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R. Scott Wrenn
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A HISTORY OF WATER RESOURCES DEVELOPMENT
IN THE BEAR RIVER BASIN OF UTAH, IDAHO,
AND WYOMING

R. SCOTT WRENN

1973
A HISTORY OF WATER RESOURCES DEVELOPMENT IN THE REAP RIVER BASIN OF UTAH, IDAHO, AND WYOMING

by

R. Scott Wrenn

A thesis submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

in

History

Approved:

[Signatures]

Major Professor
Committee Member
Committee Member
Dean of Graduate Studies

UTAH STATE UNIVERSITY
Logan, Utah

1973
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ABSTRACT


by

R. Scott Wrenn, Master of Science
Utah State University, 1973

Major Professor: Dr. William F. Lye
Department: History

This paper examines the historical process of water resources development in the Bear River Basin and is based on the thesis that the attitudes of Bear River water users towards development reduce to a concern over the scarcity of water or the potential shortage of water. This concern has been a constant and primary focus of water resources development in the Bear River Basin even as water resources technology became increasingly more sophisticated and the legal and political consideration of water resource development became more complex. From the time of the original Mormon settlements in the Bear River Basin, water resource development in the basin has gone through several periods, each marked by the necessity for larger aggregations of capital and increased technical skill. Each of these developments has been met with distrust until the developer was able to convince the water users of his concern for an adequate water supply for basin water users.

(134 pages)
CHAPTER I
INTRODUCTION

The Bear River Basin, or Bear River Valley, provides an ideal opportunity to trace the evolution of one example of water resources development in the semi-arid west from its beginnings to the present day. Irrigation has been a prominent feature of settlement in most of the semi-arid parts of the United States. Profitable agriculture can often be carried on in these regions only through the use of irrigation, and the introduction of irrigation water to lands previously dry-farmed results in dramatic increases in production. Two characteristics of semi-arid regions that make water resources development such a critical part of life in those areas are the scarcity of water and the seasonal nature of its availability.

The Bear River Basin differs from other semi-arid regions in that it was settled by a homogeneous group of pioneers, colonizers branching out from the Mormon center of Salt Lake City. This fact gave early water resources development in the basin a distinctly Mormon character quite different from the patterns to be seen in other semi-arid regions. The first period is, then, the Mormon period. Mormon influence shaped every aspect of water resources development. Church leaders were also the leaders in civic affairs and the Church acted as referee between disputants in the absence of courts. The style and organization of irrigation systems followed principles established in the Salt Lake Valley. Pioneer water
resources development in the Bear River Basin was carried out in almost total isolation from the rest of the United States and the federal government.

Characteristics of this period were cooperative development under the direction of the Mormon church, a low level of capital investment, a low level of irrigation technology, and the use of tributaries of the Bear rather than the main stream for irrigation diversions. Federal surveys were made of the Bear River Basin in the 1870s, and the first major inroads into the prevailing Mormon system were made as the Mormon system of land tenure was adapted to fit the requirements of the federal land laws. The transcontinental railroad passed through the basin in this same period. The last Mormon settlements in the basin were being made about this time. These things were the introduction to the transition period in the history of Bear River water resources development, a period that was to last from about 1880 to 1920.

A great many things happened in this period of forty years to change the face of the Bear River Basin. It became important for the first time that the Bear River Basin was part of three territories, Utah, Idaho, and Wyoming. The alluvial bottom land had been appropriated, and the irrigation of new land required more sophisticated construction techniques and the investment of larger amounts of capital. New federal laws were passed to encourage the settlement and reclamation of semi-arid lands, while state legislatures passed laws regulating and formalizing the system of water rights and appropriations, and establishing regulations for the organization of canal companies and irrigation districts. Attempts were made to make
a business out of the construction of a canal system in the basin, and while they were generally financial failures they were a great benefit to the basin. One of these precipitated the first Bear River water crisis as well. One result of the Bear River Canal was to bring non-Mormon settlers into the basin in substantial numbers.

Characteristics of water resources development in this period were higher levels of technical sophistication, the beginning of storage of water for irrigation, the use of the main stream of the Bear for irrigation diversions, higher levels of capital investment, the introduction of large corporations to the basin, and the formulation of legal principles to guide development.

By the end of the second period the largest systems to be built in the basin had been constructed and the systems in use were numerous as at present. The third period in the history of Bear River water resources development extends to the present and may be termed the corporate period.

In 1912 the Utah Power and Light Company (UP&L) gained control of the Bear Lake reservoir system and the hydroelectric rights of the Utah-Idaho Sugar Company, giving them virtual control of the Bear River below Bear Lake. Water crises due to droughts in 1919 and in 1934-35 in which the company was involved pointed out the interstate difficulties of water resources development in the basin. The Dietrich and Kimball decrees, resulting from cases in which UP&L was involved, adjudicated water rights on the Bear River below Bear Lake. The apportionment of water released by the power company to end the droughts of 1934-35 led to the idea of an interstate agency for control of the Bear River.
Characteristic of this period of development was the use of sophisticated techniques to make a given amount of water benefit more acreage. Other characteristics were the stabilization and entrenchment of established irrigation systems and the absence of new construction in the basin.

Currently the Bear River Basin is entering another period of transition. Multi-purpose development of the Bear River has been proposed by the United States Bureau of Reclamation, but strong opposition to the plan makes it increasingly more likely that the Bureau's proposed project will never be built. Interstate rivalry over water between Idaho and Utah has reached a high level of intensity.

The newest development in water resources development in the area is the question of the pollution of Bear Lake. Ecological considerations seem likely to become extremely important in the determination of the shape of future developments in the basin.

The process of water resources development is an ongoing example of the creation and subsequent modification of social institutions, while at the same time indicating that some old attitudes towards water have survived from the period of pioneer development psychologically strong, although set in a new theoretic and semantic framework. The history of water resources development in the Bear River Basin is a study in historical process and development. The thesis of this paper is that while the technology of water resources development has changed radically in the Bear River Basin since pioneer days and the political and legal aspects of water resource development have become far more complex, attitudes of Bear River Basin water users reduce to an abiding concern over the scarcity of water or the potential of future shortages.
Figure 1. General Map of the Bear River Basin.
CHAPTER II
A GEOGRAPHIC INTRODUCTION TO THE BEAR RIVER VALLEY

Geologic History of Bear Lake Basin

The major water resources divisions of the Bear Lake Basin are the main stream of the Bear River, Bear Lake, and the numerous tributary streams flowing into the Bear River. The million-year-old Bear River range of mountains also has contributed to the geologic history of Bear River. The geologic evidence of water level marks in the hills along the Bear River in Wyoming and Idaho indicate that Bear Lake is the lone survivor of a chain of lakes co-existing with ancient Lake Bonneville. The Bear River Basin was involved in a series of geologic movements that drained bays of Lake Bonneville, such as the Cache Valley, through the action of flowing water which cut gorges between the valleys to drain them while carrying down sediments to fill the lake basins. Bear Lake alone was saved through the intervention of a low ridge separating it from the Bear River.¹

The Bear River

The Bear River has an interesting geologic history in its own right too. The course of the river and the structure of the mountains suggest that the Bear River at one time flowed into Idaho's Snake River.

Later a sudden surge of activity lifted mountains that deflected the river into its present route opening into the Great Salt Lake.  

The Bear River Basin of recent geologic time includes 7,100 square miles (1,544,000 acres) of land; these include 2,700 square miles in Idaho, 2,910 in Utah, and 1,490 in Wyoming. In its course through these three states the Bear crosses state boundaries five times. In this respect the Bear, the largest river in the western hemisphere that does not flow into an ocean, follows the pattern of most of the major agricultural rivers of the west. The river is shaped on the lines of an elongated "U", so that while it is about 500 miles long, its mouth at the Bear River Bay of Great Salt Lake is only about 90 miles from its source in the Uinta mountains of northeastern Utah.

Had the difficulties of interstate jurisdiction over water been anticipated by drawing state boundaries along the lines of drainage basins, the transfer of 500 square miles to any of the three states sharing in the Bear River would have put the entire river in one state.

The Bear River flows north from its source in northeast Utah into the southwest corner of Wyoming, where the river turns west to re-enter Utah. From the point of re-entry into Utah the river turns back upon itself to enter Wyoming a second time. The Bear then enters Idaho near Montpelier, flows north to near Soda Springs, then turns abruptly in a southwesterly direction to eventually re-enter Utah and run to its outlet into the Salt Lake.

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2 Ibid.
3 Ibid.
4 Ibid.
5 Ibid.
The headwaters of the Bear are in the north slopes of the Uintas, and the main stream is formed by the junction of several small streams at the base of these mountains. More than fifty tributaries enter the Bear, with most of these draining only a small area. With the exception of four spring-fed creeks, the Swan, Soda, Whiskey, and Mink Creeks, the water supply is almost wholly dependent upon precipitation. The result is a jagged stream flow. Flooding is common along the Bear in spring and shortages usual in the late summer and fall.6

Data collected by the United States Geological Survey shows that waters originating in the state of Utah contribute 46 percent of the total water making up the flow of the Bear River. The contribution of waters rising in Idaho is about 36 percent of the total, while Wyoming waters contribute about 18 percent of the flow of the Bear River. Similar statistics compiled by the United States Bureau of Reclamation and the Utah Water Board are in close agreement.7

Twenty miles into its course, at about the Wyoming border, the Bear enters the first of six valleys that make up most of the remainder of its course. Narrow gorges separate the valleys and provide sites for the hydroelectric power plants of the Utah Power and Light Company.8

6 Ibid.

7 United States Department of the Interior, Bureau of Reclamation (table obtained from the Logan office of the Bureau of Reclamation; compiled as part of a preliminary survey, September 1968).

The six valleys are the Upper Bear River Valley, Bear Lake Valley, Gem Valley, Gentile Valley, Cache Valley, and Great Salt Lake Valley.9

The south end of Bear Lake Valley contains Bear Lake, which is about twenty miles long and averages about seven miles in width. Mud Lake, at the north end of Bear Lake, is about three miles in diameter. The Bear River does not naturally flow into the two lakes, but in 1902 connecting inlet and outlet canals were built. In 1914 the Lifton pumping plant was constructed on the north side of Bear Lake to pump into the outlet canal. The Bear Lake developments are operated by Utah Power and Light to store water for electrical power production. The company has complete control of normal upper Bear River flows reaching Bear Lake.10

Land and Water Utilization in the Bear River Basin

Only about 21 percent of the land area of the Bear River Basin has been inventoried in the Bureau of Reclamation classification system, as arable; that is, it has sufficient potential payment capacity to warrant consideration for irrigation development. All of the arable land and much of that classified as nonarable is now used for agriculture.11 The following Bureau of Reclamation table 1 shows the current land use of acreage defined as arable if water were available.

9 Ibid.
10 Ibid.
Table 1. Arable Land Use (in acres)

<table>
<thead>
<tr>
<th>State &amp; County</th>
<th>Irrigated</th>
<th>Dry Farm</th>
<th>Grazed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utah:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summit</td>
<td>200</td>
<td></td>
<td>3,800</td>
<td>4,000</td>
</tr>
<tr>
<td>Rich</td>
<td>55,600</td>
<td>9,200</td>
<td>54,700</td>
<td>119,500</td>
</tr>
<tr>
<td>Cache</td>
<td>85,600</td>
<td>70,900</td>
<td>15,800</td>
<td>172,300</td>
</tr>
<tr>
<td>Box Elder</td>
<td>66,200</td>
<td>32,200</td>
<td>60,400</td>
<td>158,800</td>
</tr>
<tr>
<td>Total</td>
<td>207,600</td>
<td>112,300</td>
<td>134,700</td>
<td>154,600</td>
</tr>
<tr>
<td><strong>Idaho:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bear Lake</td>
<td>92,000</td>
<td>48,100</td>
<td>6,700</td>
<td>146,800</td>
</tr>
<tr>
<td>Caribou</td>
<td>38,400</td>
<td>30,200</td>
<td>900</td>
<td>69,500</td>
</tr>
<tr>
<td>Bannock</td>
<td>1,200</td>
<td>2,600</td>
<td>2,200</td>
<td>6,000</td>
</tr>
<tr>
<td>Franklin</td>
<td>54,100</td>
<td>57,100</td>
<td>1,200</td>
<td>112,700</td>
</tr>
<tr>
<td>Oneida</td>
<td>24,100</td>
<td>35,200</td>
<td>37,400</td>
<td>96,700</td>
</tr>
<tr>
<td>Total</td>
<td>210,100</td>
<td>173,200</td>
<td>18,100</td>
<td>311,400</td>
</tr>
<tr>
<td><strong>Wyoming:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uintah</td>
<td>36,800</td>
<td></td>
<td>22,500</td>
<td>59,300</td>
</tr>
<tr>
<td>Lincoln</td>
<td>28,500</td>
<td>8,500</td>
<td>35,200</td>
<td>72,200</td>
</tr>
<tr>
<td>Total</td>
<td>65,300</td>
<td>8,500</td>
<td>57,700</td>
<td>131,500</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>483,000</td>
<td>294,000</td>
<td>240,800</td>
<td>1,017,800</td>
</tr>
</tbody>
</table>

About half of the 483,000 irrigated acres in the Bear River Basin are watered from the Bear and about half from its tributaries. About 400 irrigation systems owned by organizations and individuals operate in this area, the same number as sixty years ago. These systems include three Bureau of Reclamation projects: the Preston Bench project, the Hyrum Dam project, and the Newton Dam project. The largest irrigation system is that operated by the Utah-Idaho Sugar Company. Their West Side and Hammond Canals, diverted from near the top of Cutler Dam, serve about 65,000 acres. Their canals receive natural flows of

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12 Ibid., P. 27.
Bear River and substantial amounts of Bear Lake water delivered under contract from the Utah Power and Light Company. A few smaller systems have also contracted with the power company for smaller amounts of Bear Lake water.\textsuperscript{13} The Bureau of Reclamation has provided statistics for the fifteen largest irrigation systems as listed on Table 2.

