

The History of Three Mountain Reservoirs

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Thesis Sentence: The locating, construction of, and maintenance of the three mountain reservoirs – Kidney Lake, Brown Duck Lake and Island Lake provide an interesting segment of the history of water development in the Uintah Basin.

The History of Three Mountain Reservoirs

In a meeting of the Board of Directors of the Farnsworth Canal and Reservoir Company, held July 12, 1915, George O. Lindsay of Mountain Home, Utah suggested that the "...Company should begin investigating reservoir sights in order to prepare for low water seasons."¹ With the Boards acceptance of his advice, begins the history of three of the Uintah mountain reservoirs: Kidney Lake, Brown Duck Lake and Island Lake, which eventually provided an average of 2,055 acre feet of water per year² to the ranchers and farmers in the northwestern corner of the Uintah Basin. This water, although a relatively small amount, was and is a vital part of the water picture in this area. A report wrote by Byron O. Colon, an early Uintah Basin Water Commissioner, gives us an overview of water and irrigation in the early days in Duchesne County:

The factor that has held the Uintah Basin back much more than the absence of a railroad has been the unmerciful years of drought. No section dependent for its well-being on agriculture can hope to progress without an assured water supply. There are more water sources and streams in the Uintah Basin, particularly in Duchesne County, than any other part of the state, but the construction of dams, reservoirs, canals, and irrigation systems is an expensive process and requires time, effort, and money.³

Later on in the report he also points out the fact that since, "...allotted Indian lands hold the primary water rights" this meant there was always uncertainty on the part of the farmers as to whether there would be enough water supply for the secondary filings.⁴ Thus, we can see it was necessary for early homesteaders to find ways and means of storing water so that even in drought years they would feel secure.

A month after Mr. Lindsay's initial suggestion, directors of the Farnsworth Canal and Reservoir Company, which serves the people in Mountain Home and Talmage, employed Austin G. Burton, accompanied by a competent guide to, "investigate reservoir sights by personal observation and report findings to the Board."⁵ On July 21, 1915, Mr. Burton reported to the Board he had found four lakes that he estimated would store "about 5,000 acre feet of water."⁶

The three lakes that were eventually developed are Kidney Lake, Island Lake and Brown Duck Lake. They are located in an area known as Brown Duck Basin, which is approximately six miles west of Moon Lake.⁷ The Lakes are all interconnected. Kidney Lake drains into Island Lake, which

drains into Brown Duck Lake. From there, the water travels through a natural channel to Lake Fork River, where it passes through Moon Lake Reservoir and on down to the head of the Farnsworth Canal, where it is re-diverted into the canal.⁸

Once the sites for the future reservoirs were located, the next order of business was to file on the water. During the July 21, 1915 meeting of the Farnsworth Company, Mr. Burton was instructed to prepare applications⁹ and filing of 435 acre feet of water on Kidney Lake. 324 acre feet of water on Brown Duck was given the priority date of July 22, 1915.¹⁰ July 28, 1915 was the priority date on 851.2 acre feet of water on Island Lake.¹¹ Later, it was decided that Kidney Lake could provide more water than originally filed on, so on January 22, 1917, an additional 1,500 acre feet was filed for, and then again on November 7, 1918, another 1,700 acre feet was filed on.¹² The water in these reservoirs could be stored from May 1 to July 1 and then released as needed from July 1 to October 1.¹³

According to the Farnsworth Company minutes of September 1, 1916, the firm of Caldwell and Richards was contracted to do the engineering on the reservoirs.¹⁴ However, the "As Built Plans" on file at the Moon Lake Water Users Association office indicate the firm's name was Caldwell and Sorensen.¹⁵ The plans for Kidney Lake were completed in December 1916 and the plans for Brown Duck and Island Lakes were finished by February 1917.¹⁶

