

**Central Utah Projects
Upalco, Uintah, and Ute Indian (Ultimate Phase) Units**

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The Central Utah Project (CUP) is the largest and most complicated project undertaken by the Bureau of Reclamation in Utah. Reclamation-wide, CUP is certainly not the largest project, but it can be argued that the ultimate plans for the CUP were amongst the most complex of those contemplated. This is especially true given the amount of water to be delivered by the project. Spanning the history of Reclamation's second half century, CUP provides a window into the changing political climate, budget priorities, and emerging environmental concerns which reshaped Federal water policy in the West. Caught up in these changes, Reclamation never fully realized its plans for the Upalco, Uintah, and Ute Indian units.

Project Location

Because of its size and complexity, Reclamation divided the planning for the CUP into several units to be constructed in two phases. Reclamation divided the "Initial Phase" into four units. It planned for three of these units—Vernal, Jensen, and Upalco—to enhance irrigation supplies within the Uinta Basin. Reclamation designed the fourth unit, the Bonneville, which was the largest and most complex, to provide irrigation water for the Uinta Basin *and* to collect, store, and divert water from the Uinta Basin into the Bonneville Basin. The plans for the "Ultimate Phase" provided for the diversion of Green River water into the Uinta Basin, and the extension of structures constructed in the initial phase to divert water from the Uinta Basin. During advanced feasibility planning, Reclamation renamed this phase the Ute Indian Unit.

The areas served by both the Initial and Ultimate Phase overlap. They include lands within twelve counties in central and eastern Utah—Duchesne, Garfield, Juab, Millard, Piute, Salt Lake, Sanpete, Sevier, Summit, Uintah, Utah, and Wasatch Counties.

The project proposed the development of water in the Colorado, Bonneville, and Sevier River Basins.

The Upalco Unit proposed developing irrigation and municipal supplies by regulating the flows of the Lake Fork and Yellowstone Rivers. The project derives its name from the community of Upalco in northeast Duchesne County, roughly centered between the two rivers and the proposed project lands. To the east of the Upalco Unit, straddling Duchesne and Uintah Counties, the Uintah Unit proposed regulating reservoirs on the Uintah and Whiterocks Rivers. These four rivers originate high in the glacial valleys on the south face of the Uinta Mountains and drain into the Duchesne River and then east to the Green River.

As originally conceived, the Ultimate Phase of the CUP would have extended an aqueduct from the Strawberry Reservoir, parallel to the Y constructed by the Bonneville Unit to intercept the flows of the Lake Fork, Yellowstone, Uintah, Whiterocks Rivers, Ashley Creek, and Brush Creek, and Little Brush Creek. Stored in the enlarged Strawberry Reservoir—impounded behind the Soldier Creek Dam constructed in the Bonneville Unit—the water would be available for diversion to the Bonneville and Sevier River Basins. Later plans considered an aqueduct only extending as far as the Whiterocks River and water delivery to the Provo River Drainage. To satisfy existing water rights, both plans included the diversion of Green River water from Flaming Gorge to the Uinta Basin through a twenty-two mile tunnel.

Historical Setting

Ages ago, an inland sea teeming with aquatic life covered most of what is now the Uinta Basin. Dinosaurs prowled the tropical swamps. Today, the one-time abode of the

dinosaurs has been set aside by the Federal government as the Dinosaur National Monument where paleontologists pick away to free rock-embedded bones. Additionally, rich deposits of coal, gas, oil, and oil shale are found in the area. In successive geologic periods, the collision of land masses resulted in massive uplifts creating the Wasatch and Uintah Mountain Ranges.

In more recent geologic time, the regional uplift of much of the western North American continent raised Utah to its present elevation, on average about one mile above sea level. Steepened river gradients greatly accelerated erosion, and several rivers still sculpt the great canyons of the Colorado Plateau. The different rates of movement between the tectonic plates separated by the Wasatch Mountains formed the terminal basins and mountain ranges of the Great Basin. Because these basins have no outlet to the sea, intermittent lakes fill the lowest elevations of these basins during periods of heavy precipitation. Permanent lakes fill some of these basins, the largest being the Great Salt Lake.

During past geologic periods, climatic changes have resulted in cycles of dramatically fluctuating levels of the lake filling the Great Salt Lake Basin. During the most recent cycle, a lake began filling the basin 25,000 years ago. This filling led to the creation of Lake Bonneville, a huge lake over 1,000 feet deep. Extending over most of northwestern Utah and portions of southern Idaho and eastern Nevada, the lake covered 20,000 square miles. Geologists have concluded that the lake level dropped 15,000 years ago when the waters overflowing the basin near Red Rock Pass in southeastern Idaho breached the sediments forming the pass catastrophically flooding the Snake River. The level of the lake remained stable at two separate lower elevations for 5,000 years before

climate changes reduced the inflow into the lake allowing its slow retreat and the creation of the Great Salt Lake.¹

Archeologists believe that from 10,000 or more years ago, until A.D. 400, the human inhabitants of Utah practiced a single common culture termed the Desert Archaic. Characterized by hunting-gathering, the flexible, highly adaptive lifeway generally mirrored the gathering phases of most of man's cultural development. However, beginning around A.D. 400 a new unique culture began to emerge throughout most of Utah. The Desert Archaic culture emerged as the people archeologists now refer to as the Fremont blended their historic gathering practices with the new ideas and technologies transmitted across the Southwest from Mexico. Specifically, the Fremont adopted the cultivation of corn, squash, and beans; the making of pottery; and the concept of permanent housing. South of the Colorado River, archeologists have found little evidence of the Fremont culture; thus, they conclude the river seems to form a sharp southern boundary between the Ancient Puebloan (formerly known as Anasazi) and the Fremont. However, a recently revealed Fremont site suggests that a greater interaction may have existed between the Ancient Puebloan and the Fremont than was formerly believed. Like the Ancient Puebloan, archeologists have found no evidence that the Fremont inhabited their settlements after A.D. 1250-1300.²

While the issue remains a subject of debate, most archeologists agree that a combination of war and drought-induced famine forced the Fremont to relocate. Upon the disappearance of the Fremont in the Thirteenth Century A.D., the Numic-speakers (Piute, Gosiute, and Ute) took over the territory. They practiced the Archaic lifeway that had remained the characteristic of the Intermountain West (except Utah) from the

beginning. It seems that the Shoshoni-speakers who were in possession of Utah upon first white contact were migrants from Southern California and Nevada. They may have been a factor in the disappearance of the Fremont, or they may have expanded eastward into a territory already empty of human occupants by the Fourteenth Century. Linguistic evidence has confirmed the time and direction of expansion of the Numic-speakers; what is lacking is knowledge of the nature of the contact, if any, with the Fremont.³

The expedition of Franciscan Friars Francisco Dominguez and Silvestre Velez de Escalante contained the first Euro-Americans known to visit the Uinta Basin. Traveling from Santa Fe, the group arrived at the Uncompahgre Plateau in Western Colorado in August. While there they met two Utah Utes of the *Tumpanuwac* or Timpanogos band-known to the Spaniards as Lagunas-who were visiting the Uncompahgre lodges. They convinced the two men they named Silvestre and Joaquin to help guide the expedition. The party crossed the Green River near present-day Jensen, Utah, on September 13, 1776. The expedition continued west reaching the shores of Utah Lake before turning southward to return to Taos.⁴