Several important crops are grown in the Bear River Valley, both on irrigated and dry farms, but distributed largely on the basis of altitude. In general the crops requiring the least cultivation are grown at the highest elevations and those requiring the most at the lowest. The data on Table 3 comes from the 1964 census of the valley.

<table>
<thead>
<tr>
<th>Crops</th>
<th>Acres</th>
<th>Percent of the whole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>96,981</td>
<td>20.5%</td>
</tr>
<tr>
<td>Spring Wheat</td>
<td>15,804</td>
<td>3.3%</td>
</tr>
<tr>
<td>Winter Wheat</td>
<td>12,633</td>
<td>2.6%</td>
</tr>
<tr>
<td>Barley</td>
<td>44,557</td>
<td>9.2%</td>
</tr>
<tr>
<td>Silage Corn</td>
<td>9,327</td>
<td>1.9%</td>
</tr>
<tr>
<td>Sugar Beets</td>
<td>18,893</td>
<td>3.9%</td>
</tr>
<tr>
<td>Potatoes</td>
<td>3,006</td>
<td>.6%</td>
</tr>
<tr>
<td>Wild Hay</td>
<td>89,289</td>
<td>18.6%</td>
</tr>
<tr>
<td>Others</td>
<td>190,510</td>
<td>39.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>483,000</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

\textsuperscript{13} Ibid., P. 34.

\textsuperscript{14} Ibid., P. 30.
<table>
<thead>
<tr>
<th>Systems</th>
<th>Water Source</th>
<th>Area Irrigated (acres)</th>
<th>Avg. Annual Water Supply (acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapman Canal Co.</td>
<td>Uintah County, Wyoming &amp; Rich County, Utah</td>
<td>14,395</td>
<td>12,800</td>
</tr>
<tr>
<td>Chapman Canal Co.</td>
<td>Bear River</td>
<td>14,395</td>
<td>12,800</td>
</tr>
<tr>
<td>RQ West Side Canal Co.</td>
<td>Rich County, Utah</td>
<td>5,813</td>
<td>27,000</td>
</tr>
<tr>
<td>Crawford Thompson Canal Co.</td>
<td>Bear River</td>
<td>5,635</td>
<td>19,700</td>
</tr>
<tr>
<td>Randolph Sage Creek Canal Co.</td>
<td>Bear River</td>
<td>9,380</td>
<td>13,400</td>
</tr>
<tr>
<td>Randolph Woodruff Canal Co.</td>
<td>Bear River</td>
<td>9,550</td>
<td>31,300</td>
</tr>
<tr>
<td>Black Otter &amp; Peg Leg Co.</td>
<td>Bear Lake County, Idaho</td>
<td>5,872</td>
<td>16,400</td>
</tr>
<tr>
<td>West York Irrigation Co.</td>
<td>Bear River</td>
<td>5,712</td>
<td>13,600</td>
</tr>
<tr>
<td>Last Chance Canal Co.</td>
<td>Caribou County, Idaho</td>
<td>24,000</td>
<td>95,000</td>
</tr>
<tr>
<td>Twin Lakes Canal Co.</td>
<td>Franklin County, Idaho</td>
<td>17,421</td>
<td>34,000</td>
</tr>
<tr>
<td>Preston Whitney Irrigation Co.</td>
<td>Mink Creek</td>
<td>5,500</td>
<td>15,000</td>
</tr>
<tr>
<td>Cub River Irrigation Co.</td>
<td>Franklin County, Idaho &amp; Cache County, Utah</td>
<td>29,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Cub River Irrigation Co.</td>
<td>Cub &amp; Bear Rivers</td>
<td>14,860</td>
<td>38,000</td>
</tr>
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Table 2. Continued

<table>
<thead>
<tr>
<th>Systems</th>
<th>Water Source</th>
<th>Area Irrigated (acres)</th>
<th>Avg. Annual Water Supply (acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richmond Irrigation Co.</td>
<td>Cache County, Utah</td>
<td>10,000</td>
<td>unknown</td>
</tr>
<tr>
<td></td>
<td>Cherry, High, City, Creeks, and wells</td>
<td>6,110</td>
<td>14,000</td>
</tr>
<tr>
<td>South Cache Water Users Assn.</td>
<td>Little Bear River</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utah-Idaho Sugar Co.</td>
<td>Box Elder County, Utah</td>
<td>65,000</td>
<td>216,000</td>
</tr>
</tbody>
</table>

Storage provided in offstream Neponset Reservoir.

Includes 1,155 acres in Uintah County, and 13,120 acres in Rich County; water supply shown only for Rich County and Uintah County is unknown.

Bear Lake water also supplied under contract.

About 13,500 acres and 14,000 acre-feet pertain to Franklin County; 15,500 acres and 16,000 acre-feet to Cache County.

3,300 acres and 9,000 acre-feet of water pertain to Franklin County; 11,530 acres and 29,000 acre-feet of water to Cache County.

Data not available.

Storage provided in Hyrum Dam.

\[15\] Ibid., p. 36.
About 94 percent of the hydroelectric generating capacity in the Bear River Basin is provided by the five Bear River plants of the Utah Power and Light Company (UP&L). The company also operates three small plants on tributaries. Five small municipal plants and one run by Utah State University make up the remainder of the power plants. About 3,900,000 kilowatt hours are generated annually. The Oneida, Paris Creek, and Logan plants of the UP&L and the Hyrum City plant held federal licenses that expired June 30, 1970, and the UP&L's Soda plant holds a license good until July 1, 1973. Applications have been made for licenses for the Grace, Cove and Cutler power plants.16 The Bureau of Reclamation Table 4 shows existing Bear River power plants and their capacities.

Until 1932 the UP&L Company made year-round drafts on Bear Lake for power as well as seasonal releases for irrigation. These drafts, coupled with a prolonged drought, resulted in a lowering of the level of the lake during the 1930's. Since then the company has changed its policy with the purpose of refilling the lake. Large releases are now generally made only during the irrigation season. This reduced the production of the UP&L power plants on the Bear River to the degree that they are now chiefly supplied from fuel-electric plants. In 1950 Bear Lake reached full stage for the first time since 1923. Since then the Lake has been maintained at generally high levels.17

Domestic and stock water in the Bear River Basin comes generally from spring or well-fed municipal systems. Summer stock water comes

16 Ibid., p. 37.
17 Ibid., pp. 37-38.
### Table 4. Existing Hydroelectric Power Plants

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Stream</th>
<th>Owner</th>
<th>Static Head (feet)</th>
<th>Installed Capacity (kilowatts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda Bear River</td>
<td>Soda Creek</td>
<td>UP&amp;L</td>
<td>79</td>
<td>11,000</td>
</tr>
<tr>
<td>Grace Bear River</td>
<td>Grace Creek</td>
<td>UP&amp;L</td>
<td>526</td>
<td>14,000</td>
</tr>
<tr>
<td>Cove Bear River</td>
<td>Cove Creek</td>
<td>UP&amp;L</td>
<td>98</td>
<td>30,000</td>
</tr>
<tr>
<td>Oneida Bear River</td>
<td>Oneida Creek</td>
<td>UP&amp;L</td>
<td>143</td>
<td>30,000</td>
</tr>
<tr>
<td>Cutler Bear River</td>
<td>Cutler Creek</td>
<td>UP&amp;L</td>
<td>127</td>
<td>300</td>
</tr>
<tr>
<td>Swan Creek</td>
<td>Swan Creek</td>
<td>UP&amp;L</td>
<td>120</td>
<td>300</td>
</tr>
<tr>
<td>Paris Creek</td>
<td>Paris Creek</td>
<td>UP&amp;L</td>
<td>316</td>
<td>650</td>
</tr>
<tr>
<td>Logan Bear River</td>
<td>Logan River</td>
<td>UP&amp;L</td>
<td>213</td>
<td>2,000</td>
</tr>
<tr>
<td>Logan (State)</td>
<td>Logan River</td>
<td>Utah State U.</td>
<td>30</td>
<td>450</td>
</tr>
<tr>
<td>Logan City</td>
<td>Logan River</td>
<td>Logan City</td>
<td>99</td>
<td>1,400</td>
</tr>
<tr>
<td>Soda Springs I</td>
<td>Soda Creek</td>
<td>Soda Springs</td>
<td>50</td>
<td>120</td>
</tr>
<tr>
<td>Soda Springs II</td>
<td>Soda Creek</td>
<td>Soda Springs</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>Soda Springs III</td>
<td>Soda Creek</td>
<td>Soda Springs</td>
<td>84</td>
<td>400</td>
</tr>
<tr>
<td>Hyrum City</td>
<td>Blacksmith Fork</td>
<td>Hyrum City</td>
<td>76</td>
<td>400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>131,270</strong></td>
</tr>
</tbody>
</table>

*a*Utah Power and Light Company

Chiefly from irrigation canals. Most municipal systems depend upon springs, although some fall back on wells during seasons of heavy use. There are no shortages of municipal water in the Basin. 19

As Table 5 demonstrates, wells are used in large numbers throughout the Bear River Basin and for a variety of purposes.

**Demographic Features of the Bear River Basin**

Although the Bear River Basin includes parts of eleven counties in three states, only seven counties in Idaho and Utah are currently

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18 Ibid., p. 37.

19 Ibid., pp. 38-39.
Table 5. Pumped Wells

<table>
<thead>
<tr>
<th>Valley</th>
<th>Domestic &amp; Irr.</th>
<th>Livestock</th>
<th>Municipal</th>
<th>Industry</th>
<th>Flowing&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Bear R:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wyoming</td>
<td>32</td>
<td>51</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>88</td>
</tr>
<tr>
<td>Utah</td>
<td>4</td>
<td>231</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>238</td>
</tr>
<tr>
<td>Idaho</td>
<td>8</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Bear Lake:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utah</td>
<td>24</td>
<td>323</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>350</td>
</tr>
<tr>
<td>Idaho</td>
<td>22</td>
<td>55</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>81</td>
</tr>
<tr>
<td>Gem &amp; Gentile:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idaho&lt;sup&gt;b&lt;/sup&gt;</td>
<td>19</td>
<td>92</td>
<td>2</td>
<td>14</td>
<td>0</td>
<td>127</td>
</tr>
<tr>
<td>Cache:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idaho</td>
<td>48</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>275</td>
<td>329</td>
</tr>
<tr>
<td>Utah</td>
<td>20</td>
<td>0</td>
<td>17</td>
<td>8</td>
<td>1,526</td>
<td>1,571</td>
</tr>
<tr>
<td>Lower Bear R:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utah</td>
<td>105</td>
<td>1,126</td>
<td>17</td>
<td>5</td>
<td>0</td>
<td>1,253</td>
</tr>
<tr>
<td>Malad:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idaho</td>
<td>56</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>300</td>
<td>357</td>
</tr>
<tr>
<td>Total:</td>
<td>338</td>
<td>1,884</td>
<td>53</td>
<td>32</td>
<td>2,101</td>
<td>4,408</td>
</tr>
</tbody>
</table>

<sup>a</sup> Used partly for irrigation and partly for domestic, stock watering and industrial purposes.

<sup>b</sup> Includes Soda Springs area.

involved in the development of the Bear River. The one furthest upstream is Rich County, Utah. Rich County is, with the exception of a phosphate processing plant at Randolph, entirely centered around an agrarian economy. There are only four incorporated towns in the entire county. The Bear River Compact adjudicated the water rights for Rich County and construction of the Woodruff Narrows reservoir has added

<sup>20</sup> Ibid., p. 40.
certainty to the water supply in this area. Bear Lake, located partly in Rich County and partly in Bear Lake County, Idaho, is a prime concern of many Rich citizens, who fear the effect of further lowering of the level of Bear Lake.

The entire population of Rich County is rural; it is ingrown (only five people in the county reported being born elsewhere); and it is very agricultural; in 1970 28.1 percent of the population was classified rural non-farm. The census showed a total population of only 1,660 people in the county.21

Bear Lake County, Idaho, located next downstream from Rich County, shares Bear Lake with Rich County. It, too, is a primarily agricultural region. Irrigation in the county is chiefly from the tributaries of Bear Lake and Bear River, and the main crops grown are alfalfa and pasture grass.

The 1970 population of Bear Lake County was 5,801,22 with nearly all respondents being native to the county. Only 15 percent of the population was classified as rural farm in 1970; but 39.1 percent were classified as rural non-farm, again indicating the need for many farm


families to bring in a second income.\textsuperscript{23} The largest town in this county is Montpelier with a population of slightly over 3,000 people in 1970.\textsuperscript{24}

Caribou County, Idaho, has a reported 1970 population of 6,534\textsuperscript{25} and also showed the largest increase in population of any of the Bear River Counties. Caribou County is the largest user and water right holder along the Bear River in Idaho. About 35,000 acres are irrigated in this county with two hydroelectric plants located at Grace and Cove.\textsuperscript{26} This county shows a more varied economy than either Rich or Bear Lake counties. Here 24.4 percent of the population was considered rural farm in 1970 and 30.7 percent as rural non-farm with many employed in industrial and construction occupations. There were also substantial numbers of non-native residents living in Caribou County.\textsuperscript{27}

The next county is Franklin County, Idaho. In 1970 it had a population of 7,373,\textsuperscript{28} a loss of about 1,000 residents from the 1960 report. Preston, the county seat, had a population of over 3,500. Franklin reported 33.7 percent as rural farm and 21.4 percent as rural non-farm.\textsuperscript{29} Dependence upon irrigation is high in the county and most

\begin{itemize}
  \item \textsuperscript{23} Ibid.
  \item \textsuperscript{24} Ibid.
  \item \textsuperscript{25} Ibid.
  \item \textsuperscript{26} United States Department of the Interior, Bureau of Reclamation, Water Rights on Bear Lake and Bear River Below Bear Lake (Table obtained from the Logan office, Bureau of Reclamation).
  \item \textsuperscript{27} Bureau of Census, Census of Population: 1970, Idaho, passim.
  \item \textsuperscript{28} Ibid.
  \item \textsuperscript{29} Ibid.
\end{itemize}
of the water for irrigation comes from tributaries of the Bear, supplemented with some Bear River water.\textsuperscript{30}

Cache County, Utah, is the most populous and diversified county along the Bear River. Its 1970 population was 42,331,\textsuperscript{31} and it contains the largest city in the Bear River area, Logan. The rural farm population was enumerated as 6.0 percent and the rural non-farm as 33.3 percent of the total population of the county. The rest of the population showed a greater diversity in types of employment than any other Bear River County.\textsuperscript{32}

Box Elder County had a population of 28,129 in 1970. The population was 11.9 percent rural farm and 26.6 percent rural non-farm.\textsuperscript{33} A large part of the farming in the county is dry farming, and the Bear River is the source of water for the 50,000 irrigated acres.