These plans called for the terminal moraine on Brown Duck to be cut down 9 feet, an outlet pipe would be installed and the dam would then be built 14 feet above the original level, so the total dam height would be 23 feet and the total water depth would be 19 feet. Kidney Lake was to be cut down 10 feet below the original lake level. The outlet pipe installed and then the dam built an additional 15 feet above the original lake level. The total dam height would be 25 feet and the total water depth 21 feet. Island Lake was to be cut down 7 feet, at which level the outlet pipe would be installed. The dam would be built 15 feet over and above the original lake level, making the total height of the dam 22 feet. The water depth would be 18 feet.¹⁷

Since these reservoirs were located on land under the jurisdiction of the U.S. Forest Service, a permit was needed from them before construction could begin. On May 8, 1916, a special use permit was issued to the Company.¹⁸

Financing is always part of reservoir construction that can not be overlooked. It was in June 1916 that the first discussion of obtaining a loan was held. An immediate counter suggestion of using labor assessments was introduced and eventually the motion concerning the loan was voted on. "The result (was) 27 to 3 against the loan."¹⁹ However, this attitude did not hold for very long. By the time of the annual stockholders meeting held on February 5, 1917, the auditor's report indicated that the Company had borrowed \$5,000.00.²⁰

In a special report given to the Board on November 11, 1918, the total indebtedness of the company was at \$36,016.00.²¹ It was not indicated that all of the money was spent on the mountain reservoirs, but it can be assumed that a large portion had been put to that use. By this time they had borrowed money from at least five banks and various individuals. They also owed money to a number of companies who had supplied materials.²²

In October of 1917, the Company decided to issue bonds for sale in the amount of \$45,000 payable in 20 years. This was done for the purpose of raising money to refund the indebtedness and to have some capital to continue construction of the canals, ditches and reservoirs.²³ According to Fred Lindsay of Mt. Home, who was the secretary of the Farnsworth Reservoir and Canal Company for more than 30 years and is familiar with their history, none of these bonds were ever sold; rather they were used as collateral to cover their various loans.²⁴

The Farnsworth Company approached the Church of Jesus Christ of Latter-Day Saints in June 1918 to see if they would purchase some of their bonds.²⁵ In September, Elder A. Ivins and Elder R. R. Lyman visited the Company's property and water system.²⁶ The result of that visit, according to the minutes of December 30, 1918, was that the Church:

...had made arrangements with the Banks or a Bank of Salt Lake City to furnish us the \$15,000 we asked for on January 1st 1919 or as soon thereafter as the details can be arranged and that arrangements may be made later for furnishing the additional \$15,000 by April first 1919²⁷

It was requested by the Church that the bank be given \$22,000.00 worth of their bonds to cover this loan.²⁸ This loan appeared to solve their most pressing financial problems.

The total amount of money spent on the mountain reservoirs was not included in the minutes of the Farnsworth Company but they did note that the Company paid out for the following: reservoir and road construction, hay and grain for the teams, freight charges for hauling material into the site, cement, blasting materials, lumber, culverts, gates and engineer's services.²⁹

During the years of construction a number of assessments were levied against the stockholders ranging from \$.05 per share levied April 9, 1917 to \$.37 per share levied on August 16, 1918. Many of the stockholders worked off their assessments by furnishing teams and labor on the reservoirs. The rates paid these men ranged from \$5.00 per day for man and team and \$2.50 per day for a single hand in 1916 to \$7.00 per day for man and team and \$3.50 per day for a single hand in 1918.³⁰

The actual construction work must have begun in the fall of 1916 because the Company was canvassing the community to find men to work on the reservoirs.³¹ The major work during the first fall was breaking a road into the Lakes.³² Most of the materials, including cement, pipes, gates, hay and grain, were hauled into the Lakes during that winter and the succeeding winter that they worked on the reservoirs. It was easier to haul the material on sleighs because once the snow was tamped down it made the road much smoother.³³ There was a cabin at Kidney Lake where they stored these materials.³⁴

By April 1917, they had hired a man to supervise the job.³⁵ Fred Lindsay recalled stories told to him by his father about the construction of the dams that give us a general picture. The men and their teams used such equipment as plows, scrapers and rooters. Some dynamite blasting was used to break the material up and then a team went through with a plow or rooter to break it up some more. Finally a team pulling a scraper moved the material.