The Uintah Band resided in the Uintah Basin and the Timpanogos Band in Utah Valley. The Salt Lake Valley was an intermediate ground between the Ute and the Shoshone to the north. The Spaniard's expedition opened trade with the Utes and introduced both the horse and the slave trade. These developments forced the consolidation of the small family units into social units living in the Uinta Basin and their withdrawal to "safer, less accessible territory" with the *Tumpanuwac* near Utah Lake.⁵

Some years later, the Uinta Basin became an important area to the fur trade. Following the route of Dominguez and Escalante, Etienne Provost and other trappers

from Taos operated in the area during 1824. The following year, General W. M. Ashley, owner of the Rocky Mountain Fur Company, and a party of trappers visited the area, giving his name to the creek and valley. Recognizing the importance of the area as a crossroads, William Reed, James Reed, and Denis Julien established a trading post at the confluence of the Uintah and Whiterocks Rivers in 1828. Four years later, Antoine Robidoux, who had established a successful trading post near present day Delta, Colorado, purchased the operation from Reed and his partners.⁶

Fort Robidoux operated successfully for a number of years until 1844 when Utes burned the fort during a confrontation. The destruction of the fort and the decline of the fur trade in the 1840's resulted in a temporary withdrawal of Euro-Americans from the Uinta Basin. However, the first wave of Mormon pioneers reached the Salt Lake Valley in the nearby Great Basin in 1847. Because they first settled in the intermediate zone between the Ute and Shoshone, the Mormons enjoyed affable relations with their American Indian neighbors.

Under the direction of Brigham Young, the settlers began colonizing the region, spreading out primarily along the north-south axis of the Wasatch Range. As the Mormons spread they strained their cordial relations with the Utes. An altercation between Mormon settlers in the Utah County town of Springville in July 1853 resulted in the short Walker (or Wakara) War. Named for Ute Chief Wakara who led raids on Mormon settlements, the two sides reached a peace agreement the following May. But the continued spread of Mormon settlers and the subsequent increase in confrontations, resulted in the Department of Interior's Secretary Caleb B. Smith recommending the removal and consolidation of the Utah Utes to a reservation in the Uintah Basin.

By executive order, President Abraham Lincoln established the Uintah Reservation in October 1861. During the later summer, before Lincoln acted on Smith's recommendation, Brigham Young sent an expedition into the Uintah Basin to investigate its potential for Mormon settlement. Perhaps unduly influenced by the dry, brown grass of the late summer, the party reported the area to be "one vast contiguity of waste...valueless excepting for nomadic purposes, hunting grounds for Indians and to hold the world together." In 1864 the Utes signed a treaty ceding their traditional lands and agreeing to relocate to the reservation in exchange for just compensation for their lands, agricultural assistance, and education for their children. However, after they moved onto the reservation, the Senate refused to ratify the treaty, leaving them without the promised compensation and assistance.⁷

The growth of mining in Western Colorado, and the friction between the Native Americans and miners precipitated the Meeker Massacre in 1877. As a result of the incident, Federal authorities pressured the Colorado Utes to accept a treaty for removal to a reservation. By treaty, the government moved the White River Utes onto the Uintah Reservation. In January 1881 President Chester A. Arthur issued an executive order creating the Ouray Reservation on adjacent lands for the resettlement of the Uncompahgre Utes. By August, the Uncompahgres had all been moved to their new home. The reservations excluded the Ashley Creek and Brush Creek drainages.⁸

The completion of the transcontinental railroad in 1869 accelerated the settlement of Utah and increased the numbers of non-Mormons settling in the State. The discovery of gold and silver by California State Militia stationed at Fort Douglas during the Civil War helped lure prospectors, and later immigrant laborers to Utah's mines. The growth

of the mining industry bolstered the farming and ranching economy of the territory. This economic stimulation contributed to the white settlement in the Uintah Basin. In 1873 Parson Dodds, who had just resigned as Indian agent from the Uintah-Ouray Indian Agency, started ranching in the Ashley Valley. Over the next several years, a number of livestock men located in Ashley Valley, and in 1878 the present town of Jensen was settled by Mormon colonists. Uintah County was organized March 3, 1880.⁹

Agricultural development of the Uintah Basin differed from other settlements in Utah. The distance to markets limited the profitability of many farm products. Further, the scarce amount of water late in the growing season made these crops difficult to grow. Instead the cattlemen primarily grew additional cattle feed. Parson Dodds was the first to use Ashley Creek for irrigation, diverting water for his pasture lands. Following a pattern typical of other Mormon settlement, a number of farmers united to build the Ashley Central Canal in 1879. The three and a half mile canal irrigated 9,000 acres in the Vernal area. Within four years the canal doubled in size and had appropriated one third of the stream flow of Ashley Creek. Settlers created a second canal company later that year to construct the Ashley Upper Canal. The canal soon stretched twelve miles, and the company also claimed one third of the river's flows.¹⁰

The continued immigration of new Mormon converts, the influx of non-Mormons, the shift away from subsistence agriculture, and periods of drought all strained Utah's original communal water systems. The territorial legislature began enacting new water legislation, adopting the principles of prior appropriation and beneficial use. After achieving statehood, the new Utah State Legislature further refined the water laws, and established the Office of State Engineer.

Inspired by a severe drought at the turn of the Twentieth Century, Utah State Engineer Abraham Fairbanks Doremus prepared an ambitious plan for future water development in 1902. His plans have served as a blueprint for much of the water development in Utah undertaken during the Twentieth Century. Among the many concepts in his plan, Doremus anticipated diverting the Duchesne River and its tributaries to the Strawberry Reservoir, and irrigation canals to divert Strawberry water from Spanish Fork Canyon to Salt Lake County.¹¹

In 1904, Reclamation undertook investigations of other potential projects, largely outlined by State Engineer Doremus, to supply water to Cache, Salt Lake, Utah and Ashley Valleys; and Uintah Indian Reservation. W. P. Hardesty conducted investigations of the development of the Bear River in southern Idaho and northern Utah. District Engineer, George L. Swendsen, led investigations on the conversion of Utah Lake into a storage reservoir and the construction of dikes to reduce evaporation in the shallow Provo and Goshen Bays. Howard S. Reed conducted surveys of potential dam sites in the Uinta Basin on the reservation and in the Ashley Valley. In the Strawberry Valley, Assistant Engineer E. F. Tabor surveyed the potential dam site and investigated the possibility of augmenting the reservoir with water diverted from the Duchesne and its tributaries to the east.¹²

Based on all these investigations, Reclamation chose to build the Strawberry Project as its first in Utah. But due to economic and practical limitations noted by Tabor, Reclamation opted not to incorporate plans for diverting additional water into Strawberry. Reclamation began construction of the Strawberry Valley Project on March 6, 1906. As the Project neared completion over a decade later, local interests,

state water planners, and Reclamation began contemplating the next Federal project in Utah. After Reclamation began water deliveries to southern Utah County, farmers in eastern Juab County began petitioning Reclamation to be included in the project. Investigations, paid for in part by the farmers, determined the project economically infeasible. In later years, the idea to expand the Strawberry Project became the motivation behind the CUP.¹³

The Utah Water Storage Commission entered into a contract in 1922 to cooperatively fund investigations into the next Reclamation project in Utah. As a result of the investigations, Reclamation selected the Weber River Project in 1924 as its second project in Utah. Reclamation later constructed several other projects identified in these investigations. In response to the Great Depression and a severe drought which devastated Utah's agriculture and threatened municipal supplies, President Franklin D. Roosevelt authorized additional "emergency" Reclamation projects. These projects included the Hyrum Project near Logan, the Ogden River Project, the Provo River Project, the Moon Lake Project on the Lake Fork River in the Uintah Basin, and the Sanpete Project.¹⁴