Oneida County, Idaho, is involved in the Bear River system although the Bear River does not pass through that county. The Malad River, a major tributary of the Bear and the last to enter it, is the principal stream in Oneida County. The county had a 1970 population of 2,864,\textsuperscript{34} and a native population of 66.3 percent.\textsuperscript{35} The rural farm population was 19.8 percent and the rural non-farm population totaled 80.2 percent.\textsuperscript{36}

\textsuperscript{30} Bureau of Reclamation, Water Rights.
\textsuperscript{32} Ibid.
\textsuperscript{33} Ibid.
\textsuperscript{35} Ibid.
\textsuperscript{36} Ibid.
As in Box Elder County, Oneida has a large amount of dry farming and depends on the Malad River to provide water for the irrigation of scattered plots.

Should the Bureau of Reclamation plan for the development of the Bear River be adopted, an eighth county, Weber in Utah, would be added to the Bear River System. Weber County lies in the Great Basin adjacent to and south of Box Elder County where the Bear River empties into the Great Salt Lake. It has a far larger population and a much different economic background than any of the counties currently involved with the Bear River. The 1970 population of Weber County was 126,090. The rural farm population is only 2.5 percent and the rural non-farm population is 10.0 percent although the agricultural income is larger than that of the other counties. Weber County's interest in obtaining water from the Bear differs from that of other counties which plan to irrigate more acres of agricultural land. In Weber part of the water is to be used, through an exchange with irrigators on the Ogden and Weber Rivers, to provide municipal water in larger quantities to the city of Ogden and cities in Davis County as far south as Bountiful.

38 Ibid.
CHAPTER III

SETTLEMENT OF THE BEAR RIVER VALLEY
AND PIONEER IRRIGATION PATTERNS

Mormon Settlement Patterns

The Mormons dominated the settlement of the Bear River Valley in northern Utah and southeastern Idaho as well as in southwestern Wyoming, although the Basin also held the first and largest non-Mormon settlement in Utah at Corinne and marked its northern boundary at Soda Springs, Idaho, with a colony of apostate Mormons who had left Utah under military protection. The Mormons gave the area its distinctive character and determined its chief economic and social institutions. The cohesive nature of Mormon society showed itself in the remarkable continuity of patterns of settlement and irrigation. Some practices dating from the settlement of the Salt Lake Valley persisted throughout the period of Mormon expansion and were to be seen in the Bear River Valley settlements.

The Mormons planned to build an agrarian economy in the semi-arid west, and few groups were ever so well suited to the task they had chosen. In Brigham Young the Mormons had a leader of tremendous influence and foresight, and their faith in the creation of a western Zion committed them to a form of unselfish cooperation that made the most of their work. Mormon influence came to dominate not only Utah but contiguous areas as well. Settlement was directed through the Church and followed a centralized plan and pattern developed in the Salt Lake Valley.
There were several distinctive features of Mormon settlement that are worth noting for their persistence. First, Mormon settlement of a region followed careful exploration or study of the area to determine favorable town sites prior to settlement. In Nauvoo the Bear River Valley had been considered as an alternative to the Salt Lake Valley as a home for the Mormons and was examined by the advance party of Mormons arriving in the Great Basin in 1847. This same pattern of prior exploration is to be seen in the establishment of the settlements in the Bear River Valley, where new settlements were built on the foundations of and with the support of the older ones.

A second feature of Mormon colonization was the pattern of central planning and collective labor. The effectiveness of this pattern in dealing with the geography and conditions of settlement in Utah were not lost on the Mormons and confirmed their belief that this system was divinely inspired.

Irrigation was a well known feature of Mormon settlement, and Mormon leaders, while still in Nauvoo, had studied irrigation techniques in anticipation of the need for irrigation in the Salt Lake Valley. Irrigation became a common denominator of Mormon settlement.

A fourth feature, developed at an early point in the Mormons' Utah experience and relevant to later settlements as well, was the system of

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farm land distribution developed in 1848. Closely related in spirit to the patterns of collective labor and irrigation, this system called for a large irrigated field to be divided into five or ten-acre individual parcels.¹

Dams and ditches were constructed on a community basis. Each man was required to contribute labor in proportion to the amount of land he was going to irrigate. Work was done under the purview of the local ward bishop. This system of nonpecuniary and public ownership was recognized when Utah was made a territory and placed under the supervision of the county courts. In 1865, the system was bolstered by an act of the legislature creating relatively autonomous irrigation districts.²

It can be demonstrated that factors such as cooperative water resources development gave strength and permanence to the Mormon settlements due to the highly efficient manner in which they dealt with the peculiarities of settlement in a semi-arid region, but another factor that must be thrown into the balance when attempting to determine the reasons behind the success of the Mormons in Utah is the zeal and dedication of the early Mormons towards the creation of a literal representation of their concept of a godly society. This purposeful faith, while perhaps verging on the fanatic on some occasions, gave the Mormon people a unity and a feeling of community rare in the history of western settlement.

¹ Ibid., pp. 51-52.
² Ibid., p. 53.
Demonstration of the Mormon Early Settlement Pattern in the Bear River Basin

One of the chief things that the Mormons looked for in a town site was a place where it would be easy to conduct water to the farm lands. Irrigation systems were among the first priorities in the establishment of a colony and were sometimes built prior to settlement. Cooperative development was the hallmark of Mormon irrigation systems. Fields were laid out in common and the work of building the ditches and laterals was also done in common.

The main thrust of Mormon colonization was originally directed toward southern Utah, but settlements were made at Ogden and Brigham City as early as 1848 and 1851, respectively. Brigham City became the first jumping-off point for the development of the Bear River Valley. Logan, founded at a slightly later date, became another center of development for this area.

In general the pattern of settlement in the Bear River Valley was one of movement to the north. Following an exploration of the site in 1850 William Davis led a group of settlers to Brigham City in Box Elder County, Utah, on March 11, 1851, as part of Brigham Young's colonizing efforts. The same year saw a second settlement in Box Elder County. Willard City, first known as North Willow Creek, was first settled by

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6 Andrew Jenson, Encyclopedic History of the Church of Jesus Christ of Latter-Day Saints (Salt Lake City: Deseret News Publishing Company, 1941), p. 86; Sons of the Utah Pioneers, Box Elder Lore of the Nineteenth Century (Brigham City: Box Elder News and Journal, 1951), pp. 42-43; Daughters of the Utah Pioneers (Lydia Walker Forsgren), History of Box Elder County, no more available information (1937), p. 257.
Figure 2. Pattern of Settlement in the Bear River Basin.
a group that arrived on March 31, 1851. Later, demonstrating the continuity to be found in the settlement of the Bear River Valley, men from Willard were among those colonists called to settle in what is now Bear Lake County, Idaho.

During the year 1853 two new towns were started in Box Elder County. Perry was founded in the spring and Harper followed later that year.

The first settlement in Cache Valley was Maughan's Fort, now known as Wellsville, established in 1856 by Peter Maughan, who had been there the previous summer. The settlers built irrigation ditches as a part of their preparations for the planting of the first crops in the spring of 1857.

The Utah War brought a temporary halt to the spread of settlement in northern Utah, but when the settlers returned to Wellsville in 1859 at the conclusion of the war, one of their first projects was the digging of a canal from the Little Bear River to irrigate a tract of 1,400 acres known as the East Field.

7 Ibid., p. 269; Jenson, Encyclopedic History, p. 953.
8 Forsgren, History of Box Elder, p. 272.
9 Ibid., p. 273; Jenson, Encyclopedic History, p. 651.
10 Forsgren, History of Box Elder, p. 277; Jenson, Encyclopedic History, p. 317.
12 Ibid., p. 10
13 Ibid., pp. 31-32.
Peter Maughan, in describing the assets of the Cache Valley in the 
*Deseret News* in the summer of 1859, pointed out that "the water for 
irrigation and all kinds of machinery is abundant, in short, it is the 
best watered valley I have ever seen in these mountains." 14

The end of the Utah War also brought new settlement to the Cache 
Valley. Providence, Mendon, and Logan were established in the spring 
of 1859. 15 Franklin became the first permanent settlement in what is 
now Idaho in the summer of 1859. 16 The Mormons had established an 
earlier settlement at Lemhi, Idaho, in 1855, but the loss of their 
stock to the Indians forced them to abandon the attempt. They had 
quickly introduced irrigation to Idaho during their short tenure, 
digging a ditch from Potter Creek on the Lemhi River to water their 
crops. The canal they built was still in use in 1963. 17 Idaho's 
first town was not placed in that state intentionally since the Mormon 
settlers of the Franklin community thought that the site was within 
the Utah boundary. 18 Smithfield, Utah, was founded in the autumn of 
1859. 19

Logan's first irrigation project was the Logan and Hyde Park Canal.

14 Ibid., p. 17.

15 Ibid., p. 13.

16 Ibid.


It was completed May 18, 1860. Smithfield irrigated from the waters of Summit Creek until the Logan-Richmond Canal was built.  Providence tapped the waters of Spring Creek at first, but by 1864 they were forced to import water from Blacksmith Fork which also supplied water to Millville. The settlers at Franklin carried on ambitious projects. Their first canal brought down water from Spring Creek. Later, High Creek was tapped, and then the Sanderson Ditch was built to bring water down from Ox Killer and South Canyons.

Further settlement in Cache Valley resulted in the founding of Hyrum, Millville, Paradise, and Hyde Park in 1860. In the spring of 1860 the settlers at Hyrum dug a canal nine miles long from the Little Bear River. It varied in depth from five to eight feet and was laid out by Ira Allen, who had only a spirit level as a guide. It was completed in 21 days and utilized the labor of 28 men and boys. The town of Richmond constructed canals from Cherry and High creeks for irrigation purposes.

The Logan-Richmond Canal was begun in 1865 and reached Hyde Park by the end of the year. Three years later, E. R. Miles, Sr. and his father extended the canal to Smithfield. In 1881 the city of Smithfield

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20 Ibid., p. 32.
21 Ibid.
22 Ibid.
23 Ibid., pp. 32-33.
24 Ibid., p. 18.
25 Ibid.
26 Ibid.
granted the Logan-Richmond Canal a right-of-way through Smithfield in order to water the fields north of the town as well as those to the south. In an enlarged form, this canal later became the Logan Northern Irrigation Company.27

Water power was utilized in the Cache Valley at an early date for powering machinery. Esais Edwards built the first sawmill in 1859. By October, 1860, Cache Valley boasted four sawmills. Also built in 1860 was a gristmill on the Little Bear River. Daniel and John Hill put it up for the people of Wellsville. Soon after this mills were also built in Richmond and Logan.28

Thomas Tarbet, A. P. Raymond, and Thomas Hill built a shingle mill at Smithfield in 1863. The next year they added a gristmill to the plant. James Mack purchased the plant in 1868 and converted it into the first commercial mill in Cache County.29 A second mill, the Farmer's Union Mill was built in 1888 as a cooperative project of the people of Smithfield.30

The settlements in Cache Valley were firmly established and developing a diversified agricultural economy, as shown by the census of 1860. It found 510 families in the valley with a total population of 2,605 persons. Three hundred and twenty-eight men gave their occupation as farmer, while 208 listed other occupations.31

28 Ibid., p. 34.
29 Mr. and Mrs. Leonard Olsen, The History of Smithfield (Salt Lake City: Deseret News Press, 1927), p. 65.
30 Ibid.
31 Ricks, Beginnings of Settlement, p. 21.
Settlement moved a bit west with the establishment of Honeyville around 1861. John and Lewis Boothe, the first to settle there, failed in an attempt to use the water of Cold Spring for irrigation since the level of the spring was below that of the fields. 32

Bear River City was founded in 1866, but men from Brigham City had begun work on an irrigation project prior to settlement. 33 The Mormon Church was the center of life in the Bear River City community and it was in priesthood meetings that important financial matters, such as the building of irrigation ditches, were discussed. 34

A dam was built across the Malad River at Bear River City in 1866. Stephen Wright and William Pulsipher surveyed the canal from a point where streams from Malad, Samaria, and Portage fed the river. 35

By 1868 the Malad River irrigation canal was completed to the main fields of the Bear River City settlers. The canal had been forced to follow a wandering route in order to avoid making deep cuts or large fills. Shovels, plows, and tongue scrapers were used in building the canal. 36 The water was distributed through a regular system of ditches.

32 Forsgren, History of Box Elder, p. 278.
33 Jenson, Encyclopedic History, p. 50.
34 Lucinda P. Jensen, History of Bear River City (Brigham City: Box Elder News Journal, 1947), p. 130.
35 Forsgren, History of Box Elder, pp. 288-289.
36 Ibid., pp. 57-58.
built through the combined efforts of all the male settlers under the leadership of the chief local elder, Niels Nielson. The ditches ranged in length from one to one and one-half miles, with a uniform width of three feet.37

The original dam on the Malad River required such constant repair that after two years, during which the dam had more than once given way entirely, a new dam was built further upstream. The old dam was sold to the Corinne Milling Company.38

Chrest Christensen built a water-driven molasses mill in Bear River City. In 1872 a waterwheel was built to power a proposed sawmill, but the work was left incomplete at this state of construction.39

As the Malad Valley was settled the streams supplying Bear River City were diverted for use there and the Malad water became alkaline so that the system became wholly unuseable.40

Eighteen sixty-two, the year in which Bear River City was founded, was significant as well for the area around Bear Lake. The passage of the Homestead Act by the U. S. Congress was the spur that led Brigham Young to hurry the colonization of this part of Utah and Idaho. Settlers were sent out from towns in the Cache Valley in 1863 to prevent non-Mormons from gaining possession of the land around Bear Lake.41

The first settlement in the Bear Lake Valley was at Paris, the

37 Ibid.
38 Ibid., p. 63.
39 Ibid., p. 62.
40 Ibid., pp. 288-289.
current county seat of Bear Lake County, Idaho. Montpelier, Bloomington, St. Charles, Fish Haven, and Bennington rounded out the settlements around Bear Lake. These communities all came into existence in 1864.