The hay and oats that were stored in the cabin were sold to the men to feed their teams. The men lived in tents. One of the most important men on the job – with all the horses that were there, was the blacksmith.

All was not work, as Fred recalled his father saying. Many a joke was played on the newcomers to the crew. One time, an old hand dressed up like a bear and approached the tent of a newcomer with all the appropriate sound effects. The new man's reaction was even more than expected. He left the next morning and never returned.³⁶

By the end of 1918, Kidney Lake was finished.³⁷ Brown Duck and Island were finished in the fall of 1919.³⁸

Evidently, the water was stored and released without any problem for the next two summers, but in June of 1922, the general manager, J.W. Bleazard, reported to the Board that the dam at Brown Duck had a break leaving only 4 feet of water that could still be drawn off. The cause of the break had been a dam built up of rocks, hay and earth on the spillway. A screw lift on Kidney Dam was also broken.³⁹ It cost the Farnsworth Company \$445.15 to rework the roads so they could get into the Lakes. The repair work on Kidney Lake cost \$609.95 and the rebuilding of the dam on Brown Duck cost \$1,300.75.⁴⁰

In September 1929, Fred Lindsay went in with a crew of men with eight teams and two wagons. They raised the dam on Island Lake three feet and made a new spillway.⁴¹

In 1934, the Moon Lake Water Users Association was organized.⁴² It was an association of eight irrigation companies, of which the Farnsworth Reservoir and Canal Company was a member. Stockholders were convinced that there would be many water right problems when the future Moon Lake Reservoir was put into operation. With more than fifty separate water rights of various priorities, and the Reservoir intercepting those rights, some method of equitable division was an obvious necessity.⁴³ In 1935, member companies, by court action, pooled all natural flow and storage filings.⁴⁴ The stockholders also felt it would be best if only one entity was responsible for the reservoir and storage of water. So, in February 1938, Farnsworth Reservoir and Canal Company turned over to Moon Lake Water Users Association their filings on Kidney Lake, Island Lake, and Brown Duck Lake in exchange for their equal allotment of natural flow and storage water on the Lake Fork and Yellowstone River systems.⁴⁵

According to records in Moon Lake Water Users Association Office, Island Lake was out of use in 1951 and 1953. Water leaked through the dam's gate in 1952, and in 1954 the storage water was drained before its release period due to defective outlet works.⁴⁶

According to a report included in the Brown Duck folder in the U.S. Forest Service files in the Roosevelt, Utah office, "On August 11, 1967, the area above the outlet works (on Brown Duck) slumped and shut off the flow of water through the outlet gate." After much discussion between Moon Lake Water Users Association and the Forest Service as to methods and means, "the dam was finally breached over the outlet works on August 16, 1967 to release the water."⁴⁷ As a result of this break, Brown Duck Reservoir was out of use from 1968 to 1977.⁴⁸

On April 1, 1976, a formal request was made by Moon Lake Water Users Association to the Forest Service to replace the outlet works on Kidney Lake, Island Lake, and Brown Duck Lake and to repair the dam on Brown Duck Lake so water could be stored in it again. Since the reservoirs were now part of the proposed High Uinta Wilderness Area and were being managed as though formally classified as such, a special permit was needed to use motorized mechanical equipment. The permit was issued September 8, 1975.⁴⁹

The actual repair work on these three reservoirs was not begun until August 1977. Moon Lake Water Users Association took in one rubber tired backhoe, a farm tractor with an attached cement mixer, a portable welder and a mechanical tamper to do the work. Most of the big materials, such as pipe, cement, head gates, etc. were transported in by helicopter. The final inspection was done October 11, 1977. The total cost of repairs was \$84,552.71.