During this same time, Reclamation undertook additional investigations of potential projects in Utah cooperatively funded by the Utah Water Storage Commission. Reclamation conducted these investigations in conjunction with a survey of potential projects in the Upper Colorado River Basin authorized by the Boulder Canyon Project Act. The Boulder Canyon Adjustment Act of 1939 provided additional funding for the surveys. In 1939, Reclamation began investigation of the Colorado River-Great Basin Project. This massive project contemplated construction of the Echo Park Dam below the

confluence of the Green and Yampa Rivers. Hydropower generated at the dam would power a series of massive pumps to divert one million acre feet from the reservoir and lift it 1,025 feet into Strawberry Reservoir for diversion to multiple points in the Bonneville Basin.¹⁵

As the investigation moved from technical possibility to economic reality, it became apparent that the amount of power needed for pumping the water, and the subsequent loss of power revenues to offset operation and maintenance costs rendered the project economically unfeasible. Before the concluding report had been printed, Reclamation began investigating an alternative project, named the CUP which eliminated the need for high pump lifts. Reclamation's evolving plans for the CUP were still ambitious.

Project Authorization

Following World War II, planning for the CUP picked up speed. Reclamation engineers proposed making additional water available from Strawberry Reservoir by an elaborate scheme to exchange the water in the Uinta Basin. Reclamation engineers proposed using a reservoir on the Green River at either Flaming Gorge or Echo Park. Using gravity and a long tunnel from Flaming Gorge, or the hydroelectricity generated at Echo Park to power pumps, they planned to divert water directly from the Green River to an expanded network of reservoirs, canals, and pipelines to supply the cities and farms of the Uintah Basin. The existing water from virtually every stream and river along the southern slope of the Uinta Mountains could then be diverted through a series of pipelines into an enlarged Strawberry Reservoir, and then to the farms and cities of the Bonneville Basin.¹⁶

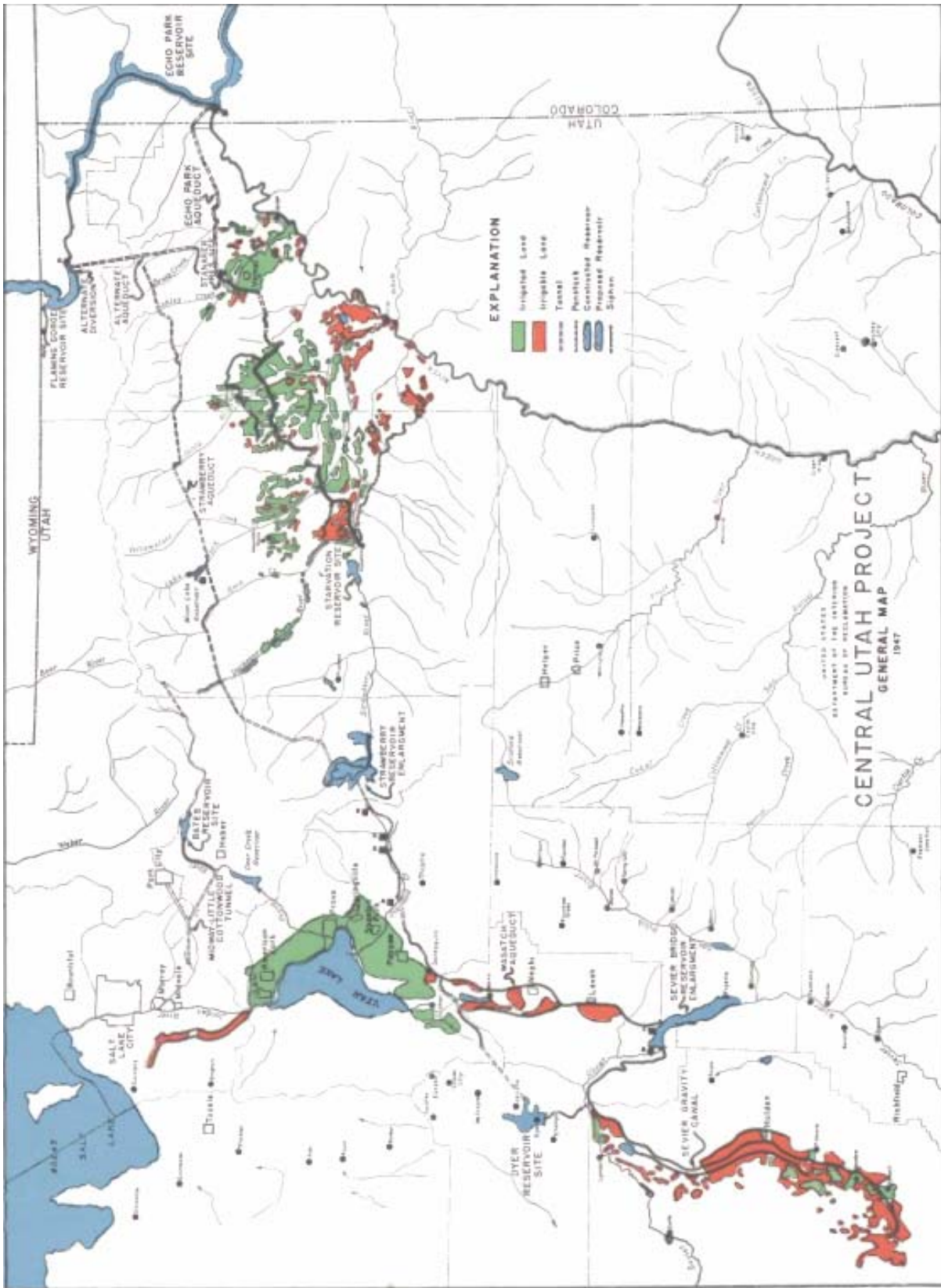


Figure 1 Map of Proposed Central Utah Project as proposed in 1947.¹

Following World War II, citing a need for jobs and homes for returning veterans, Reclamation proposed massive new reclamation projects throughout the West. The agency included CUP on the list. But the complicated and expensive project, first proposed to Congress by Utah Senator Abe Murdock in 1946, quickly met with opposition. This opposition came first on economic grounds, to which later would be added the opposition of downstream users of the Colorado River and environmentalists concerned about the flooding of Dinosaur National Monument.¹⁷

Despite opposition, a coalition of western senators and congressmen secured passage of the Colorado River Storage Project (CRSP) in 1956. CRSP authorized the construction of “main stem” dams along the Colorado and its significant tributaries in the Upper Basin States. The power stations at these dams would develop hydroelectricity to generate revenue to offset the cost of irrigation projects, and the water stored in the reservoirs would guarantee water deliveries to the lower basin. Additionally, CRSP

authorized thirteen participating irrigation projects including the CUP, the largest of them all.¹⁸

The initial phase of the CUP broke the ambitious plans into four independent units—Jensen, Vernal, Upalco, and Bonneville—which could later be unified in the ultimate phase. The first three units proposed

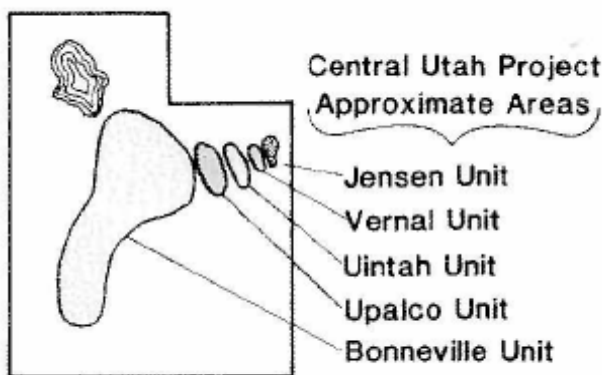


Figure 2 Map showing five CUP units. The Ute Indian Unit overlapped all five units.¹

construction of reservoirs to increase water supplies in the Uintah Basin. The Bonneville Unit proposed additional storage in the Uintah Basin and a transbasin diversion to the Bonneville and Sevier River Basins.