Montpelier, originally named Clover Creek, was renamed by Brigham Young in honor of the capital of his native state of Vermont. The Bear Lake settlements were established before any government surveys had been made in that area and so towns were begun without any certainty on the part of the settlers as to whether their town sites were all located in Utah or all in Idaho or if they were divided between the two territories. The settlers wished to be a part of Utah Territory and although Brigham Young announced his belief that the settlements were located in Idaho, they behaved as residents of Utah. The Idaho Legislature created Oneida County, with Soda Springs as its seat, in 1864, but the Bear Lake settlers refused to recognize the Oneida County officials or to pay taxes in Idaho. They continued to recognize Utah as having authority until the federal survey of 1871-72 showed that nearly 80 percent of the settlements and farm lands around Bear Lake were in Idaho. The northern end of the valley than became a part of Oneida County, which had by then moved its seat to Malad City.

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1. Ibid.
2. Ibid., p. h2.
Accepting their situation with some reluctance, the Mormons showed their strength by electing representatives from the Bear Lake area to the ninth session of the Idaho Territorial Legislature.46

While jurisdictional questions were raised only in the case of the Bear Lake settlers, these settlements also provided examples of the manner in which the Mormons accommodated themselves to some serious problems faced by almost all of the Mormon settlements due to the conflict between the Mormon system of land tenure and federal legal provisions for gaining title to land.

**Mormon Land Tenure System and Division of Water**

Securing land title proved troublesome in the Mormon communities. Two primary obstacles were at the root of the problem. The first, and less troublesome, consideration was that settlement had preceded any government survey by a full nine years in the Bear Lake area. The second, and thornier, consideration was that posed by differences between the Mormon system of land tenure and the tenure system envisioned by the federal government. The Mormon system, while entirely congruent with the cooperative irrigation systems in use in this area, was based on a plan in which settlers lived in towns and commuted to their farm plots. Farming land was divided into five-acre plots near the settlement, then into ten- and twenty-acre plots further out from town. Meadows and hay fields were claimed haphazardly, with the local Church officials refereeing disputes. In the towns a surveyor laid out

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46 *bid.*
a plot of ten-acre blocks which were then subdivided into family-sized lots. The lots were numbered and assigned to the householders by lottery.\textsuperscript{17}

This system was at odds with the provisions of federal land law, and the Mormons responded by devising a scheme to make the necessary adjustments in their system to satisfy the government and secure title without affecting actual land use. The federal homestead and pre-emption laws envisioned a situation in which one man would claim a plot of 160 acres and occupy that land. In the Mormon system a number of men would be using this amount of land as parceled out by the Church. A man was therefore selected from this group to claim the land and, as a good Mormon, was expected to deed to others the portion of his claim used by them when he received government title. Only in a very few instances did the title holder show a reluctance to share. Town-lots were secured through a federal law that granted town site deeds to towns established on public lands or for proposed towns to be built on public lands. Incorporated cities applied for town site deeds through the mayor as the city representative, while unincorporated towns had to be sponsored by the county judge in order to receive this kind of deed.\textsuperscript{18}

Following the government survey of 1871-72 in the Bear Lake Valley, Church officials urged the Mormons to comply with government regulations in order to gain land title properly. Preemption and homesteading were explained in priesthood meetings, but the failure of many Mormon

\textsuperscript{17} Ibid., pp. 89-92.

\textsuperscript{18} Ibid.
settlers to make the required improvements—particularly, dwellings—on the land caused persistent problems and resulted in a great many cases being brought to Church councils and bishops for settlement. 49

Less common in the early days were disputes over the allocation of water; an unusual case occurred in Laketown when one man appropriated more water than he could use and sold the excess to water-short neighbors. The intervention of Apostles Francis M. Lyman and Marriner W. Merrill was finally required to satisfactorily resolve the issue. 50

Another type of Church intervention was called for in an 1883 Bear Lake water dispute. The Ovid and Liberty wards were at odds over the division of the waters of Mill Creek and Liberty Creek. The bishops of the two wards went to the stake authorities to present their sides in the case. The stake president made the decision in the case, granting Ovid three-quarters of the stream flow to one-quarter for Liberty, and referred it to his council, which unanimously sustained his ruling. Both parties accepted the ruling as binding and the decree was followed until it was superseded. 51

Continuing Settlement in the Bear River Basin

In the Bear Lake Valley, as elsewhere along the Bear River, water power was soon made productive. On May 1, 1865, the first grist mill in Paris was put into operation and by the spring of 1866 a gristmill had been erected at St. Charles. Two more mills were built in the
valley before the end of 1866. July of that year saw the first sawmill in the Bear Lake settlements erected by Nathan David at St. Charles. In short order two other sawmills were also at work in the valley.

Eighteen sixty-four was a prime year for the development of new settlements in the Bear River Basin, for, in addition to several sites around Bear Lake, new towns sprang up in several places along the Bear River. It was in 1864, as a beginning, that John Jones Williams, Benjamin and William Thomas, Louis Colt, and Henry Peck began farming in the Malad Valley. The first irrigation project in the valley began in the same year.

At the same time, back in Box Elder County, Utah, John C. Dewey from Call's Fort (Honeyville) was working to establish a new settlement that became known later as Deweyville in his honor. Deweyville enjoyed a boom at the turn of the century when it was briefly the shipping center for the Bear River Valley and because of the building of the Bothwell and Hammond canals. Woodruff, in Rich County, was established in 1865, while another small Box Elder hamlet, Beaver Ward, was first settled in 1867 or 1868. Bear Creek was the source of water for irrigation at Beaver Ward.

52 Ibid., p. 67.
53 Ibid., pp. 67-68.
56 Vorsgren, History of Box Elder, pp. 280-281.
57 Ibid., p. 282; Jenson, Encyclopedic History, p. 54.
The first settlers of the Portage community came from Wellsville in 1867. They built, in 1872, a twelve-mile canal from Symaria Lake under the lead of Bishop O. C. Hoskins. The canal's greatest depth was 22 feet and it was built entirely with hand tools.\(^58\) Plymouth was established in 1869 on the north side of the Bear River. An unusual feature at Plymouth was a reservoir built to run a sawmill.\(^59\)

By 1870 the first period of settlement in the Bear River Basin was near its end. Randolph and Meadowville were begun in Rich County in 1870, and in 1871 a group of Preston settlers, led by William H. Head, organized the Cub River and Worm Creek Canal Company. They built a fifteen-mile-long canal at a cost of $30,000 which watered 15,000 acres of ground.\(^60\)

Soda Springs, at the northern boundary of the Bear River Basin, was the last of the settlements made in the first period. Soda Springs was the site of successive settlements. The town that persisted was begun by Mormons in 1871, but several attempts had been made, beginning with one in 1863.

The first settlement at Soda Springs was begun by a group of apostate Mormons, known as Morristes, who had accompanied a part of Colonel P. E. Connors force from Utah to a site near Soda Springs where

\(^{58}\) Ibid., pp. 307-308.

\(^{59}\) Ibid., p. 308.

\(^{60}\) State of Idaho, Idaho Almanac, p. 397.
the soldiers were to establish a post for the protection of overland travelers. The Morristown settlement, for the obvious reason, was dubbed Morristown by Colonel Connor.

Morristown declined rapidly, but a new settlement, called the "Upper Town" to distinguish it from Morristown (the "Lower Town"), was begun by settlers from the Salt Lake Valley on a site established by William L. Thurmond. Upper Town became known as Soda Springs.

Only Thurmond held out, however, and strong interest in Soda Springs began to develop only in 1870 when Brigham Young announced that he was going to visit the town. Local L.D.S. people from Paris built him a home on the banks of Soda Creek in anticipation of his visit. This visit by Young led directly to the planting of a colony the next year at Soda Springs.

The first Mormon settlers arrived in the spring of 1871. Except for Thurmond's cabin, his trading post, and the house built for Brigham Young, all of the older buildings were gone and the Mormons were left to build a permanent town site at Soda Springs.

Soda Springs marked the far edge of Mormon settlement in the Bear River Basin geographically and chronologically. Other settlements were yet to be founded in the Bear River Basin, but several new factors were


62 Bernard, Tosoiba, p. 87.

63 Ibid., pp. 89-92.

64 Ibid., p. 93; Jenson, Encyclopedic History, p. 807.
being added to the Bear River's agricultural equation with the result that the new settlements would diverge a great deal in nature from the earlier ones.

**Later Settlement in the Bear River Basin**

By the time Mormon settlement reached Soda Springs the Mormon system of cooperative water resources development was reaching its limits. As highly efficient as that system had been in assuring the success of the Bear River Basin settlements, it had certain inherent topographical and engineering weaknesses that made a new state of water resources development a necessity to further growth in the basin.

A basic engineering feature of the cooperative developments was that the source of water for irrigation was a tributary of the Bear rather than the main channel of the river. The tributaries were more convenient to the farm lands and were easier to divert and to control with the relatively primitive tools and methods the settlers had at hand. There were a severely limited number of acres that could be irrigated this way and the alluvial bottom lands were quickly taken up.

The difficulties involved in maintaining irrigation works was another limit to the old system. Even when tapping only the tributaries, flooding and washed-out canals and laterals were common problems.

Opening new lands in the future along the Bear River was to depend for its success on using the Bear River itself as a source of water, on building larger and stronger canals, and on conducting water onto land above the level of the river. Developments of this sort required techniques and capital beyond the means and experience of the local
settlers, and private canal corporations were formed to build the more sophisticated irrigation systems that were being called for.

The advent of the Union Pacific Railroad was an outside influence that had an impact on the development of the Bear River region. When the railroad established Montpelier as its Bear Lake terminal in 1882, the town quickly exceeded Paris, Bloomington, and St. Charles in population to become the largest of the Bear Lake towns.65

The first permanent settlement of Collingston, Box Elder County, Utah was in 1875, but it was during the period 1889 to 1907, while the Hammond Canal was being built, that the town prospered.66 Elwood was founded in 1886. Dry farming had begun in 1882 and new development came in 1894-95 with the completion of the Bothwell Canal.67 Garland, East Garland, and Riverside were founded or expanded between 1890 and 1893 while the Bear River Canal was built.68

Lands were taken up in the late 1890s in what became Bothwell, Thatcher, and Penrose in anticipation of the Bear River Canal.69 The settlements called the Iowa String, southwest of Tremonton, were settled by a group from New Sharon, Iowa, recruited in the Midwest in 1898 by agents of the Bear River Land and Canal Company.70

66 Forsgren, History of Box Elder, p. 283.
67 Ibid., pp. 290-291; Jenson, Encyclopedic History, p. 224.
68 Forsgren, History of Box Elder, pp. 312-313; Jenson, Encyclopedic History, p. 275.
69 Forsgren, History of Box Elder, p. 318.
70 Ibid., p. 319; Reuben D. Haw, "History of Tremonton, Utah" (1928, written for Dr. Joel E. Ricks' undergraduate seminar in historical method), p. 13.
Tremonton, founded in 1903, was named by the German colony there for their old home of Tremont, Illinois. Tremonton became a commercial center of the Bear River Valley because of an advantageous crossroads location.\footnote{Forsgren, \textit{History of Box Elder}, p. 322; Jenson, \textit{Encyclopedic History}, p. 885.}

The community of Howell was developed in 1910 as a project of the Promontory-Curlew Land Company. The town was named for the head of the organization, Congressman Joseph Howell. Here two canals irrigated about 3,000 acres.\footnote{Forsgren, \textit{History of Box Elder}, p. 321; Jenson, \textit{Encyclopedic History}, p. 345.}

To this point there has been no discussion of either Corinne near the outlet of Bear River into the Great Salt Lake or of Wyoming settlement near the headwaters of the Bear. Corinne will be discussed later in some detail in connection with the development of the first private canal corporations. The one town that the Bear passes through in Wyoming is the community of Evanston. Evanston is the outlet for the large ranches that are the main industry of the region.

Major Powell of the United States Geological Survey reported in the bureau's annual report for 1890-91 on the state of water resources development in the Wyoming section of the Bear River Valley. Near Evanston he had found several canals of good size being used to divert...
water from the Bear for use in the town and in adjacent hay fields. North of Evanston some ditches had been built to irrigate other hay lands. 73

Named for J. A. Evans, surveyor for the Union Pacific Railroad, Evanston was founded in 1868 during the building of the transcontinental road. The railroad continued to dominate the economic development of Evanston after the town was made a division terminal in 1871. 74

The agricultural development of Uinta County (originally the whole western quarter of Wyoming) was slow because of the hazards to agriculture of high altitudes and short growing seasons. Instead, the inhabitants continued to depend on raising livestock for a living, with their chief agricultural pursuit being the cultivation of native hay for winter feed. Later, with improved grains and irrigation techniques, it was possible to grow substantial quantities of wheat and oats in the county. 75


75 Ibid., pp. 20-21.
CHAPTER IV

CHANGING TIMES

Large Scale Water Resources Development in the Bear River Valley

The Mormon form of cooperative water resources development in the Bear River Valley had about reached its limits by 1880, and the period of pioneer water resources development was drawing to a close. During the next forty years the valley would see great changes and growth in its irrigation systems.

In the last chapter some limitations of the pioneer-community form of water resources development were discussed with an eye towards indicating the need for development on a larger scale, using more sophisticated construction techniques and requiring larger outlays of capital in order to irrigate lands inaccessible by pioneer techniques. Another characteristic of this second phase of Bear River development was the general interest in irrigation shown by state and federal government as well as by private investors. Irrigation congresses spread information about new techniques of irrigation. The problem of watering arid lands began to draw more attention from engineers and scientists than ever before.