When, and if, the United States, through the Central Utah Project, completes the construction of the proposed Taskeech Dam and Reservoir on the Lake Fork River, the use of these three lakes as reservoirs will be discontinued.⁵⁰ After some sixteen years of discussion⁵¹ between the Moon Lake Water Users Association and the Bureau of Reclamation, Department of Interior, a contract was signed on January 11, 1982 that settled the future of the mountain reservoirs. The Bureau wanted to stabilize the eleven mountain reservoirs owned by the Moon Lake Water Users Association and increase the recreation and wildlife use, so they agreed to provide annually to the Moon Lake Water Users Association 4,600 acre feet of irrigation water out of the Taskeech Reservoir. This amount was the average annual yield of all eleven mountain reservoirs owned by the Association, including an average annual yield of 1,496 acre feet from Kidney Lake, 494 acre feet from Island Lake and 241 acre feet from Brown Duck Lake.⁵²

In return, the Association will turn ownership of the mountain reservoirs over to the Bureau at the time the Reservoir is at such a state of completion that it can provide the water as agreed to.⁵³

Eventually, the Bureau will stabilize the reservoirs at a constant level by making the control valves inoperable. The dams may be breached, removed or left as is, as determined by the Forest Service, State Engineer, and the Bureau of Reclamation. After stabilization, the reservoirs will be turned over to the Forest Service to be part of the Wilderness Area.⁵⁴

In 1915, the idea was first proposed to develop the three mountain lakes - Kidney Lake, Island Lake and Brown Duck Lake – into reservoirs, and they were eventually completed in 1919. Except for a few minor repairs (until the breakdown of Brown Duck in 1967, and then again after its repair, in 1977) these reservoirs have functioned, providing needed water for the farmers in the Uintah Basin. In the future, their use as reservoirs may be terminated, but they will have served the Uintah Basin for more than sixty-two years.

1999 Addendum by Lynn R. Winterton

In May of 1986, the Bureau of Reclamation informed local water users that the Upalco Unit of the CUP had been “put on the shelf” indefinitely due to cost factors.

The Central Utah Water Conservancy District (CUWCD) insisted that this did not end the possibility of stabilizing the Mountain Reservoirs and suggested Moon Lake keep any further development of these reservoirs on hold.

In 1990, the CUWCD introduced legislation for the projects to replace the Uintah and Upalco Units. In the fall of 1996, the Lake Fork River Mountain Reservoirs were dropped from further consideration as part of the Uintah Basin Replacement Projects.

In 1981, four years after the 1977 repair on Kidney Lake, the dam settled in one spot creating a safety problem. All entities involved felt strongly that inasmuch as the lakes would soon be stabilized, there was no need to repair the dam at that time. A storage restriction was then ordered by the Forest Service and Moon Lake has continued to use Kidney Lake, but at the restricted limit.

