental coalition to work with the District in the preparation of NEPA documentation. CUPCA would require an “aggressive approach” because it imposed very “short time constraints,” Christiansen asserted. There would simply not be enough time to argue over the details. “These agencies…must be an integral part of the process from the beginning and help us assure that the environmental concerns will be adequately addressed.” The Board gave Christiansen’s proposal considerable discussion. Certain Board members objected to paying a member of the Utah Outdoor Interests Coordinating Council (UOICC) for the privilege of their involvement, especially when they would be “part of the decision-making.”

In February, the Board revisited the proposal, with Christiansen reminding them that the process to be outlined by CUPCA required the District “to have input from all interest groups
and this agreement [would] assure compliance…Success…will take the cooperation of everyone,” he stressed. We “must recognize the need to work together with the highest regard for the environment…Good things have come from working together and we need to continue the process by involving all legitimate interests.” Christiansen’s proposal narrowly passed. A minority of the Board, however, succeeded in limiting the agreement to annual review and renewal.19

Water attorney Jeff Appel, who had been involved early on with the Sportsman Roundtable, and who had signed the CUPCA agreement representing local environmental interests along with national representatives David Conrad and Ed Osann, filled the position initially.20 Beginning in 1993, Darrell Mensel, a member of the High Country Fly Fishers, a chapter of Trout Unlimited, took over representing the UOICC within the CUWCD. Mensel evaluated the District’s environmental documentation and prepared critiques for discussion at monthly UOICC meetings. He worked closely with Harold Sersland, who usually represented the District at these meetings. Mensel, in turn, attended all the District Board meetings.21 We “worked together, absolutely,” Mensel recalled of his years with the District. He was reminded especially of “Ron Johnston…a real gentleman…We’d always talk about what we thought was right…Of course, we didn’t always get what we wanted, but they were always very open-minded.”22 This collaboration persisted until 1999 when the District collapsed the position. Some members of the Board had never been particularly supportive of the UOICC position. They kind of had “their wings clipped in the CUPCA process initially,” Mensel implied, and “eventually when they had the chance they terminated my position.” While never openly hostile, Mensel sensed that the Board simply “disagreed with spending the money…”23 The Board, in
fact, had passed a resolution when it first authorized the position in February 1992, urging that
the salary be covered by other sources of CUPCA funding.24

While CUPCA granted the District responsibility for constructing the CUP’s remaining
features, the Secretary of Interior retained authority for funding and approval of the project. As
the implications of the act began coalescing during winter and spring 1993, the Interior
Department designated the structure for administrating CUPCA. It devolved to the Assistant
Secretary for Water and Science, Elizabeth Rieke. Although the original act said nothing about
it, a major part of implementing CUPCA would be the creation of a local office to work as
liaison between the District and the assistant secretary. Interior created this office through
departmental procedures to assure a “central point of contact…and assure optimal
implementation [of CUPCA] at the field level…”25 This would be a pivotal relationship that
involved the appropriation of funds, as well as oversight to be sure that the District complied
with all CUPCA provisions. From the District’s perspective, it would be absolutely imperative
that someone with whom it could establish a viable relation direct the office. “Dan Beard kept
bringing names to me,” Christiansen confided. “And frankly they were not…acceptable…And
finally after some time Dan looked at me and said ‘Well for hell sakes you give me a name
then….’I suggested in a roundabout way Ron Johnston. And low and behold it wasn’t long
before it became Dan’s idea that Ron Johnston would be [a] good man in that job. And that is
who he finally appointed.”26

Christiansen no doubt understated his influence on the decision to appoint Ron Johnston.
Although often finding himself at center-stage, Christiansen had generally avoided being in that
position. District Government Affairs Director Christine Finlinson believes he has also made the
effort to remove the District from the public spotlight. During its formative years, the District
made a concerted effort to stay in the forefront. Now, Finlinson disclosed, we try “to stay underneath the radar. You don’t hear a lot of headlines about Central Utah Project. We like to tell people when we’ve completed a project and what we’ve done. But we really don’t go about on public campaigns…” Don “felt like it was best for us to do our job and be efficient and productive and…not try to be in the public eye.”

The bond between Beard and Christiansen had matured out of mutual respect. They had somehow managed to perfect a relationship, rare in an age of polarized politics, where contrasting opinions became an additional opportunity for compromise, where agreements usually outweighed differences. “I look back with real fondness at the hard work that all of us put in to negotiate the [CUPCA] legislation,” Beard recently confirmed. “I always thought [it] was amazing [that] there were people around the table with very different political views. And yet, we all sat there for hours…and went through line by line this legislation. And in the end we came up with a product, which everybody could support… It’s a really gratifying process, and it’s one that restores your faith in democracy.”

Ron Johnston was similarly persuaded towards compromise, a trait recognized by both Christiansen and Dan Beard. Throughout his 13 year tenure as the CUPCA Office director, Johnston conscientiously “protected the Federal Government’s interest in the project, …” while at the same time did all he could to “cooperate and work with the District…”

DUCHESNE RIVER AREA CANAL REHABILITATION PROJECT

Johnston and Christiansen have both pointed to one particular project that may have had an influenced on his appointment. During the mid-1980s, the District had assumed responsibility
from Reclamation for rehabilitating the canals in the Duchesne River area. The project had been proposed by Reclamation and authorized as part of the 1964 Bonneville Unit definite plan. Its purpose was to minimize seepage losses by piping and lining nearly 40 miles of earthen canals in the Uinta Basin. Completing the project would save upwards of 14,000 acre feet of water, enough to irrigate approximately 3,500 acres. Obviously, Duchesne County farmers eagerly anticipated the project. It had, in fact, been one of a number of stipulations that the District agreed to in order to convince Duchesne County to join the CUWCD in 1965. As it would function to offset water diverted from the Duchesne River to the Wasatch Front, both the District and the county persistently pressed Reclamation to begin the project. Yet, in more than two decades, Reclamation had succeeded in lining only about three miles of one canal.

It was part “of what the Central Utah Project agreed to do for the people in the Uinta Basin since they were going to be bringing some of [their] water…” to the Wasatch Front, Lee Wimmer stated. Wimmer worked for Utah-based Horrocks Engineers at the time, which along with John Carolla Engineers of Walnut Creek, California, had been hired by the District for the canal rehabilitation project.

Wimmer had also worked as city engineer for Alpine City during Don Christiansen’s tenure as mayor; but as Christiansen related, the relationship dated back to Wimmer’s adolescence when Christiansen used to sell construction equipment. “Lee Wimmer’s dad was a contractor. The first time I ever met Lee Wimmer…[he] was operating [a] Cat…[He] was twelve years old up there on that thing; and he was probably the best operator that his dad had on the job. And so I’ve known…Lee for a long time.”

Wimmer became familiar with the District while working on the Duchesne canal project. He also became acquainted with Sheldon Talbot, who later in March 1991, asked Wimmer to
assist him with planning some of the projects anticipated for the Uinta Basin in the event of CUPCA’s passage. Wimmer was already engaged as a consulting engineer with Horrocks, but a year later, at Christiansen’s request Wimmer began spending his mornings at the District Office. Mornings gradually extended to entire days, and in 1994, Wimmer left his consulting business and accepted the position of CUPCA Program Manager and Assistant General Manager for the District, a position he has capably performed ever since. Don Christiansen praised Wimmer as “the finest, bar none, engineer I have ever known…”

Reclamation detailed Ron Johnston to work with Wimmer and the other consulting engineers on the canal rehabilitation project. The “Duchesne Area Canal Rehab project… was a Reclamation project, … but it was going nowhere,” Johnston recalled. When Johnston’s boss asked him what he thought of the District taking charge, Johnston was supportive. “We negotiated the contracts, and then we moved the federal funding over to the District, … then the District took the designs that we had done thus far…” The District finished the project, “they hired the contractors, and they did the work…I would go out and inspect it, and get the money transferred…”

Constructing the Duchesne project would have a significant impact on the District’s future. Engineer Roger Hansen recalled being at several meetings where Reclamation and the District discussed the transfer of responsibility for rehabilitating the canals. It was a “small project” by Reclamation standards, but “if you look back on that…[it ] got people thinking in the District ‘Why… do we need Reclamation? Why don’t we just do this stuff ourselves?’” The rehabilitation project became a pattern for the District, Johnston conjectured, one they wanted to replicate on the remainder of the CUP. Congress supported that idea, and had cited the successful canal project as another reason for turning responsibility for completing the CUP over
to the District. We are “aware that the District recently completed construction of a major canal rehabilitation project in Duchesne County…. at a substantial savings from the Bureau’s cost estimates.”

Equally as significant to the canal project’s success may have been the relationship established between Ron Johnston and Don Christiansen. Christiansen recalled Johnston being a great partner, “somebody who…I could work with and get along with... [and] somebody that wanted to build something rather than just talk about [it]… He wanted to actually…build a project.” The partnership of Johnston and Christiansen, stated one contemporary, established the parameters for both organizations. Ron “set the tone…for the CUPCA office in the same way that Don set the tone for the Conservancy District.”

CENTRAL UTAH PROJECT COMPLETION ACT OFFICE

Johnston was managing an office in Grand Junction, Colorado, at the time of his selection as the CUPCA Office director. “I was over an office of about 120 to 125 employees,” he recalled. “I was sitting at my desk on a Friday afternoon…and the phone rang. And Dan Beard…was on the phone; that’s always a little alarming when the Commissioner calls you direct. And he says, ‘We’re thinking about giving you another assignment.’ And he says, ‘Can you be in Washington D.C. on Monday morning? I’d like to talk to you about it.’”

On Monday, Johnston had lunch with Beard, who explained to him that a new position was opening up in Utah. The job, Beard explained, would not be under his direct supervision, but would be under “Betsy Reike the Assistant Secretary.” Beard told Johnston that Reike had instructed him to make the contact. When Johnston asked if he should “go back to Grand
“Junction and…wrap things up, …” Beard explained, “No, you don’t understand…do not fly back to Grand Junction – fly directly to Utah and take this over, and I’ll call your Regional Director and tell him we’ve made this change.” Whether the assistant secretary, the commission, or Don Christiansen handpicked Ron Johnston is unessential. But, Beard’s parting words to Johnston as he left the meeting was that “‘When Don calls me, I pick up the phone…when you call me, I might put you off for a day or two.’ So he says ‘Don’t go getting cross-ways with Don…”” 41

Through the assistant secretary, Johnston would represent the Interior Department. He would have authority to “negotiate contracts and agreements, …” to transfer and expend funds, assume responsibility for all documentation related to NEPA, and for administering all “environmental mitigation and enhancement activities.” Lastly, Johnston would hire the staff members necessary to assure the “long-term implementation” of CUPCA. 42

“I basically looked at the legislation,” Johnston confided, which consisted of three major sections. 43 As all the sections overlapped and were interrelated, Johnston sought the experience of three qualified individuals who could work cooperatively to implement CUPCA’s provisions. Title II primarily addressed the responsibilities of the District. Among other things, it authorized increased funding, made provision for additional water development studies, set the percentage of the local cost share, and allowed for construction of certain features, while specifically disallowing others. Additionally, Title II established the water conservation program, and required compliance with NEPA and all other federal environmental laws. 44

Associated with compliance of these federal statutes, titles III and IV concerned the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission). These sections provided for administration and funding “to mitigate damages to fish and wildlife resources”
caused by past CUP projects, as well as “ongoing…activities to conserve, mitigate, and enhance fish, wildlife, and recreation resources affected by…reclamation projects in the State…”

Title V delineated the Ute Indian Water Settlement. It authorized negotiation of a compact between the tribe, the state and the federal government, and offered redress for the outstanding claims that the tribe had regarding the 1965 deferral agreement. While Title V did not address environmental concerns explicitly, much of the balance of the legislation did. CUPCA sought equality between project construction and environmental enhancement and mitigation, a condition that had long been advocated by the environmental community, at least since the Sierra Club initiated its lawsuit in 1973. Congress would not fund completion of the CUP until assured that both the construction and environmental components would precede, concurrently. When “I first…went through the CUPCA, I was astounded,” biologist Ralph Swanson, declared. Swanson had worked on the CUP early in his career with the Fish and Wildlife Service. “I knew the project from 1974... It had very paltry fish and wildlife benefits…” When he first read through the re-envisioned CUP he excitedly reported the details to his “agency Director…I told him, ‘This is the most significant piece of environmental legislation for fish and wildlife that I’ve…seen in my twenty years in the…Service.’”

It was in Washington, D.C., shortly after implementation of CUPCA, that Swanson first became acquainted with Don Christiansen and Ron Johnston. “Ralph Swanson was appointed to assist me from the Washington D.C. office,” Johnston acknowledged. “I was really impressed with him, and we had a great working relationship. And he gave me a lot of…good advice on working with the environmental groups, and the state Fish and Wildlife people…”

Not only did Swanson demonstrate an inclination for cooperative relations, he was also a zealous supporter of the whole concept represented in CUPCA. The “legislation was an absolute
sea change,” he remarked. It “was going to be good for fish & wildlife. And that was one of the reasons that I lobbied to come back out here, to Utah, with Ron Johnston… I knew we were finally going to go someplace with CUP and fish & wildlife…” As the hiring process unfolded, Swanson’s credentials clearly elevated him to the top of the list. He “was the first one that I hired,” Johnston stated.

Swanson would work primarily with the District’s environmental specialist, Harold Sersland, whom he recalled as being one of “the most interesting and colorful individuals that I worked with from the environmental side…” There were valid reasons why Swanson was the first staff member hired by Ron Johnston in the CUPCA Office, and why Don Christiansen had assiduously pursued Sersland. Not only were they exceptionally competent, both would have close interaction with the Mitigation Commission, the federal commission to be appointed by the President to administer environmental enhancement and mitigation under CUPCA. It would take time for the Mitigation Commission to be appointed, and likely several years before the office would be established.

“When we first started there was no Commission,” Ron Johnston stated; “yet, we had money appropriated.” Johnston marshaled different stakeholders from the environmental side to discuss the options. Do we just sit on the funding, he asked, or can we identify “certain projects and things that you collectively, as a group, [want]…to move ahead [on]?” Swanson played an integral role in those discussions, and after his move to the CUPCA Office, administered the environmental component until the Mitigation Commission was established.

With Swanson addressing environmental aspects, Ron Johnston next set his sights on finding “somebody…that could work with the District’s engineers…” on Title II issues. Reed Murray’s career with Reclamation had taken him from Provo, where he started as a student
technician on the CUP, to being Salt Lake Regional liaison in Washington, D.C. He had worked briefly for Ron Johnston earlier during his career in Salt Lake City, and later as liaison he assisted Johnston by making contacts and assuring that contracts and other paperwork did not get “stuck someplace” in the bureaucratic bottle-neck.

Commissioner Dan Beard had taken Murray aside during their first meeting and explained that while he worked for Reclamation and served the needs of the Salt Lake Regional Director, he should consider Ron Johnston to be his “number one priority…” Whenever Johnston called, Beard suggested, Murray was to “drop everything…” Moreover, Beard instructed Murray to bone up on the CUP legislation, and touch bases with Marcus Faust, “Central’s lobbyist. I want you to go visit with him, and learn all you can about CUPCA.”

Murray ran up against considerable resistance from other career Reclamation employees, who had neither faith in CUPCA’s success, nor much esteem for the entire concept. Pulled between his allegiance to Reclamation tradition and his commitment to the style of change being promoted by Commissioner Beard, Murray talked extensively with Ron Johnston, who explained how CUPCA was intended to function. Don Christiansen and Gene Shawcroft also visited with Murray, and although their ideas were “very foreign to the Bureau, …” Murray gradually began feeling “a lot more comfortable…” Even so, Murray refused Johnston’s first offer to return to Utah, feeling that he had “made a commitment to stay in D.C.” Fate intervened, however, as budget constraints provided Murray, and the rest of Reclamation’s regional liaisons, with the opportunity to relocate. With his prior commitments no longer an issue, Murray accepted the offer to return to Utah and take “the job with Ron.” As Title II coordinator, Murray interacted primarily with the District on implementing the complexities of the water conservation program,
the local development provisions, and the conjunctive use program, which encouraged projects that would enhance efficiency by combining the use of groundwater and surface water.56

To manage the final major component of CUPCA, the Ute Indian Water Settlement, or Title V, Johnston engaged veteran Reclamation economist, Mike Hansen. Hansen began his involvement with the CUP in about 1975 doing cost allocation studies for the Upalco and Uintah units. As discussed earlier, for one reason or another, Reclamation had declared both units unfeasible. Both units would have provided benefits to lands in the Uintah and Ouray Reservation. “Ron…asked the Bureau to let me go on detail…for a period of time,” Mike Hansen stated. “So I went to the Uinta Basin to a lot of the meetings [where] they were trying to formulate what they wanted to do with the old Uintah and Upalco Units, and how the tribe was going to be involved in that whole process. Then maybe six…or eight months [later] they opened [a] position, and I applied for it and was given that job opportunity.”57

Following the addition of Hansen to the unique mix of CUPCA Office personnel, Johnston added Stella Stevens as his personal administrative assistant. The small compliment of staff radically departed from Reclamation’s usual pattern. With only five staff members, Johnston investigated office space in both Provo and Salt Lake City before settling on a plan to establish offices at Reclamation’s regional offices in Provo. “What would you charge me?” Johnston asked. He had been surprised at the cost of office space along the Wasatch Front, and wanted to maintain his staff at “the bare bone minimum… I’ll ask for appropriations enough to pay you for the space, for the heat and lights, for my share of your computers, and secretarial help, and all those things,” he told them. “So give me a cost.”58
The bottom line turned out to be “substantially less” than commercial office space; but more importantly, it allowed the CUPCA Office to interact with many of their former Reclamation colleagues. Johnston perceived some anxiety in the arrangement. It “was…a hard sell to Reclamation, who felt like the District had knifed them in the back by taking this project away from them.” Comparatively, the District also struggled to accept the inescapable certainty that at some point it would require the sort of expertise that only Reclamation could offer. We “were kind of a big broker of having that happen,” Johnston acknowledged. We “tried to facilitate that marriage, and it wasn’t the easiest thing to do. In fact, we used to have quite a few – I guess you’d call them ‘team building’ meetings,” he laughed. We tried “to bury some of the old hatchets, and talk about, ‘How we [could] do this and make it a positive, win-win for all of us.’” The relationship that Johnston and Don Christiansen would eventually forge between the CUPCA Office, the District and Reclamation would be productive and mutually advantageous. Even “though we didn’t agree on everything,” Johnston confided, “we agreed on most things.”

These so-called “team building” meetings would eventually be codified in an amendment to CUPCA. Relations became strained during the late 1990s as the District complained about Reclamation over reaching its authority. Pockets of adversity still existed from those within Reclamation who resented the perceived arrogance of the District, which believed it could build dams and aqueducts as well as Reclamation. Likewise, the District took umbrage at the suggestion that it could not. With only five staff members, the CUPCA Office depended on the expertise of other federal agencies “to help us review, and perform our oversight responsibilities.” Chief among these agencies was the Bureau of Reclamation. Early on “the
District had a hard time with that,” Reed Murray contended. “‘Why are you involving the Bureau of Reclamation?’ they demanded to know; they should be out of it.”

The District proposed making a change to CUPCA that would divorce Reclamation not only from constructing future CUP features, but also from any responsibility for operations and maintenance on past CUP features. It “was a fairly high level initiative,” retired Reclamation official Rick Gold suggested. Up “until that time the construction funding had gone to the Central Utah [Project Completion Act] office and the District, but the operation and maintenance money had stayed in the Bureau. [The] operation and maintenance of facilities that were already constructed was a Bureau responsibility.”

As Assistant Regional Director, Gold may have been the first to call a truce. What “I tried to do…was…[get] together with people like Reed [Murray] and Bruce Barrett [Area Manager] and Mike Weland and Don Christiansen, …” and explain that “collectively we can do better. We need to be partners… We need to work toward the completion of the Central Utah Project. I don’t think there is another objective that any one of us has [other] than that.”

Gold’s plea resulted in the pilot management program being added to the amendment. The amendment still prohibited the Secretary of Interior from assigning responsibility to Reclamation for awarding future contacts, or for assuming operation and maintenance for previous Bonneville Unit features, unless agreed to by the District. However, under the pilot management program a separate organization would be established to assist the Secretary in formulating a long-term strategy for managing the Bonneville Unit. The pilot program would persist for five years, or longer if the Secretary and District agreed, but ultimately CUPCA now envisioned the pilot program as a means of allowing the District time to cultivate and reestablish relations within the Interior Department, most notably with Reclamation.
Frequent discussions ensued between the District, the CUPCA Office, the Mitigation Commission and Reclamation, where Christiansen, Ron Johnston or Reed Murray, Mike Weland, and Rick Gold or Bruce Barrett would proffer ideas on how they could cooperatively complete the CUP. It “was a bigger table than it would have been with the Bureau of Reclamation doing it all in the pre’92 days,” Gold related, “but it was still a table and we all still had the same objective.”

CUPCA had provided the District with the discretion to “use the technical services of the Bureau…for engineering and construction on any project features.” Provo Area Manager Bruce Barrett made it a priority to continue the support of the local Reclamation Office. When he became Head of the Provo Office, he “chose to have a positive attitude, …” and not reproach the District, as some in Reclamation had, for taking “the project away from us… I took the attitude that the way we are doing things is now different, but our purpose is still to complete the CUP…” The District, Barrett believed, appreciated that attitude and came to rely on Reclamation’s know-how a great deal. Since CUPCA, Don Christiansen affirmed, “we’ve had a beautiful relationship… They have worked hard, [and] they have done a good job...[at] a fair price.” Furthermore, Reclamation had the requisite “experience in big pipelines. [You] want somebody out there inspecting and watching how the contractor [is] putting it in; you want somebody that’s had experience doing that…”

Neither the District, nor the other agencies involved in the Pilot Management Program, likely got everything they wanted; just as none of the parties that had been involved in negotiating CUPCA got everything they wanted. Negotiated settlements consisted of a series of compromises where everyone loses, and everyone wins. That did not mean that the scales were necessarily evenly balanced. As CUPCA’s primary purpose was to placate environmental
advocates, the environmental community may have succeeded in gaining more than it relinquished. Even then, however, the environmental community had to moderate its stand against the CUP, accept the fact that there would be inescapable changes to watersheds and the natural landscape, acquiesce on free-flowing rivers, and agree not to impede the CUP’s completion.