To allow for the full diversion of water from the Uintah Basin under the Bonneville Unit, Reclamation and the Central Utah Water Conservancy District (CUWCD)-the local repayment agency-negotiated with the Ute Indian Tribe which held superior rights on the Duchesne River. The Tribe agreed to defer their paper rights for forty years in exchange for water development projects to make real water available to tribal members.¹⁹

To meet these water rights obligations and to fully develop Utah's share of the Colorado River, Reclamation planned two additional units of the CUP in the ultimate phase. In 1968, as part of the Colorado River Basin Project Act, Congress conditionally authorized the Uintah Unit for construction of, and the Ute Indian Unit for feasibility investigation. The Uintah Unit consisted of two reservoirs on the Uintah and Whiterocks Rivers to supply irrigation water to Indian and non-Indian lands. The Ute Indian Unit contemplated various plans for diversion from the Green River into the Uintah Basin.²⁰

Construction History

Construction began on the Vernal Unit in 1959 and on the Bonneville Unit in 1968. The local water districts and Reclamation determined that the Vernal Unit and Bonneville Unit should be assigned priority. Small annual appropriations stretched feasibility planning out over many years. These early plans included two reservoirs, Taskeech on the Lake Fork River, and an off-stream reservoir in Big Sand Wash. After experiencing drought conditions in 1961 and 1962, the Moon Lake Water Users

Association (MLWUA)—the local agency operating the Moon Lake Project built by Reclamation during the depression—decided to construct the smaller reservoir at Sand Wash early without Reclamation’s help. However, they agreed to coordinate the operation of the two reservoirs when Reclamation constructed Taskeech Reservoir.

Reclamation completed a Definite Plan Report (DPR) for the Upalco Unit in 1968, which it revised and published in March 1969. Although local water users and Reclamation hoped to begin construction, in the face of limited funding for the CUP, the priority remained on the Bonneville Unit. After years of struggle, Utah’s Congressional delegations’ efforts to secure project funding paid off and Reclamation received appropriations to move forward with advance planning and environmental studies on the Upalco Unit, Uintah Unit, and to complete the feasibility studies for the Ute Indian Unit.

Due to the extended period of time elapsed since publication of the Upalco Unit DPR, and a petition by Roosevelt, Utah, for 2,000 acre feet of municipal and industrial (M&I) water, Reclamation prepared an updated DPR. Reclamation proposed constructing the Taskeech Dam and Reservoir on the Lake Fork River to store surplus flows of Lake Fork and Yellowstone Rivers. The Boneta Diversion Dam would divert project water from the Yellowstone River into the reservoir via the Taskeech Feeder Canal. A service canal would convey water back to project lands in the Yellowstone River drainage. Because of the limited amount of surplus water in the two rivers, Reclamation proposed developing an additional project through rehabilitation of existing canals to reduce excessive seepage losses and increase use of return flows.

Additionally, Reclamation proposed transferring the water then stored in fourteen small reservoirs in the high Uintas. Irrigation companies had converted natural lakes into

reservoirs by adding dams and outlet works. By transferring the storage from the lakes to the new Taskeech Reservoir, Reclamation proposed the restoration of the lakes to their historic levels. In addition to the environmental and aesthetic enhancements, the project would also reduce the hazards posed by the primitive dams and reduce the irrigation companies operating costs. Reclamation proposed further environmental enhancement through the coordinated operation of reservoirs on the two rivers to allow fishery improvements.²¹

Reclamation completed the Upalco Unit Draft Environmental Impact Statement on July 25, 1979. Regional Director Nelson W. Plummer, along with Assistant Regional Solicitor Roland G. Robinson, Jr. and Project Manager Kirk Carpenter held a Public Hearing on the Draft Environmental Statement at Union High School in Roosevelt, Utah, on September 13, 1979. Eleven individuals presented statements, most in favor of the project. Three speakers raised concerns over the project. Two speakers disapproved of the planned acquisition of private land for environmental enhancements and a third wanted to insure that Reclamation had determined the proposed dam site was not a nesting area for Peregrine Falcons.²²

With little opposition expressed, Reclamation made the necessary investigations and revisions and issued the Final Environmental Impact Statement on March 12, 1980, and the updated DPR the same month. After publication of the DPR, further investigations of the Taskeech Dam site resulted in Reclamation shifting the site 700 feet downstream to a more favorable location. During the same period, Roosevelt City petitioned for an additional 1,000 acre feet of municipal and industrial water from the project bringing the total to 3,000 acre feet. As a result, Reclamation completed an

Environmental Assessment, the regional director issued a “Finding of No Significant Impact” (FONSI) on May 5, 1981, and Reclamation published a supplement to the DPR on May 15, 1981.²³

On August 27, the CUWCD signed a repayment contract for the M&I portion of the project to pay approximately \$6.5 million in one lump sum upon receiving the first block notice for 1,500 acre feet of M&I water. Congress appropriated funds for construction of the Upalco Unit in 1981, and Reclamation began advanced design activities in preparation for construction. However, the fate of the Upalco Unit became closely entwined with that of the Uintah and Ute Indian Units. During the same period of time, Reclamation completed the DPR and Environmental Impact Statement for the Upalco Unit, it also completed studies for the Uintah and Ute Indian Units.²⁴

On April 6, 1976 the Uintah Unit cleared an important hurdle. The Secretary of Interior transmitted a letter to the President of the Senate and the Speaker of the House certifying the physical and economic feasibility to the Uintah Unit as required by the Colorado River Basin Project Act. The President’s Office of Management and Budget cleared the unit, allowing it to proceed to advance planning in preparation for construction. In July 1978, Reclamation filed a Draft Environmental Impact Statement for the Uintah Unit.²⁵

During the review of the document, Reclamation awarded a contract for geophysical surveys to obtain additional geological data regarding the proposed dam sites. After completion of testing, the new information indicated adverse geological conditions at the proposed Uinta Dam site and a more favorable site at the Whiterocks Dam site 700 feet downstream from the originally proposed axis. Since the Uinta Dam

could not be constructed at the proposed site, Reclamation conducted studies along the river and located another site about 6 miles upstream which appeared feasible. Using the new sites for the dam, Reclamation formulated several alternatives to the plan presented in the 1978 report, and issued a status report in June 1980.²⁶