Henceforth water resources development would become more complex as experiments were made with new land laws, construction techniques, and forms of financing irrigation projects. With all these innovations water resources development in the Bear River Valley lost the unity of
its former development and the vexing problem of interstate (or inter-
territorial) administration of water resources first arose in the
valley. Other influences began to intrude into the old order; non-
Mormons were growing in numbers, many attracted by the new projects.
The pattern of water resources development began to take on more of
the typical pattern of western development as a whole as government
regulation superseded ecclesiastical authority in settling water
disputes and apportioning land. New settlement was made under the
provisions of the various federal land laws, including the Desert
Land Act of 1877, leading to a style of development more like that
found elsewhere in the semi-arid lands and accelerating the decline
of the Mormon system of land tenure. Three federal laws, the Carey Act,
the Desert Land Act, and the Reclamation Act of 1902 were designed to
encourage the reclamation of land not suitable to cultivation without
irrigation. The territorial and state laws of both Utah and Idaho in
this period 1880-1920 were devoted to about the same main goals:
defining water rights and methods of apportionment, developing some
controls over the shape of future water development, and protecting the
rights of the water user through local control over waterworks.

The Irrigation District Laws of Utah

One of the most important types of legislation to the individual
farmers were the irrigation district laws. The first of a series of
irrigation district laws passed in Utah was enacted in 1865. The
importance of this act and of those which followed it was that they
gave local users administrative and financial control over the works
on which their irrigation livelihood depended.

The Utah Irrigation District Act of 1865 provided that a majority
of citizens in any county or part of a county could petition the county
court for the formation of an irrigation district if they could show
that there was unappropriated water available that could be used to
increase the agricultural value of land in that county or part of a
county represented by the petitioners. The county court was authorized
to create this type of district if it appeared there was enough water
available for the needs of all the farmers included.¹

Officials of the irrigation district were elected at a mass
meeting of the citizens of the district. At the same time a vote was
taken to determine whether the tax which was to be levied should be
laid upon the lands to be benefited or upon all property in the
district.² The elected officials were responsible for locating the
canal, for determining the lands to be benefited, for estimating the
costs of construction, and for determining the value of the taxable
property. They reported to the county court. The court conducted an
election among the citizens of the district to determine if they were
willing to be taxed in accord with that report. If two-thirds of the
votes were affirmative the county would take the responsibility for

¹ Utah Territorial Legislature, Acts, Resolutions and Memorials,
1864-65, pp. 58-63; see George Thomas, The Development of Institutions
Under Irrigation (New York: the Macmillan Company, 1920), for an
extended discussion of the irrigation laws to 1919.

² Ibid., sec.2, p. 58.
collecting the tax. If the measure did not pass, new officers could be elected for the district and a new proposal developed without prejudicing the existence of the district. 3

If the levied taxes were found to be insufficient to finish the project, the trustees could ask for a further levy based on the new estimates of cost. This type of request was voted on in the same manner as were original levies and required a two-thirds majority to pass. Water could be appropriated in another county as long as no individual suffered. The right-of-way for the canal could be claimed by the exercise of the rule of eminent domain, but this was the only legal use allowed the districts. Completed canals and dams remained under the control of the irrigation districts and upkeep was provided through an annual levy for that purpose. Enlargements in the system had to be approved by two-thirds of the patrons and the tax levied in the usual manner. The district was held liable for damages caused by breaks in the system. 4

The act originally applied only to new construction, but the next year, 1866, the act was amended to allow older construction to take advantage of many of its provisions. 5

The organization of districts began soon after passage of the law. In 1865 the area east of the Jordan River in Utah and Salt Lake Valleys was organized into the Deseret Irrigation and Canal Company. In 1867

3 Ibid., sec. 3-6, pp. 58-59.
4 Ibid., sec. 7-10, pp. 59-62.
5 Ibid., 1866-67, p. 13.
the area west of the Jordan River was organized as the West Jordan Irrigation District. Cache County became a leader in organizing such districts with twelve irrigation districts in the county.6

A series of amendments to the Irrigation District Law failed to solve the basic problem of this type of organization; namely, the difficulty of achieving equitable taxing in a district encompassing larger amounts of non-irrigable land than irrigable. Demands to extend systems were generally refused on the grounds that the members of the district should not have to share the cost of extending canals to areas that had not paid a share of the cost of the original construction. This problem led to the repeal of the Irrigation District Law in 1897. The State Supreme Court, in the case of Harris v. Tarbet, ruled that a district could not set arbitrary limits on the extent of its system. This decision precipitated the disorganization of the remaining districts and the shift to a stock company form of organization.7

In 1897 two laws were passed dealing with irrigation and water rights. The first act confirmed and defined the manner of appropriation of water common in Utah as well as establishing rules for the use of water and the construction of water works, including the right-of-way across public, private, or corporate lands by any person or corporation engaged in such work.8 The second important law created the office of the State Engineer. The State Engineer was required to keep a record

6 Thomas, Institutions Under Irrigation, pp. 121-122.
7 Ibid., pp. 122-125.
8 Laws of Utah, 1897, Chapter 52, pp. 21-226.
of measurements for all streams, to approve construction plans, to
direct state developments, and to inspect systems for safety. In
1901 a supplementary act increased the authority of the State Engineer
to give him general supervision of the state's waters.9

In 1909 a new Irrigation District Law was passed by the Utah
Legislature. The initial steps in forming a district under this law
were taken by a majority of land owners in the proposed district, with
the further requirement that they owned a majority of the whole number
of acres to be irrigated. Several major departures from the former
style of irrigation districts were included in the new law. The county
court checked the petition and determined the boundaries of the dis-
trict. Voting was conducted on the basis of one vote per acre and only
a simple majority was required to organize the district.10

Provisions were made for the sale of water to non-members of the
district. Entrymen on public lands were not eligible for inclusion in
the district, but surplus water could be sold to them with the approval
of the land owners in the district. The district could also sell or
lease water to occupants of other lands, either in or out of the dis-
trict, although no water right was conferred on the user.11

Another important change in the new law was that it allowed dis-
tricts to sell bonds to finance new construction. The law required
several checks on the bond-selling process. A proposal by the district's

9 Ibid., Chapter 16, pp. 76-80.
10 Ibid., 1901, Chapter 125, pp. 141-146.
11 Ibid., 1907, Chapter 71, pp. 141-168.
12 Ibid., sec. 12, pp. 151-52.
directors to issue bonds had to be assented to by a two-thirds majority of owners of agricultural lands in the district. The rate of interest and the maximum period for payment was fixed by law. They were required to be sold at public sale at a price not less than 95 cents on the dollar. The bonds were a lien on the agricultural lands of the district. Taxes were levied yearly to pay interest and principal as they came due, as well as the operating expenses of the district.\textsuperscript{13} An unusual check on the bond-selling process was the requirement that the county court pass on the legality of the proceedings before any bonds were issued.\textsuperscript{14}

In 1917 the Irrigation District Law was changed again. The impetus behind the change was the desirability of making it possible for settlers on state land projects to organize themselves into irrigation districts. The governor was given the right to petition the county board of commissioners to form a district. The county commissioners would then proceed as required in the 1909 act except that the acre-foot became the voting unit rather than the acre. This change was made because some parts of reclamation projects were already being partially served with water when the election was held, and it was felt that the larger water holders deserved more weight in the decision-making process. Bonds were issued by the district as in the act of 1909, except that they were for payment of obligations to the federal government. In the contract with the federal government the district assumed a collective

\textsuperscript{13} Ibid., sec. 15, pp. 153-155.

\textsuperscript{14} Ibid., sec. 51, p. 166.
obligation rather than the former individual obligation common to earlier acts. The Reclamation Service maintained control of the works until a certain part of the payments had been made.\textsuperscript{15}

The year 1919 also saw major changes in Utah's water laws. A new Water Rights Law gave the State Engineer the authority to make the preliminary investigation and determination of water rights. It declared that water running in well-known and defined channels was public property subject to beneficial use, and further decreed that new appropriations of water could be made only through application to the State Engineer's office. Priority of appropriation was retained as the rule by which claims to the use of water would be governed, and the water right was defined, as in the past, as the personal property of the water user.\textsuperscript{16} Changes in the Irrigation District Law in that same year gave the State Engineer and the district board of directors the right to determine the allotment of water in the district. In addition, Reclamation Act project entrymen were made eligible for the first time to form and belong to irrigation districts.\textsuperscript{17}

\textbf{Idaho Irrigation Legislation}

The history of irrigation legislation in Idaho begun with an 1881 territorial law regulating the appropriation of water on a prior claim basis. Further water rights legislation in 1887 added a clause that

\textsuperscript{15} Ibid., 1917, Chapter 33, pp. 77-101.

\textsuperscript{16} Ibid., 1919, Chapter 67, pp. 177-203.

\textsuperscript{17} Ibid., Chapter 68, pp. 204-221.
recognized the right to appropriate flowing water, with priority in
time specified as the determining factor in deciding the priority of
water rights.\textsuperscript{18}

Unlike the Utah state constitution, Idaho's constitution contained
several specific references to water rights and appropriation of water.
Among the provisions was an affirmation of the principle that users had
the right to divert unused water from any natural stream for beneficial
purposes. The state did reserve for itself the right to regulate and
limit the use of water for power purposes. In cases where water
supplies were insufficient to meet the demand, the Idaho constitution
established the order of priority for use. First priority went to the
domestic uses of water, second priority to the agricultural uses of
water, and third priority to manufacturing.\textsuperscript{19}

Beginning about 1880 corporations were established in Idaho to
build large irrigation works. These companies did not own the land
they irrigated but, after building the ditches, charged the settlers
for the use of water and collected an additional yearly fee for canal
repair work. Dissatisfaction with the private canal companies led to
agitation for some type of legal relief for the settler. The result
was the Idaho Irrigation District Law of 1895.

This act, although thirty years later than the first similar Utah
legislation, was in general like the 1865 Utah law. The Idaho act
allowed the owners of land irrigated from the same source to organize
themselves into irrigation districts, and gave them the power to elect

\textsuperscript{18} State of Idaho, \textit{Idaho Almanac} (Boise: Syms-York Company, 1963),
p. 397.

\textsuperscript{19} Ibid.
officials, to carry on business affairs for the district, to construct facilities to water their land, and to distribute and govern the use of water in the district. A board of directors, selected from among the district's land owners, was given the authority to represent the district in its affairs. Also incorporated into this act was Idaho's acceptance of the Carey Act.20

Another piece of irrigation legislation passed in 1895 was the act establishing the office of the State Engineer. The State Engineer supervised water development in Idaho until 1919, when the office was replaced by the State Department of Reclamation headed by the State Reclamation Engineer.21

A second Idaho Irrigation District Law in 1903 replaced the former law. Features of the new law were the requirements that plans be approved by the State Engineer and that a yearly status report on the condition of the waterworks from each district be filed with the State Engineer's office.22

An act of 1911 made it possible for an irrigation district to undertake a Carey Act project.23

**Federal Irrigation Legislation**

The most important new Federal legislation for Bear River Basin settlers was the Desert Land Act of 1877, designed to encouraged the

20 Idaho Session Laws, 1895, p. 183.
22 Idaho Session Laws, 1903, pp. 150-186.
23 Idaho Session Laws, 1911, Chapter
reclamation of semi-arid lands. It was felt that larger amounts of land than were available to an individual under the Homestead or Preemption acts were required to make reclamation of the desert lands attractive, so the Desert Land Act provided for the sale of a full section to a settler who would irrigate it within three years after filing. The law was so vague as to lend itself to misuse and fraud by speculators interested in holding the land. By 1891 the law had fallen into such disrepute in the government that major modifications were made. The 1891 act, which revised methods of obtaining land from the government, stipulated that for desert lands improvements amounting to $3.00 an acre should be made on the land, a dollar a year, and that while there had to be water enough for the entire tract, one-eighth must be put under cultivation. Other provisions of the act limited entries to the citizens of the state in which the land was located and allowed the settlers to associate together in a project for watering their entries. This act did not solve all the problems involved in desert land entry because a settler, even in concert with several other entrymen, often could not finance the construction of the large projects necessary to reclaim the desert lands. 24

In Utah's Box Elder, Cache, and Rich counties over 600 original Desert Land Act entries have been made in total. The total acreage entered amounted to 129,859.36 acres, of which 51,540.26 acres were eventually patented. 25

24 United States Statutes at Large, XIX, p. 377.
25 United States Department of the Interior, Bureau of Land Management (figures compiled from the township plats kept at the Salt Lake City office of the Bureau of Land Management).
Two other pieces of federal irrigation law from the middle period of Bear River development, the Carey Act and the Reclamation Act of 1902, deserve mention, although neither Carey nor Reclamation acts projects were built in the basin. In failing to utilize the provisions of the Reclamation Act, the Bear River Basin differed widely from most irrigated regions of the west.

The Carey Act was a federal plan to encourage the western states to reclaim their semi-arid lands for irrigation. The enumerated states were allowed to segregate and develop tracts of public land to which they would receive title when the land was reclaimed. Originally the act allowed the states as much land as they could irrigate, but the offer was later amended to set a limit of 1,000,000 acres per state. Idaho and Wyoming received large supplemental grants although no western state ever reclaimed even its first million acres. The Carey Act allowed each of the states involved to choose their own manner of developing projects, and most chose to do it either through irrigation districts or through contracts with private developers, as both Idaho and Utah did.

The Reclamation Act of 1902 authorized the Department of the Interior to survey and build irrigation works in the sixteen semi-arid states and territories. Public lands irrigated by any Reclamation Act project were limited to homestead entries of not more than 160 acres, with the proviso that the commutation privileges of the homestead laws were not allowed. The price paid for land in projects was expected to

26 United States Statutes at Large, XXVIII, p. 422.
27 Ibid., XXXII, p. 388.
return the cost of the project to the reclamation fund established by the act. The one requirement of entrymen on project lands, beyond those required under the homestead laws, was that they irrigate half the irrigable area of their entries for agricultural purposes. When most of the land in a project had been fully paid for, the ownership of the works was to be transferred to the users, although the United States would maintain ownership and control of works required for flood control.