UTAH RECLAMATION MITIGATION AND CONSERVATION COMMISSION

Mike Weland had expanded and rewrote much of the Mitigation Commission portion of CUPCA while serving as a member of Wayne Owens staff. As pointed out earlier, Weland had been part of the negotiations between the District, the environmental community, and the Utah congressional delegation. The District’s primary concern had been with construction and local cost share. The focus was not on the Mitigation Commission. According to Weland, the section drafted as part of Owens’ earlier bill had provided for little more than the Commission’s establishment, membership, staffing and authority. Weland perceived the section as entirely insufficient. It did not adequately explain the Commission’s duties, nor did it provide for any accountability. Jake Garn had expressed similar misgivings when he noted that as “currently written, the Commission is unaccountable to the Congress or anyone.” Furthermore, Weland observed that the section contained “no planning, no reporting, [and] no structure;” it would never pass an audit.

“I just started writing in the structure... I took some of the language from the Forest Service, I took language from the law with the Oregon Department of Fish & Wildlife, and I just built a structure of an agency…” Weland’s rewrite included numerous additions which
clarified the purpose and duties of the Mitigation Commission. In addition, Title III encompassed a litany of requirements that had long been sacred to the environmental community and fish and wildlife advocates. Included were minimum stream flows for rivers and streams affected by CUP construction; expanded acquisition of lands for wildlife and wetlands; funding for fisheries enhancement through the rehabilitation of the Provo and Strawberry rivers, among others; provision for the stabilization of high mountain lakes in the Provo River drainage, and for improved stream access along riparian areas; the establishment of parkways and natural areas along the Provo and Jordan rivers; the improvement of recreational areas near and around Utah Lake; and completion of fish, wildlife and other recreational features proposed, but not implemented following the 1988 supplemental Bonneville Unit plan.

This was the sea change alluded to by Ralph Swanson. Many within the environmental community had advocated for these requirements, and while the District and Reclamation had paid lip-service to their implementation, nothing of consequence had been accomplished in more than 30 years. As an independent federal agency, advocates perceived the Mitigation Commission as the means of finally achieving the hoped for balance between water resource development and nature.

The commission was “absolutely vital to the success of CUPCA,” Swanson declared; “without it…there…would have been protracted litigation that would have stopped and stalled the project.” Including the Mitigation Commission as part of CUPCA garnered the support of “the environmental groups…, [and] without the District making [those] concessions… to address the environmental impacts…,” Swanson did not think CUPCA would have ever passed Congress.71
In 1994, President Bill Clinton appointed the first board members to the Mitigation Commission. They included Lt. Colonel Bob Nelson; Wayne Owens; water attorney, Jody Williams; State Division of Wildlife Resources Director, Bob Valentine; and Don Christiansen. Christiansen chaired the commission, and for several months Bob Nelson served as acting executive director. The Commission had an inauspicious beginning. An early audit performed by a private firm concluded that there had been “unreasonable compensation paid to some commissioners.” The audit further alleged that commissioners had inappropriately used credit cards, claimed excess mileage for personal travel, and failed to comply with “federal regulations and guidelines.” In August 1996, after reviewing these findings and conducting its own investigation, the Interior Department Office of Inspector General concurred.

More than intentional misconduct, however, the allegations pointed to the newly formed commission’s unfamiliarity with federal procedures. “Some of the questionable decisions and actions…were attributable to the…Commissioners’ lack of federal administrative experience,” the Inspector General’s report concluded. The Commission promptly accepted the auditor’s recommendations. One commissioner resigned as a result, stating that he had done so “because I now believe that my continued service…will function more as a distraction than a help.”

Although Mike Weland had been intimately involved with the drafting of the legislation that created the Mitigation Commission, he never envisioned himself as actually administering the agency. “I’d never been to Utah. I either wanted to go back to Arizona…or I want[ed] to go back to Oregon.” Yet, Don Christiansen and Marcus Faust, whom Weland had worked closely with on the legislation, urged him to reconsider. “You wrote it, you designed it, you could build it and make it work,” they told him.
Weland applied for the position, and during the interview with the Board of Commissioners was asked about additional staff members. Weland candidly explained his unfamiliarity with Utah, and told the commissioners that the first person he would hire would be someone more comfortable with the locality. “Someone like Mark Holden at State Wildlife,” he told them. Weland recalled the stifled laughter of some of his interviewers, but realized its significance only after the session concluded and he walked out of the room to find Mark Holden waiting for the next interview.76

Weland and Holden had become acquainted during CUPCA’s negotiation when Wayne Owens and Weland traveled to Utah to confer with fish and wildlife specialists. “I met with Mark, and I was so impressed with him: his professionalism, his knowledge, [so] articulate. [He] was actually the person I had in mind that would be ideal for this job,” Weland confessed.77 Holden had been a key figure in bargaining for minimum stream flows during the 1980s. The Interagency Aquatic Biological Assessment Team had been formed in 1979, and had largely been responsible for Governor Matheson’s proclamation that set a target for minimum stream flows throughout the Strawberry Collection System. Matheson’s goal of 44,000 acre feet, sufficient to protect at least 50 percent of adult fish populations, had struggled to find consensus. Mentioned earlier, a number of ideas emerged, including the construction of additional storage reservoirs, as well as the maligned pump-back systems on the Duchesne River drainage.78 Section 201 of CUPCA had, in fact, specifically de-authorized the pump-back systems.79 Concurrently, Section 303 explicitly required the District to “annually provide, from project water if necessary, amounts of water sufficient to sustain the minimum stream flows established pursuant to the Stream Flow Agreement.”80
It “was a very different type of experience than what we have today, under CUPCA,” Holden maintained. When the agencies assembled during the 1980s to discuss the stream flow Agreement it was an “entourage…of suits. [We would] have these meetings…I’d be way in the back somewhere. These agency officials would get together and discuss these pretty weighty issues. And there was a lot of – I wouldn’t say ‘contention,’ but it was a real authority problem…” Holden remembered his first interaction with Don Christiansen. He had “just…come in as the general manager for the District. And over a period…of a couple of years, I could really see a change in the tone…with those…meetings, because Don slowly (in his way) began to change how the Central Utah Water Conservancy District approached some of these thorny problems. He developed an attitude of ‘Let’s find a way to work together and move forward…’” Following CUPCA, Holden continued, a huge change ensued. “When we get together [now]…to make some of the decisions about how the in-stream flow water is going to be released, … it’s almost pro forma… Whereas, previous meetings were “very high profile, very tense, very difficult, …[now] it’s at the staff level; we get together, we work things out.” Holden credits the District staff for carrying on the style of temperate relations that Christiansen first introduced in 1985. “A lot of the people at Central Utah District that Don had a hand in hiring…have gotten that very strong message…that “This is how we’re going to do things. And they carry that on, and they believe in it. That’s made a huge difference.”

The Interagency Team was comprised of members of the State Division of Wildlife Resources, such as Holden, representatives from the federal Fish and Wildlife Service, Reclamation, and the CUWCD. It completed its final report in 1988 just as Wayne Owens’ initial reauthorization bill was wending its way through Congress. “I became pretty involved with trying to provide input to the development of the CUP Completion Act…I provided a lot of
information (upon request) to the Congressional Office of Wayne Owens.” Owens’ idea was to put together a comprehensive package that would not only increase the amount of funding to finish the water development features,” Holden elaborated, “but also place more emphasis on the Fish and Wildlife, or Environmental Mitigation…”\(^\text{82}\) Undoubtedly, Holden’s input, along with others having local expertise, accounted for those watersheds specifically targeted for mitigation or enhancement under Title III of CUPCA.

As Holden gradually became involved with Mike Weland and Wayne Owens in putting together “an environmental component to the legislation,” the idea to have a separate commission that would be responsible for administering the Fish and Wildlife program matured. That whole evolution developed over a period of years, [where] Mike Weland [played] a significant role…[He] really put some flesh to that concept…He deserves a lot of credit for that.”\(^\text{83}\)

Following Holden and Weland’s slightly uncomfortable encounter during the interview process for Mitigation Commission director, Holden was the first person Weland hired. “The key person is Mark Holden,” Weland acknowledged. He is the one with the “knowledge of the impacts of Central Utah Project, and other Reclamation projects, on Utah’s fish and wildlife…I tell people, ‘He’s the heart, soul, and brains of the outfit, and I’m Vanna White,’ he stated in reference to the vivacious T.V. game show hostess. “I get up in public and light up the letters…”\(^\text{84}\)

Not surprisingly, given the Mitigation Commission’s rocky start, another key staff member has been the chief financial officer, Channa Vyfvinkel. Following the disquieting Interior Department audit, Weland “hired a local accounting firm to help…create an accounting system.” Weland perceived that the entire CUPCA process had made the Commission
vulnerable. We “stick out like a sore thumb, …” he explained. The “fact that there’s a state water district taking over the Bureau of Reclamation’s job,” he enumerated, [and] the fact that there’s this separate, non Interior, little commission that has all this money…[We are] just waiting for Congress to drop the axe... My experience [had] been [that] if a government agency…can’t account for every penny, at every minute, then [they] are suspect…” Fortunately, the accounting firm he contracted with had “this really smart accountant working for them, so I hired her; she’s been here ever since.” Vyfvinkel’s exceptional work has even attracted the attention of some in “Washington D.C.,” Weland asserted. They tried to steal her away and “have her help run Interior’s accounting.”

Fish and wildlife advocates and outdoor enthusiasts had adamantly insisted on the Mitigation Commission becoming part of CUPCA. Generally speaking, the commission would have only one purpose: “to coordinate the implementation of the mitigation and conservation provisions of this Act among the Federal and State fish, wildlife, and recreation agencies.” Moreover, it would be independent from the political constraints that generally entangled most state and federal wildlife agencies. While the act designated the CUPCA Office as administrator of the commission’s federal appropriations, Title IV of CUPCA guaranteed that the environmental issues surrounding completion of the CUP would never again be short-changed by construction. Since 1994, the State of Utah has contributed $24 million to the Mitigation Fund; the Interior Department, $40 million; the District, more than $6.5 million; and the Western Area Power Authority, nearly $116.5 million, for a total of more than $183 million. Under the amended CUPCA, the interest from this account will become available to the commission in October 2013.
LOCAL COST SHARE AND PREPAYMENT OPTION

In contrast to environmental advocates, the District surrendered much of the CUP’s financial advantage during the negotiation process. For instance, it consented to a 35 percent local cost share for the repayment of construction costs associated with the Bonneville Unit, the highest ever for any federal water project. Initially, the federal government paid for it and only expected reimbursement over a 50-year period at 3.222 percent interest. Meeting this new obligation would be a challenge for the District. Economists conjectured that the local cost share could be “two to three times the amount the District [collected] in property taxes.”

The District’s first inclination was to seek legislative approval to raise the levy on property taxes for the 11 District counties. “That went over like a lead balloon,” Don Christiansen remarked. Newly elected Governor, Mike Leavitt, had campaigned on the promise not to raise taxes, and many state legislators had lined up firmly behind him on that principle. Yet, the District also had its allies, and for Utah politicians, it had never been astute to appear anything other than supportive of the CUP. Even Governor Leavitt, in deference to the CUP’s significance, declared that "One measure of how we're judged as a generation is how we prepare for the next generation. It's evident the Central Utah Project is of major importance to the future of Utah. Adequate water resources define the capacity to grow.”

In order to deflect the District’s attempt to have legislation introduced to increase the tax rate, Leavitt impaneled a task force to study the District’s funding dilemma. Chaired by former speaker of the Utah House Glen Brown, the task force met every other week for six months to discuss solutions for funding the CUP’s completion. Task force member Kelly Matthews, chief economist for First Security Bank, had written a graduate thesis at Brigham Young
University on the economic impact of the CUP. He confessed, however, that compared to the
CUP’s original financing, this new proposal was far more complex. CUPCA required the
District to pay 35 percent of the $1.2 billion construction package, which funds would need to be
paid up-front, before commencement of any project.91

The Task Force issued its findings in November, and while the report glowingly
reaffirmed the merits of the CUP, it also recommended that for the immediate future the tax rate
should remain the same. "We would like to have been able to look forward to a tax increase,”
lamented the District’s spokesman Elden Laird. "It will put pressure on the district financially,
but it can be worked out."92

Although unsuccessful at increasing the property tax rate, the District did succeed in
having a portion of the state sales tax set aside for water development. The bill passed by the
State Legislature in 1994 provided an estimated $25 million to establish a water fund. It
specified that 25 percent of the fund could be used to support the CUP. 93 The Task Force
suggested that the District apply for additional state funding through the Division of Water
Resources to cover the $20 million needed for project feasibility studies. The Task Force
contended that these studies (for which CUPCA expected a 50 percent District contribution)
would provide “a better idea of what components [would] be environmentally and economically
feasible.” Otherwise the Task Force deferred making any decision on long-term solutions for the
local cost share.

Notwithstanding Kelly Matthews’ graduate work on the CUP, the Task Force had clearly
failed to grasp the logistics of water development. Planning and funding had to move forward
simultaneously; else the District would find itself confronted with the same situation as had
Reclamation prior to CUPCA. In August 1994, the District implemented its own tax hike by
resolving to equalize the rate paid by all of the affected counties. Some counties, such as Wasatch, had grown precipitously, while others, such as Uintah, had remained static. Wasatch County’s increased population had caused its rate to fall, while Uintah County still paid the maximum levy allowed under the Water Conservancy Act. At a public hearing, Don Christiansen explained the potential threat posed by the 35 percent cost share, the need to make responsible environmental decisions, which were “not only required, but essential, …” and the findings of the Governor’s task force. Intense opposition followed Christiansen’s remarks. Some even resurrected the Duchesne Bowling Alley in an attempt to indict the District for improperly spending tax revenue.94

The Bowling Alley had nearly derailed the supplemental repayment contract back in 1985. In an attempt to provide recreational facilities for the growing number of Reclamation employees in Duchesne, the county and Reclamation prevailed on Congressman Howard Nielsen to obtain a special appropriation. Nielsen had long criticized Reclamation and the District for failing to deliver the promised Uinta Basin features to his congressional district. He may have envisioned the nearly $.5 million bowling alley as a small consolation. Nevertheless, former Governor Scott Matheson asserted that Nielsen had not consulted “with the Central Utah Water Conservancy District…” The District objected to the appropriation, and “took the position…that it should be paid for with non-reimbursable funds [and] not included as a project cost…”95

Nearly a decade later, however, the bowling alley continued to shadow the District. Those opposed to equalizing the tax rate not only cited it, but also additional rumors that the District intended to use tax money to build a resort hotel and restaurant at Deer Creek. Right or wrong, Christiansen clarified, the bowling alley had been built by Reclamation “to lessen the impact of several hundred employees moving in to [the] community…” We will continue to be
“sensitive to the communities and [to] the environment, …” he continued; but, “there are no plans…at Deer Creek or any other location…[That] would certainly be a misuse of tax dollars…”96

As mentioned previously, following the rupture of Reach III of the Jordan Aqueduct in August 1984, the District had employed a unique strategy to pay for the pipeline’s eventual replacement. The tactic involved issuing bonds to obtain funding which could be used to prepay the cost of the project back to the federal government. This allowed the District to deduct the interest off the project, which reportedly saved nearly $30 million. Section 210 of CUPCA had authorized the Secretary of Interior to negotiate the prepayment, and in October 1993, the secretary signed an agreement with the District, the SLCWCD and the Metro District to quantify “the amount of the prepayment…based upon [the] present value…of the District’s future repayment obligation.”97 If the District could convince Congress to amend CUPCA, and allow a similar plan for the District’s $300 million obligation, it would “facilitate financing which [could] provide for early payment to allow approximately $200 million in savings that we [could] use for cost share,” consultant Marcus Faust explained.98

Congressman Jim Hansen introduced the bill in June 1995. As it went through committee, Hansen agreed to amend the bill to provide the secretary “with more flexibility in protecting the interests of the United States.”99 Afterwards, the House Committee on Resources reported favorably on the bill. The District continued to collect dividends from its cooperative interaction with leaders in the House and Senate during the CUPCA negotiations, and Hansen’s bill passed the House, unanimously, with 412 representatives voting. Chairman of the Senate Subcommittee on Water and Power, Bill Bradley, reportedly complimented the District on “the work…that is getting…done,” and the bill passed the Senate without incident.100
The District now had some options to meet its enormous financial obligation. We have “tons of bills coming and going and financial money issues…to deal with [every day],” Rich Tullis stated. Controller, Stan Weaver, has been involved since practically the District’s beginning, and is often credited for his thorough understanding of the District’s financial matters and helpful attitude. Members of the Board heralded District financial advisor Scott Robertson for his “understanding of…monetary policies, …the markets, the bonds, …and the legal ways to move through and fund the district.”

In addition to juggling complex financial matters, the District has had to contend with a diminished amount of available project water. In compliance with CUPCA, the District sacrificed nearly one-third of Bonneville Unit water to satisfy in-stream flows. Less water, meant fewer benefits, and irrigators, in both the Uinta and Bonneville basins, were undoubtedly disappointed. The Ute Tribe, particularly, had sacrificed development of its land and water for nearly 30 years to enable construction of the Bonneville Unit. Title V of CUPCA endeavored to compensate the Tribe, but issues would remain unresolved for years to come. The storage facilities planned initially as the Upalco and Uintah units would have replaced a portion of the water deferred by the tribe in 1965, as well as provide significant supplementary water for secondary users, on the drainages from the Yellowstone, Lakefork, Uintah and White Rocks rivers.

“I think that was one of the things that stimulated the CUPCA legislation,” Mike Hansen surmised. “Uintah and the Upalco [would] satisfy some of the needs that the Ute Tribe had for water development.” Hansen and Ron Johnston spent considerable time negotiating with “the Ute Tribe, [trying] to re-initiate the Upalco and the Uintah Units…” At the same time, they conferred with non-Indian irrigators, whose secondary rights would be impacted by tribal
development, and who “desired to [retain their] management of the area’s water resources.” That “was a real sensitive issue out there, … ” Hansen noted.\textsuperscript{103}

Protecting the delicate balance between the rights of Indian and non-Indian water users on the Duchesne River and its tributaries had been the primary motivation behind the 1980 Ute Indian Compact. Former State Engineer Dee Hansen had chaired the task force assigned to negotiate the compact in 1978. Members of the task force fully supported the need to recognize the Tribe’s water rights, but also took the “position that every effort should be made to minimize the potential impact…on the non-Indian water users in the area.”\textsuperscript{104} The Upalco and Uintah units were essential to achieving that equilibrium. Their postponement had exacerbated tensions in the Uinta Basin and would, as well, engender distrust for future CUP facilities among both Indian and non-Indian water users.

\begin{itemize}
\item \textsuperscript{1} Tullis Interview, p. 19.
\item \textsuperscript{2} Ibid., pp. 17; 20.
\item \textsuperscript{3} Talbot Interview, p. 2.
\item \textsuperscript{4} Carl Carpenter Interview, p. 23.
\item \textsuperscript{5} Talbot Interview, p. 8.
\item \textsuperscript{6} Williams, Don Christiansen Interview, p. 36.
\item \textsuperscript{7} Pitcher Interview, p. 3.
\item \textsuperscript{8} Shawcroft Interview, p. 2.
\item \textsuperscript{9} Williams, Don Christiansen Interview, p. 37.
\item \textsuperscript{10} Tullis Interview, p. 3.
\item \textsuperscript{11} Williams, Christiansen Interview, p. 33.
\item \textsuperscript{12} Ibid., p. 19.
\end{itemize}

14 Williams, Christiansen Interview, p. 33.

15 Sersland Interview, p. 12.

16 Shawcroft, p. 4.

17 Ibid., p. 4.


20 Agreement signed in the City of Washington, D.C. [representing]…the parties signatory hereto to the following issues associated with the Central Utah Project reauthorization legislation presently pending before Congress, 26 April 1990. Files of CUPCA Office.

21 Randy Williams, Interview with Darrell Mensel, Salt Lake City, Utah, 6 August 2012. Pp. 3-4. Mensel was a member of the Utah Outdoor Interests Coordinating Council, and avid fisherman and environmental advocate. Hereafter referred to as Mensel Interview.

22 Ibid., p. 10.

23 Ibid., p. 8.


26 Williams, Don Christiansen Interview, p. 33.

27 Finlinson Interview, p. 5.

28 Williams, Beard Interview, p. 27.

29 Johnston Interview, p. 5.

30 Central Utah Project, Initial Phase, Bonneville Unit, Definite Plan Report, 1964, p. 59.

31 Director’s Packet, 14 January 1966.

32 Central Utah Project, Bonneville Unit – Utah, Draft Supplement to Definite Plan Report, p. 73.

33 Wimmer Interview, p. 2.

34 Williams, Don Christiansen Interview, p. 34.
Williams, Don Christiansen Interview, p. 35.

Johnston Interview, p. 7.

Roger Hansen Interview, p. 11.

Johnston Interview, p. 7.


Holden Interview, p. 10.

Johnston Interview, p. 11.


Johnston Interview, p. 9.

Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project, Hearings before the Subcommittee on Water and Power Resources on H.R. 3408, p. 69.

Ibid.

Swanson Interview, p. 8.

Johnston Interview, p. 10.

Swanson Interview, p. 8.

Johnston Interview, p. 10.

Swanson Interview, p. 16.

Johnston Interview, p. 9.

Ibid., 10.

Murray Interview, p. 4.

Ibid., p. 5.

Ibid.

Ibid. See also Kameron Onley to Reed Murray, 24 November 2008. Files of CUPCA Office.

Mike Hansen Interview, p. 6.

Johnston Interview, p. 8.

Ibid.
Public Law 102-575 (formerly Bill H.R. 429), 102nd Congress, 2nd session, October 30, 1992, as amended 2008, Section 201 (e). Hereafter referred to as CUPCA.