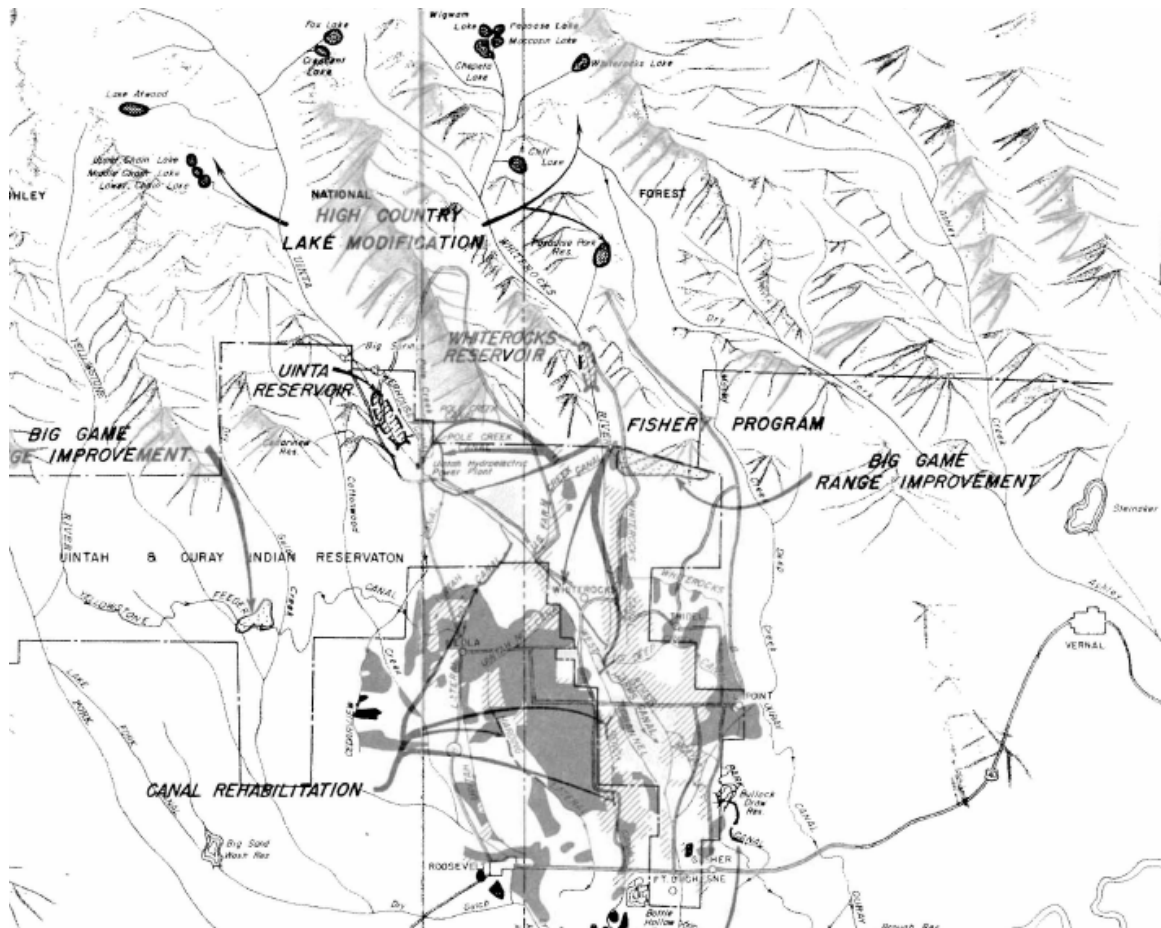


Figure 3 – Map for Uintah Unit from 1978 Draft Environmental Impact Statement

While Reclamation remained confident that the Uintah Unit would be built, it issued a concluding report on the Ute Indian Unit in May 1980. The purpose of the Ute Indian Unit was to develop Utah’s remaining share of the Colorado River, the investigation had been coordinated with the State of Utah and became entwined with the formulation of a statewide water plan. Because key factors determining the best use of

project water—for irrigation or for M&I use—and political, legal and environmental issues were in a state of flux, Reclamation could not formulate a feasible plan and issued a report concluding; “Unit local decisions are made on key factors, it is premature to determine the need for development of the Ute Indian Unit and to develop a feasible plan.” The report continued, “In view of these limiting factors, it is neither practicable nor feasible at this time to develop a large reclamation project to utilize Utah’s remaining share of the Colorado River.”²⁷

The report, combined with the questionable status of the Uintah Unit, caused the Ute Tribe to become increasingly concerned that their water would not be developed as promised in the 1965 Deferral Agreement. As a result, the Tribe stopped cooperating with Reclamation on the Upalco Unit. The Taskeech Dam and Reservoir were located on tribal lands, but most of the project benefits accrued to non-Indian water users.

On April 28, 1982, the Ute Tribe sent a letter to the State of Utah, Reclamation, and the CUWCD proposing its solution to implementing the Deferral Agreement. The list of desired benefits included: (1) direct revenues compensation; (2) modification of the Upalco Unit to provide additional water to Indians; (3) development of an Indian only version of the Uintah Unit; (4) rehabilitation of the existing Uintah Indian Irrigation System; (5) creation of a fund to permit the Ute Tribe to consolidate former Indian lands; (6) acquisition of a permanent Ute Tribal allocation out of Flaming Gorge Reservoir; and (7) development of a tribal ownership interest in the proposed State of Utah’s White River Dam Project.²⁸

In June 1982, CUP Project Manager Kirk Carpenter reported to local water users that work on the Upalco Unit had come to a standstill. The Tribe had denied access to

the lands until “it is determined what benefits the various units of the CUP will provide them.”²⁹

On July 4, 1982, the three parties began negotiating a Memorandum of Understanding to address the Tribe’s concerns and allow the work at the Taskeech site to continue. The Ute Tribe, CUWCD, and Reclamation reached an interim agreement signed November 9, 1982, to allow Reclamation to move forward with exploratory drilling in advance of dam design. Carpenter reported to the CUWCD Board the following month that the Tribe wanted work on all three dams of the Upalco Unit and Uintah Unit to move forward simultaneously.³⁰

In the early months of 1983, contractors completed drilling work on the Uintah and Whiterocks Dam sites. By April the contractor had completed the five holes at the Uintah Site. Based on the data, Reclamation’s geologist, Samuel Treece, recommended against use of the site because of both the excessive depth to bedrock and the high permeability of the surface materials at the site. He further noted that the dam site could not be moved easily downstream because an ancient landslide would then underlie the right abutment.³¹

By November, work on the design of the Upalco Unit had moved forward, and Reclamation had begun appraising the land for purchase, and planned a final drilling program for the Taskeech site in February 1984. However, the revelation that no suitable site existed on the Uintah River placed the Ute Tribe in an uncooperative mood. With the Tribe unwilling to sell the land, Reclamation considered condemnation, however the desire to move forward with a modified plan for the Uintah Unit using a single reservoir on the Whiterocks River led to a decision to continue negotiations.

In early March 1985, officials from Reclamation, the CUWCD, and Ute Tribe met in Washington to attempt to resolve the Tribe's concerns. Interior proposed granting the Tribe 60,000 feet of storage rights in Flaming Gorge, which it agreed the Tribe could sell or lease to water users in the Lower Colorado River Basin, if Utah State Laws could be changed to allow it. Utah water officials and the State legislature refused to consider the change, and Reclamation attempted to involve the Tribe in the reformulation of the Uintah Unit to an "all Indian project." However, the Tribe showed no interest in the project.³²

Plans for the Upalco Unit started to fall apart in the early months of 1986. Reclamation informed interested parties that the estimated Upalco Unit Costs now exceeded "justifiable expenditures" by \$15 million. The CUWCD Board passed a resolution offering to pay an extra \$15 million towards project costs to cover the difference, provided that Reclamation move forward with condemnation of Ute lands to build the Taskeech Reservoir. Reclamation, however, declined the offer. At a meeting held in Roosevelt on May 28, 1986, Regional Director Clifford Barrett met with water users and announced that Reclamation had indefinitely postponed the Upalco Unit because of increased costs and lack of demand for M&I water.³³

With three of the CUP's units postponed indefinitely, the CUP's largest unit faced a new challenge. Due to inflation, construction challenges, and the redesign and enhancement of project features in the wake of the Teton Dam failure, the Bonneville Unit was fast approaching the cost ceiling imposed by Congress. Reclamation began working with the local water district and Utah's congressional delegation to secure passage of a simple amendment to increase the authorized limits under CRSP. However,

the Democratic leadership of key congressional committees opposed the increase without addressing longstanding economic and environmental complaints lodged by Reclamation critics.