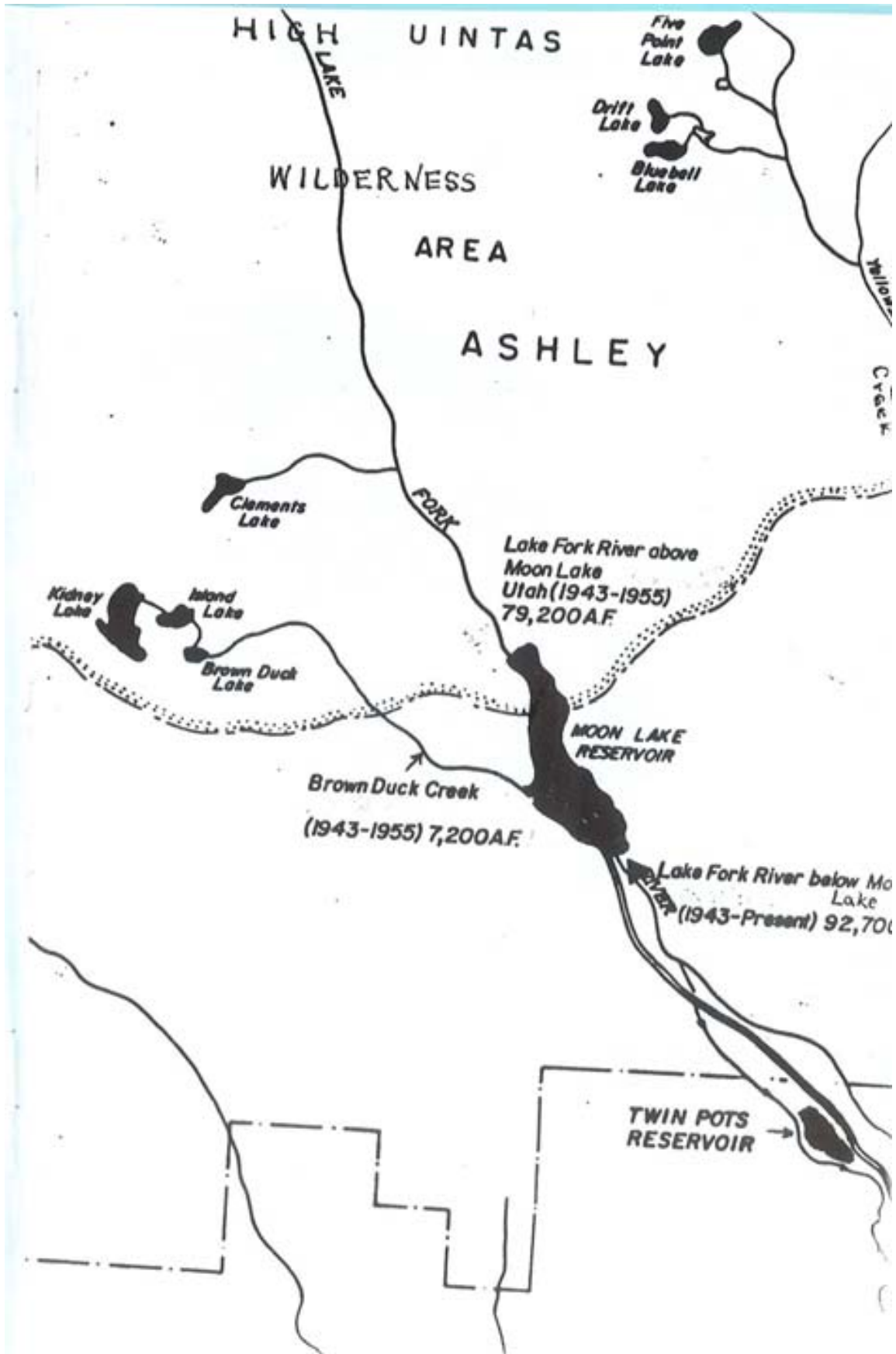
In 1996, Moon Lake decided it should move ahead with the repairs on Kidney Lake. The next year Moon Lake was sent a “Notice of Agency Action” by the Department of Dam Safety, Division of Water Rights, Utah State Department of Natural Resources, requiring repairs be completed within a specified time limit.

Early in 1997, engineering for the repairs was completed and Utah State Dam Safety Department had approved the plans. Moon Lake Water Users has been waiting since that time for Federal analyses and approval.

In the fall of 1998, the Executive Committee of the Moon Lake Board of Directors discussed the problem of the Kidney Lake repairs. They decided to investigate the possibility of stabilizing the Lake Fork River Mountain Reservoirs, which included the three reservoirs in the Brown Duck Basin and Clements Lake, and enlarging Moon Lake Reservoir enough to capture their storage.

Initial engineering includes Water Resources financing a study to determine the maximum flood potential of the Lake Fork River system. This will help determine the freeboard needed on the Moon Lake dam for the maximum flood potential.

At the present time, the Bureau of Reclamation, Forest Service, Utah Department of Natural Resources, Central Utah Water Conservancy District and the Moon Lake Water Users Association Board of Directors all support the concept of stabilizing the Lake Fork River Mountain Reservoirs and enlarging Moon Lake Reservoir to include their storage.