Murray Interview, p. 21.

Gold Interview, p. 7.

Ibid.

CUPCA, section 201 (e).

Gold Interview, p. 9.

Barrett Interview, p. 5.

Williams, Don Christiansen Interview, p. 26.

Weland Interview, p. 4.

Proposals to Raise the Authorized Cost Ceiling for the Colorado River Storage Project, Hearings before the Subcommittee on Water and Power Resources on H.R. 3408, p. 50.

Weland Interview, p. 4.

Swanson Interview, p. 7.


Weland Interview, p. 4.

Ibid., p. 7.

Ibid.

Ibid.

Randy Williams, Interview with Mark Holden, Salt Lake City, 10 July 2012, p. 4. Hereafter referred to as Holden Interview. See also, Interagency Aquatic Biological Assessment Team, “Aquatic Mitigation Plan for Strawberry Aqueduct and Collection System,” December 1988, pp. 2-4.

CUPCA, section 201 (b) 1 (B).

CUPCA, section 303 (a).

Holden Interview, pp. 4-5.

Ibid., p. 2.

Ibid., p. 6.
84 Weland Interview, pp. 7-8.

85 Ibid., p. 9.

86 CUPCA, section 301 (a) (1).

87 Reed Murray to Robert Parson, 3 March 2013. Email correspondence in possession of authors.

88 “The Central Utah Project,” Utah Foundation Research Report, no. 572 (July 1994) p. 301

89 Salt Lake Tribune, 1 August 1993.

90 CUPCA Local Share Governor’s Task Force, p. 20. Files of CUWCD.


92 Ibid., 4 December 1993.


94 Minutes, 16 August 1994.


96 Minutes, 16 August 1994.

97 CUPCA, section 210.

98 Minutes, 19 June 1996.


100 Minutes, 19 June 1996.

101 Tullis Interview, p. 19.

102 Randy Williams, Interview with Claude Hicken, Salt Lake City, Utah, 6 August 2012, p. 13. Hicken has represented Wasatch and Summit counties on the CUWCD Board of Directors. Hereafter referred to as Hicken Interview.

103 Mike Hansen Interview, pp. 2; 7.

104 Ute Indian Water Rights Settlement, Hearing before the Committee on Interior and Insular Affairs, 100th Congress, 2nd session, H.R. 5307, p. 142.
Chapter 11
Final Draft September 2014

An Eye to the Future: Completing the CUP

UINTA BASIN REPLACEMENT PROJECT

The skepticism on the part of irrigators in the Uinta Basin came as no surprise to the District. The District had long been frustrated by Reclamation’s inability to provide feasible plans for the Upalco and Uintah units. “There continues to be a lack of progressive action by the U.S. Department of Interior Officials on the Uintah Unit,” District Manager Lynn Ludlow asserted in 1974.

After six years...Interior Officials are now stating that there is need to further study the alternatives to try and make a determination as to what the Ute Indian Tribe wants. The Ute Tribe has made it clear time and time again that they desire the early construction of the Uintah Unit.

The start of construction of the Uintah Unit is a must. Its continued delay is adversely affecting all units of the CENTRAL UTAH PROJECT...It is essential that the District continue to give it priority in our efforts to move it into construction status.¹

Under CUPCA, the District envisioned the Uinta Basin Replacement Project as an opportunity to finally fulfill promises to Uinta Basin irrigators. In December 1991, the District organized a planning team comprised of members drawn from state and federal agencies, local government, and environmental interests to reintroduce the Upalco and Uintah units. The Ute Tribe only “observed” during the process, and “declined to participate...” The Tribe emphasized, however, “that if the project were to affect Tribal lands, it must provide significant benefits...and the Tribe must have a management role in the project.”² The planning team held public meetings at various locations throughout the Basin, as well as separate meetings with the
Duchesne County Water Resource Board, local canal companies, and the Ute Tribal Business Council. Project Manager Terry Holzworth represented the District, along with engineering consultants, CH2M Hill and Horrocks Engineers.

After considering the comments and input generated at these meetings, the planning team organized a 13 member steering committee during summer 1993. Joining the District on the steering committee were members from the Forest Service, Fish and Wildlife Service, Army Corps of Engineers, Natural Resource Conservation Service, Bureau of Indian Affairs, the State divisions for Wildlife Resources and Water Resources, and the Utah Outdoor Interests Coordinating Council.

The UOICC took exception to the District’s plan to resurrect the Upalco and Uintah units, claiming that Section 203 of CUPCA had not authorized them as viable replacement projects. Rather, CUPCA had specified several small, off-stream reservoirs, which the UOICC maintained the District had never seriously investigated. While CUPCA did not mention either the Upalco or Uintah projects specifically, it did enjoin the District to explore more economical and less environmentally damaging substitutes. Few alternatives existed, however, that would both preserve the non-Indian economy and provide the Ute Tribe with the storage rights agreed to by the District and federal government in 1965. Furthermore, off-stream impoundments could not fully utilize peak flows during springtime. With the exception of enlarging the existing Big Sand Wash Reservoir, water users in the Uinta Basin rejected the idea of developing more off-stream sites. Instead of abandoning Reclamation’s original plans, the District downsized both the Uintah and Upalco units and added extensive environmental features in order to comply with CUPCA.
The UOICC applauded the District’s efforts to augment the projects’ “environmental enhancements and recreational benefits,” adding, however, that “there is no general agreement that these features [will] outweigh the negative aspects of the projects.”\(^3\) Dams, particularly those constructed in-stream, could have a devastating environmental impact. Opposition to dams had been a *cause célèbre* for the environmental community ever since the Sierra Club’s successful effort to block the Echo Park Dam during the 1950s. The environmental community had “pretty much opposed…any dam that [came] along…” Darrel Mensel affirmed, and UOICC affiliates continued to resist any effort to construct more dams.\(^4\) “It’s ridiculous,” stated the Director of the High Uintas Preservation Council Dick Carter. “It’s the same damn approach: put dams on rivers. We don’t need any more reservoirs on any more rivers.”\(^5\)

The Ute Tribe vacillated in its support, but early on allowed that the “dams [were] very important to our future.” The Tribe’s advocacy placed the UOICC in the admittedly awkward position of either embracing “the government’s dam-building strategy or be perceived as insensitive to the water needs of the Tribe.”\(^6\) Again, the Tribe chose not to participate on the steering committee. Instead, it appointed its own Water Resources Board and hired the California firm Stetson Engineers to independently evaluate “water projects on tribal land.”\(^7\) The “lead from Stetson Engineers…was Joe Ely,” remembered attorney Tod Smith, who represented the tribe for more than 15 years. Ely had been Business Chairman of the Pyramid Lake Tribe in Nevada at the time they “negotiated their water rights settlement and protection of Pyramid Lake…. Joe was just… a very smart guy. [He] worked with me throughout this whole period in the negotiations, in putting together proposals…”\(^8\)

With input from the Tribe’s consultant and legal representative, the steering committee developed the alternatives which would eventually be presented at public venues, and ultimately
form the basis for the environmental assessments prepared by the District’s consultants. While
the environmental assessment for both the Upalco and Uintah replacement projects looked at a
number of possibilities, it recommended a preferred alternative for each. For the Upalco project,
this included the Crystal Ranch Dam and Reservoir on the Yellowstone River, and an
enlargement of the existing, off-stream, Big Sand Wash Reservoir. Crystal Ranch Dam would
impact mostly tribal lands, along with some Forest Service and private land. The 24,000 acre-
foot Crystal Ranch Dam would only impound approximately one-third of what the Taskeetch
Dam would have stored under the original Upalco Unit. Of this amount, about half was intended
for irrigation of lands having an Indian water right, and half intended for lands with a secondary
water right. Nearly 2,400 acre-feet would be retained in the reservoir as a conservation pool.
The enlarged Big Sand Wash Reservoir would store an additional 9,000 acre-feet. The Moon
Lake Water Users Association, which had constructed the original reservoir in 1965, is the
primary beneficiaries of this segment. Most importantly to the precepts set in motion by
CUPCA, was the stabilization of at least nine high mountain lakes within the Yellowstone River
drainage. These lakes had been converted to reservoirs by Duchesne County irrigators during the
early Twentieth Century. They contributed an estimated 2,500 acre-feet to water users affiliated
with the Moon Lake Water Users Association.

As the Association’s former secretary Lynn Winterton related, they originally “went up
into the mountains, and took old…Glacier Lakes, and cut a notch into the terminal [moraine] and
put in an outlet works…” They added an additional berm on top of that in order to increase the
lake’s storage capacity. Moon Lake operated the mountain reservoirs under a special use permit
issued by the Forest Service. The Forest Service had been agitating for the lakes’ stabilization
since at least 1967 when Reclamation released its plans for the original Upalco Unit. Most of
the lakes were situated within the High Uintas Primitive Area, and with a few exceptions, all would eventually become part of the High Uintas Wilderness Area in 1984. Early on, the Forest Service proposed that section 8 funding of the Colorado River Storage Act, intended for recreation and fisheries enhancement, might be used to reconvert the reservoirs back into glacial lakes. The storage could then be moved downstream to the proposed Taskeetch Reservoir. Inspections conducted during the 1960s confirmed the perilousness of many of the dams. Several dams had, in fact, failed during their history, causing “considerable channel damage downstream.” The tentative progress, and ultimate postponement of the Upalco Unit during the 1980s, would temporarily dash the Forest Service’s hopes for restoration.

The stabilization of an additional five lakes was also a major component of the Uintah Replacement Project. The original Uintah Unit had included two dams, one on the Uintah River and another on the White Rocks River. Together, the reservoirs formed by these dams would have stored nearly 80,000 acre-feet. The preferred alternative for the Uintah Unit proposed only one dam and reservoir on the lower Uintah River, constructed entirely on tribal land. Less than half of the 38,000 acre-foot reservoir would, however, be dedicated to irrigating tribal lands. The reservoir also included a conservation pool, space to replace storage from the high mountain lakes, and more than 12,000 acre-feet dedicated for both primary and secondary non-Indian irrigators. “I think one of the things that happens [is]…that the project’s purpose is to provide water to non-Indian communities,” Tod Smith asserted. “You put in an Indian component because it makes it more politically acceptable. The CUP may provide some benefits to [the] tribe; but its primary purpose was and is to provide benefits to other people.”

This had been a recurrent complaint of the Ute Tribe. While both the old and new Uintah and Upalco projects primarily impacted tribal lands, they mostly benefitted non-Indians. The
Tribal Business Committee had recommended as far back as 1982 that the Upalco Unit be modified to “provide additional water to certain Ute Indian lands…” and urged Reclamation to even design “an Indian-only version of the Uintah Unit…”¹³ The disparity that the tribe perceived between benefits and impacted lands had contributed to the stalled negotiations and ultimately the failure of the original Upalco and Uintah units. Although the projects that the District proposed as replacements were much smaller than the initial units, the issue of the division of benefits and the dams’ location on tribal lands remained.

Among many tribal members the issue of losing control of their land may have been of greater concern than the discrepancy in project benefits. The District’s consultants clearly recognized this when they wrote, “Tribal sentiment regarding a new water project may depend in large part on the level of perceived Ute project control.”¹⁴ Both dams would require construction companies to enter the reservation, and the tribe had generally been averse to “the intrusion of non-Indians onto Tribal lands, …” viewing it as “an additional threat to their sovereignty.”¹⁵ Tod Smith agreed that the “issue of having additional non-Indian activity up in tribal areas was an issue.” This was particularly relevant for the Uintah Reservoir. If one gets “up above to the Big Springs areas, that’s sacred,” Smith observed, and for some Reservation members, water held strong spiritual significance.¹⁶ “Free-flowing” water was believed to possess unique powers, and they were loath to the idea of damming rivers. “I think it took me four or five years to figure this out,” Mike Hansen acknowledged; “but, I [came]…to realize that our value systems weren’t their value systems…I was raised, … college-trained, and career-trained that things were economically based: if they would make you money, they were a good thing. And that’s the way the Bureau worked…[It]…was all based on economics.” The Utes, Hansen came to recognize, regarded water as important just “as a natural resource…It was important for them to have a
stream running by their house, or through their land…It meant something to them…[It] wasn’t always dollars and cents. There was a spiritual…value to the water…”

This cultural disconnect made it more difficult to reach an agreement with the Tribe. “I had learned long ago,” Ron Johnston confessed, that I did “not know how to think like an Indian.” Frequent changes in tribal leadership compounded the difficulty, although Tod Smith does not perceive the members of the Tribal Business Committee as being appreciably different from other locally elected government officials. “When there are contentious issues that are dealt with by the governing body,” he began, it often “puts them at odds with many…constituents. Oftentimes, when an elected official takes an unpopular position on an issue, it can result in defeat at the next election. “It is not unique to tribes,” Smith concluded. “It is something that happens in a lot of governments.” As such, support for projects waxed or waned depending on the make-up of the Business Committee. Some Council members remained very suspicious and wanted nothing to do with water development, and then there were other times, Ron Johnston continued, when the Council “was really good to work with.”

The Uintah and Ouray Reservation included three separate bands: the Uintah Band, which had been relocated to the Uinta Basin in 1861; the White River Utes, who had been relocated in 1881; and the Uncompahgre Utes; who had been initially re-settled at the Ouray Reservation in 1882, but were later merged together with the Uintah Reservation in 1912. Each of the three bands elected two members to the Business Committee. Although having shared the Reservation for more than 100 years, Mike Hansen maintained that they still retained “values or thoughts that tie back to their original bands.” Water and land were central issues, and “sometimes the personalities on the business committee [were] very forceful from one of the bands, … and the others…not quite as forceful.” Changes in leadership often altered the “whole
dynamic.” Newly elected business committee members felt no obligation to support decisions made by their predecessors. “The Ute Tribe had several leadership changes during the Title V implementation,” Mike Hansen recalled. “As the makeup of the Business Committee changed for the Ute Tribe, different interests emerged.”

On behalf of the Tribe’s Department of Fish and Wildlife in February 1997, Robert Chapoose, Jr. had urged the Business Committee to approve the Upalco Replacement Unit. Chapoose had worked closely with Stetson Engineers, the Tribe’s consultant, to address fish and wildlife issues on the Lake Fork and Yellowstone drainages. “The Department views this project as an opportunity to develop our water resources without the terrible negative impacts to fish and wildlife resources that have occurred in the past. [We] learned a great deal from our losses when the Stillwater Dam was built,” Chapoose stated. “We are determined that the mistakes made on Rock Creek will not be repeated on the Yellowstone.”

Rock Creek still haunted the memory of many tribal members. Bottle Hollow Reservoir had been intended as mitigation for fishery losses on Rock Creek, but its inability to support a cold-water fishery had been a huge disappointment. CUPCA specified $500,000 “to clean the Bottle Hollow Reservoir…of debris and trash resulting from a submerged sanitary landfill, to remove all non-game fish, and to secure minimum flow of water to the reservoir to make it a suitable habitat for a cold water fishery.” Bottle Hollow was drained and a search conducted for pollutants, but none were ever found. As mentioned earlier, the largest deterrent to the reservoir’s success may have been the lack of fresh water. Its failure supported the belief of some tribal members that impounded water was inherently “unstable and dangerous…and water that is not allowed to flow gets old and…unnatural…”
Chapoose allowed that the Upalco Replacement Project was “not 100% of what the Department believes is beneficial for fish and wildlife, …” speculated “that it is not everything that the Central Utah Water Conservancy District or the non-Indian irrigators wanted either.” He believed the project represented “the best compromise that [could] be made and still have a project where there are benefits for everyone.”

While Chapoose expressed a willingness to compromise, there may have been just too much suspicion, too many failed promises, and simply too much history between tribal members and government agencies for some to ignore. “They have not always been treated the best in their history,” explained Lynn Hansen, who has worked with the Tribe throughout much of his career. Some “still have strong feelings, [and] even though it may not have been in their lifetime, they hear the stories from their ancestors…” In the end, the Business Committee voted not to participate in the Uintah and Upalco Replacement Projects. In May 1999, Mike Hansen recalled the meeting where “the entire business committee just stood up and left” the room. In a sense, they voted with their feet, and for a while, he and the others in attendance failed to grasp the significance of the gesture. We then “realized,” Hansen ascertained, “that they were communicating what they did not want…” That was the Business Committee’s way of showing that they were not interested.

Following the meeting, Ron Johnston wrote to express his opinion that the Tribe had played an “interactive role” in planning the projects, along with its “water lawyer…and…engineering consultants, …” and emphasized that because the decision “not to proceed with the Uintah Replacement Project was made with…knowledge and understanding…the Department would discontinue its efforts…for both the Uintah and Upalco [units]…”
ENLARGEMENT OF BIG SAND WASH RESERVOIR

In his 13 years of directing the CUPCA Office, the Tribe’s withdrawal represented Johnston’s “biggest disappointment.” Don Christiansen expressed his “profound disappointment,” as well. “This was a good project,” he affirmed to the District Board, “and it is unfortunate for all those in the Basin.” The withdrawal of the Ute Tribe and the demise of the Upalco and Uintah replacement projects did not, however, mean the District was out of options. Christiansen proposed working with Randy Crozier and the recently created Duchesne County Water Conservancy District to investigate other possibilities, noting that “the storage in the high mountain lakes [was still] a concern for the Forest Service and that possibly something could be done there.”

The enlargement of Big Sand Wash Reservoir would provide the storage space needed for exchange from the high mountain lakes, estimated at 6,300 acre feet. In addition to stabilizing the high mountain lakes, other purposes of the Big Sand Wash enlargement included providing 2,000 acre feet of M & I water for Roosevelt City, and 1,000 acre feet to meet future demands in the Lake Fork drainage area; improving water resources management and encouraging water conservation by increasing efficiency and enhancing beneficial use through development of water storage; and the mitigation and enhancement of environmental, fish, wildlife, and recreational resources.

In consideration of the UOICC’s criticism that planning for the Upalco and Uintah replacement projects had failed to consider the features specifically authorized by CUPCA, the environmental assessment for the Big Sand Wash enlargement analyzed the Pigeon Water, Clay Basin, and McGuire Draw dam sites, appraising all from an engineering, biological and...
economic standpoint. Consultants found them either more environmentally damaging, and less economical, or more geologically challenging than the Big Sand Wash alternative. In each case, the consultants reported, the Big Sand Wash enlargement represented “the best alternative that would fulfill the same purposes and needs…”

When the consultants evaluated the Farnsworth Canal alternative for potential rehabilitation they found a unique set of circumstances. During the canals near century long meander through Duchesne County, seepage had created wetlands adjacent to the canal. Artificial as they were, piping or lining the conduit would likely destroy this resource, and require extensive mitigation to create a substitute. While the consultants determined “that the rehabilitation of Farnsworth Canal was not feasible...” other proposed features might accomplish the same objective of increasing efficiency, enhancing beneficial use, and promoting water conservation. Chief among these was the stabilization of high mountain lakes.

These lakes were a cherished part of the communities’ pioneering history; many were reluctant to see them go. They “were old, and they were wonderful,” and they were part of our heritage, Lynn Winterton observed. The Sand Wash enlargement only provided a fraction of the supplemental water that irrigators had hoped to secure from the Upalco and Uintah replacements. Moreover, of the reservoir’s 12,000 acre-foot enlargement, 3,000 acre-feet were slated for municipal use. This coupled with the mandated conservation pool, in-stream flow requirements, and other environmental stipulations raised serious concerns among some Moon Lake shareholders as to the project’s viability. The Association owned Big Sand Wash Reservoir; it owned the water rights to the high mountain lakes; it had never been required to maintain in-stream flows in the Lakesfork River, nor provide conservation pools for any of its reservoirs. If the Moon Lake Association chose not to participate in the project, as some
advised, it would still have its water, and still have its reservoirs, while avoiding the possible consequences of federal law.\textsuperscript{36}

The old mountain reservoirs, however, were reaching the end of their usefulness, and moving the water rights down to Sand Wash would alleviate the need to maintain the old structures and make the water more usable. “When I was still in high school back in the ’70s, I worked on those lakes,” District Board member Kirk Christensen related. “We did maintenance on them.” Christensen’s older brother, Bill, managed the Moon Lake Water Users at the time, and “he always had a crew…” Christensen, and generally three other young men, traveled in with pack horses, taking enough supplies and provisions for a two week stay. All of the work was “by hand,” he noted. “If we had to saw timber or anything like that, it was all done by hand.” Christensen recalled one particular summer working on the Island Lake in Roundup Basin. The pioneers had constructed the original dam with horses and Fresno scrappers, piling the dirt in the center of the lake’s outlet, and then rolling the large rocks and boulders along the sides. “We went in and tore all that rock out, … and replaced twelve feet of pipe on the bottom end of Island Lake.” The pipe, “we packed…in by hand…[by making] some harnesses out of our belts with a couple of poles, and got four of us (two on each end), and away we went with that pipe.”\textsuperscript{37}

Duchesne County irrigators were accustomed to hard work, and as the District’s consultants concluded, they were as “suspicious and skeptical of further government efforts to develop the region’s water,” as their Ute neighbors. “Many of the non-Indian…residents see their independent lifestyle undermined by a government that is over-regulatory…and believe that government intrusion in resource management only jeopardizes their right of self-determination.”\textsuperscript{38} Ron Johnston, however, believed that a majority of Moon Lake’s shareholders
favored the project, and prevailed on the consultants to find some way to pull them “into this thing. They want this Project,” he told them, “but they need to understand that they can’t operate…like they used to.” The project needed the high lakes stabilization, and it would not be economically feasible as an irrigation project unless the District could convince Roosevelt City “to step up to the plate and [put] some M and I water in there.” Lastly, without minimum stream flows, Johnston knew they would “get killed on the NEPA document, … [and the]…Endangered Species Act.”

Convincing Moon Lake required some “heart to heart meetings,” Johnston recalled. He and Don Christiansen urged the Association’s leadership “to think outside the box…to figure out how to make this work, … it might not be as good as what you would like,” they advised, “but you’re going to have to compromise…” Johnston recalled that after a particularly intense meeting in Vernal, where he may have “said some things…I shouldn’t have…, I seriously wondered if we were going to build a project…” It had been “such a disappointment” to lose the support of the Tribe, he confessed; “I was absolutely scared to death that Moon Lake was going to do the same…thing.”