The result was a five year political battle to hammer out compromise legislation. The Central Utah Project Completion Act (CUPCA), later incorporated into the Omnibus Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575), signed by President George H. W. Bush on October 30, 1992. CUPCA dramatically changed the CUP. Section 201(b)(2)(D) deauthorized the Ute Indian Unit. Section 203 provided \$30 million toward projects to replace the Upalco and Uintah Units with planning and construction oversight transferred from Reclamation to the CUWCD. Additional funding oversight would be provided directly by the Office of the Secretary of Interior through the newly created Central Utah Project Completion Office (CUPCO). Title Five of the law provided for a financial settlement to compensate the Ute Tribe for water rights deferred by the 1965 agreement diverted by the Bonneville Unit.³⁴

The CUWCD and CUPCO offices worked as joint-lead agencies on the preparation of environmental clearance documents for the project. In December 1996 the offices completed draft Environmental Impact Statements for the Upalco Unit Replacement Project, with a similar document for the Uintah Replacement Project the following February. During the review phase, several issues of conflict arose as the CUWCD and Interior attempted to negotiate agreements with water users in the Uintah Basin, including the Ute Tribe. The negotiations continued for almost two years. Then, suddenly, as the deadline approached, the Ute Tribal Council voted on April 29, 1999, not to participate in either of the Replacement Projects. This move essentially killed the

projects in their tracks. In the wake of the Tribe's decision, the CUWCD reverted to square one to begin from scratch to reformulate a plan and gain environmental clearance. This plan would take shape over the next several years as the Uintah Basin Replacement Project.

The District began reevaluation of the projects and consulted with its beneficiaries, the MLWUA, and Roosevelt City. After studying the possible improvements, the CUWCD and partnering agencies determined the best plan to be the enlargement of the existing Big Sand Wash Reservoir owned by the MLWUA. The plan would double the size of the reservoir and provide additional municipal water to Roosevelt City and irrigation water to the MLWUA. The project would not involve any water rights or land associated with the Ute Tribe, which remained unsupportive of the project.

The CUWCD and Interior began work on a new environmental study and environmental assessment. After working for over a year and a half on the study, they presented it for public review on February 12, 2001. Interior issued a FONSI for the Uintah Basin Replacement Project on October 22, 2001.³⁵

The CUWCD opened bids for construction of the enlargement of the Big Sand Wash Reservoir on January 21, 2004. CUWCD awarded a contract for construction to the joint venture of W. W. Clyde of Springville, Utah and Obayashi Construction. Clyde-Obayashi began construction work rebuilding the main dam, and two saddle dams, raising their height twenty-six feet, effectively doubling the capacity of the reservoir. Reclamation worked as a consultant to the CUWCD on the design of the dam. Through a contract with the CUWCD, Reclamation employees Kent Kofford acted as resident

engineer and Terry Despain acted as chief inspector during project construction. Additionally, Reclamation provided assistance to solve problems encountered during construction. The contractor encountered difficulties in rock excavating, trenching and steep abutment work; groundwater seeping into excavations in sandstone formations requiring many trenches and sump pumps.³⁶

Crews completed the final touches on the dams in July 2006 and the contractor completed site remediation and cleanup in December 2006. The joint-lead agencies held a groundbreaking ceremony for the project on June 28, 2007. Assistant Secretary of Interior Mark A. Limbaugh provided the keynote address at the dedication of the enlarged Big Sand Wash Dam and Reservoir.³⁷

The project also included the construction of a new Big Sand Wash Diversion Structure on the Lake Fork River and the Big Sand Wash Feeder Pipeline. Construction on these features began in 2004. The CUWCD will make municipal water deliveries to the city of Roosevelt and surrounding area through the Big Sand Wash-Roosevelt Pipeline, scheduled for completion in 2007.³⁸

Post Construction History

Because the Uintah and Ute Indian Units were not constructed, and because the enlargement of Big Sand Wash Reservoir under the Uintah Basin Replacement Project has only recently been completed, there is no post-construction history to report.

Settlement of Project Lands

The enlargement of the Big Sand Wash Reservoir—in which Reclamation acted as a consultant to Interior, CUPCO, and the CUWCD —provides only supplemental

irrigation water. Because these lands were already under private ownership, the project made no lands available for settlement.

Uses of Project Water

The enlargement of the Big Sand Wash reservoir increased its capacity from 12,100 acre feet to 24,200 acre feet. The additional water includes 3,000 acre feet of M&I water for Roosevelt and neighboring communities and another 2,500 acre feet of irrigation water. The balance will be used to allow the transfer of storage from thirteen aging high-mountain reservoirs in the Lake Fork drainage that serve as the headwaters for Big Sand Wash, benefiting the area's ecosystem. Through coordinated operation of Moon Lake and the Big Sand Wash Reservoir, improved stream flows will enhance stream fisheries on portions of the Lake Fork River. Additionally, the enlargement project included the reconstruction and improvement of the reservoir's recreation features for boating and fishing.³⁹

Conclusion

The complete plans for the CUP were among the most ambitious conceived by Reclamation. Complicated by the problematic and sometimes controversial water rights agreement with the Ute Tribe, changing priorities of the State of Utah over development of its share of the Colorado River, geologic problems, and cost increases, three units of the CUP were not built by Reclamation. Following passage of the CUPCA, the CUWCD, working with the office of the Secretary of Interior and with assistance from Reclamation, recently completed the enlargement of the Big Sand Wash as a replacement project for the Upalco Unit. While much smaller than the original project contemplated

by Reclamation, the project provides an important supply of municipal and supplemental irrigation water while providing valuable environmental enhancements.