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- ¹ Farnsworth Canal and Reservoir Company Minutes, 1912-1922 in possession of Secretary, Mountain Home, Utah, p. 177.
- ² Moon Lake Water Users Association Files, Mountain Reservoirs Folder, Moon Lake Water Users Association Office, Roosevelt, Utah.
- ³ Dillman, Mildred Miles, comp., Early History of Duchesne County. (Springville, Utah: Art City Publishing Company, 1945), p. 17.
- ⁴ Ibid. P. 20.
- ⁵ Farnsworth Minutes, p. 179.
- ⁶ Ibid. P. 20.
- ⁷ High Uintas Primitive and Related Areas Map. U.S. Government Printing Office, 1977.
- ⁸ Moon Lake Water Users Association Files, Water Filings Folder, Roosevelt, Utah.
- ⁹ Farnsworth Minutes, p. 181
- ¹⁰ Moon Lake Water Users Association Files, Mountain Reservoir Folder, Roosevelt, Utah.
- ¹¹ Loc. cit.
- ¹² Loc. cit.
- ¹³ Loc. cit.
- ¹⁴ Farnsworth Minutes, p. 234.
- ¹⁵ “As Built Plans” Uintah Engineering and Lake Surveying, Moon Lake Water Users Association Files, Roosevelt, Utah.
- ¹⁶ Loc. cit.
- ¹⁷ “As Built Plans”
- ¹⁸ U.S. Forest Service Files, Brown Duck Folder, Roosevelt, Utah.
- ¹⁹ Farnsworth Minutes, pp. 227-228.
- ²⁰ Ibid. p. 360.
- ²¹ Ibid. p. 360.
- ²² Ibid. p. 360.
- ²³ Ibid. p.p. 292-295.
- ²⁴ Personal interview with Fred Lindsay, Secretary, Farnsworth Canal and Reservoir Company, Reservoir Company, Roosevelt, Utah, 18 May, 1982.
- ²⁵ Ibid. p. 348.
- ²⁶ Ibid. p. 335.
- ²⁷ Ibid. p. 362.

²⁸ Ibid. p. 362.

²⁹ Ibid. p.p. 243-252 and p. 320.

³⁰ Ibid. p.p. 239-346.

³¹ Ibid. p. 235.

³² Lindsay, Personal Interview.

³³ Loc. cit.

³⁴ Farnsworth Minutes, pp. 257-260.

³⁵ Ibid. p. 271.

³⁶ Lindsay, Personal Interview.

³⁷ Farnsworth Minutes, p. 382.

³⁸ Ibid. p. 389.

³⁹ Ibid. p. 480.

⁴⁰ Ibid. p. 496

⁴¹ Lindsay, Personal Interview.

⁴² Moon Lake Water Users Association Files, Articles of Incorporation Folder, Roosevelt, Utah.

⁴³ Personal interview with Lynn R. Winterton, Manager, Moon Lake Waters Users Association, Roosevelt, Utah. 19, May 1982.

⁴⁴ Moon Lake Water Users Association Files, Equalization Agreement Folder, Roosevelt, Utah.

⁴⁵ Loc. cit.

⁴⁶ Moon Lake Water Users Association Files, Mountain Reservoir Folder, Roosevelt, Utah.

⁴⁷ U.S. Forest Service Files, Brown Duck Folder, Roosevelt, Utah.

⁴⁸ Moon Lake Water Users Files, Mountain Reservoir Folder, Roosevelt, Utah.

⁴⁹ Loc. cit.

⁵⁰ Loc. cit.

⁵¹ Personal Interview with Leo Haueter, President, Moon Lake Water Users Association, Roosevelt, Utah 20, May 1982.

⁵² Moon Lake Water Users Association Files, Mountain Reservoir Folder, Roosevelt, Utah.

⁵³ Ibid.

⁵⁴ Winterton, Personal Interview.