But, following nearly two years of negotiation, the District, the Forest Service, and the CUPCA Office signed agreements with the Moon Lake Water Users Association stipulating the construction and operation of Big Sand Wash Reservoir, and the transfer of water rights from the mountain lakes. “I was floating on cloud nine for two weeks,” Johnston exclaimed.

CUPCA Program Manager Lee Wimmer was also excited by the prospects. Wimmer had been involved with the Uinta Basin Replacement Project negotiations since they first began in 1991. After the Tribe’s departure, Wimmer recalled how the District began exploring off-stream reservoir sites. Wimmer had grown up in Duchesne, and during the summer before and the
summer following his freshman year in college he worked for his father’s construction firm, which had received the contract to build the original Big Sand Wash Dam. Making the experience even more personal, Wimmer’s future father-in-law, Gil Horrocks, designed and engineered the project. “It was interesting,” Wimmer stated. “I had been there when it was built the first time,” and now Wimmer found himself involved with its reconstruction.43

The enlargement required the acquisition of additional property, and the owners of a subdivision adjacent to the reservoir, along with established homeowners, resisted selling. The District is “still in the process” of finalizing agreements, Wimmer confided. Some “weren’t willing to give their land up, …” and in some cases condemnation proceedings “are still before the courts.”44

The enlargement also required extensive renovation and reconstruction of the original dam. The dam had been constructed beginning in 1963, adhering to what at the time were rigorous specifications. It first filled in 1965, and while the earth embankment had been fitted with a variety of drainage features, seepage along the left abutment had been a recurrent problem.

As the main dam and the saddle dams along the east and west perimeters would be raised an additional 26 feet, engineers determined the most prudent course would be to remove most of the main embankment and east saddle dam, and to completely rebuild the saddle dam on the west. An extensive grout curtain would be installed in the retrenched core, and state of the art drainage features added as the dam and dikes were rebuilt. New outlet works would be installed by placing a five foot diameter pipe in a tunnel bored through the ridge to the west of the main dam, along with a new concrete spillway, and stilling basin.45
The project also included a new diversion structure and pipeline to convey Lake Fork water to Big Sand Wash. The original feeder line had been an open canal that captured the flow of Lake Fork high up in the drainage, leaving the river de-watered for much of the year. The new structures allowed the District to negotiate with the Moon Lake Water Users for in-stream flows. Additionally, whereas the open canal often froze up, the pipeline could be charged throughout the winter, providing more storage for irrigators to draw from. As it turned out, Wimmer explained, they “can put more water in there than even our model showed.” They can drain down the reservoir “early in the summer before the runoff from the Uintas comes, ...” and then capture the runoff for use later during the season. It has “worked very, very well for them.”

During construction, the District agreed to work around the irrigation season, and allow Moon Lake to continue to utilize its facilities to deliver irrigation water. In April 2003, contractor George Johansen initiated construction of the feeder diversion and pipeline. Work progressed smoothly and was completed within a year. Construction of the dam, however, “was not…easy,” Ron Johnston declared; “they had some real weather issues, and the reservoir had to remain operational…” Construction began in March 2004, and contractors W.W. Clyde and Obayashi completed work in December 2006.

The enlarged reservoir would have active storage of nearly 23,000 acre-feet. The agreements between Moon Lake Water Users, the District and other federal agencies, allocated 10,900 acre feet of storage from its original reservoir, plus space to store the 6,500 acre feet from the mountain lakes. The United States reserved 5,500 acre-feet of storage, and the State of Utah would own the 1,200 acre-foot conservation pool. The agreements specified the high mountain lakes that would be stabilized, the storage from which would be moved down to Sand Wash.
Reservoir. These included Brown Duck, Island, Kidney, Clements, in the Lake Fork River Drainage; and Bluebell, Drift, Five Point, Superior, Farmers, East Timothy, White Miller, Deer, and Water Lily, in the Yellowstone River Drainage. The agreement allowed Moon Lake to continue using the lakes for storage until completion of the dam. The agreements also established the in-stream flow requirements, noting, “In-stream Flow Water releases…are Project commitments made by [Moon Lake], the District, and Department, who will collectively take all appropriate and necessary actions to provide…”

The Mitigation Commission provided general project management, while the actual deconstruction of the dams involved numerous groups, including Reclamation; the Forest Service; the Utah Conservation Corps, a group affiliated with Utah State University; and the Duchesne County Water Conservancy District. The District and the Moon Lake Water Users were also involved in the project. The project began in 2006 with the stabilization of Water Lily, Farmers, and White Miller lakes. During the next four succeeding summers, crews moved to stabilize Clements Lake, in 2007; Island and Brown Duck lakes, in 2008; and Kidney, Superior, Five Point, Bluebell and Drift lakes, in 2009. During summer 2010, the last two lakes, East Timothy and Deer were stabilized.

While each of the old reservoirs presented unique challenges, the same basic plan was followed to stabilize the lakes to their approximate historic levels. At Deer Lake, for instance, crews removed the rock facing, or riprap, on the upstream side of the dam, and cut a breach down to the level of the old outlet pipe and head gate. After building a small cofferdam at the intake side of the old diversion works, they were removed, the trench repacked, and the new channel graded to stream level. Riprap was then reinstalled along the sides and in the bed of the breach.
The Farmers Irrigation Company had constructed the original dam mostly to regulate the flows from its other impoundments at White Miller and Farmers Lake. The Forest Service issued permits to the company in 1925 and 1926. The difficulty of building all these structures by the Farmers, Dry Gulch and Farnsworth companies, at high elevations where winter set in early and spring arrived late cannot be overstated. Roads had to be cut to get work crews, supplies and equipment to as close as possible to the dam sites. In most cases, the companies found transportation easiest during the winter with teams of horses and sleds. Manual labor and horsepower was used to build all of the high mountain reservoirs, which often took years to complete.52

Compare this to the dismantling of Deer Lake dam, which commenced on July 6, 2010 and concluded only three weeks later on July 28. Workers employed skid steers and track-hoes, which were flown to the site by helicopter. Workers availed themselves of gasoline-powered pumps, with electricity for other equipment supplied by a gas powered generator. The only horse power used were saddle horses employed for travel by workers, supervisors and inspection staff.53

The exchange of the high mountain reservoirs to the enlarged Big Sand Wash Reservoir proved advantageous to Moon Lake Water Users Association. Keith Mortensen, who had served as president of both the Moon Lake Water Users and Dry Gulch Irrigation Company boards, is appreciative of the role the District played in trying to address the concerns of Duchesne County irrigators. “I wasn’t always able to say that,” he admitted, “but I can say that now...because we got together, and got something done.”54 There had been “friction” over the years, but “the conservancy district stepped forward, and we stepped forward.” Because of the “enlargement of
Big Sand Wash…the pipelines, the sprinklers, the pressure irrigation…people…are doing much better…”

Nevertheless, Mortensen lamented that the “sad part of it is the Uinta River still is not addressed.” Farmers in northern Duchesne County, those in the “Upper Country,” Kent Peatross explained, never got “a drop of new water.” Dave Rasmussen conjectured that the Upalco and Uintah replacements would have provided the storage facilities that “would have helped the Indians and non-Indians, and everybody else.” As a substitute, the District “enlarged Big Sand Wash Reservoir, … and built a pipeline or two, … which was pretty minor compared to what they really wanted or what they needed over there.” Many blamed the Indians, and many continue to point to the Tribe’s unwillingness to participate as the cause of these projects’ failure. True, the projects could not be built without the Tribe’s concurrence; Congress had also been explicit during the legislative process leading to CUPCA that projects must be economical. Regardless of past promises, projects costing in excess of $4,000 to develop a single acre-foot of irrigation water could not be justified. It is perhaps uncanny, that after years of study and the expenditure of millions of dollars, not to mention the endless meetings and prickly negotiations with non-Indian water users, as well as the Ute Tribe’s consultants, the end result of the Uinta Basin Replacement Project would be precisely what CUPCA had initially envisioned: a “less costly…more feasible and environmentally less damaging…” project.

UTE INDIAN RIGHTS SETTLEMENT, TITLE V

As Ron Johnston concluded his letter to the Ute Business Committee apprizing it that planning for the Upalco and Uintah replacement projects would be discontinued, he also
confirmed that there remained “a significant amount of work to do with the Tribe in other areas of the CUPCA…” and trusted that “our working relationship will continue to be positive…”

Congress had intended for the Ute Indian Rights Settlement to alleviate the issues surrounding the Tribe’s federal reserved water rights by encouraging the Tribe and the State of Utah to finalize the adoption of a revised Ute Indian Water Compact. Congress also affirmed that significant unresolved claims still remained from the Tribe’s deferral of land and water to enable construction of the Bonneville Unit, and that although the United States had endeavored to “develop substitute water,” the postponement of the original Upalco and Uintah units, along with the doubtful authorization by Congress of any ultimate phase construction, practically guaranteed that “water users (both Indian and non-Indian) [would] continue to suffer water shortages and resulting economic decline.” CUPCA had, in fact, specifically prohibited any funding for the Ute Indian Unit, the ultimate phase proposal to bring water from Flaming Gorge through a tunnel and aqueduct. The Ute Indian Unit would have provided irrigation water to most of the remaining Indian and non-Indian lands, and allowed the State to completely utilize its share of Colorado River water. CUPCA also excluded any funding for the Leland Bench development, a one-time proposal that would have developed 15,000 acres on the Leland Bench northeast of Roosevelt in Uintah County as an alternative to the more than 15,000 acres in the Duchesne River drainage that the Tribe had deferred in 1965. In order to irrigate this development, Reclamation intended to pump water from the Green River; but the plan proved prohibitively expensive.

In recognition that the CUP had not fulfilled its intentions towards the Ute Tribe, the Ute Indian Rights settlement had three main goals: (1) quantify the Tribe’s reserved water rights; (2) allow increased beneficial use of such water; and (3) put the Tribe in the same economic position it would have enjoyed had the features, contemplated by the September 20, 1965 agreement, been constructed.
To achieve this anticipated equity, CUPCA directed the federal government to pay 26 percent of the District’s repayment obligation for M & I water back to the Tribe. Based on the amount of 35,500 acre feet, the act implied that it represented that “portion of the Tribe's water rights that were to be supplied by storage from the Central Utah Project, but will not be supplied because the Upalco and Uintah units are not to be constructed.”

The amount defrayed from the District’s repayment obligation was estimated at $2 million annually, which was not subtracted from the District’s obligation, and which would continue for 50 years. At the conclusion of the 50 year period, the legislation obligated the District to pay the Tribe the market value of seven percent of the 35,500 acre-feet, which it presumed would have been converted from irrigation use to municipal use by 2042. The market value would be based on the latter, rather than on the former. The settlement intended these payments to be used in support of both tribal farming operations and individual tribal farms, and to help reduce tribal operating expenses on the legacy Uintah Indian Project.

From funds authorized for project construction under Title II, the settlement provided for the Bottle Hollow remediation, and the reconstruction of Cedarview Dam and Reservoir. In consideration of having not built the proposed Lower Stillwater Reservoir, the act instructed Reclamation to transfer more than 300 acres of land to the Forest Service for wildlife mitigation, and made provision for the Tribe to develop hunting, fishing and recreational improvements on the reservation. Lastly, the act established from Title II funds, a $125 million Tribal Development Fund to be paid equally during a three-year period and held in trust by the Secretary of Interior. In the event timely payments were not made, the Tribe was entitled to collect interest on the unpaid balance.
Mike Hansen recalled “that there was an interest penalty if the appropriations weren’t made in a timely order,” and that one of his responsibilities included figuring what that penalty would be “for slow appropriations.” Another of Hansen’s related responsibilities were to push the appropriations process through Congress as quickly as possible. “I worked with the budget people in Washington, and we computed how much they were behind.” In 1992, Congress may have assumed that funding would match the legislation’s time frame, which it did not. The Tribe received “a significant amount of additional money because the interest rate…was ten percent,” Hansen recalled, although by the time he retired in 2002, the entire amount had been appropriated. Funds have successively been deposited into the trust account, with the final installment made in 2004.62

Ron Johnston chaired the Federal Implementation Team for Title V, and Mike Hansen worked closely with Johnston and the Tribe to implement its provisions. Wayne Pullan assumed that responsibility after Hansen’s retirement, as Reed Murray likewise became chair of the Implementation Team after his appointment as CUPCA Office Director upon Johnston’s retirement. The CUPCA Office maintained responsibility for approving “how the tribe utilized the funds that were appropriated, …” Mike Hansen stated, which required tribal leaders to propose projects to utilize funds for agricultural development, economic development, [or] funds…for recreation, fish and wildlife development.” The process obliged the CUPCA Office to first review the proposals in order to assure legislative compliance, and then to request the Bureau of Indian Affairs to withdraw the funds for the Tribe. CUPCA stipulated that the Tribe would prepare “a Development Plan…[to] set forth from time to time economic projects…which in the opinion of two independent financial consultants are deemed to be reasonable, prudent and likely to return [an] investment to the Tribe.”63 Early on, the Tribe utilized Tribal Development
Funds for a variety of projects, including a water-bottling plant, a grocery store, and a convenience store. Other funds have been used to establish the farm and feedlot operation and to repair Cedarview dam, as authorized by Congress in the CUPCA legislation. The CUPCA Office arranged for Reclamation engineers and its Force Account Crew to perform the work at Cedarview, where they spent two seasons repairing the dam and reconstructing “the spillway and outlet works.” Reclamation also added a recreational area around the reservoir, consisting of fire-pits, picnic tables and camping facilities.\(^6\)

As Congress passed the Ute Indian Settlement before the State and tribe had accepted the revised water compact, some sections of Title V have been difficult to implement. It “was done backwards,” tribal attorney Jeremy Patterson contended. The “normal manner in which these issues are settled is first you have a compact…[which] is basically a treaty: it is an…agreement between the state, the federal government and the tribe that provides for joint use and administration of the water…”\(^7\)

The Tribe’s former attorney agreed. The “Act still required all the payments to the Tribe under a certain time frame without requiring the approval of the 1992 version of the Compact,” Tod Smith stated. “Typically…the financial package is dependent on the Tribe and the State and the United States all approving the quantification of the tribe’s water rights. So, this one was unique…”\(^8\)

The State Legislature had approved the water compact in 1980 and the Tribe accepted it in 1988. The former Tribal Business Committee chairperson Irene Cuch had understood that this compact would become “part of the water settlement back in 1988 and 1992…” Congress, however, approved a revised compact that contained new provisions, which the State and Tribe needed to renegotiate. In 2009, the tribe held an election in which a majority of voting members
approved the compact; but under tribal policy, turnout was too low for it to be considered a bona fide election. For the last several years, Irene Cuch has been trying to “explain and educate…” tribal members in anticipation of holding another referendum. An affirmative tribal vote, however, will still require the support of the State Legislature, and if significant changes have been made to the earlier compact, a likely reaffirmation by Congress.

Those associated with trying to carry out Title V provisions had also viewed the inverse order of the settlement and compact as problematic. The District and CUPCA Office had both assumed that funds would be contingent on the Tribe’s acceptance of the compact, and that this would constitute the waiver of claims implied by Congress. In 1993, Ron Johnston queried the Interior Department regarding the waiver of claims, and in reply Regional Solicitor Lynn Collins explained that it was not “necessary to obtain a…waiver from the Tribe, …” because the bill had specified that the Tribe would waive its claims under the 1965 Deferral Agreement upon the receipt of funds. “We believe the phrase ‘shall waive, upon receipt’ must mean that Congress has determined that the Tribe does in fact waive its contract claims relating to Deferral Agreement promises…when the…funds are received…”

The Solicitor’s opinion, coupled with other long-held suspicions, provoked the Tribe to initially refuse the funding. Some members of the tribe believed “that if they took that money they were committed to the Compact,” Tod Smith recalled. For a few years, appropriations were placed into the trust account, but tribal leaders refused to spend it, and also refused to appear before the congressional appropriations committee. After being reassured that “acceptance and use of the Title V money did not commit them to the Compact,” the Tribe began to “participate in obtaining the funding and starting the projects that were funded under CUPCA.”
The process of achieving a water compact between the State and the Ute Tribe has now comprised more than two decades. The settlement that Congress intended as a resolution for all the Tribe’s “historical claims” is, in fact, still very much unsettled. Some promises have been fulfilled, Irene Cuch asserted, but many have not. One “of those…is our storage, [which was] somewhat…taken out of the water settlement. But we would like to see that reinserted back in to the settlement, …” While the Tribe may have vacillated as to the location of the Upalco and Uintah replacement dams, it never said “We don’t want the dams,” she emphasized. That was “part of the promises they made.”

Even so, Don Christiansen doubts that the storage projects “will ever be resurrected again because there just isn’t any money. [With] the financial situation the country is in, you can’t get money for agricultural projects. It just isn’t there.”

DIAMOND FORK SYSTEM

If, as the District’s enduring attorney Ed Clyde had often stated, Strawberry Reservoir was the project’s heart, and Utah Lake its hub, then the Diamond Fork System must certainly have been the central artery linking them both together. Completion of Diamond Fork was essential before the District could implement the complex agreements that would govern the exchange of water between Strawberry, Jordanelle, Deer Creek and Utah Lake. Section 209 of CUPCA had, in fact, counseled the District to “apply its best efforts to achieve operating agreements…” within two years of the legislation’s enactment. The District was anxious to get Diamond Fork completed, CUPCA Program Manager Lee Wimmer stated, because it would allow us to deliver water, get it out of the stream and deliver [it] into Utah Lake…” The water
could then “be exchanged up to Jordanelle so that the full deliveries could be made from Jordanelle into Salt Lake County. [That] could not happen until Diamond Fork was able to deliver water inside of a piped system.”

The Diamond Fork System had probably been modified more times than any other Bonneville Unit feature. Initially, Reclamation had envisioned the system as a prime opportunity for developing hydroelectric power. It proposed construction of three power plants to successively generate electricity during the water’s 2,600 foot descent between Strawberry Reservoir and the confluence of Diamond Fork Creek and Spanish Fork River. By 1983, the Diamond Fork System had morphed into a maze of pipelines, pumps and dams. The plan proposed boring the Syar Tunnel through the ridgeline separating Strawberry Reservoir in the Colorado River Basin from the Diamond Fork Creek drainage in the Bonneville Basin. The outlet portal of Syar Tunnel would connect to a penstock terminating at the Syar Power plant. Below this power plant, Reclamation proposed to construct a small regulating reservoir near the confluence of Diamond Fork and Fifth Water Creek. Two penstocks would be charged at the base of Fifth Water Dam, and either allowed to discharge into Monks Hollow Reservoir, below, or pumped back up to Fifth Water Reservoir during periods of low demand. The water would then be re-released to generate higher-value power during peak demand. A final flow-through power plant would be constructed below Monk’s Hollow Dam. In total the Diamond Fork Power System was slated to produce nearly 1,150 megawatts of electricity. Reclamation Area Manager Bruce Barrett had worked on the Diamond Fork Power System early during his career. “The power system went away due to various…reasons,” he divulged; but during the early 1980s, “I was looking at…a large power system, as much as a thousand megawatts, [with an] underground power plant. [But] that didn’t happen.”
Producers of electric power, both federal and private, experienced a significant transformation during the 1970s and 1980s. The proliferation of large coal-fired steam plants, such as the Intermountain Power Project in Millard County, coupled with the deregulation of the industry, substantially increased production and reduced the demand for power generated at Reclamation facilities. Moreover, environmental constraints imposed on hydroelectric projects generally discouraged private industry from availing itself of opportunities to partner with Reclamation to build new facilities. This resulted in Reclamation successively moderating its proposals for hydropower on Diamond Fork. The District had urged Reclamation in 1985 to construct a power plant only large enough to serve the needs of irrigators. By 1989, Reclamation had revised its proposed plans, noting that changes “in market conditions…no longer [made them] practical.” A 1989 supplement to the final environmental statement recommended building only the Last Chance Power Plant at the terminus of the Syar Tunnel and Sixth Water Aqueduct. Any further development would “require non-federal financing.”

This iteration of the Diamond Fork System envisioned Strawberry water entering the Sixth Water Aqueduct from the Syar Tunnel. The Aqueduct comprised more than 4,200 feet of pipeline that descended into a 3,000-foot long tunnel through a vertical shaft nearly 600-feet deep. It entered the Last Chance Power Plant before discharging into Sixth Water Creek. From here, the water would be captured behind Monks Hollow Dam, below the confluence of Sixth Water and Diamond Fork creeks. The Diamond Fork Pipeline would convey water some 7 miles down the canyon to either enter the Wasatch Aqueduct, intended to serve the Irrigation and Drainage System to the south, or discharge into Spanish Fork River for use in the Strawberry Water Users system.
During the early stages of negotiating for CUPCA the District had proposed to “privately” operate a larger power plant on Diamond Fork to help meet its local cost share. Public power officials strenuously opposed the proposal, as did the Strawberry Water Users Association, which as discussed below, planned to build additional power plants below Strawberry Reservoir. After passage of CUPCA, however, the District’s primary concern shifted away from power development and towards solidifying its control of Strawberry water deliveries through project facilities. Indeed, CUPCA stipulated that the operation of power facilities would have to comply with provisions of the 1956 Colorado River Storage Project Act. These provisions specified that beyond paying for construction of facilities the proceeds from federal power could only be used to subsidize irrigation projects. Once the planned for Syar Tunnel was completed, CUPCA also prohibited the use of the old Strawberry Tunnel except under “emergency circumstances,” or to satisfy in-stream flow requirements in Sixth Water Creek.

Reclamation awarded a contract for boring the 5.7-mile long Syar Pressure Tunnel in August 1988. Morrison-Knudsen began construction in September and finished the tunnel in February 1992. The pipeline, shaft and tunnel forming the Sixth Water Aqueduct, along with the control structure that diverted the flow from Syar Tunnel to the aqueduct, commenced concurrently, and were finished by C.R. Frederic, Inc., in October 1994. When the District inherited oversight of the Diamond Fork System, those features that would convey water from the aqueduct to the proposed Monks Hollow Dam and from the dam to the Spanish Fork River were yet to be constructed. These features covered a distance of at least 15 miles down the canyon, comprising a drop in elevation of approximately 2,500 feet.