In the Bear River Valley the dominant form of water resources development was the mutual stock company, in which the farmers using an irrigation system were the owners as well. Payment for stock in the company often took the form of work on the system. This system, while it has roots in the old cooperative system, differs from it in its ability to secure greater capital outlay for construction and by its acceptance of standard business procedure. With the major exception of the Bear River Canal system in Box Elder County, which is privately owned by non-resident interests, the mutual stock company is the form of organization still used in the Bear River Valley.

An instructive example of the new style of water resources development in the Bear River Valley is found in the history of the West Cache Canal in northern Cache County. The area served by the West Cache Canal is known locally as the Big Range and includes the towns of Trenton, Cornish, and Amalga. The area was first used as a herd ground for cattle from the older communities. Ranchers began to establish themselves permanently in the area after 1870. The first attempt at irrigation came in 1872 when the South Field Ditch was dug as one
of five canals irrigating land around Weston, Idaho. This canal extended one and a half miles into Utah and irrigated about 170 acres of the Big Range.\(^{28}\)

An attempt to capitalize on the Desert Land Act resulted in the formation of the Weston South Field Irrigating Company in 1880. This company's water appropriation included nearly the whole flow of Weston Creek, although farmers had been using its water for irrigation since 1865 without ever registering that use under Idaho law. In the course of 1880-81 the length of the canal was extended four miles and the canal carried water for a while in 1881. In 1882 a law suit affirmed the prior water rights of users listed by the Weston Creek watermaster beginning in 1867. The loss of this lawsuit ruined the promoters' hopes of securing irrigation water for Trenton from Weston Creek, although 880 acres were patented under the Desert Land Act.\(^{29}\)

Future development seemed to depend on the Bear River as the source of water. Pioneer methods were insufficient for this type of development, especially since more than 40 percent of the population was non-Mormon in 1891. In February of 1894 Charles G. Wood, a schoolteacher, called a meeting in Trenton to consider means of obtaining irrigation water. Surveys were made along these lines, but negative reports delayed the decision to build a canal from the Bear until 1898. In March of that year, a company was organized to build and manage the


\(^{29}\) Ibid., pp. 226-227.
canal. It was incorporated with 10,000 shares at a par value of ten dollars. Incorporation of the West Cache Irrigation Company was completed by September, 1898.30

Although severely hampered by slowdowns in construction and by financial difficulties, the canal was pushed forward. By May, 1902 water was turned into West Cache as far as Battle Creek, and by March 5, 1905, the water was turned into the main canal. Completed, it was the largest system built entirely by individuals and the second largest system of any type built to that date in Utah. Only the Bear River Canal, partially constructed by the Utah-Idaho Sugar Company, was larger. The West Cache irrigated one-fifth of the irrigated land in Cache Valley at that time, an especially remarkable feat considering that the population of the area was less than one thousand people.31

Financial difficulties continued to plague the canal company after the completion of the system, so that by 1910 the Idaho section of the canal was sold to Oneida County for taxes in arrears. Continual assessments on the company's stock had caused many to sell or mortgage their stock. By 1910 a majority of the capital stock had come under the control of some twenty-five people who reincorporated the company as the Trenton Irrigation Company. This company had a short life, however, due to the farmers' resentment towards this monopoly and the expense of renting water, which caused many to undertake dry-farm agriculture. Faced with ruin, the company's directors did not oppose the formation of the Cache Valley Irrigation District in 1912. The district voted a forty-thousand-dollar bond to buy out the Trenton Irrigation Company.

30 Ibid., p. 229.
31 Ibid., p. 232.
By 1923 the district had put the canal back under the control of the users. The canal once again became a stock company under its original name of West Cache Irrigation Company. This incorporation was for thirty years. In 1953 the company was again reincorporated, this time for ninety-nine years.32

The West Cache Canal has a total length of 58.2 miles and irrigates 14,832 acres of land, about one-tenth the total now irrigated in Cache Valley.33

The extension of many older canal systems was initiated in this same general period as well. The mutual stock company was as well adapted to this purpose as to new construction. Often times both new and extended canal construction were found in close proximity. In 1881, the city of Smithfield granted the Logan-Richmond Canal a right-of-way through Smithfield to permit the irrigation of the north fields as well as those already served to the south. This canal, in enlarged form, became the Logan Northern Irrigation Company.34 A second Smithfield Canal, was begun in 1882. Known as the Logan, Hyde Park, and Smithfield Canal, it was built over a period of three years, and made possible the irrigation of more acreage.35 Smithfield got a third irrigation company in 1888 when the Summit and Birch Creek irrigation project was incorporated.36

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32 Ibid., pp. 233-236.
33 Ibid., p. 237.
36 Ibid.
decided in the city council meeting to borrow one thousand dollars at
ten percent interest for nine months to purchase water stock in the
Logan, Hyde Park, and Smithfield Irrigation Company. Another example
of city investment in irrigation works was Logan. The city's part
ownership of the canal system enabled it to sell irrigation water in
town at a fixed rate.

The West Cache Canal was one of several large systems built through
private means in the Bear River Valley during this period. The largest
was the Last Chance Canal Company. The Last Chance Company filed for
400 cubic feet per second of Bear River water to be diverted from a
site three miles below Alexander point, near Alexander, Idaho. The
filing was made on March 4, 1897, by John Trappet, D. D. Sullivan, and
George Stoddard. The company was incorporated on February 4, 1899,
and the original water rights filed for by Trappet and his colleagues
were transferred to the company in October of 1901 for the token fee of
$1.00. About 33,000 acres are irrigated by this canal, which first
carried water in 1902. 38

A slightly older canal system is that known as the Gentile Valley
Irrigation Company. The first filings of this cooperative company were
made in 1894 and the original canal finished by 1896. It has been
enlarged three times since then. In 1903 a group headed by J. B.
Thatcher was allowed to draw water through the Gentile Valley Canal to
irrigate lands further out. The Thatcher Irrigation Company paid $1,500

37 Ibid., p. 79.

38 Idaho Water Resources Board, "Report 'Caribou County Water
Resources'" (March 1, 1968), pp. 4–5.
for the right-of-way and agreed to pro-rate the cost of its canal and the necessary enlargement of the Gentile Valley Canal with the Gentile Valley Irrigation Company.\(^39\)

Some of the other canal companies in the Soda Springs area remaining from this period are the North Extension Canal Company, Limited, the Bancroft Canal Company, Limited, and the Farmers Land and Irrigation Company of Alexander, Idaho. The North Extension Canal Company was incorporated on March 11, 1904, to provide water for irrigation and to power mills. The Bancroft Canal Company is the successor company of the West Branch Canal Company, which held its first meeting on July 5, 1902. The two companies merged in January of 1917. The Farmers Land Irrigation Company had its start in 1911. In 1966 this company raised its dam with funds obtained through Farmers Home Administration and the Caribou County ASCS Office as well as through the usual type of levies on the farmers in the company. Water from this project irrigates land in the Soda Springs, Ivans, and Central areas.\(^40\)

In accordance with the irrigation district law, the Montpelier Irrigation Company was incorporated in April, 1898, by John Cozzens, W. W. Clark, E. L. Burgoyne, Christian Hogensen, F. M. Winters, William T. Perkins, and Thomas Danks. The capital investment was $10,000 divided into $1.00 shares. This company controlled most of the flow on Montpelier Creek. The users of an older ditch connected to the Bear River incorporated themselves as the Preston-Montpelier Irrigation Company.\(^41\)

\(^39\) Ibid., p. 4.
\(^40\) Ibid., pp. 5-6.
In 1910 Bear Lake County, Idaho, had 65,000 acres of irrigated land, while Oneida County (which then included the area presently in Caribou and Franklin Counties) had a total irrigated acreage of 125,000 acres. Bear Lake County then had 250 miles of canal built and Oneida had 675 miles of canal in operation.\textsuperscript{42}

CHAPTER V

THE BEAR RIVER CANAL

The Gentile Economic Challenge at Corinne

Corinne, Utah, near Brigham City in Box Elder County, was the center of the promotional activities for the Bear River Canal, the only system in the Bear River Basin built with non-resident capital. This connection between Corinne and the Bear River Canal can hardly be considered coincidental, for Corinne was a city with an entrepreneurial tradition. Once known as the Gentile capital of Utah, Corinne was as typical of Utah cities as the Bear River Canal was of Utah irrigation systems. Condemned by Brigham Young for its blatant immorality, Corinne was a railroad town established in 1869 as a depot on the transcontinental railroad, which had bypassed Salt Lake City. Originally Corinne was the depot for ties floated down the Bear River from forests located in southeastern Idaho, but its importance grew with the completion of the line, for all railroad traffic to and from Salt Lake had to be transhipped through Corinne. Corinne became a major crossroads town with wagon and boat connections to Utah, the southern Idaho towns and the Montana mines. Encouraged by this advantage over Salt Lake City and the anti-Mormon tendency of federal officials in Utah Territory, businessmen and promoters flocked to Corinne, which seemed on the verge of challenging Salt Lake's position as Utah's first city. Corinne's brief but heady boom was brought short in 1872 by the construction of the Utah Northern Railroad, which bypassed Corinne to bring direct
rail service to Salt Lake City. Quickly reduced in population to a few hardy souls, Corinne seemed to be turning into just another quiet farming village with an unusual past except that a few men, led by Alexander Toponce, preserved the town's entrepreneurial spirit and remained in Corinne to carry on.¹

Origins of the Bear River Canal

The first survey for the project that developed into the Bear River Canal was made in 1868, but the promoters realized that the project involved a type of construction too large to be handled with local resources. A petition was sent to congress asking for assistance, but with little discussion the request was denied.² Their request did, however, foreshadow future thinking on water resources development, for by 1876 the Commissioner of the General Land Office reported that he believed the future development of the Platte, Weber, Bear, Jordan, and Humboldt Rivers would require larger aggregations of capital than private sources could supply.³

Real progress towards the construction of a Bear River Canal began when Alexander Toponce and a few of his cronies organized the Corinne Mill, Canal, and Stock Company. The Union Pacific and the Central Pacific Railroads held large land grants in the Bear River Valley, all

¹ Alexander Toponce, Reminiscences of Alexander Toponce, (Salt Lake City: Century Printing Company, 1923), passim. Toponce came to Corinne in 1869.


of which came into the possession of the Central Pacific as part of an agreement in which the Central Pacific bought the line to Ogden.

Toponce's company purchased all of these lands, amounting to 45,000 acres, in 1883. In addition to these railroad lands the assets of the Corinne Mill, Canal, and Stock Company included another 45,000 acres of land, some sheep, Toponce's grist mill and his ranch at Garland. John W. Kerr was president, Toponce was vice-president and manager, and J. K. Fowler was secretary and treasurer of the company.

Under Kerr's leadership the promoters of the Corinne Mill, Canal, and Stock Company made land surveys with the idea of turning the Bear River into an irrigation canal which was to power an electrical plant as well. The company's resources were not sufficient for the project and so outside financing was sought. John Bothwell became interested in the scheme, and deciding that the plan would work, he proposed that the irrigation system and the land be put together and sold as a unit.

Bothwell was promised a half interest on the proceeds of the sale of the lands if he could finance and construct the proposed system. Until he was able to get contracts from valley landowners agreeing to purchase water at $10.00 per acre, he was unable to interest investors in backing the project. With local help he obtained contracts from the majority of these landowners and he was able to make an agreement

1 Thomas, Institutions Under Irrigation, pp. 205-206.
2 Toponce, Reminiscences, p. 222.
3 Thomas, Institutions Under Irrigation, pp. 205-206.
4 Sons of the Utah Pioneers, Box Elder Lore of the Nineteenth Century (Brigham City, Utah: Box Elder News Journal, 1951), p. 138.
with the Jarvis-Conklin Mortgage and Trust Company of New York and Kansas City to underwrite and finance the new project. For a three-sevenths interest in the company, Jarvis and Conklin agreed to purchase $2,000,000 in bonds as work progressed on the canal. The purchase price was to be 75 cents on the dollar. The bonds were due in twenty years at 7 percent interest per year, payable semi-annually. The bonds were to be secured by a mortgage on the company's assets. Jarvis and Conklin further protected themselves by adding a provision to the agreement excusing them from buying bonds during a possible financial depression. 8

On September 25, 1889, the Bear Lake and River Water Works and Irrigation Company was incorporated to take the Jarvis-Conklin contract. Capital stock was fixed at $2,100,000 of which Bothwell received $2,099,000. The stock was purely promotional and was paid for only by a transfer of certain water filings and right-of-ways. 9 In addition to Bothwell, the directors and officers of the company included James C. Armstrong, president of the Commercial Bank of Ogden; James H. Bacon, president of the Bank of Salt Lake; John T. Caine, delegate to Congress; Charles C. Richards, president of the Utah Loan and Trust Company of Ogden; L. B. Adams, cashier of the Utah National Bank of Ogden; and F. E. Roche, manager of the land department of the Corinne Mill, Canal, and Stock Company. 10 Ponds in the amount of $2,000,000 and underwritten

8 Thomas, Institutions Under Irrigation, pp. 206-207.

9 Ibid., p. 207.

by Jarvis-Conklin were purchased by Quaker societies in Glasgow, Scotland; Newcastle, Ireland; and Birmingham, England.\textsuperscript{11}

\textbf{Construction of the Bear River Canal}

The two men responsible for the engineering of the project were Samuel Fortier, first professor of engineering at Utah Agricultural College (now Utah State University), and Elwood Mead, later director of the United States Irrigation Service. Fortier was the active engineer and Mead the consulting engineer on the project. The original plan for the project called for the construction of a diversion dam in the Bear River to provide water for two canals. One canal was to run north and west to supply water for the Bear River Valley in Box Elder County; and the second proposed canal was to run south as far as Ogden. This second canal was later partially built by the Hammond brothers.\textsuperscript{12}

Late in 1889 Bothwell made a contract with William Garland of Kansas City to build the first twelve miles of canal. As many as 7,000 men were employed during the fall of 1889, but construction money soon ran out because Bothwell, Jarvis, and Conklin had used part of the proceeds of the bonds to buy land and they were unable to make the final payment of $89,550 to Garland. In 1893 they were still unable to pay and went bankrupt. Garland had filed a mechanic's lien and began to press suit.\textsuperscript{13}

The core of the problem was that all the public lands in the valley

\textsuperscript{11} Ibid.