Notes

1. Genevieve Atwood, "Geology of Utah," and "Lake Bonneville," *Utah History Encyclopedia*, Allen Kent Powell, ed. (Salt Lake City: University of Utah Press, 1994).
2. Jesse D. Jennings, "Prehistory of Utah" in "Cultural Resources within the Central Utah Project: Lower Duchesne River Waterfowl Lands of the Bonneville Unit and the Tyzack Borrow Area Expansion of the Jensen Unit" by Partick F. Hogan, (Salt Lake City, Utah: University of Utah, November 1976), 16-17. David B. Madsen, "Fremont," in *Utah History Encyclopedia* edited by Allen Kent Powell (Salt Lake City: University of Utah Press, 1994); Betsy Carpenter, "Mystery Tribe What Happened to the Fremont Indians? New Discoveries May Tell Their Tale at Last," *U.S. News and World Report*, August 26, 2004.
3. Ibid.
4. Craig Fuller, "History of the Uinta Basin" in Edward Sisson, et. al., "Final Report: Survey and Evaluation of Archeological and Historical Resources, Central Utah Project, 1977-Leland Bench and West Ouray Area, Pariette Bench and Eight Mile Flat, Towanta Flats, Rock Creek Bottoms, Little Valley, Farm Creek and Hidden Valley, Wissup Waterfowl Management Area," (Salt Lake City: University of Utah, June 1978), 41-3.
5. Ibid.
6. Ibid, 43-4.
7. Fuller, 45-6. Quote from *Deseret News*, September 25, 1861. On the Mormon exploration of the basin see Jedediah S. Rogers, "'One Vast 'Contiguity of Waste'": Documents from an Early Attempt to Expand the Mormon Kingdom into the Uinta Basin, 1861," *Utah Historical Quarterly* 73 (Summer 2005), 250.
8. Fuller, 45, 49-50.
9. Reclamation, "The Vernal Project, Utah," 3.
10. Gregory D. Kendrick, ed., *Beyond the Wasatch: The History of Irrigation in the Uinta Basin and Upper Provo River Area of Utah* (Washington, D.C: U.S. Government Printing Office, 1989), 3, 5-6.
11. Doremus presented detailed plans of his grand scheme to the Utah Congressional Delegation in an all-day meeting on January 28, 1904. On these meetings see, *Eastern Utah Advocate*, February 4, 1904. In addition to the development of the Strawberry, his plans called for the regulation of Utah Lake and Bear Lake as storage reservoirs, and a second transbasin diversion of water from Blackfoot River, a tributary of the Snake River, into the Bear River and a series of canals to make the water from Strawberry and the Bear River available to the Salt Lake Valley. Reports of this plan, "Millions For Utah, Irrigation Scheme Which Will Benefit Three Great Valleys," appeared in several Utah weekly newspapers including the *Davis County Clipper*, *Eureka Reporter*, and *Tooele Transcript*, February 19, 1904. For Strawberry plans see, Abraham Fairbanks Doremus, *Third Biennial Report of the State Engineer to the Governor of Utah. 1901-1902* (Salt Lake City: Star Printing Company, 1903), 9-14; and U.S., Department of the Interior, Bureau of Reclamation, *Third Annual Report of the Reclamation Service 1903-1904* (Washington D.C.: 1905), 508-9. Hereafter, these annual reports will be cited as *Bureau of Reclamation Annual Report* with the date of the fiscal year—in this case, 1903.
12. Ibid, 495-599.
13. Ibid, 510-4. On the Strawberry Project generally see, Thomas G. Alexander, "An Investment in Progress: Utah's First Federal Reclamation Project, the Strawberry Valley Project," *Utah Historical Quarterly* 39 (1971): 286-304; also see Kathryn MacKay, "The Strawberry Valley Reclamation Project and the Opening of the Uintah Indian Reservation," *Utah Historical Quarterly* 50 (1982): 68-89, and Jessie Embry, "From Self Sufficiency to Colony: The Bureau of Reclamation and Wasatch County, Utah" presented at the Symposium on the History of the Bureau of Reclamation, University of Nevada at Las Vegas, June 18-19; On the expansion of the project to Juab County see *Bureau of Reclamation Annual Report*, 1919, 429-30 and *Bureau of Reclamation Annual Report*, 1920, 437.

14. For funding and investigation of Salt Lake Basin/Weber River Project see William D. Rowley, *The Bureau of Reclamation: Origins and Growth to 1945* (Denver: U.S. Department of Interior, Bureau of Reclamation, 2006), 218-20. On the investigations see *Bureau of Reclamation Annual Report*, 1922, 131, *Bureau of Reclamation Annual Report*, 1923, 133. For Weber River Project specifications and construction history see Water and Power Resources Service, *Project Data* (Denver: Government Printing Office, 1981), 1325-8. On the drought generally see Leonard J. Arrington, "Utah's Great Drought of 1934," *Utah Historical Quarterly* 54 (Summer 1986): 245-64. For a history of the Bureau of Reclamation during the depression see Rowley, 307-74. For a list of Utah projects see particularly 325-6.
15. "Survey of Huge River Diversion Project Under Way," *Vernal Express*, July 27, 1939; Department of Interior, Bureau of Reclamation, "Colorado River-Great Basin Project, Utah." (Salt Lake City: Bureau Of Reclamation, Region 4, 1944), 1, copy at National Archives and Records Administration, Denver, Accession 8NN-115-85-019, Box 923.
16. United States Department of the Interior, Bureau of Reclamation, *Colorado River Storage Project and Participating Projects, Upper Colorado River Basin*, December 1950, particularly 13-4.
17. Department of the Interior, *The Colorado River, "A Natural Menace Becomes a National Resource:" A Comprehensive Report on the Development of the Water Resources of the Colorado River basin for Irrigation, Power Production, and Other Beneficial Uses in Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming* (March 1946), 117-8. On Echo Park controversy see Mark W. T. Harvery, *A Symbol of Wilderness: Echo Park and the American Conservation Movement* (Seattle: University of Washington Press, 2000).
18. Department of the Interior, Bureau of Reclamation, *Federal Reclamation and Related laws Annotated*, Volume 2 (Denver: Government Printing Office, 1972), 1248.
19. Contract Number 14-06-W-194 referenced in . "The Northern Ute's Long Water Ordeal," *High Country News* (Paonia, Colorado), 15 July 1991, 8.
20. Colorado River Basin Project Act, Public Law 90-537, Title V. See *Federal Reclamation and Related laws Annotated*, Volume 4, 2416-7. Also see, Department of Interior, Bureau of Reclamation, "Ute Indian Unit, Concluding Report" (Salt Lake City: Bureau of Reclamation, Region 4, May 1980), copy at NARA, Denver, Accession 8NS-115-95-083 Box 146.
21. Department of Interior, Bureau of Reclamation, *Upalco Unit, Central Utah Project, Definite Plan Report* (Salt Lake City: Bureau of Reclamation Region 4, 1980), 1.
22. Department of Interior, Bureau of Reclamation, "Public Hearing of the Draft Environmental Statement for the Upalco Unit," (Salt Lake City: Bureau of Reclamation Region 4, 1979), 19-22, 29-35, 36 found at National Archives and Record Administration, Denver, Accession 8NS-115-95-083 Box 142.
23. Department of Interior, Bureau of Reclamation, *Upalco Unit, Central Utah Project, Supplement to Definite Plan Report* (Salt Lake City: Bureau of Reclamation Region 4, 1981), 1.
24. Department of Interior, Bureau of Reclamation, "Uintah Unit, Central Utah Project, Status Report," (Salt Lake City: Bureau of Reclamation, Upper Colorado Region, 1980), I-1.
25. "Uintah Unit Cleared After Long Delay," *Central Utah Water Conservancy District Newsletter*, May 1, 1976, 1; Department of Interior, Bureau of Reclamation, "Draft Environmental Impact Statement, Uintah Unit, Central Utah Project," (Salt Lake City: Bureau of Reclamation, Upper Colorado Region, July 1978).
26. Uintah Unit, Status Report.
27. Department of Interior, Bureau of Reclamation, "Ute Indian Unit, Central Utah Project, Concluding Report," (Salt Lake City: Bureau of Reclamation, Upper Colorado Region, 1980), 7-9.
28. Annual Project History, Bonneville Unit, Volume XIX, 1984, 28.
29. Central Utah Water Conservancy District, Minutes of Board of Directors, June 10, 1982, 2. Digital copy provided by the CUWCD, Orem, Utah. Hereafter cited as CUWCD Board Minutes.
30. "Exploratory Drilling Scheduled for Uintah and Upalco," *CUWCD Newsletter*, Spring 1983, 3; CUWCD Board Minutes, December 9, 1982, 2.
31. Samuel C. Treece, "Geologic Feasibility Report for Uinta Dam site 4 B, Uinta Unit, Central Utah Project, Utah," (Duchesne, Utah: Bureau of Reclamation Duchesne Field Office, September 30, 1983), 3.
32. CUWCD Board Minutes, March 14, 1985, 2; and January 9, 1986, 2.
33. *Ibid*, February 13, 1986; and June 12, 1986, 2.