The first segment the District constructed consisted of 7.5 miles of pipeline extending up from the mouth of Diamond Fork Canyon to below the proposed Monks Hollow Reservoir. The
District awarded the contract to the Canadian firm of PCL Civil Constructors. The Diamond Fork Pipeline was installed concurrent with rebuilding, realigning and surfacing the road up Diamond Fork Canyon, between State Route 6 and Monks Hollow. The pipeline would follow the road and in most cases would be buried underneath. Construction commenced in November 1995 and concluded in May 1998.

The District had initially planned to complete the Diamond Fork system by using Reclamation’s plan, which included the Monk’s Hollow Dam. Opposition to the proposed dam, however, forced the District to reconsider. The UOICC had come out decidedly against the proposition. “The outdoor communities were involved in…Monks Hollow Dam, on the Diamond Forks System.” Darrell Mensel remembered it being quite “controversial, even people within the District who were environmentally conscious, so to speak, thought it was a pretty radical thing to…abandon the dam.” Mensel considers the dam’s eventual abandonment to be one of the UOICC’s central accomplishments. Getting “rid of the Monks Hollow Dam was huge…” If that were the only thing “we ever accomplished,” he declared; I believe it would have been well “worth our time.”

The affiliated Utah Rivers Conservation Council played a decisive role in questioning the dam’s necessity. Reclamation had initially proposed five alternatives for Diamond Fork, four of which included dams and reservoirs “to generate electrical power.” The final “No Power Alternative,” the Rivers Council argued, was the only one that “did not require constructing additional reservoirs…although it proposed the construction of more than 25 miles of pipelines and tunnels.” Reclamation had failed to fully explore this option, and in view of the current de-emphasis on hydro-electric facilities, it was incumbent for the District to now do so.

The UOICC was not alone in its aversion to dams, however. Newly appointed Interior Secretary, Bruce Babbit, “didn’t want any new dams,” either, Lee Wimmer recalled. On a visit
to Washington, D.C., Don Christiansen and he were politely told that although they had an approved record of decision on the environmental assessment for the dam, they \textquotedblright wouldn\textquotesingle t be able to get any money to do it.\textquotedblright On their return trip to Utah, Christiansen and Wimmer reasoned that it might not be profitable to oppose the administration, and \textquotedblright fight the funding battle again…\textquotedblright Whether it resulted from pressure at home from the UOICC, or pressure from Washington, Wimmer and Christiansen understood that they \textquotedblright needed to find another solution.\textquotedblright

In addition to allowing for power generation, Reclamation had planned for Monks Hollow Dam to regulate the flow of water between the upper and lower Diamond Fork Systems. It was not intended for storage, a fact that Lee Wimmer fully appreciated. Deleting Monks Hollow Dam from the plan would save a substantial quantity of water from evaporation; yet the system would be \textquotedblright much easier to operate with [the] dam.\textquotedblright

The District\textquotesingle s original plan included \textquotedblright two tunnels, two pipes, and an in-line flow control station.\textquotedblright However, after engaging with contractor Obayashi/Clyde, the District \textquotedblright made some changes in Diamond Fork,\textquotedblright Wimmer confirmed. The District and the contractor began considering a number of alternatives that would possibly be more cost effective, and more efficient, without sacrificing the quality of the project. Engineers refer to the exercise as \textquotedblright value engineering,\textquotedblright a concept the District routinely employed \textquotedblright on all projects…over five million dollars.\textquotedblright The District bid the plan out as a \textit{design build} project, which involved a team approach between the contractor and the District under a single contract. Rather than splitting design and construction into two separate contract entities, the \textit{design build} option would ostensibly allow for a more unified work flow. Wimmer relied heavily on Reclamation engineer Curt Pledger and Area Manager Bruce Barrett to join with Obayashi/Clyde in redesigning the Diamond Fork.
Rather than staying with the original plan of having twin pipelines, the team proposed that a single pipeline, a 4-mile tunnel, and a 700-foot deep shaft would accomplish the same goal at substantial savings. As Wimmer and other engineers began modeling the design, however, they concluded that the deep connecting shaft and length of pipe would make the system unstable unless water “constantly spilled…to Sixth Water…” Wimmer advised his colleagues that the District “already had a fish flow spill at Monks Hollow,” and they could “merely move half of that fish flow…upstream…” What we proposed doing, Wimmer elaborated, “was [to] drive a single tunnel and then have a deep shaft that would come down at Sixth Water and make the connection [where] the Bureau had left off.”

The plan had an auspicious beginning. However, as Obayashi-Clyde bored the tunnel to within only 3,000 feet of completion, “a flood of sulfur-laden water erupted into the tunnel forcing its evacuation,” Lee Wimmer reported. It’s “that rotten egg gas that you can smell when you get around refineries,” Randy Lingwall explained. Lingwall had relocated to Utah from Los Angeles with Obayashi after the company formed its partnership with W.W. Clyde. He interacted with the District and Reclamation as Obayashi-Clyde’s project engineer. The smell of hydrogen-sulfide gas is unmistakable at low concentrations, he elaborated. However, at higher concentrations “it becomes…a deadly gas [and] you can’t smell it…you end up with lung paralysis… And then when [it gets] up to…250 parts per million, one breath…is…instant death.”

As soon as the machine’s sensors detected the gas its alarms began sounding, and everyone immediately evacuated the tunnel. The incident could have been catastrophic, Lingwall emphasized, but luckily no one was injured. “Everybody hopped on a locomotive and rode out as quickly as [possible].”
Experts pronounced the tunneling machine a total loss. Among other nasty effects of the gas was its attack on copper. It “just eats it up…any copper, any aluminum, bronze…. [It] also hardens bearings.” Lingwall remembered one group of workers coming out of the tunnel with a hand drill, “basically just a hand drill like you have in your garage.” When they “opened it up…, all the copper windings were missing…” The gas had “eaten the copper…” Ultimately, the District just cut its losses. It abandoned a multi-million dollar tunnel boring machine in the mountain, plugged the hole with a concrete bulk-head, and simply “walked away from seven thousand feet of tunnel…” There were a “lot of dollars involved,” Lingwall acknowledged.93

Poetry, someone once remarked, comes from thinking “long and hard’ on a particular subject. Thinking long and hard about the Diamond Fork System had occupied much of Lee Wimmer’s time, and if there is poetry in engineering, the plan B devised by Wimmer and his associates may be one of the foremost examples. Darrell Mensel credits Wimmer with having conceived the “system of pipes and tunnels” that would eventually replace the need for Monks Hollow Dam. He recalled one particular UOICC meeting attended by several District staff members where someone posed the question of whether or not anyone had “really thought about whether there was some other way to do this.” Following the meeting, Wimmer “went out and started thinking…[He] took a stroll up through the Diamond Fork area and started looking at some alternative ways of getting water down from Strawberry Reservoir…”94 Wimmer allowed that he “spent a lot of time up there trying to figure out how to do it without the dam.”95 He would spend additional time trying to reconfigure the system following the failure of the upper tunnel.

“We were down underground with the tunnel where we crossed under Diamond Fork Creek…about 187 feet,” he recalled. One of the District’s original plans had included a higher
elevation tunnel beneath the Tanner Ridge. Wimmer suggested revisiting that idea, boring the tunnel and then dropping the water into the salvaged portion of the lower tunnel, below where crews had encountered the sulfur gas. The problem that confronted the engineers, however, was the nature of falling water. If “you just drop water it wants to cause cavitation,” Wimmer stated, explaining some of the undesirable consequences of the phenomenon that would cause excessive wear and possible failure of the system.96

Wimmer suggested that if the entrance to the drop shaft were designed to create a vortex, then rather than cavitating, the water would spiral along the walls as it descended down the length of the shaft. Wimmer described the process as water flowing over “a weir, down an accelerating chute, and centrifugally spun onto the wall of a 187-feet vertical vortex shaft.” At the base of the shaft an aeration chamber “would still the water so it would flow tranquilly” into the usable portion of the previously constructed Upper Diamond Fork tunnel.97

Mathematical models showed the plan feasible; yet, some members of the design team remained skeptical. The “design engineer, …” Wimmer recalled, actually “refused to sign that particular drawing…” Even the “contractor was…a little nervous…” Finally, Wimmer grabbed his own stamp, imprinted it on the page and signed it. It is the only page bearing his signature.98

Wimmer regards the building of Diamond Fork to be one his greatest challenges. After connecting all the parts, however, the system proved to “work perfectly.” Even with all the engineering and geologic problems encountered, the District still completed the project nearly six months ahead of schedule, testing it in April 2004. The District hosted a dedication attended by Governor Olene Walker, Representative Chris Cannon and Assistant Interior Secretary Bennett Raley in July.
The redesigned system included values over and above that of either “the original Monks Hollow Reservoir plan or the interim Upper Diamond Fork plan.” For instance, although power production had not been a priority, the system retained an option to install facilities, which would actually generate more power than the Last Chance power plant planned by Reclamation. In May 2011, the Interior Department announced plans to encourage “private sector” construction of a power plant to be located at the terminus of the lower Diamond Fork Pipeline in Spanish Fork Canyon. In January 2013, Representative Jason Chaffetz in the House and Senator Orrin Hatch in the Senate, introduced bills allowing private development of facilities. The bill passed the House and Senate and was signed into law on July 18, 2013.99

A similar plan had been used to build a power plant below Jordanelle Dam, where in 1998 the District and Heber Light and Power jointly proposed to enter into a lease agreement with the federal government to develop power. Since the 1990s, the federal government has encouraged the development of non-federal power at federal facilities by accepting proposals from the private sector and evaluating them through a competitive bid process. In 2005, the Interior Department executed the lease to build and operate the plant below Jordanelle to the District, which would sell “the power to customers of Heber Light and Power.”100 The hydropower plant began operation in 2008.101

Earlier in 1996, Interior had accepted a joint proposal from the District and Strawberry Water Users Association to develop power at Diamond Fork. Plans centered on construction of a power plant immediately below Monks Hollow Dam, which at the time was still part of the Diamond Fork System. The Association and the District had a five year window to negotiate the details of the lease arrangement with the Interior Department; but, strained relations between the two precluded them from reaching that deadline.
Strawberry Water Users felt abundantly justified that its status of first-in-time, also entitled it to be first-in-right, and that it should be assured some consideration in continuing to exercise its historic use of Strawberry water. A 1991 agreement between it, the District, and Reclamation had allowed the Association to continue to use releases from Strawberry Reservoir to generate hydroelectric power at two downstream power plants. The Association had managed for profit the original power plant built by Reclamation in 1908, as well as another power plant that the Association had constructed farther down Spanish Fork Canyon in 1941. Power facilities associated with the pending Diamond Fork System, however, complicated the Association’s future plans for power generation, persuading it to pursue legal action. According to District Attorney Steve Clyde, “Strawberry was pushing hard to have some additional hydro-power facilities constructed on the Diamond Fork…Reclamation [said] ‘Fine, if you do that as private developers…you [will] have to pay the up-stream cost of creating the infrastructure that made it possible to deliver that water under head, where you can make power and profit from the revenues…’”102

The Association, however, claimed “a property right to profit from any electrical energy generated with [Strawberry Valley Project] waters.” While it consented to paying its “proportionate share of power generating facilities, …” the Association maintained that it should not be “required to pay any share of the costs of developing upstream facilities for CUP. The Association also urged that the courts compel “the United States and CUWCD [to]…cooperate in good faith with [Strawberry Water Users Association] to develop and implement a reasonable proposal that allows [it] to develop its power rights in the Diamond Fork System consistent with the…1991 Contract…”103
As it moved through the legal system and into the Tenth Circuit Court of Appeals, the protracted litigation proved complicated. The Association’s lawsuit entailed changes in where water from the Strawberry Valley Project might be used and diverted, which would impact the District’s plans to deliver irrigation water into south Utah and Juab counties. Regarding power production on Diamond Fork, however, the appeals court ruled that the lower court’s ruling was consistent with the 1991 contract, which had separated the Association’s prior hydro-electric facilities from that pending on Diamond Fork, and had expressly stipulated that the “allocation of power rights and development of power facilities in Diamond Fork together with the sharing of capital, operation, maintenance, replacement costs, (including the allocated cost of power), will be the subject matter of and governed by a separate contract.”

While it “took a lot of time, and [generated] lots and lots of fees, …” remarked Steve Clyde, the “lawsuit…accomplished very little at the end of the day (for either side).” Conversely, Representative Chaffetz’ bill will remove the requirement that non-federal tenants pay a proportionate share of the cost for upstream development. They would only be responsible for the “cost of building power plants and a lease payment to the United States,” Reed Murray reported. At Diamond Fork, that could save developers $109 million.

The Interior Department has already accepted a joint proposal from the District, the Strawberry Water Users and the South Valley Electric Service District in Payson to build and operate a facility at the Spanish Fork River Flow Control Structure, the terminus of the Diamond Fork System. They have until March 2017 to negotiate a lease. Nevertheless, if that deadline is not met, federal officials anticipate that under the Chaffetz bill “we will have many requests to initiate the process once again at Diamond Fork.” The Diamond Fork site is “at the top of potential hydropower development sites within all of Reclamation's facilities.” Once it is
developed, it will be second only to Flaming Gorge in hydropower production within the State.\textsuperscript{107}

Not only did the redesigned Diamond Fork System maintain the option of producing cleaner hydroelectric power, it also had far fewer environmental consequences than Monks Hollow Reservoir. The reconfigured “system preserved the canyon with minimal disturbances,” engineers asserted. Additionally, incorporation of the two fish spills would preserve minimum flows, while enhancing the fishery in Diamond Fork Creek. The fishery spills also minimized the need to import nearly 800-second feet of summer irrigation flows into the “upper reaches of Diamond Fork Creek.” Lastly, the system’s pipes and tunnels saved nearly 1,000 acre-feet of water that would have been lost to evaporation from Monks Hollow Reservoir.\textsuperscript{108}

Spanish Fork River Commissioner John Mendenhall has seen marked improvement with the new system. Particularly when compared with the old Strawberry system, which used to just flow “through Diamond Fork, … [much] braided stream, that has a lot of oxbows, … we…lost about ten percent of the water.” With the District’s “new pipeline and tunnel system,” Mendenhall observed, “we can now take delivery of the majority of our water at the mouth of Diamond Fork; that has cut our losses in half…” \textsuperscript{109}

The old system that had delivered irrigation water from Strawberry Reservoir had functioned since 1915, and during that time had created its own unique environment. Irrigation demands kept the levels of Sixth Water and Diamond Fork creeks unnaturally high during summer. In most instances, the increased flow had a detrimental effect on the stream channel. It eroded the banks and discouraged riparian plants, such as cottonwood saplings, from taking root. It also negatively impacted fish and the life cycles of other aquatic animals. In one instance,
however, the excessive summer flows actually encouraged the proliferation of the Ute Ladies’-tresses, a rare orchid listed as a threatened species in 1992.

The new Diamond Fork System altered the historic flow patterns in the Diamond Fork drainage by maintaining only minimum flows through the two fishery spills, and through bypass to the old Strawberry Tunnel. In 2005 the Mitigation Commission began a monitoring project to study what effect these changes would have within the Diamond Fork ecosystem and specifically address the needs of the Ute Ladies’-tresses colony. In general, ecologists found some correlation between the number of orchid blooms and changes in the operation of the Diamond Fork System. As might be expected, the diminished flow in Sixth Water and Diamond Fork had caused the riparian zone to dry out, which perhaps impacted the colony’s favorable growing areas. In 2008, however, scientists had yet to form a firm opinion. They recommended that the study continue, in order to develop an appropriate management plan. This plan possibly included adjusting the peak flows to inundate more of the riparian corridor, eradicating invasive and noxious weeds, and excluding grazing animals.

Nature is never static. It reacts and interacts to a variety of changes, both natural and man-made. This makes the process of restoration and mitigation particularly complicated. Sometimes the removal of a seemingly damaging practice, such as the old Strawberry Tunnel which had kept the flows in the Diamond Fork drainage abnormally high, would have unintended consequences. Similarly, as mentioned above, the old Farnsworth Canal in Duchesne County, from which water had seeped for nearly a century, had created a wetland that could not be easily mitigated. A comparable problem had developed under the aforementioned Duchesne Area Canal Rehabilitation Project, which required the Mitigation Commission to acquire more than 1,000 acres of land to mitigate the loss of wetlands resulting from piping and lining the
leaky canals. Attending to such measures was part of the reasoning why Congress had created
the Mitigation Commission. Such activities have not been overly popular in the rural counties,
however. “One of the things I have been…adamantly opposed to was the Myton wetlands
project that they are building…” former District Board member Kent Peatross remarked. They
“buy land and they take it off the tax rolls of the county and it becomes federally owned, whether
it be just wildlife habitat or whether it be restored into wetland or something like that, it still goes
into federal ownership.”\textsuperscript{112}

Congress expected the Commission “to focus on four key factors.” Included were
developing partnerships, encouraging public involvement, advancing the “best available
scientific knowledge,” and employing “an ecosystem approach.”\textsuperscript{113} Mike Weland deliberately
shaped the CUPCA legislation addressing the Commission to be different from what the “Bureau
of Reclamation…had…done in the past…” The legislation is based on an “ecosystem restoration
standard,” he elaborated. It recognizes “the scientific, interconnectedness of water, and soils,
and plants…” The approach endeavors to create functioning ecosystems. “If you can get a river
to start moving, and taking care of itself, … moving soils, creating new sand bars, letting trees
grow, [then] that’s much easier than trying to go in every twenty years…to plant [new] trees
because the other ones died.”\textsuperscript{114}

One area of immediate concern for the Commission was trying to restore the Provo
River. Historically, the river supported “a diversity of wildlife species;” but since settlement, the
entire 75 mile length of the river “had been significantly altered…[to serve] as a transportation
channel for municipal, irrigation and industrial water and flood waters.” The Commission
asserted, \textbf{Delete that} “any resemblance to a natural riverine system remains only in a few short
sections of the stream”\textsuperscript{115}
The Provo River arises in the vicinity of Washington Lake, high in the Uinta Mountains. At least a dozen additional lakes are located near the Provo River’s headwaters. Provo River water-users had developed these lakes into reservoirs beginning during the early Twentieth Century. By far the most determined developer of this high mountain resource was Joseph R. Murdock. His Provo Reservoir Canal Company would join forces with the Sego Lily, Wasatch, and Timpanogos irrigation companies to construct reservoirs at 12 mountain lake locations, between 1914 and 1934. Among these, were Washington and Trial lakes, the two largest impoundments, which dams are distinguished by having poured-in-place concrete cores; and Wall Lake, the third largest, the highest in elevation, and at 115 feet, also the deepest. Others that the companies converted to reservoirs included Teapot, Lost, Crystal, Star, Pot, Weir and Fire lakes. The latter two dams are unique in that they were constructed of rubble masonry, rather than the usual compacted earth-fill that distinguished most of the other dams. On its own initiative, the Timpanogos Irrigation Company built two additional, smaller impoundments at Marjorie Lake and Duck Lake.  

“The construction of these dams signaled a remarkable accomplishment,” wrote historical fieldworkers in 1983, not only for Joseph Murdock, whose name is still attached to the canal flowing north from the mouth of Provo Canyon to the Point of the Mountain, but for all the hardy pioneers who participated. It is a “part of our history,” acknowledged Daryl Devey, who has spent much of his career with the District in the environs of Provo Canyon. “It’s important for me [to] look back and…see the foresight of those early pioneers and what they
went through to go build a dam with a horse, and a Fresno, and a wagon.” Devey hopes history will reveal a progression from what the pioneers accomplished to what the District has endeavored to continue, and that “we’ve carried on the legacy.”

The stabilization project had been part of Reclamation’s original plan for the Bonneville Unit in 1964. The Forest Service had been agitating for the project since at least 1967. In 1979, Reclamation proposed the measure as a means of mitigating “lost fish habitat and recreational opportunities due to the construction and filling of Jordanelle Reservoir.” CUPCA would mandate stabilization, and in 1994 the District began work at Star Lake as a pilot project to study and investigate the best method to breach the old dams. Following this study, the Forest Service and Army Corps elected to remove or plug the outlet works, and breach the dams at an elevation that for ascetic reasons would maintain the lakes at an intermediate level.

Given their age and remarkable history, all of the high mountain reservoirs were candidates for the National Register of Historic Places. Before breaching the masonry dams at Weir and Fire lakes, for instance, crews poured a skirt of concrete against the lake side of the dams for structural reinforcement. For appearances, they concealed these beneath a layer of native rock. The outlets for the dams were left intact, but inoperative, and spillways and other workings were reconstructed to meet Utah engineering standards.

To provide for downstream water rights and minimum stream flows above Jordanelle, it would be necessary for the dams at Trial Lake, Washington Lake and Lost Lake to remain in service. The dams posed a significant safety hazard, however; and the dam at Trial Lake had actually failed during the late 1980s. The Forest Service “told the water users that they had to either fix it or they were going to lose the opportunity to [use] it,” Daryl Devey stated. Moreover, during the 1950s Crystal Lake Dam had overtopped and washed out, causing
extensive damage to National Forest Lands. A similar incident had been averted following heavy spring runoff during the early 1980s when the State purposely breached Long Lake Dam with explosives. The subsequent failure on Trial Lake required the complete reconstruction of the dam in 1991, which resulted in the removal of all “evidence of the original water storage and distribution [systems].” Projects to rebuild the dams at Washington and Lost lakes followed in 1994 and 1996, respectively.

Much as had their counterparts in the Uinta Basin, water users on the Provo River found maintenance of these high mountain reservoirs difficult. For many years Cardie Clegg operated and maintained the dams. He had to travel in on horseback during the summer and on snowshoes during the winter. He “spent a lot of his life up there, because when you make that trip you don’t just turn around and come back – not when you snowshoe in…I’ve seen [pictures] of him standing…with a shovel and throwing snow out the bank to cut a swath so that water could start down through the spillway to save those dams,” revealed Daryl Devey. The passing of Clegg and others like him, similar to the replacement or dismantling of these old mountain dams, hastened an end to the era of pioneer water resource management.