\textsuperscript{12} Thomas, Institutions Under Irrigation, p. 209.

\textsuperscript{13} Arrington, Beet Sugar, pp. 43-44.
had been filed upon within thirty days after construction began, (although Elwood Mead claimed that not one in fifty original entrymen held the land three years later), and that these men refused to buy water rights and simply held on to the land which was made more valuable by the availability of water. Water was turned into the canal in 1892, but only 14,000 acres of water rights were sold in two years. A reorganization of the company in 1894, as the Bear River Irrigation and Ogden Water Works Company with W. H. Rowe as president and manager, was a last-ditch attempt to get some return on the investment made in the canal. The bondholders advanced $125,000 to construct more canal mileage and an agreement was made with the Corinne Mill, Canal, and Stock Company to try to sell land and water at $30 an acre. 15

The new company was little more successful than its predecessor at obtaining contract users of the water and in 1894, when the company was unable to pay Garland's claim, the canal was split into three parts. The section covered by Garland's lien was sold to David Evans and John E. Dooley of Salt Lake, who formed the Bear River Water Company. The lands of the Corinne Mill, Canal, and Stock Company were in the possession of the Hammond Brothers and organized as the Bear River Land Company. The third section of the canal, known as the Roweville Canal, was owned by the Bear River Irrigation Company and the Quaker bondholders. 16

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15 Arrington, Beet Sugar, p. 144.
16 Ibid., pp. 45-47.
The Utah-Idaho Sugar Company and the Bear River Canal

Experiments in raising sugar beets in the Bear River Valley had proved highly successful and in 1901 the Utah-Idaho Sugar Company authorized Thomas R. Cutler to pick up an option on all capital stock of the Bear River Water Company. The sugar company sold water to the bondholders who sold it in turn to the farmers who had purchased water rights from the old Bothwell company. Land was sold to farmers on long-term contracts and the valley showed signs of prosperity.17

One of the first major actions of the sugar company was the completion of the delayed east side canal to Collinston and the letting of a contract in 1903 to the Hammond brothers for the construction of the canal to a point north of Brigham City. The Hammonds, backed up by landowners who had agreed to buy enough water to make the canal extension profitable, began construction with great confidence. But construction difficulties, climaxed by the failure of the flume at Beaver Dam Hollow and the accidental death of Datus E. Hammond while attempting to repair the damage, resulted in the canal's going into receivership.18 In 1919 the system was purchased by the Utah-Idaho Sugar Company, but operated separately as the Hammond Canal Company. The construction of the east side canal opened another 8,500 acres to irrigation.19

A second major undertaking of the sugar company in 1901 was the

17 Ibid., pp. 45-47.
18 Sons of the Utah Pioneers, Box Elder Lore, p. 141.
Daughters of the Utah Pioneers, Lydia Walker Forsgren, History of Box Elder County, (no more available information, 1937), pp. 329-330.
construction of a pumping station to take water out of the West Side canal to water 10,000 acres near Fielding and the construction of a 2,700 horsepower plant to provide electrical power for the pumps. This plant also provided electricity for Garland, Utah; for the Garland plant of the Utah-Idaho Sugar Company, and for the Utah Power and Light Company plant in Ogden. 20

A third major action was the construction of a rail line connecting the Garland area with the Union Pacific line at Corinne. 21 A processing plant was built at Garland and sugar beets became the economic mainstay of the Bear River Valley.

Utah Power and Light and the Bear River Canal

Utah-Idaho Sugar had rights to the Bear River for power production as well as for irrigation. A contract was made with the Utah Light and Power Company (now Utah Power and Light) to supply surplus power from the Wheelon plant to Ogden. The line was later extended to Cache Junction and Tremonton. In 1912 the hydroelectric property of the sugar company, including water rights, dams, waterways, operating plant, and transmission and distribution lines, was purchased by the Utah Power and Light Company for $1,750,000. As part of the agreement the power company agreed to provide 900 second-feet of water to the Bear River Canal, providing a secure water right to the canal's users. 22

The Bear River Canal System of the Utah-Idaho Sugar Company consists

20 Arrington, Beet Sugar, p. 47.
21 Ibid.
22 Ibid., p. 52.
of more than 140 miles of canals and irrigates 54,000 acres of land.\textsuperscript{23} The takeover of the system by the sugar company prevented the total failure of the plan, but the difficulties faced by the original promoters were significant to an understanding of later Bear River development. The building of the Bear River Canal marked the beginning of interstate rivalry between Idaho and Utah over the disposition of Bear River Water.

\textbf{Political Aspects of the Bear River Canal}

The years 1888 and 1889 were sparse in rainfall and the records of the Collinston gauging station showed that the level there would provide insufficient water to fill the proposed Bear River Canal. This set of affairs caused Major John Wesley Powell, head of the United States Geological Survey, to reflect on the question of who had first claim to the waters in times of such scarcity. In the \textit{Eleventh Annual Report of the U. S. Geological Survey} Powell speculated on the possibility of users being deprived of water by richer canal companies or speculators at the headwaters of the Bear and felt this example was a strong argument for his hydrographic studies.\textsuperscript{24} The flow at the Collinston gauging station reached a low of 300 second-feet in the middle of July, 1889. The appropriation notices of the Bothwell company caused great distress among users already faced with a severe water shortage, especially in Idaho. Users' fears were partly based on the knowledge

\textsuperscript{23} Ibid., p. 53.

that the canal company had carefully complied with the water rights laws while many of their claims were based on possession and custom.25

Governor George L. Shoup of Idaho, with the members of the Idaho Constitutional Convention, called on the Secretary of the Interior, John Noble, to put an end to the Bothwell scheme. Noble assured them that Bothwell would not be allowed to monopolize the land and ordered Powell to investigate the matter. Many water users in Cache and Box Elder Counties also feared that Bothwell's plans would endanger their water supplies, although some enthusiasm for the scheme was shown in Salt Lake business circles.26

Powell's investigation of the Bear River situation for the Irrigation Survey provided much of the material embodied in his report to the House Committee on Irrigation in 1889. Major Powell reported that before the greater part of the waters of Utah could be utilized it would be necessary to control the irrigation works in Idaho and Wyoming. He also noted the conflict between the Utahns in favor of the Bear River Canal and the Idahoans who opposed it and expressed his belief that the conflict was a bitter one.27

The increased value of irrigated land, as Powell saw it, would make it easy to raise capital for the construction of irrigation works. The problem was the need to protect the small user and the investor. He feared the farmer would become the servant of the irrigation company.

25 Ibid., p. 70.
27 Powell, Eleventh Annual Report.
Litigation was then adjusting the rights of the farmer and the corporation. Compounding the problem, which he felt was a state and territorial one, were the difficulties arising from the lack of a law by which all waters could be relegated to specific lands. Irrigators were ruined when someone else tapped their water supply higher up. Powell warned that the government was leaving itself open to the claims of purchasers under the Desert Land Act who had their water cut off above. He also recognized that all streams of any magnitude ran through at least two states, complicating disputes such as that over the Bear River. The values involved when one state relied on water caught in another state were enormous.28

Speaking to a similar point, Alexander proposes that much of the opposition to the Bothwell scheme was a carry over from the cooperative period. In the past the Latter Day Saints Church had regulated water use for the general good and the people feared the intrusion of a large corporation interested only in its own welfare.29

On somewhat different grounds, Powell felt that the promoters worked against the ultimate good of the farmers by going ahead with projects before the Irrigation Survey could complete comprehensive plans for the development of the various river basins. This point of view was disputed by promoters who argued that the survey was impractical and was not aiding in the development of the country.30

The second part of the Twelfth Annual Report, dealing with irrigation and prepared by F. H. Newell, showed that Bothwell was not the

28 Ibid., pp. 252-254.
30 Powell, Eleventh Annual Report.
only one with intentions on the Bear River Basin. Bear Lake was separated from a marsh to the north by a long low ridge of sand rising above the normal water level. In 1889 the Bear Lake and River Canal Company was raising this bank. Their announced purpose was to increase the storage capacity of the lake, but Newell was sure that it was a preliminary step towards an attempt to claim title to the lake as a storage reservoir. At the same time in the northern part of Gentile Valley, near Soda Springs, an association of irrigators had begun work on the construction of a ditch on both sides of the Bear River to irrigate a broad lava plain or bench. Most of the irrigation water was being taken from lateral creeks, but one ditch was taking water directly from the Bear. Discussing the Bothwell Canal, Newell felt that the farmers in the higher lying areas were wasting large amounts of water and urged that such use be discouraged so that lower lands and older water rights could be developed.

The financial failure of the Bothwell Canal was typical of that type of enterprise. By 1902 it was difficult for private irrigation companies to raise capital, although many continued to play important roles in western development. Coupled with this situation was a decline in opposition to federally developed projects. In the west generally,


32 Ibid.

33 Ibid., p. 333.
private irrigation projects had fallen into serious financial and technical difficulties so that by 1902 nearly 90 percent of these companies were bankrupt or near it.  

34 Gates, Public Land Law, p. 651.
CHAPTER VI

BEAR RIVER UNDER THE UTAH POWER AND LIGHT COMPANY

Purchase of Bear River Water Rights by Utah Power and Light Company

The purchase of the financially defunct Bothwell canal in 1901 by the Utah-Idaho Sugar Company set into motion a chain of events that led to the virtual control of the Bear River below Bear Lake by the Utah Power and Light Company (UP&L). One of the most valuable assets gained by the sugar company in the transaction that brought them the Bothwell property was the right to the waters of Bear River for power production. Contracts were made with the Utah Light and Power Company (predecessor to the Utah Power and Light Company) in 1903 to transfer power from the Wheelon dam power plant over a 44,000-volt transmission line to Utah Light and Power's pioneer plant east of Ogden. In 1909 lines were run to Cache Junction in Cache County, and in 1910 to Tremonton in Box Elder County.¹

The Wheelon dam was a part of the original Bothwell plan, although it was named in honor of J. C. Wheelon, the sugar company's engineer on

the Bear River, after the company had taken over the canal. Between 1904 and 1912 the capacity of the Wheelon plant was increased to 9,500 horsepower.2

In December, 1912 the Utah Power and Light Company purchased the hydroelectric properties of the Utah-Idaho Sugar Company for 1.75 million dollars in cash. The agreement gave the Utah Power and Light Company all the water rights, dams, and waterways, the operating plant, the transmission lines, the distributing lines and all other equipment previously owned by the Utah-Idaho Sugar Company (U-I). The U-I Sugar Company had succeeded to Bothwell's appropriation of the entire flow of Bear River and the water in Bear Lake, and this claim was passed along to the UP&L Company in their articles of conveyance.3

J. C. Wheelon was responsible for a clause in the agreement that assured water to users of the Bear River canal by guaranteeing that between May 1 and October 31 of each year, UP&L would provide 900 second-feet of water at the inlet of the canal. One hundred and fifty second-feet were guaranteed perpetually for the period between November 1 and April 30 or each year.4

Another purchase by the Utah Power and Light Company in 1912, that of the Telluride Power Company, assured UP&L's clamp on Bear River and Bear Lake. The Telluride Company had been organized in 1900 to take over the hydroelectric properties of a Colorado mining company and to

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3 Joseph F. Smith, President of the U-I Sugar Co. and E. B. Crichtlow, Vice-President of UP&L Co., Conveyance and Agreement, December 30, 1912, (Utah Public Service Commission, Salt Lake City, Utah), p. 1.

4 Ibid., p. 7.
demonstrate the practicality of long-distance transmission of electricity. Among plants it owned in Utah and Idaho were stations at Logan, Utah, and Grace, Idaho. The company was beset with internal management conflicts in 1912, but decided to go ahead with their work on a Bear Lake project that included in the plans for utilizing the lake as a storage reservoir, a proposal for using the stored water to operate an electrical plant at the Oneida Narrows above Preston, Idaho. 5

Three days after the announcement of the Telluride Power Company's proposal for the development of Bear Lake, a second announcement was released stating that controlling interest in the Telluride Power Company had been purchased by J. R. Nutt and associates for the James Campbell interests of St. Louis. 6 About a month later it was explained that James Campbell and J. R. Nutt had taken over the company in a reorganization of the board of directors brought about by the opposition of stockholders in St. Louis and the West to the former management of the company. 7

The reorganization of the board of directors was apparently not sufficient to restore the company's financial standing and in November, 1912, the Telluride company's property was sold at auction. Included in this auction were all the holdings of the company in Colorado, Utah, and Idaho as well as in other western states. Mr. W. E. Wheeler of the bank of Telluride, Colorado, bought the property for $6,460,000 in the name of Neal A. Withers of the Utah Power and Light Company. This

5 The Logan Republican, Logan, Utah, June 22, 1912, p. 1.
7 Ibid., August 15, 1912, p. 1.
purchase was thought to be the last step in preparing the way for a 52 million-dollar merger of Colorado, Utah, and Idaho power companies.\(^8\)

It had been the Telluride Company that had begun work on the inlet and outlet canals on Bear Lake in 1902, but the work was completed in 1914 by the Utah Power and Light Company after their takeover of the Telluride properties.

A brief look at the corporate history of the Utah Power and Light Company shows it to have been a dynamic and aggressive organization. Utah Power and Light Company was one of three companies organized in 1912 by Electric Bond and Share Company, a Maine corporation, for the purpose of acquiring and developing electrical properties in Utah and southern Idaho. The Utah Securities Corporation, a holding company, was another of the companies organized by Electric Bond and Share, and until 1925, when it was dissolved, this company controlled UP&L. The third company was the Utah Power Company, and its principal function was to acquire operating electrical properties and convey them to UP&L. In 1946 the Securities and Exchange Commission, acting under the provisions of the Public Utility Holding Company Act of 1937, separated UP&L from the Utah Power Company and the Electric Power and Light Company, the latter the successor company of the Utah Securities Corporation. Since that time, UP&L ownership and management have become primarily western.