34. Adam Eastman, "From Cadillac to Chevy: Environmental Concern, Compromise, and the Central Utah Project Completion Act," Master's Thesis, Brigham Young University, 2006; Public Law 102-575 Titles II-V.
35. CUWCD Board Minutes, October 24, 2001, 3,5; CUWCD Annual Report 2001, 7.
36. Central Utah Water Conservancy District, "Uintah Basin Replacement Project, Big Sand Wash Reservoir Enlargement, Final Construction Report," December 2006, ii.
37. "Enlarged Reservoir is called a victory," *Deseret News*, June 29, 2007, B10.
38. "Uintah Basin Replacement Project," Central Utah Water Conservancy District, April 2003.
39. "Enlarged Reservoir is called a victory."

Bibliography

Primary Sources

Government Documents and Reports

Central Utah Water Conservancy District. *Annual Report*. Orem, Utah, 1965-2006.

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

_____. "Uintah Basin Replacement Project, Big Sand Wash Reservoir Enlargement, Final Construction Report." Orem: 2006.

Doremus, Abraham Fairbanks. *Third Biennial Report of the State Engineer to the Governor of Utah. 1901-1902*. Salt Lake City: Star Printing Company, 1903.

Hogan, Partick F. "Cultural Resources within the Central Utah Project: Lower Duchesne River Waterfowl Lands of the Bonneville Unit and the Tyzack Borrow Area Expansion of the Jensen Unit." Salt Lake City: University of Utah, November 1976.

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

Treece, Samuel C. "Geologic Feasibility Report for Uinta Dam site 4 B, Uinta Unit, Central Utah Project, Utah." Duchesne, Utah: Bureau of Reclamation Duchesne Field Office, 1983.

Sisson, Edward et. al., "Final Report: Survey and Evaluation of Archeological and Historical Resources, Central Utah Project, 1977-Leland Bench and West Ouray Area, Pariette Bench and Eight Mile Flat, Towanta Flats, Rock Creek Bottoms, Little Valley, Farm Creek and Hidden Valley, Wissup Waterfowl Management Area." Salt Lake City: University of Utah, June 1978.

U.S. Department of the Interior, Bureau of Reclamation. "Annual Project History: Bonneville Unit-Central Utah Project, Utah." Provo: Bureau of Reclamation, Provo Area Office.

_____. *Central Utah Project, A Supplement to the Colorado River Storage Project Report*. Project Planning Report No. 4-8a. 50.2. Salt Lake City: Bureau of Reclamation, Region 4, 1951.

_____. *The Colorado River, "A Natural Menace Becomes a National Resource:" A Comprehensive Report on the Development of the Water Resources of the Colorado River basin for Irrigation, Power Production, and Other Beneficial*

Uses in Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. Washington D.C.: Government Printing Office, March 1946.

_____. “Colorado River-Great Basin Project, Utah.” Salt Lake City: Bureau Of Reclamation, Region 4, 1944.

_____. *Colorado River Storage Project and Participating Projects, Upper Colorado River Basin: Project Planning Report no. 4-8a, 81-1.* Washington DC: Department of the Interior, December 1950.

_____. “Draft Environmental Impact Statement, Uintah Unit, Central Utah Project.” Salt Lake City: Bureau of Reclamation, Upper Colorado Region, July 1978.

_____. *Federal Reclamation and Related laws Annotated, Volume 2* (Denver: Government Printing Office, 1972

_____. *Federal Reclamation and Related laws Annotated, Volume 4.* Denver: Government Printing Office, 1989.

_____. “Public Hearing of the Draft Environmental Statement for the Upalco Unit,” (Salt Lake City: Bureau of Reclamation Region 4, 1979.

_____. *Third Annual Report of the Reclamation Service 1903-1904.* Washington D.C.: 1905.

_____. “The Vernal Project, Utah-Project Planning Report No. 4-8a.51.0” Salt Lake City: Bureau of Reclamation, Region 4, January, 1949.

_____. “Uintah Unit, Central Utah Project, Status Report,” (Salt Lake City: Bureau of Reclamation, Upper Colorado Region, 1980

_____. *Upalco Unit, Central Utah Project, Definite Plan Report* (Salt Lake City: Bureau of Reclamation Region 4, 1980.

_____. *Upalco Unit, Central Utah Project, Supplement to Definite Plan Report* (Salt Lake City: Bureau of Reclamation Region 4, 1981.

_____. “Ute Indian Unit, Concluding Report” (Salt Lake City: Bureau of Reclamation, Region 4, May 1980.

Department of Interior, Water and Power Resources Service. *Project Data.* Denver: Government Printing Office, 1981

Interviews

Siddoway, Laurence Y. Interview with author, July 14, 2007. Maser, Uintah County, Utah.

Periodicals and Newspapers

Central Utah Water Conservancy District Newsletter

Davis County Clipper

Deseret News (Salt Lake City)

Eastern Utah Advocate

Eureka Reporter

High Country News (Paonia, Colorado),

Tooele Transcript

U.S. News and World Report

Vernal Express

Secondary Sources

Books

Burton, Doris Karren. *A History of Uintah County*. Salt Lake City: Utah State Historical Society, 1996.

Harvery, Mark W. T. *A Symbol of Wilderness: Echo Park and the American Conservation Movement*. Seattle: University of Washington Press, 2000.

Reisner, Marc. *Cadillac Desert: The American West and Its Disappearing Water*, revised and updated edition (New York: Penguin Books, 1993).

Rowley, William D. *The Bureau of Reclamation: Origins and Growth to 1945*. Denver: U.S. Department of Interior, Bureau of Reclamation, 2006.

Sturgeon, Stephen C. *The Politics of Western Water: The Congressional Career of Wayne Apsinall*. Tuscon: University of Arizona Press, 2002.

Terrell, John Upton. *War for the Colorado River*. Glendale, California: The Arthur H. Clark Company, 1965.

Articles and Papers

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

Leonard J. Arrington, "Utah's Great Drought of 1934," *Utah Historical Quarterly* 54 (Summer 1986): 245-64

Jessie Embry, "From Self Sufficiency to Colony: The Bureau of Reclamation and Wasatch County, Utah" presented at the Symposium on the History of the Bureau of Reclamation, University of Nevada at Las Vegas, June 18-19.

MacKay, Kathryn. "The Strawberry Valley Reclamation Project and the Opening of the Uintah Indian Reservation," *Utah Historical Quarterly* 50 (1982): 68-89.

Rogers, Jedediah S. "'One Vast 'Contiguity of Waste'': Documents from an Early Attempt to Expand the Mormon Kingdom into the Uinta Basin, 1861," *Utah Historical Quarterly* 73 (Summer 2005): 249-264.

Dissertations and Theses

Eastman, Adam R. "From Cadillac To Chevy: Environmental Concern, Compromise and the Central Utah Project Completion Act." Master's Thesis. Brigham Young University, 2006.

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