While some mourned the passing of this era, and lamented the necessity of taking the old dams out of service, most of the opposition to environmental work on the Provo River drainage centered not at its headwaters, but farther downstream as it traversed the Heber Valley and continued on to Utah Lake. The District and its partners had become accustomed to adversity, however. It would be difficult to identify a single feature of the CUP during its 50 year history that had not drawn some criticism. The District responded to its environmental critics by making significant concessions during the negotiations leading to CUPCA, and managed to reverse much of the hostility of previous decades. Some landowners and water users viewed these overtures
towards the environmental community as excessive. The “other water users thought we’d kind of lost our spine and were just rolling over and playing dead,” Gene Shawcroft observed. There “are some today that still do.”

“When the Central Utah Project came in,” Strawberry Water Users Association attorney Shawn Draney declared, “their attitude was very, very good. Ed Clyde was a real champion…and so was the first general manager... The Strawberry Water Users Association was a big fan of the CUP. [This] was the mechanism to get more water, and so they wanted to see the CUP survive, and thrive, and do well…” Conflict developed when a “new regime [came] in, [during] the early ‘90s, [a] new regime in terms of Central Utah Water Conservancy District, and folks from the Department of Interior; and this really interesting notion that the District would finish the CUP, not Reclamation.” Draney perceived this “new regime” as being far different from the previous administration.

Gene Shawcroft noted that the District had reached a point in its history where the environment had to be a prime consideration, “where we finally...[realized that] this is what we [had] to live with…” There “were no relationships...sitting in the wings waiting to just happen. [The] environmental community was adamantly opposed to any additional funding for the Central Utah Project, … [and] the only hope of [moving] funding forward...[was]...to be inclusive. It would have to satisfy everyone… And we’ve learned that it is much better to find out what someone’s concerns are and try and work with them than tell them to take a hike and then fight them the rest of the way.”

Shawcroft does not see the District as being that much different from other water users. “If we had our choice [perhaps] we’d rather do something differently. We’d rather focus just on operating, maintaining and completing the project.” However, in the current world we “can’t
ignore a broad approach [in] a project of this size.” There were times, Shawcroft continued, when he and other District staff members would “sit in meetings and strategize how we were going to deal with the Fish and Wildlife Service.” He recalled one Fish and Wildlife Service “biologist calling a federal marshal in and telling us if Jordanelle…didn’t operate in such a way that it satisfied exactly what he thought the June Sucker needed his marshal with the sidearm was going to take somebody to jail.”

PROVO RIVER RESTORATION PROJECT (PROVO RIVER DELTA)

The June Sucker is endemic to Utah Lake. In 1986, the U.S. Fish and Wildlife Service listed the fish as an endangered species under the Endangered Species Act (ESA). Passed by Congress and signed into law by President Nixon in 1973, the ESA has been widely celebrated by environmental advocates as the most far reaching conservation measure ever enacted. Property rights activities often condemned the ESA for the very same reasons. With this act, Congress directed the Secretary of Interior (or the Secretary of Commerce in cases involving salt water species) to identify plants and animals that were either threatened, or endangered. By listing the June Sucker as endangered, the Fish and Wildlife Service signaled that without mediation the species was in imminent peril of extinction. The ESA also provided the secretary with broad latitude to safeguard species such as the June Sucker, including the designation of critical habitat and its protection on both public and private lands.

As it required federal agencies to abide by its provisions, the ESA would have a significant impact on the CUP. Both Reclamation before 1992 and the District afterwards were obliged to work closely with the Fish and Wildlife Service to provide for the June Sucker’s
survival. Congress had even felt compelled to reiterate compliance with the ESA, as well as other federal environmental laws, in Title VI, the final, single paragraph that comprises CUPCA. The federal listing was not arbitrary or indiscriminate, but followed the precepts of the law, which demanded that decisions be based on the best possible science. Throughout its documented history, but particularly since the 1930s drought, populations of June Sucker had been declining. Beginning in 1950, gill net samples collected by State Wildlife Resources staff revealed a shrinking number of suckers in Utah Lake. June Suckers comprised less than .03 percent of the more than 34,000 adult fish captured during an intensive survey in 1979. At the time of listing, biologists estimated the number of adult June Suckers in Utah Lake at only 1,000.133

That number had declined by half by 1998, which prompted state and federal agencies, including the District and the Mitigation Commission, to cooperate and establish the June Sucker Recovery Implementation Program in 2002.134 The Recovery Program team introduced June suckers into Red Butte Reservoir at the mouth of Red Butte Canyon, where they have successfully reproduced and survived to adulthood. Moreover, CUPCA had included provisions to develop fish hatcheries to enhance both cold and warm water fisheries throughout the Colorado River Storage Project area.135 Following these provisions, the Mitigation Commission, in cooperation with the State Division of Wildlife Resources established a hatchery at Springville, Utah, specifically for the rearing of June sucker and other warm water species of fish and amphibians.136 While the hatchery program and incubation at Red Butte have proved the species’ adaptability, efforts to demonstrate the June sucker’s ability to hatch and mature in Utah Lake are still ongoing.137
Biologists had advanced several reasons for the suckers’ near demise in Utah Lake, including commercial fishing pressure and predation by non-native fish, such as walleye and white bass. The introduction of carp during the late nineteenth century also had a remarkable impact on the lake’s ecosystem. These bottom-feeders removed the lake’s indigenous vegetation, clouded its waters, and complicated efforts to restore an appropriate habitat for indigenous species such as the June sucker. Efforts to remove this resilient fish from Utah Lake are ongoing.

Corresponding to problems associated with non-native fish, the greatest threat to the June Sucker had come from the loss of critical habitat, following years of stream alteration, dewatering and channelization of the Lower Provo River. Biologists postulated that changes to the historic river channel made it difficult for June Sucker larvae to survive. Whereas the previous delta had likely afforded the young suckers a “shallow, warm, complex wetland habitat, …” the present “slack-water interface” between the lake and river contained little vegetative cover, exposing the brood to either starvation or predation.138

Restoration of habitat would require significant changes to the lower Provo River. The Recovery Program team proposed to reconstruct the Provo River Delta to more accurately represent its historic characteristics. The team conjectured that prior to settlement and subsequent development for irrigation, the Provo River Delta had likely consisted of several “slow meandering channels…[which] provided a range of diverse habitats…” The tree-lined banks would have also produced “warmer, slow water pools and marsh habitats suitable for enhanced larval development while also providing a refuge from predation…”139

One idea advanced by the June Sucker Recovery team was to abandon the present channelized streambed and move its entry into the lake to the north. Here, a new delta would be
constructed that would re-enact biologists’ conception of the historic interface. Many were reluctant to accept such drastic changes on the lower Provo. Local residents had become accustomed to the way the river entered Utah Lake. Many had grown up with the river, and certainly no one still living remembered it looking any other way. Others had established businesses that were dependent on maintaining the status quo in order to continue operations. Ranchers, as well, relied on the channelized stream and dikes to protect against flooding adjacent pasture lands. Projects that impact private property are “not very popular in the state,” noted Mark Holden, who represented the Mitigation Commission at public meetings; “particularly if the project is for environmental purposes.”

The June Sucker Recovery Team had already enjoyed some success in 2008 by restoring the delta where Hobble Creek entered the lake. The project moved the channel of Hobble Creek onto a purchased 21-acre parcel where a reconfigured channel was constructed to provide better habitat. Even here, however, while adult suckers readily utilized the Hobble Creek Delta as a spawning ground, few juveniles survived to adulthood. While other public benefits clearly accrued from the restoration at Hobble Creek, such as a greater diversity of wildlife and additional recreational opportunities, the project still did not demonstrate that June suckers could successfully survive in Utah Lake. Doing so would be paramount, not only for the continued existence of the species, but also for the continuation of the Central Utah Project. Unless conditions could be recreated that would enable June suckers to successfully reproduce and survive in a wild state within Utah Lake, completion of the CUP could be postponed.
Another severely impacted area of the Provo River was the middle reach between Jordanelle and Deer Creek reservoirs. While restoration of the section did not involve endangered species such as the June Sucker, other troubling issues existed. “The water supply for Deer Creek Reservoir,” Mark Holden explained, “comes from either the Weber or the Duchesne river systems.” These diversions “into the Provo River…did cause a fair amount of flooding…up stream of Deer Creek. The solution at that time was to channelize the river, …dredge it [and] put dykes along it. There was a lot of environmental damage, …” Holden recalled, adding that one of the reasons “I came to work for the Commission when…asked was the opportunity to do the Provo River Restoration Project.”

Holden had actually helped plan the project while still working for the State Division of Wildlife Resources. Before passage of CUPCA the District took the initiative to form “some planning teams to look at implementing some of [its] provisions…” One of the potential projects “was the idea of doing environmental mitigation on the Provo River…” Planning commenced in 1991, and “really got rolling…when CUPCA was passed.” The completion of Jordanelle Dam provided some opportunity “to re-think how we manage that middle Provo River,” Holden explained. The “plan was to remove the dykes…along the edge of the river channel, acquire property on either side from the private landowners, set those dykes back to the margins of the property, and re-meander, or recreate the pattern and function of the river system in between…” Riparian vegetation would be restored, and grazing and agricultural cropping eliminated.

The construction of Jordanelle, and more so the 1938 Provo River Project that included Deer Creek Dam and the importation of water from the Weber and Duchesne rivers, made historic restoration impossible. This, researchers acknowledged, was one of the “biggest challenges faced in the restoration design of the middle Provo River. The dams at Jordanelle and
Deer Creek, along with “imported water, … placed artificial demands and controls on the middle Provo River…” Therefore, in keeping with the Mitigation Commission’s ecosystem approach, the design “focused on the goal of reestablishing the important physical and biological processes that would sustain the ecosystem under this new hydrologic regime.”

In 1993, consultants had acknowledged the difficulty of restoring the Provo River unless excessive flows could be managed. Summer flows could approach a level more than three times higher than the minimum flow of 125-second feet mandated by CUPCA. The consultants suggested the problem could be remedied by a combination of practices, including re-routing excessive flows into sections of the river “that are presently dewatered,” and diverting high summer flows into wetlands. These procedures would improve or restore wetlands, while also enhance fishery resources. Lastly, the consultants anticipated that a cooperative operations agreement between stakeholders on the Provo River between Jordanelle and Deer Creek would establish releases “from Jordanelle…on a more even-flow basis.” CUPCA had directed the District to “study and develop a plan to mitigate the effects of peak season flows in the Provo River.” In November 1994, the District, Reclamation and the Provo River Water Users Association signed an operating agreement; but while the agreement stipulated the District’s obligation to maintain minimum stream flows, it did not address excessive stream flows.

Restoration of the middle Provo River began with a pilot program on public land in 1999, approximately 1.5 miles downstream of Jordanelle, between Cottonwood Canyon Bridge and Highway 40. The Mitigation Commission developed a plan for restoring the river to its historic landscape following extensive reconnaissance and examination of aerial photographs taken prior to 1938, the year the Provo River Project commenced. Under its oversight, crews from Reclamation and State Division of Wildlife Resources began removing the channel dikes.
addition, they also created new meanders and side channels, and planted more than 25,000 native
trees and shrubs.

As private property was acquired during the next seven years the project moved into
other reaches of the middle Provo River. A major part of the project involved providing public
access to the river for fishermen and other recreationalists. New trails, walking paths and the
removal and reconstruction of bridges, along with other amenities, such as restrooms, were
added. The project concluded with the final section below Jordanelle Dam being completed in
2007. The Commission has continued to monitor the middle Provo River, and made changes to
its management plan where needed to assure the health of the ecosystem.149

Another key component of the Provo River Restoration Project focused on the removal or
rebuilding of structures used to divert irrigation water from the river. To better conform to the
natural slope of the river channel, 10 structures were removed and reconstructed, four of which
were moved to other points on the river, and re-engineered to enable upstream fish migration.150
The Valeo, Wasatch Canal, and Island Ditch diversions, specifically, “dewatered several miles of
stream during summer and winter months.”151 At least a dozen irrigation companies diverted
water from the Provo River, its springs and tributaries in Heber Valley. Of particular
significance were the Timpanogos Canal and the Wasatch Canal, which traversed the valley from
north to south and supplied irrigation water to more than 4,000 acres. A study authorized by
CUPCA and commissioned by the District suggested that one or both of these canals could be
used to convey water for a pressurized sprinkler irrigation system that would significantly
improve irrigation efficiencies in Heber Valley.152
Elected in 1991, Representative Bill Orton had insisted on adding the Wasatch County Water Efficiency Project to CUPCA to benefit his constituents. Orton touted the project as a way to “implement a Wasatch County irrigation system and…set up procedures for water conservation.”

The project would also serve as a vehicle to allow the District to exchange water from Jordanelle for Strawberry River Water that the Daniels Irrigation Company had historically conveyed through its trans-basin diversion. Shareholders in the Daniels Company began constructing this diversion in 1879, which in 1916 the USGS described as five “small ditches [that] divert water from the headwaters of Strawberry River over Daniels Pass into the basin of Daniels Creek.” This diversion captured the flows of Strawberry River tributaries such as those at Hobble Creek, Murdock Hollow, and Point of Pine Canyon. The company also gathered the headwater flows of Willow Creek and Strawberry River, and conveyed them through a siphon back under the Strawberry River channel to a tunnel that transported the water through the ridge 320 feet to McGuire Canyon and then to Daniels Creek.

Fisheries experts and wildlife advocates had persistently expressed concern over the lack of water in the Strawberry River. Reclamation had recognized the need to increase stream flows by proposing the Bjorkman Hollow Dam on the upper Strawberry River drainage. It seemed incongruous to many, however, to build another dam for the purpose of mitigating damage that had initially been caused by the construction of dams and diversions. CUPCA, in fact, had specifically de-authorized funding for the Bjorkman Hollow Dam, even as it insisted that stream flows in the upper Strawberry River be increased.
In cooperation with the Daniels Irrigation Company, and the Mitigation Commission, the District assumed responsibility for constructing the pipeline and pumps that would replace the irrigation company’s historic Strawberry River diversions, as well as for the elimination of the old trans-basin diversion structures and ditches. The District merged the Daniels Replacement Project with the Wasatch County Water Efficiency Project, and in cooperation with the Wasatch County Special Service Area No. 1, the local organization created to manage the Water Efficiency Project, it began the process of preparing NEPA documentation, encouraging public involvement and designing the project.

The preferred plan involved two diversions from the Provo River, one into the Timpanogos Canal and one into the Wasatch Canal. As these would form the main delivery system into Heber Valley, at least 16 miles of the canals were rehabilitated using either clay or concrete lining. Seven pumping stations would be installed and several regulating ponds constructed to provide pressure and deliver irrigation water to nearly 10,000 acres of farm ground being converted from flood to sprinkler irrigation. The project included the installation of more than 50 miles of distribution line to provide service to more than 400 different parcels of farm ground.156 Investigators estimated that conversion to sprinkler irrigation would increase efficiency by as much as 50 percent, saving thousands of acre-feet of water. The saved water could be used to supplement several Heber Valley streams that had historically been de-watered during the summer, as well as to maintain wetlands that might be adversely affected by the more efficient use of sprinklers.157

The conserved water would also be used to provide the replacement water from Jordanelle Reservoir for the Daniels Irrigation Company. Water released from Jordanelle for the
Daniels Company would be diverted through the Timpanogos Canal and flow to a regulating pond at the canal’s southern terminus. The water would be piped from the regulating pond and then either be pumped or flow to one of three pre-existing ponds belonging to the irrigation company. As the Daniels Irrigation Company had previously converted to sprinkler irrigation, the project delivered “water right to their sprinkler system.” It has been an enormous success in Wasatch County, Claude Hicken proclaimed. The irrigation company no longer has to maintain miles of creek channel or the “diversions out in Strawberry, …” and importantly, the company has “no increased cost in operation…” Both it, and the related Wasatch County Water Efficiency Project, turned out largely “the way we planned…” he confirmed, and people support this project because “they’re watering their crops a lot easier, and…the water is going farther.”

IRRIGATION AND DRAINAGE SYSTEM

Although Hicken expressed intense satisfaction with the irrigation component in Heber Valley, the “lush alfalfa growing, and the fields of grain, and cattle in the pastures,” much of the Bonneville Unit irrigation and drainage system as initially conceived would never materialize. Reclamation’s enduring mission had always been to build projects for the irrigation of small family farms. For much of its history, Reclamation considered the development of municipal and industrial water, or the generation of hydropower, mostly as a means of balancing the costs and benefits of developing irrigation water. Accordingly, the 1964 definite plan for the Bonneville Unit had proposed to deliver nearly double the water for agriculture as it did for municipalities and industries. Between then and CUPCA’s passage in 1992 significant changes had taken place in planning for the Bonneville Unit. The Wasatch Front would experience
substantial and sustained growth, so that by the late 1980s Salt Lake County was forecasting acute water shortages without an infusion of additional CUP water. Furthermore, the agreement to maintain minimum flows in a number of crucial drainages in the Uinta and Bonneville basins would impact the amount of water available for project uses. Irrigation projects would be the first features affected by this shrinking water supply.

By 1988, Reclamation had eliminated a dozen or more irrigation features from its original plan. Among these was the pumping plant and canal planned for drought insurance at Pelican Point on the northwest shore of Utah Lake. It would have allowed access to the last remaining three feet of Utah Lake storage. Reclamation also eliminated other plans to alter Utah Lake for irrigation purposes. Dikes had been planned at Provo and Goshen bays to constrict and deepen the lake and minimize evaporation losses. A State review team had questioned the wisdom of these efforts in 1985, noting how the amount of water which could actually be saved was ill-defined, and that the likelihood of impacting the lake’s fishery, particularly the threatened June Sucker, would require involvement of the federal Fish and Wildlife Service. The State recommended removing the dikes from the plan; Reclamation complied. The elimination of the Utah Lake dikes, required termination of other dependent features, such as the reclaiming of nearly 7,000 acres from the dry lakebed through installation of a system of pumps, canals and drains. CUPCA had explicitly de-authorized many of these features, including the diking of Goshen and Provo bays, the draining of wetlands at the Benjamin Slough, and the extensive array of pumps and canals intended to irrigate new and supplemental lands in the Mosida area along the lake’s southwestern shore.

In March 1992, the District and State Division of Water Resources re-conceptualized the plan for bringing water from Diamond Fork to southern Utah County, the Mona-Nephi area of
Juab County and into the Sevier River Basin. The plan envisioned a conveyance system consisting of tunnels and a pipeline extending from Monks Hollow Dam on Diamond Fork Creek (which at the time was still included in the design for the Diamond Fork System) to the Sevier Bridge Reservoir in the southwestern corner of Juab County. The District estimated that 38,200 acre-feet of water per year would be available from Strawberry Reservoir. Much as Reclamation had suggested in its planning for the Sevier River Basin, the District also submitted that water stored at Sevier River Bridge could be exchanged with upstream irrigators, allowing these to store additional water in Piute Reservoir and in the proposed Hatchtown Reservoir in Garfield County.  

The Hatchtown Dam had a long, but inglorious history. Between 1898 and 1914, the dam at Flake Meadow at the confluence of Mammoth and Assay creeks on the upper Sevier River had been constructed, washed out and re-constructed three times. Its repeated failure had persuaded the settlers of Hatchtown to pull up stakes and move their houses and outbuildings to higher ground, referring to their new community by the shortened name Hatch. The State had expended more than $80,000 to have the dam professionally built in 1903, only to discover that the gates in the outlet works would not open under pressure from the impounded water. The State dynamited the outlet works to save the dam from over-topping. Although repairs were made that enabled use of the dam for another decade, the explosion may have weakened the structure, and it failed on May 25, 1914. While no one lost their life in the flood, it destroyed the diversion structure and canal system below, and inundated thousands of acres of farm ground, much of which was never reclaimed. The Hatchtown flood is still memorable in the communities along the upper Sevier River, and at the time it was the “biggest dam break by far in the history of Utah...”
Hope that the Hatchtown Dam could be rebuilt again with Reclamation expertise had helped spur Piute and Garfield counties’ participation in the District in 1967. In 1985, the District had resolved to continue its support of the Hatchtown Dam project, and hope remained alive as the project survived congressional scrutiny during the CUPCA process. Having Wayne Owens, a native of Garfield County, as CUPCA champion may explain in part Hatchtown’s survival.

Reclamation’s initial estimate in 1967 that at least 36,000 acre-feet of water would be available for the Sevier River Basin was repeated in the District’s revised 1992 plan, and substantiated by researchers at Utah State University. Nevertheless, as the Sevier River Commission began testing the model, it developed real misgivings about the project’s benefits. There was “still this big ground swell from the sixties,” affirmed attorney and Millard County resident Warren Peterson, that we needed “to be part of this…participate in the I and D project.” But, long-time Sevier River commissioner Roger Walker cautioned irrigators to step back and “look at the numbers.” Walker and his wife, Erma, “would spend their evenings…running calculations on how the river would perform, [and] compare that to the plans that were being presented from the [Bureau] or from Central Utah…” Walker was “convinced they just didn’t have it right.” The District projected delivery of the full 36,000 acre feet, but Walker would run his calculations and say, ‘Look, the most you’re going to get [is]…6,000 acre feet.’

The lack of project water raised serious concerns regarding the feasibility of the Irrigation and Drainage System (I & D). Even though the District expended millions of dollars to study, plan and design the system that would deliver water to the southern counties, some have conjectured that after passage of CUPCA the District never intended to build the agricultural features associated with the Bonneville Unit. As architect of the legislation Wayne Owens had
insisted that the I & D System be retained within the bill. It would be subject to the five year “sunset” clause, however, and Owens had also insisted that for counties that did not received the expected CUP benefits, CUPCA provide them with the means to withdraw from the District. These counties could receive a tax rebate, less administrative costs incurred by the District, and any benefits the counties may have received up to that time. The counties would also become eligible for a federal grant to develop drinking water, sewage treatment facilities, or to help manage irrigation water.\textsuperscript{172}

LOCAL DEVELOPMENT OPTION

Disenchanted with prospects of the I & D System, Millard County proposed in January 1989 to withhold taxes until the District provided assurance that CUP water would be delivered, and that deliveries would not conflict with the long-standing Cox Decree, the 1936 District Court case adjudicating water rights on the Sevier River.\textsuperscript{173} Millard County officials informed the District that the large Intermountain Power Project (IPP) had already protested its property taxes, and placed the funds in an escrow account pending resolution of county issues. Millard County’s share of District taxes was expected to rise from $165,000 a year to nearly $1 million with the inclusion of the IPP.\textsuperscript{174}

At the time, the coal-fired power plant located north of Delta was the largest of its type in the U.S. The move to Millard County required extensive negotiation and agreement between the State, county and water users that would provide the usual tax incentives, as well as the water necessary to operate the facility. IPP acquired nearly 20 percent of each irrigation company on the lower Sevier with many farmers receiving more than fifteen “times the market value of the
The power plant brought a substantial “economic boost to the area,” Warren Peterson confirmed. It enabled a lot of people to stay in Delta who likely would not have found employment in the county’s primarily agricultural economy. That, as well, motivated farmers to sell their water.

The District, and more so Reclamation, had balked when farmers sold their water to IPP, particularly as the potential existed that these same farmers might be in line to receive CUP water. The prospect positively incensed environmental advocates. As if spending $4,000 an acre to develop water for land valued at only $1,500 an acre and delivering that water to farmers for as little $1.96 an acre foot were not bad enough, now, they asserted, farmers who had “sold their original water rights to the Intermountain Power Project at high prices…want CUP I and D System water at subsidized rates….” Nevertheless, the District resolved in January 1989 to continue its support of the “the Irrigation and Drainage system and construction of facilities to deliver water to Juab County and the Sevier River counties…” Not until 1993, did the Millard County Commission vote to release the sequestered tax revenue; but within six months, the county’s electorate voted overwhelmingly to leave the District. Concurrent with Millard County’s referendum, Sevier County voters also elected to leave the District.

As the counties negotiated terms with the District during the following year, the District proposed a number of alternatives that would maintain some affiliation between the Sevier River Basin counties and the District. Millard and Sevier, however, continued to push for a complete separation. The durable Thorpe Waddingham, who had been involved with Millard County’s inclusion within the District in 1967, and who had represented the legal interests of water users on the lower Sevier River for more than two decades, now took the lead in negotiating the terms of Millard County’s exclusion. On Waddingham’s advice, the county also retained former
Congressman Wayne Owens to help in the deliberations. Owens declared that exclusion of the Sevier River Basin counties could save $230 million, “making the project more palatable to the U.S. Congress and freeing up more water for the populous Wasatch Front.”181 Owens and Waddingham had an enduring friendship, and it is likely that the two of them had consulted on CUPCA’s rebate and local development option provision while Owens was still pushing the legislation through Congress.182

Board member Gerald Maloney chaired the District’s ad hoc committee, which in June 1994 finalized an agreement with Millard County.183 Encouraged by Utah Senators Bob Bennett and Orrin Hatch to avoid costly litigation, the District abandoned its request that Millard County pay nearly $10 million to cover previous administrative costs. The county reciprocated by slashing its rebate demand by more than $6 million. The District agreed to refund the county’s estimated $1.2 million 1994 tax assessment, and wipe the “past financial slate…clean.”184

Deliberations with Sevier County persisted throughout the summer and into the next year. The county rejected an offer by the District to refund its 1994 tax assessment, which without contributions from the likes of Intermountain Power was minimal compared to Millard County. The county claimed to have paid more than $3 million into District coffers during its 25-year history. The county acknowledged it had received possibly $1 million in benefits, leaving $2.3 million unaccounted for. When the District rejected the county’s settlement offer of $800,000 plus interest, the county filed suit in Utah’s Fourth District Court. In February 1995, the court heard arguments, and in April issued a decision awarding the county $530,000.185

The exclusion of Millard and Sevier posed problems for the remaining counties along the upper Sevier River. The exchanges that would provide additional water to the upper basin counties could only be achieved by storing CUP water in the lower basin at Sevier Bridge
Reservoir. Otherwise, projects such as the Hatchtown Dam threatened to unravel the intricate pattern of Sevier River water rights, stipulated by the Cox Decree. The District proposed that rather than completely severing ties, the five counties should still remain with the District and simply choose not to participate in the CUP. The District would provide funding for local infrastructure to improve irrigation efficiencies, and in the case of Piute and Garfield counties, continue to explore ways to build the Hatchtown Dam.\(^{186}\) We “can still do some things for the counties down there that want to stay in the district,” Don Christiansen affirmed.\(^{187}\) Under these terms, Garfield, Sanpete and Piute counties decided to remain in the District.

The Hatchtown Dam remained a viable project at least through 1999, when a CUPCA amendment authorized the Interior Secretary to use “unexpended” funds for the “engineering, design, and construction of Hatchtown Dam in Garfield County…”\(^{188}\) In 1994 as Millard County planned its withdrawal from the District, Tom Hatch, who represented the upper Basin counties on the District Board, strenuously objected to settlement. Tom Hatch’s roots run deep in Garfield County. His great grandfather had been one of those who pulled up stakes after the first Hatchtown Dam failed, moved to higher ground and founded the community of Hatch. Tom believed the dam would not only benefit the irrigation company, but would also enhance the tourist industry. The dam, Hatch contended, “is looked at as much as a recreation site that would boost our economy as it is an irrigation facility.”\(^{189}\)

Regardless of Garfield County’s need for irrigation water and economic development, water users in the lower basin did not view the impoundment favorably. Just as farmers in Millard and Sevier counties had expressed concern that the importation of CUP water might “color all the other water with the same [federal] regulations, …” water users now worried that construction of Hatchtown Dam with federal funds might force compliance with NEPA, the
Endangered Species Act, all “the constraints that come from federal water [development]…no one could stand for that.”

Furthermore, Hatchtown Dam did not exist when Judge LeRoy Cox issued his decree in 1936, and as water users in the lower basin based their rights primarily on return flows, any attempt to alter the river’s operations would likely trigger “formal protests…” Contending that only upper-river users were in a position to steal water, Thorpe Waddingham vowed, “to challenge and kill any perceivable threat to their water.” In 2002, Congress expunged the Interior Secretary’s authority to use unexpended funds for the Hatchtown Dam

Even as hopes faded for the reservoir the District endeavored to provide benefits to the remaining counties by making local development grants widely available. CUPCA allowed for federal grants to these counties based upon the amount of taxes they had contributed to the District. Counties prepared feasibility studies, which were then reviewed by the CUPCA Office, and scrutinized by the District for NEPA compliance. As might be expected, these rural counties proposed projects which would mostly benefit agriculture, such as lining and piping canals, and converting from flood to sprinkler irrigation. To date, more than 20 projects have been completed in Sanpete County. The county has usually required matching funds from project applicants, which has enabled them to stretch the combined funding, and accomplish an even greater number of projects. These projects have been overwhelmingly successful, and in Sanpete County, once farmers realized that conservation practices could increase the water supply “they were totally in favor of it.”

While similar projects have been undertaken in Piute and Garfield counties, the perceived benefits to be derived from their continued affiliation with the District gradually declined, and in September 2013, both counties requested to withdraw from the District. Compared to Sevier and...
Millard counties’ separation of 20 years earlier, the withdrawal of Piute and Garfield proceeded with much less rancor. On October 23, 2013, the District Board adopted resolutions supporting the withdrawal of both counties under a negotiated settlement, and on November 18, Lieutenant Governor Spencer Cox signed the official certificate granting the request.¹⁹⁴

Much as irrigators on the upper Sevier River had their Hatchtown Dam, Sanpete County had its Gooseberry Project, an endeavor that had been under consideration since the early 1900s. The project had been authorized for further investigation as part of the Colorado River Storage Project in 1956, and although never part of the CUP, the District remained supportive of Sanpete County’s efforts. Anticipation of the Gooseberry Project likely contributed to the county’s decision to join the District in 1967. It is unclear if the narrows project will ever be built; however, Sanpete Water Conservancy District recently utilized a local development grant to rehabilitate the tunnel that will facilitate the trans-mountain diversion. Constructed originally by the county and local irrigation companies during the early 1960s, the aging tunnel also provided water to Fairveiw Lake, making its continued operation imperative. Local development grants have been particularly beneficial, District Board member David Cox affirmed. For “every dollar Sanpete put into Central Utah, they got between two and three dollars back.”¹⁹⁵

WATER MANAGEMENT IMPROVEMENT

Sanpete and other local conservancy districts have also benefited from additional funding made available under CUPCA for water conservation. The Water Management Improvement component established a formula for determining water conservation benchmarks, and depending on the projects constructed, required the District to meet specific goals. In no case
would the goal be less than 20,000 acre-feet of water a year. At least 50 percent of the conservation goal had to be achieved within seven years, and 100 percent within 15 years. Failure to reach the targets would trigger significant financial penalties.

In 1994, the District formulated a water conservation goal of more than 39,000 acre-feet, and established the Water Conservation Credit Program as a vehicle to monitor and evaluate its progress towards achieving this ambitious objective. Through the Credit Program, the District invited water users to propose water conservation measures. The District impaneled a committee to vet and evaluate the proposals. It was comprised mostly of its own board members; but also included local, state and federal government officials; a representative from the Ute Indian Tribe; and a member from the Utah Outdoor Interest Coordinating Council (UOICC).

Water Management Improvement (section 207) had been the crowning achievement of the environmental community, a section largely written and defended by their national representatives, David Conrad and Ed Osann. Congress clearly intended to reverse the perception that the nation’s second driest state could meet its water needs simply by building more projects. CUPCA required the Governor to appoint a Utah Water Conservation Advisory Board, which among other issues would consider prospective changes in city and county landscape ordinances, changes in plumbing and building codes to encourage water conservation, and the need for progressive water pricing. Its efforts in addressing these crucial issues did not meet the approval of the environmental community. Rather than selecting a diverse membership, Governor Leavitt had simply tagged his Board of Water Resources for the job, and included only one representative from the UOICC. Suggesting that water companies monitor their systems for leaks was hardly the tough stance that the UOICC had hoped for. The board
did encourage adopting a policy that would encourage conservation by requiring that water rates increase commensurate with use. Nevertheless, the board recommended against policies that might have discouraged homeowners and businesses from planting turf grass, or encouraged the reuse and recycling of water, or the installation of low-flow plumbing fixtures.

Moreover, environmental advocates disagreed with the District’s interpretation of the Water Management Improvement provision. The District believed that “water conservation in and of itself [was] the goal of Section 207, …” and although important, xeriscaping, low-flow shower heads, single-flush toilets, or water re-use and recycling, would not allow the District to achieve its goal of conserving 39,000 acre-feet of water. The largest and the most inefficient water users remained in the agricultural sector, and it was here that the greatest opportunities existed for water conservation. The District projected annual water savings from the Wasatch County Water Efficiency Project, alone, at 23,000 acre-feet. The improvement of irrigation efficiencies would not only enable the District to meet its conservation goal; it would also allow it to provide some agricultural benefits to constituents in the rural counties.

In addition to the Wasatch County project the District expended water conservation funds to improve the irrigation system from Salt Creek in Juab County. The East Juab Water Efficiency Project was expected to save nearly 7,000 acre-feet of water by piping the main canal and laterals, and installing pressurized sprinkler irrigation on more than 5,000 acres. Once again, this project did not meet the approval of the UOICC. Its members, some of whom had an enduring distaste for irrigation projects, regarded the East Juab project as simply another example of subsidized agriculture. “Congress did not expect the 207 program to function merely as a farm subsidy, …” they asserted. It expected the “program to offer significant benefits to the environment and the public.”
Most egregious to the UOICC was the fact that the shareholders in the Nephi Irrigation Company would retain the conserved water and “extend their irrigation season and expand their crop production.” As the District pointed out, however, CUPCA did not mandate the return of saved water. Rather, “saved water was intended to remain with the entity which had achieved the conservation ‘for its own use or disposition’ unless it voluntarily chose to turn the water over to the Secretary…for a financial credit against repayment.” There “was a lot of criticism by some of the environmental folks,” Reed Murray affirmed. They lobbied Assistant Secretary Patty Beneke “very hard back in Washington, D.C…and were successful…” Beneke informed the CUPCA Office that if petitioners did not have in their proposal a component to turn over some of the conserved water then “we’re not going to fund those projects.”

To the District, the assistant secretary’s directive appeared untenable. It required that a “substantial portion” of the conserved water be turned over to the Secretary “in perpetuity for in-stream flow purposes,” that the water be available to the “Secretary in Federal Project Facilities,” and that it must be “a permanent water supply.” Yet, as District spokesperson Karen Ricks pointed out, in-stream flows often conflicted with state water law. The doctrine of prior appropriation “often serves as an impediment and disincentive to conserve water, because the conserved water frequently must be left in the stream for the benefit of those downstream water users having vested rights in the return flows…”

Although the District worried that the assistant secretary’s mandate might doom the program, it did not alter the explicit language of CUPCA. The act still defined water conservation as “actions taken to improve the efficiency of the storage, conveyance, distribution, or use of water, exclusive of dams, reservoirs, or wells.” As Ricks implied, CUPCA made no demand that conserved water had to be dedicated for in-stream flows. In 2011, the District
reiterated its contention regarding petitioners’ right to retain saved water noting, “most of the applications to the Credit Program will propose to retain the conserved water. Proposed uses include applying the saved water to reduce shortages by extending water supplies. For agriculture, saved water may be used for late summer irrigation when normal supplies are depleted. Saved water can also be used to meet future M&I water needs. By extending existing water supplies, the need to develop new sources is reduced.” Nonetheless, the District took steps to reward Conservation Credit Program applicants a higher ranking if they voluntarily choose to provide the saved water for in-stream flows, providing the water could be store in a federal facility.209

The Conservation Credit Program actually grew in popularity, despite the District’s fears that the Secretary’s mandate might limit participation. Just “the opposite happened, …” Reed Murray claimed.210 By 2011, the District had dramatically expanded its conservation goal to more than 80,000 acre-feet annually.211 It has been “very successful,” Murray affirmed; “we [have] used it to provide water for…the endangered June Sucker in Utah Lake. And so far we have over 18,000 acre-feet of water on the Provo River, and 8,000 acre-feet in Hobble Creek.”212 The District has, as well, been particularly proactive in promoting water conservation. Its educational outreach and slow-the-flow campaign has been widely acclaimed. Additionally, the District headquarters includes the Central Utah Gardens. Spearheaded by the District’s Conservation Programs Coordinator Nancy Hardman, the more than two acres of impeccably landscaped gardens that surround the District’s offices were designed to demonstrate and encourage wise water use. District Board member Randy Brailsford praised “Our little
garden…[as] a great tool…[for] educating.” We show people that they “can do everything [they’ve] always done [and still] conserve and have the same outcome.”

SPANISH FORK-NEPHI SYSTEM

The withdrawal of the two lower Sevier Basin counties had effectively eliminated the I & D System from any further consideration. The District, however, could still pursue an option. In the event the I & D System did not materialize CUPCA authorized funding to build irrigation facilities specifically within the Utah Lake drainage basin. As with the I & D System, CUPCA also stipulated that an enclosed conveyance system be constructed to deliver the irrigation water. Concurrent with its plan to eliminate Monks Hollow Dam and instead construct the tunnel and pipeline down Diamond Fork, the District announced plans to continue a pipeline down Spanish Fork Canyon. The proposed pipeline would join with the lower Diamond Fork Pipeline at its confluence with Spanish Fork River and follow the river west down the canyon to where the Strawberry Water Users Association diverted its irrigation water. From there, the pipeline would either supplant or follow the route of Strawberry’s High Line Canal to north of Payson, and then roughly parallel Interstate 15 to terminate near Nephi. Ultimately, the District envisioned the Spanish Fork-Nephi pipeline connecting with the Nephi Irrigation Company system. Assistant General Manager Lee Wimmer remembered that while developing plans for the Spanish Fork-Nephi System (SFN), the idea occurred to begin building some of the project in Juab County. We “can build part of this now even while we are still doing the planning on the SFN,” he advised. The District installed enough of the pipeline to “fit into our SFN design. We put that in…and supported the East Juab Water Conservancy District in getting the state to design the
feeder lines off of this big pipeline.” Completed in 2001, the aforementioned East Juab County Water Efficiency Project has successfully conserved thousands of acre-feet of water, “for a long time,” Wimmer concluded.215

The success of the East Juab Project would not be replicated in the SFN, however. Considerable criticism accompanied the District’s release of its draft environmental impact statement in March 1998. The environmental community had been particularly critical. As discussed above, the UOICC had denounced the District’s plan to use Water Management Improvement funds for the East Juab Project. It had taken even greater exception to the SFN, which proposed delivering more than 70,000 acre feet of water south for irrigation. Because Salt Lake County had paid more than two-thirds of the taxes into the District and had an acute need for more water, the UOICC maintained that the water should be sent north for municipal use, not south for irrigation. The District, however, had an enduring understanding with irrigators in eastern Juab and southern Utah counties, Don Christiansen stated. When the counties first formed the Central Utah Water Conservancy District and began formulating “specific plans to deliver water to each region, part of the compact included delivery of CUP water to Juab County and southern Utah County. Based on need,” he continued, we have already “completed other systems during the past two decades to provide water to Salt Lake Valley.”216

To counter these claims, the UOICC enlisted the support of attorneys working with the Land and Water Fund, an organization specializing in environmental law.217 In November 1997, the UOICC reiterated its concerns, while it tried to refocus the debate by appealing to Salt Lake City interests. The UOICC maintained that other options for using Bonneville Unit water had not been seriously considered, and urged Salt Lake officials to discuss with the District the possibility of sending it north to quench the growing thirst of Salt Lake County.218
Although not explicitly stated, part of the UOICC’s concern was that Salt Lake County Water Conservancy District (now Jordan Valley Water Conservancy District) might exercise its option to develop Bear River. CUPCA had allowed for this contingency, but only in the event the county had exhausted all other available sources. Indeed throughout the 1990s, “mainly because of the Bear River’s water supply and the Wasatch Front’s projected demand,” development of Bear River for municipal-use along the Wasatch Front had been one of the State’s highest priorities. In 1991, State lawmakers enacted legislation that directed the Division of Water Resources to study Utah’s so called last watering-hole and formulate plans for its “development and utilization.” If Diamond Fork water were diverted north, Utah Rivers Council Executive Director Zach Frankel asserted, it would make the “proposed water development on the Bear River unnecessary.” Not building the Spanish Fork-Nephi System would also trim nearly $200 million from the CUP budget, plus alleviate the need to spend $270 million for dams on the Bear River.

The proposal made abundant sense. However, re-routing the water to Salt Lake County for municipal use would likely violate the intent of CUPCA. The SFN had been pursued as an alternative to the initial I & D System and was intended as an irrigation project, the District countered. Moreover, Salt Lake County generally drained to the Great Salt Lake, not to Utah Lake, and CUPCA had specified that the alternative could only be used to benefit the Utah Lake drainage basin. The UOICC remained unconvinced that CUPCA had intended the alternative to be an irrigation-only project. Rather it argued that Congress had merely stipulated the limit of federal funding ($125 million) it would authorize to “subsidize” an irrigation component within the Utah Lake drainage basin.
Until comments revealed the extent of dissatisfaction with the draft EIS, the District remained firmly committed to delivering irrigation water through the SFN system. The Strawberry Water Users Association was particularly disappointed in the plan, referring to it as “flawed” and “fatally defective.” The 1991 agreement with the District and Reclamation had guaranteed to the Association a priority delivery of Strawberry Reservoir water. By analyzing the Association’s historic water use under the Strawberry Valley Project, the parties settled on a figure of 61,000 acre feet. The agreement also allowed the Association to store an additional 50,000 acre feet in the reservoir, which could be carried over from year to year. Additionally, neither Reclamation nor the District could use any of the Association’s water to satisfy in-stream flow requirements, or to mitigate any other fish and wildlife issue. The Association had anticipated the construction of Monks Hollow Dam “to provide sufficient capacity…during peak demand periods,” and had assumed, as well, that the old Strawberry Tunnel would be available to augment the releases through the Syar Tunnel. CUPCA, however, had specifically prohibited use of the Strawberry Tunnel, except for emergencies and to provide minimum stream flows, and as discussed, Monks Hollow Dam had been supplanted by the tunnel and pipeline leading down Diamond Fork Canyon. In consideration of these changes, the Association maintained that a 600 second-foot capacity of the Diamond Fork System would be required to provide irrigation deliveries to the Association, and that reserving a part of Diamond Fork’s capacity for the SFN would contravene the 1991 agreement. The “first 600 cfs capacity of the Syar Tunnel and Diamond Fork System shall be utilized to convey the SVP water,” the Association stated. “The entire SVP water supply has been subscribed for by the shareholders of SWUA…and there is no uncommitted SVP water.”
The Strawberry Water Users Association was one of Utah’s preeminent legacy water organizations. As mentioned, the Strawberry Valley Project was the state’s first federal reclamation project, and in 1922 the Association became the first water-users group in Utah organized to contract with the Bureau of Reclamation. Since 1926, it had managed Strawberry Reservoir, delivering water to its stockholders through the historic Strawberry Tunnel. Until the 1980s, the Association had also managed the recreation and grazing lands around the reservoir. As discussed previously, the litigation and congressional action that followed its exclusion from management of these amenities may have first signaled the breach of relations between the Association, Reclamation and the District. The Association continued to have strong reservations regarding its future with the CUP.

Part of the SFN plan involved piping the High Line Canal for water delivery to both the Strawberry Project area, as well as CUP water to eastern Juab County. Since earlier during the Twentieth Century, Strawberry stockholders had used Strawberry Project water for irrigation of farm ground, as well as city lots throughout southern Utah County. Cities from Payson to Spanish Fork had developed systems to take water out of the High line Canal, store it in holding ponds, and deliver it under pressure through a secondary water system for the irrigation of lawns and gardens. Retired Strawberry Water Users manager Gary Aiken stated that the cities “didn’t need a new pipeline to get the water to their…pond. They already had the old Highline Canal.”

The use of agricultural water on parcels of less than 10 acres, however, conflicted with federal reclamation policy, and the Interior Department insisted that water delivered through the cities’ secondary systems be defined as municipal water, and priced accordingly. The cities vigorously resisted. Some of the “Association’s water was being used on small, city lots, [which] was not in keeping with Reclamation policy,” the District’s attorney Steve Clyde asserted.
Hoping to protect the cities’ rights as stockholders in the Association, and to “provide municipal and industrial water for the inevitable urbanization of much of the service area," Strawberry Water Users filed applications with the Utah State Engineer to change the use of the water from agriculture to municipal in August 1997.

The District, the Association and Interior Department were also conflicted over power generation on Diamond Fork. While more than 10 years would elapse before these issues were ultimately settled by the Tenth Circuit Court of Appeals, the pending litigation undoubtedly contributed to Strawberry Water Users’ decision not to participate in the SFN System. Without its participation, the SFN became infeasible, and in October 1998, the District suspended all planning for the project.  

As might have been expected, Juab County interests expressed profound disappointment. The very reason Juab County agreed to participate in the CUP, and paid taxes all these years to the District, lamented Juab County Commissioner W. Boyd Howarth, was “to get the water down here…, to tie it in to make our irrigation system work.” The District’s announcement came as a surprise to Chad Winn, another of the county’s commissioners. “We went to the Provo public meeting and not one of the dozen of us there that night knew we were losing the water,” he stated. 

The District expressed its astonishment, as well; although it was certainly aware of Strawberry Water Users disaffection for the SFN prior to October 1998. Nevertheless, the District had made a significant effort to provide benefits for Juab County. The District contributed nearly $6 million dollars towards the $12 million East Juab Water Efficiency Project. It would also provide funding for pressurized systems for Mona and Levan. In total, the county would receive more than $14 million in combined District and federal funding. Some have
conjectured that the funding may have exceeded the amount of taxes paid to the District by eastern Juab County since its affiliation.\textsuperscript{234}

Furthermore, as the District initiated new plans to develop yet another alternative for the Utah Lake drainage basin, Ross Garrett, Juab County’s veteran representative on the District Board, convinced his associates to reserve 10,000 acre feet of purchased water in Utah Lake for future use in Juab County.\textsuperscript{235} The District slated the water to be piped to the Mona Reservoir from Spanish Fork Canyon, where it could be utilized for either irrigation or municipal use, while also serving to enhance the population of transplanted June Suckers in the Mona Reservoir. Finally, in lieu of the SFN’s demise, Senator Orrin Hatch succeeded in amending CUPCA in 2005 to extend funding for the “study and development of systems to allow ground water recharge, management, and the conjunctive use of surface water resources with ground water resources” in Juab County. Reportedly, only a single Salt Lake County project had availed itself of CUPCA’s conjunctive use provision, “leaving approximately $8.5 million of authorized appropriations for the program.”\textsuperscript{236}

VTAH LAKE DRAINAGE BASIN WATER DELIVERY SYSTEM

While it made an abundant effort to assist Juab County, after the SFN collapsed the District essentially had to start over “from scratch. It's a long-term project and we need to get it done right,” Don Christiansen affirmed. Reed Murray expanded on that notion by insisting that the CUPCA Office would look at all the options. "Everything will be reopened," he noted.\textsuperscript{237} In the SFN’s aftermath, Lee Wimmer reassured his colleague Sheldon Talbot, who had primary
responsibility for the project, that he had it right. We had the “right project,” he told him. “We just didn’t have enough support to build it.” Wimmer also recalled sitting down with Harold Sersland and Don Christiansen, and remembers Don explaining to them the urgency in developing another plan for the Utah Lake basin. You’ve “got three years, …” he told them. When the two complained that it was “a lot of work,” and would take at least five years to determine where “we’re going to take this water, … look at population projections…[and] go back and look at M & I water needs, …” Don simply reiterated his demand: “You’ve got three years,” he told them. Sersland and Wimmer, along with consultant Brian Liming ended up burning the “midnight oil.” Nevertheless, they managed to keep within Christiansen’s stringent timeframe and produced a plan for the Utah Lake Drainage Water Delivery System (ULS), and in March 2004, the District released a draft environmental statement for the project.238

The cornerstone of the ULS was “for long-term M and I use…” To circumvent the perceived requirement that Diamond Fork water be used only for irrigation, the District worked with Utah’s congressional delegation, which in 2002 successfully amended CUPCA to include development of a municipal and industrial water supply under the Utah Lake drainage basin alternative.239

The District, however, was not the only advocacy group interested in the CUP, which had the ear of federal officials in Washington, D.C. As early as October 1997, UOICC representatives, accompanied by Ed Osann of the National Wildlife Federation, had met with Interior Department officials to talk about CUP concerns. Among other matters, the agenda included a discussion regarding the “lack of creative alternatives in the Draft Environmental Statement for use of Spanish Fork/Nephi System water once it reaches the Wasatch Front.”240
is likely more than coincidence that the preferred plan developed by Wimmer, Sersland, and others for the ULS, closely followed the pattern previously suggested by the UOICC.

The plan included 30,000 acre-feet of M & I water from Spanish Fork Canyon delivered to Salt Lake County through a pipeline to be connected to the Jordan Aqueduct or to the Murdock Canal. The Murdock Canal had been used initially during the 1970s to deliver untreated water to the Jordan Valley Water Treatment Plant until completion of the Jordan Aqueduct. The facility continued to be used for the delivery of both irrigation and municipal water; however, the open canal had long been a source of concern for the District and other local officials. As part of the ULS, the District used Water Management Improvement funds, and joined with the Provo River Water Users Association and the Bureau of Reclamation to enlarge and fully enclose the canal. Under the plan, the canal would be enlarged near 800 North Street in Orem to accommodate connection with the anticipated ULS Pipeline coming north from Spanish Fork Canyon. The project would conserve approximately 8,000 acre-feet of water in the Provo River, water that was essential to restoring habitat for the endangered June Sucker. Begun in 2011, the Murdock Canal piping project was completed in May 2013.

The ULS plan also envisioned delivery of M & I water into south Utah County through a series of proposed pipelines running from the mouth of Spanish Fork Canyon to Santaquin; from the mouth of Spanish Fork Canyon to Hobble Creek along the proposed Mapleton-Springville Lateral; and from Santaquin to Mona Reservoir. By 2030, the District proposed to construct the facilities and deliver an additional 30,000 acre-feet mostly to communities affiliated with the South Utah Valley Municipal Water Association. The Water Association could also utilize the new facilities to carry non-project water owned by its member communities as shareholders in the Strawberry Water Users Association.
A number of exchanges where Strawberry Reservoir water would flow to Utah Lake to replace the water from Provo River being stored at Jordanelle were also inherent in the ULS plan. These exchanges would further enhance the June Sucker Recovery Program by providing minimum stream flows where required. The Mapleton-Springville Lateral, for instance, would convey approximately 12,000 acre-feet of project water to Hobble Creek to help meet June Sucker recovery “goals and to provide other fish and wildlife benefits…”

While completion of this last feature of the CUP is still at least a decade away, significant progress has been made on the ULS. By July 2010, contractor W.W. Clyde had completed work begun two years earlier on the first reach of the Spanish Fork Pipeline. This segment extended from the Spanish Fork Flow Control Structure at the terminal end of the Diamond Fork Pipeline along the shoulder of State Route 6 for a distance of 2.3 miles. Whitaker Construction and Ames Construction, respectively, constructed Reach 2 and 3, taking the pipeline to where Route 6 joins Highway 89. The “system is broken up into a lot of segments,” remarked contractor Randy Lingwall. “It’s kind of like…” eating an elephant, he elaborated. You do it “one bite at a time.”

Work on the ULS received a substantial boost from the American Recovery and Reinvestment Act in 2009. The District received $41 million, which enabled it to move forward with construction of the pipelines through Mapleton and Springville well ahead of schedule. Nearly $9 million in American Recovery and Reinvestment Act funds were also provided for the Mitigation Commission to continue its work on fish and wildlife issues related to the CUP.

Work progresses, as well, on the Spanish Fork Provo Reservoir Canal Pipeline, which has been constructed north to 800 North Street in Orem, and which will eventually connect with the recently enclosed Murdock canal. But even as additional segments of the ULS are being planned
and constructed, progress has been impeded during recent years by a lack of appropriations.

Federal appropriations are “in arrears to us,” District legal counsel Marcus Faust suggested. We “are not going to be able to continue the construction of the distribution pipeline until all of that gets sorted out. And that’s going to take a few years…”

We have a “project to finish and the federal funding is getting very, very tight,” Don Christiansen added. “We have a real challenge on our hands.”

As federal budgets have tightened, the District has initiated its own projects in order to supply water to the growing population along the Wasatch Front. In 2005, it acquired the water resources of Geneva Steel Company. This acquisition of roughly 42,000 acre-feet of water, mostly from wells drilled during and after World War II, the District would combine with another 20,000 acre feet of purchased water rights to enable the construction of the CUWCD Water Development Project. Referred to as the Central Water Project (CWP), this non-federal project will be financed completely by the District, and paid for through user-fees. The project will deliver drinking water via the Utah Valley Water Treatment Plant, as well as untreated secondary water, to the several rapidly growing communities in northern Utah County.

Water is presently being delivered through the CWP.

The CUP had been conceived originally as the means “for extending irrigation agriculture, … [but] has changed dramatically since 1956,” Don Christiansen once informed a constituent. In 1938, the leader of Utah’s Cooperative Extension Service had lamented the fact that the State had not added any irrigated acres in 20 years. As did those before him, William Peterson looked to the mountains and the Colorado River Basin as Utah’s “last great natural resource…” In his report to Governor Blood, Peterson joined a select group of visionaries to suggest transporting the streams from the water-rich Uinta Basin to irrigate lands in Salt Lake
and Utah valleys.\textsuperscript{251} By 1948, Utah had entered into a compact with its neighboring upper Colorado River Basin states, and in 1956 Congress authorized the CUP as part of the Colorado River Storage Project. For those who had dreamed of bringing thousands of acres of new farm ground under irrigation, prospects seemed eminent.

But now more than 50 years later, not a single acre of new farm ground has been irrigated by water developed under the Bonneville Unit. Rather, the precious cargo carried from the south slope of the Uinta Mountains through the tunnels of the Strawberry Aqueduct and deposited in the enlarged Strawberry Reservoir, is conveyed across the divide through the Diamond Fork System and upon completion of the ULS will be delivered to homes and industries along the Wasatch Front.

The State’s growing urbanization has perhaps de-personalized Utahans’ relationship with water. When water is “your life’s blood,” Rich Tullis stated, when you “grow up on a farm…[and] you have to go irrigate and know what happen[s] when you don’t have enough…” then water becomes much more important than if “you just…turn on the faucet…”\textsuperscript{252} Even so, this greater emphasis on municipal supply has not diminished the CUP’s significance. If anything, it has tended to amplify the importance of water within a progressively more diverse population. The District has responded to these societal changes by incorporating the viewpoints of multiple stakeholders. It has certainly exhibited a greater sensitivity towards the environment. It has also willingly accepted the directives of Congress, and enthusiastically cooperated with other federal, state and local officials. The District has demonstrated time and again its capacity for being a good neighbor. When a canal in south Utah County washed out a number of years ago, the District was first to send men and equipment to repair the breach. It also provided more than $200,000 under the Conservation Credit Program to replace the open canal with corrugated
piping. That was “amazing to everybody concerned,” John Mendenhall acclaimed. When the need arose “they jumped right up and not only sent men and equipment, but…also came through with money. That’s a big thing...that will never be forgotten….”

While admiration for the District and the CUP is not universal, the “vision of those who conceived of the CUP will be celebrated,” asserted Wayne Pullan, Reclamation’s Area Manager. “They dreamed big,” and while the CUP has evolved considerably since its initial conception, its completion remains pivotal to Utah’s future economic vitality. Different dreams, different dreamers.

---

1 General Manager to Legal and Legislative Committee, 29 July 1974. Directors’ Packet, 8 August 1974.


3 *The Central Utah Project Completion Act (CUPCA): A Reassessment from an Environmental Perspective*, (1997). Document prepared and provided to authors by Darrell Mensel for the Utah Outdoor Interests Coordinating Council.

4 Mensel Interview, p. 19.


7 *Deseret News*, 16 November 1994

8 Randy Williams, Interview with Tod Smith, Boulder Colorado, 9 May 2013, p. 20. An attorney, Smith represented the Ute Tribe from the time of CUPCA’s passage until about 2010. Hereafter referred to as Tod Smith Interview.

9 Winterton Interview, p. 3.


12 Tod Smith Interview, p. 8.

13 Secakuku letter, p. 4.


16 Tod Smith Interview, p. 19.

17 Mike Hansen Interview, pp. 8-9.

18 Tod Smith Interview, p. 7.

19 Johnston Interview, pp. 11-12.

20 Mike Hansen Interview, p. 9.

21 “Statement read by Robert Chapoose, Jr. at the February 25, 1997, public hearing at the Ute Tribal Auditorium [Ft. Duchesne, Utah].” Files of the CUWCD.

22 CUPCA, section 505 (c).


24 “Statement read by Robert Chapoose, Jr.”

25 Lynn Hansen Interview, p. 13.

26 Mike Hansen Interview, p. 10.

27 Ronald Johnston to O. Roland McCook, Sr., 27 May 1999. Files of CUPCA Office.

28 Johnston Interview, p. 16.

29 Minutes, 19 May 1999.


34 Ibid.

35 Winterton Interview, p. 21.

36 Johnston Interview, p. 28.

37 Randy Williams, Interview with Kirk Christensen, Duchesne, Utah, 9 August 2012, pp. 3-4. Christensen is a member of the District Board of Directors from Duchesne County. Hereafter referred to as Kirk Christensen Interview.

38 Central Utah Water Conservancy District, Upalco Unit Replacement Project, Draft Environmental Impact Statement, section 3, p. 5.

39 Randy Williams, Interview with Ron Johnston, Orem, Utah, 12 July 2012, p. 28. Ron Johnston is the former Director of the Central Utah Project Completion Act Office. Hereafter referred to as Johnston Interview, 12 July 2012.

40 Ibid., p. 17.


42 Ibid.

43 Wimmer Interview, p. 10.

44 Ibid., p. 13.


46 Wimmer Interview, p. 13.

47 Johnston Interview, 12 July 2012, p. 17.


51 Ibid., pp. 2-5.


54 Mortensen Interview., p. 22.

55 Ibid. pp. 5-12.

56 Ibid., p. 6.

57 Randy Williams, Interview with Kent Peatross, Duchesne, Utah, 9 August 2012, p. 4. Peatross has served as a Board member for the CUWCD and as a Duchesne County Commissioner. Hereafter referred to as Kent Peatross Interview.

58 Rasmussen Interview, p. 10.


60 Ronald Johnston to O. Roland McCook, Sr., 27 May 1999.

61 CUPCA, section 501 (b)

62 Reed Murray to Robert Parson, 15 April 2013.

63 CUPCA, section 506 (c)

64 Reed Murray to Robert Parson, 15 April 2013.

65 Cuch and Patterson Interview, p. 16.

66 Tod Smith Interview, p. 11.

67 Cuch and Patterson Interview, pp. 7 and 17.

68 See Williams, Don Christiansen Interview, p. 29; and Murray Interview, p. 17.

69 Regional Solicitor, Intermountain Region to Program Director CUP Completion Act, 19 November 1993. Files of CUPCA Office.

70 Tod Smith Interview, pp. 15-17.

71 Cuch and Patterson Interview, p. 5.

72 Williams, Don Christiansen Interview, p. 28.

73 CUPCA, section 209.

74 Wimmer Interview, p. 5.
75 Central Utah Project, Bonneville Unit, Diamond Fork Power System Draft Environmental Statement, (Provo, Utah: Bureau of Reclamation, 1983), chapter 3.

76 Bruce Barrett Interview, p. 2.

77 Minutes, 12 December 1985.


79 CUPCA, section 208.

80 Ibid., sections 303(f), and 303(c).


82 Mensel Interview, pp. 3-4.

83 Zachary Frankel to Sheldon Talbot, 19 January 1996. Files of CUPCA Office.

84 Wimmer Interview, pp. 5-6.

85 Ibid.


87 Wimmer Interview, p. 4.

88 Ibid.

89 Ibid., pp. 5-6.


91 Randy Williams, Interview with Randy Lingwall, 15 October 2012, Springville, Utah, pp. 3-4. Lingwall is a foreman for W.W. Clyde/Obyashi. Hereafter referred to as Lingwall Interview.

92 Ibid., p. 4.

93 Ibid.

94 Mensel Interview, pp. 5-6.

95 Wimmer Interview, p. 6.

96 Ibid., p. 8.


98 Wimmer Interview, p. 4.

100 *Daily Herald* (Provo, Utah), 11 April 2013.

101 Reed Murray to Robert Parson, 13 May 2013.

102 Clyde Interview, p. 4.


105 Clyde Interview, p. 5.

106 Reed Murray to Robert Parson, 13 May 2013.


112 Kent Peatross Interview, p. 9.


114 Weland Interview, p. 10.


117 *Ibid.*, p. 120.

118 Devey Interview, p. 12.


121 Conversation with Gene Shawcroft, 1 May 2013.


123 Devey Interview, p. 7.


126 Devey Interview, p. 12.

127 Shawcroft Interview, p. 12.

128 Draney Interview, pp. 14-16.

129 Shawcroft Interview, p. 12.


135 CUPCA, section 313 (c).


141 Holden Interview, p. 1.

143 Holden Interview, p. 7.

144 Ibid., p. 12.


147 CUPCA, section 303 (d).

148 “Deer Creek Reservoir/Jordanelle Reservoir Operating Agreement,” 1 November 1994. Files of CUWCD.


150 Utah Reclamation Mitigation and Conservation Commission, Mitigation and Conservation Plan, (Salt Lake City: Mitigation Commission, 2002), chapter 2, p. 2.


154 La Rue, Colorado River and its Utilization, p. 147.

155 CUPCA, section 201 (b) (1); 303 (b).

156 Devin McKrola to Robert Parson, 8 May 2013.


158 Hicken Interview, p. 10.

159 Ibid.


162 State Review of the Bonneville Unit, Central Utah Project, Final Report, p. xiii.

163 CUPCA, section 201 (b) (2).


166 *Salt Lake Tribune*, 26 May 1914.

167 Minutes, 14 November 1985,

168 CUPCA, section 206 (b) (2) (B) (iii)


171 See Mensel Interview, pp. 13-14; and Draney Interview, p. 26.

172 CUPCA, section 206.


175 Peterson and Styler Interview, pp. 16-17.

176 *Central Utah Project, Bonneville Unit – Utah, Draft Supplement to Definite Plan Report*, p. 43.


178 Minutes, 12 January 1989.


180 *Salt Lake Tribune*, 1 September 1993.


182 Peterson and Styler Interview, p. 28.


186 The District expressed its support for the dam and encouraged the upper basin counties to further explore its feasibility. See Minutes, 14 June 1995


188 CUPCA, Section 202 (c). Amended by Public Law 106-140, section 1, 7 December 1999.

Peterson and Styler Interview, p. 34.

Randy Williams, Interview with David Cox, Manti, Utah, 11 September 2012, p. 7. David Cox has served a number of elected and appointed positions in Sanpete County. He currently represents Sanpete, Garfield and Piute counties on the CUWCD Board. Hereafter referred to as Cox Interview.

Reed Murray to Robert Parson, 4 May 2013.

Cox Interview, p. 7.

See

Cox Interview, p. 8.


Ibid., acknowledgements.


The Central Utah Project Completion Act (CUPCA): A Reassessment from an Environmental Perspective, (1997), p. 28.

Ibid., p. 29.

Ibid.


Murray Interview, p. 8.

On behalf of the UOICC in October 1997, Darell Mensel wrote to confirm a meeting with the Assistant Secretary to discuss among things the failure of the “Water Conservation Credit Program…to deliver expected environmental benefits.” See Darrell H. Mensel to Patricia Beneke, 21 October 1997. Files of CUPCA Office.

Murray Interview, p. 8.

Ron Johnston to Don Christiansen, 6 May 1998. Files of CUPCA Office.

Statement of Karen M. Ricks before the Water Conservation Credit Program Public Hearing, 4 September 1997. Files of CUPCA Office.


210 Murray Interview, p. 9


212 Murray Interview, p. 9.

213 Randy Williams, Interview with Randy Brailsford, Spanish Fork, Utah, 11 September 2012, p. 7.  Brailsford has served as a Trustee on the CUWCD Board and as Mayor of Salem City in Utah County.  Hereafter referred to as Brailsford Interview.


215 Wimmer Interview, p. 18.

216 *Deseret News*, 12 February 1996.


221 *Bear River Development and Utah’s Future*, p. 144.


223 The District laid out its reasons for supporting the SFN to the Salt Lake County Commission.  See Don Christiansen to Brent Overson, 16 May 1996.  Files of CUPCA Office.


226 Clair Anderson to Sheldon Talbot, 15 June 1998, p. 3.

227 Aiken Interview, p. 16.

228 Randy Williams, Interview with Steve Clyde, Salt Lake City, Utah, 25 September 2012, p. 3.  Clyde is the attorney for CUWCD.  Hereafter referred to as Steve Clyde Interview.

Following release of the Preliminary draft EIS for the SFN in July 1997, Strawberry Water Users advised the District of the need to revise “the operation studies…to incorporate the terms of the 1991 Contract…, which has not been done in the DEIS.” See Clair Anderson to Sheldon Talbot, 15 June 1998, p. 3.
253 Mendenhall Interview, p. 22.

254 Randy Williams, Typed responses to interview questions by Wayne Pullan, 1 October 2012, p. 6. Pullan was contracts and repayment specialist for the Bureau of Reclamation, and is now Area Manager.