Shortly after its formation in 1912, UP&L acquired the electric properties of 32 predecessor companies, nine of which were in the Cache Valley. In addition to acquiring operating plants, UP&L showed an interest in construction. Their first major effort in the Bear River

\(^8\) Ibid., November 21, 1912, p. 8.
Basin was the completion of the inlet and outlet canals that made Bear Lake a useful reservoir for generating and irrigating purposes.9

Public Reaction to Utah Power and Light in the Bear River Basin

Following a pattern that had begun with building of the Bear River Canal, the people of the Bear River Basin greeted the advent of the Utah Power and Light Company as a major force on the Bear River with mixed emotions. The business community of northern Utah seemed to be favorably impressed by the Utah Power and Light development of Bear Lake. In August, 1917, the Commercial Booster's Club of Logan took a trip to the major Bear Lake towns. The chief event of the first day was a visit to the Lifton pumping plant built by UP&L at the north end of Bear Lake. The newspaper report of the visit stated that the plant benefitted not only the operating company but all the communities of the lower Bear River Basin. Especially impressive to the boosters was the three-million-dollar expense that the power company had incurred to assure a constant supply of water to the company's generating plants along Bear River and the promise that this development had for supplying large amounts of electricity at reasonable rates while assuring irrigators a steady flow during the irrigation season as well.10

The operation of the Lifton plant was explained to the visiting boosters in the following manner. During the Bear River's flood season a large amount of water was brought into Bear Lake through the Rainbow inlet canal and impounded. This water was then released during the


10 The Journal, Logan, Utah, August 9, 1917, p. 6.
year through a channel running into the Lifton pumping station, and as the natural stream flow decreased during the year, this water kept the stream flow up to normal. In the case, however, that insufficient flood water could be caught for use during the season, five centrifugal pumps, capable of carrying 1,500 second-feet of water, would be used to pump sufficient water from the lake’s natural reserves. The power to operate these pumps was provided by the UP&L plant at Grace, Idaho. In 1917, while the system was ready for use, it had yet to be put to an operational test.\(^\text{11}\)

The second day of the Booster's Club trip included a visit to UP&L's plants in Gentile Valley. This experience was described as highly educational and as having made the tour members appreciative of the magnitude of the plants of the UP&L which controlled the supply of electrical power in southern Idaho and Utah.\(^\text{12}\)

The question of water rights on the Idaho section of the Bear River had long been controversial, and the appearance of large non-resident companies such as Bothwell’s and the Utah Power and Light Company added to the anxiety of farmers on that part of the river. The carryover from the old cooperative tradition of water resources development encouraged suspicion of these companies, for it was feared that their large water rights and their interest in making a profit would endanger the livelihood of the smaller users, especially during times of drought. The years 1889–90, when Bothwell was making his filings, were marked by drought, and this added to the intensity with which his project was

\(^\text{11}\) Ibid.

\(^\text{12}\) Ibid., August 11, 1917, p. 5.
protested by Idaho farmers through their state government. Up to 1919 Utah Power and Light escaped a serious drought, but droughts in the summer of that year forced the company to respond to the need of non-contract users for water.

UP&L met the challenge by pumping enough water out of Bear Lake to meet the needs of all water users. It was reported that the natural flow in the Bear River near Paris, Idaho, was only 35 second-feet early in July, 1917. This amount of water was so small that had it been the total available, not only would all crops in the lower section of the Bear River Basin have failed, but the UP&L would have been forced to close its Bear River generating plants as well, leaving most of northern Utah and southern Idaho without power. The release of stored Bear Lake water in the amount of 1,070 second-feet had saved the situation for the time, but continued drought made the use of the pumps at the Lifton plant seem imminent in the next few weeks in the absence of drought-breaking rains. The Lifton plant had been constructed for the protection of the power company and its customers, but it was proving incidentally to be the salvation of the Bear River farmers. Their fellow farmers on the Weber and Snake rivers, faced with the same problem, were having to cope with severe crop damage.13

Water Rights Problems

Utah Power and Light had demonstrated its concern for the welfare of the farmers in the lower Bear River Basin, but the basic question of determining the water rights of the various users of the Bear River in

13 Ibid., July 7, 1919, p.6.
Idaho remained. The United States Department of Agriculture had investigated the water rights problems of Bear River as early as 1899, but it was not until the adjudication of water rights in the so-called Dietrich Decree of 1920 that the priority and validity of water rights claims in the Idaho section of the Bear River were systematically determined.

Numerous problems placed stumbling blocks in the way of sorting out the hundreds of claims on the Idaho section of the Bear River. The most important of these was that no single court was in a position to adjudicate claims to Bear River water in all three of the states through which the stream passed. Further complications derived from the differences among the laws of the various states in regard to water rights and irrigation. A problem in the early years, before Utah Power installed its works at Bear Lake, was the lack of storage facilities on the Bear River. At flood level there was sufficient water to fulfill all claims, but during the irrigation season when the water was needed, the supply was dwindling, making scarcity an important factor in distributing water among the claimants. An especially tedious problem was the lack of centrally located records of water appropriations for either Utah or Idaho; the only way to get a complete list of appropriators on the Bear River was to examine the records of every county involved.

The Department of Agriculture report, after reviewing the water rights problems of the Bear River, suggested that there was a real

need for immediate adjudication of Bear River rights by either the courts or the state or national legislatures based on a compilation of records of priority of appropriation and a uniform standard of water measurement. Even if the necessary records could be compiled and a standard system of measurement adopted, the authors doubted that the people of the three states would agree on a uniform system of supervision.15

Immediate action was not taken at the time, but the accession of the Utah Power and Light Company to a position from which they virtually controlled the entire flow of the Bear River caused several Idaho irrigators to question the UP&L's water rights in court. The final outcome of a complicated set of legal proceedings was a case in equity held before Judge Frank S. Dietrich in the District Court of the United States for the District of Idaho, Eastern Division. Utah Power and Light was the plaintiff and the Last Chance Canal Company and all other claimants to Bear River water in Idaho were the defendants. The case resulted in a decree that adjudicated the water rights for the Idaho section of the river.

The first six pages of the final decree, issued by Judge Dietrich and filed July 14, 1920, were devoted to a listing of the defendants in the case. Utah Power and Light was given the right to impound and store in Bear Lake Reservoir (Bear and Mud Lakes) all the waters of Bear River to the extent of 5,500 cubic feet per second (cfs), as well as the right to all waters naturally flowing into or rising in the two lakes. UP&L was further allowed to divert and impound water at any time of the year as long as it did not interfere with the prior rights

15 Ibid., pp. 34-35.
established in the decree. The power company was also allowed to divert the entire flow of Bear River through its Rainbow and Dingle inlet canals as long as it discharged an amount equivalent to the supply required to fill the rights of the prior appropriators.\(^{16}\)

In addition to the water released in compensation for UP&L diversions, a part of the water naturally flowing into or arising in Bear Lake was to be released according to the following yearly schedule:

- From April 20 to July 1 of each year, 50 cfs.
- From July 1 to July 15 of each year, 35 cfs.
- From July 16 to August 1 of each year, 25 cfs.
- From August 1 to September 15 of each year, 15 cfs.\(^{17}\)

Three types of rights were designated by the decree: power rights, irrigation rights, and domestic rights. Power rights included the right to divert and use water for the generation of power at any time of the year. Irrigation rights included the right to divert and use water for irrigation, culinary, domestic and agricultural purposes during and irrigation season extending from April 20 to September 30 of each year. Domestic rights include the right to divert and use water during the non-irrigation season for general domestic purposes, including stock watering and culinary uses. Every irrigation right decreed included a domestic right to the part of the irrigation right used for domestic purposes.\(^{18}\)

Because the diversion for the Utah-Idaho Sugar Company's East and West Side canals had been made in Utah the decree did not officially

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\(^{17}\) Ibid., pp. 10-13

\(^{18}\) Ibid.
adjudicate their water rights, but they were recognized in the decree and guaranteed sufficient flow at the Idaho border to fulfill these rights.19

The process of adjudicating water rights on the lower section of the Bear River was completed through a decision handed down by the First District Court of the State of Utah in 1922 and known as the Kimball decree. The Utah Power and Light Company, no doubt encouraged by their success in the case of the Dietrich decree, brought suit against the appropriators of Bear River and its tributaries in Utah to determine the status of water rights on that section of the river. The case was heard by Judge James N. Kimball, First District Judge.20

The rights of the Utah-Idaho Sugar Company to Bear River had been recognized in the Dietrich decree and were not changed by the Kimball decree. The Cub River Irrigation Company was given an adjudicated water right of 100 cfs. during the irrigation season, and the various smaller users of Bear River water in Utah were given rights to 100.4 cfs. during the irrigation season.21

Even though the Utah Power and Light Company had shown its public spirit in the water crisis of 1919 and the water rights question for the Idaho section of the Bear River had been settled by the Dietrich and Kimball decrees, both the Utah Power and Light Company and the irrigators of the lower Bear River area had yet to face another major crisis. Droughts struck the Bear River Basin again in the years 1934

19 Ibid.

20 Frank N. Kimball, Final Decree, February 21, 1922, Cache County Clerk's Office, Logan, Utah.

21 Ibid., p. 4.
and 1935. It was fortunate in this instance that the relations between
UP&L and the people of the lower Bear River Basin were generally good.

Conflict Over Bear Lake

The one exception to the good relations was in the Bear Lake area,
where friction between the company and the residents over the lowering
of Bear Lake caused persistent problems. Until 1932 the company had
made year-round drafts on Bear Lake as well as seasonal releases for
irrigation. These releases, coupled with the prolonged droughts of the
mid-30's, resulted in a lowering of the level of the lake during the
1930's. Since that time the company's policies have changed and it has
worked to refill the lake. Drought conditions have never been severe
since and large releases are now made only during the irrigation season
since the company's Bear River plants are used primarily to provide
supplementary electrical power. In 1950 the lake reached full stage for
the first time since 1923 and it has been kept at generally high levels
since then. 22

A letter from the County Attorney for Bear Lake County, Idaho,
Charles Harris, to Governor H. C. Baldridge, dated September 6, 1930,
described the problem from the point of view of the Bear Lake residents.
According to Harris, the Utah Power and Light Company had lowered the
level of Bear Lake by about ten feet, leaving a number of property
owners high and dry. The owners were anxious to take legal action
against the power company, for their opinion was that the Dietrich
Decree did not give UP&L the authority to pump lake water at will. To

22 United States Department of the Interior, Bureau of Reclamation,
"Bear River Investigation, Status Report, June, 1970" (Region 4, Salt
assure the success of their suit, however, they were anxious to enlist
the aid of the state government in prosecuting their case.\textsuperscript{23}

A second letter, dated September 13, 1930, from George N. Carter,
Commissioner of Reclamation for the state of Idaho, advised Governor
Baldridge of the legal position of the state as he understood it. The
position of the Idaho Attorney General was that the state could not
interfere in a private matter between landowners and the Utah Power and
Light Company.\textsuperscript{24}

This situation accounts for the concern that was shown for the
opinion of the Bear Lake residents in the negotiations between the Utah
Power and Light Company and the Bear River water users in the drought
years of 1934 and 1935. While this water crisis had more far-reaching
influences on the shape of later water development in the Bear River
Basin than had the crisis of 1919, cooperation between the Utah Power
and Light Company and the water users staved off disaster as in 1919.

Farmers in the Lewiston area of Cache County were the first to
become aware of the problem in 1934. Irrigation in that area depended
heavily upon water supplied by pumping from the Bear River, and a
letter from the Utah Power and Light Company, informing them that there
was no water available for pumping, was met with dismay. The power
company explained that the storage supply of Bear Lake had been greatly
reduced that year and that older contractual obligations than those of
the Lewiston landowners would take up the entire available supply. The
Lewiston residents quickly took steps to get Utah's governor interested

\textsuperscript{23} State of Idaho, Governor's files, H. C. Baldridge, 1927-30,
Idaho Historical Society Archives, Boise, Idaho.

\textsuperscript{24} Ibid.
in their plight and a meeting was arranged at the state capitol to see if a plan could be devised to provide water. Representatives of the Lewiston water users, the Utah Power and Light Company, and the state were invited to the meeting.25

The answer that was decided upon was to provide water by further lowering the level of Bear Lake. The agencies and individuals involved in the plan obtained the consent of Bear Lake residents to the pumping of the water, with the stipulation that the water be distributed on the basis of need rather than on the basis of prior rights.26

E. J. Baird, the Bear River water administrator for the state of Idaho, was given the same post in Utah, so that as director of the special committee to allocate the released water he controlled the whole flow of Bear River from Bear Lake to Salt Lake. The one real problem that faced the committee, since the Bear Lake residents had agreed to make no objections to the plan, was the attitude of the contract users in Box Elder County. If they refused to release some water for the use of non-contract irrigators it was feared that people around Bear Lake would change their minds about pumping water from the lake, since they had insisted that the water be distributed on the basis of need.27

By May 10, 1934, the pumps at Lewiston were back in operation and the situation seemed well in hand, although the special allocation committee had not yet finished preparing a detailed list of acreage and water allocations for the lower Bear River area.28 By May 12, F. P.

26 Ibid., May 9, 1934, p. 1.
Champ, the chairman of the committee, announced the plan a success and praised the people of the Bear Lake area for their help and cooperation.29

Bear River water users continued to meet, however, and the Champ committee turned its attention from the allocation of water to plans to assure that water shortages would not occur again. In mid-July, Champ and William Petersen, who had been the negotiator for the committee with the Bear Lake residents, held a meeting in Paris, Idaho, to discuss the success of the steps taken and to introduce a plan to transfer water from the Green River in Wyoming to the Bear Lake Basin. Those who attended the meeting included residents of Rich County, Utah, and of Bear Lake County, Idaho, and the Idaho Attorney General.30

In Idaho the water crisis prompted C. Worth Clark, a candidate for Congress from southern Idaho, to promise to work for the construction of a system of storage reservoirs in Idaho. These reservoirs, he felt, had to be built by the federal government and had to be made large enough to insure an adequate amount of supplemental water for the needs of Idaho farmers under any conditions.31

Another approach to the problem was that of Idaho State Senator Ed C. Rich of Bear Lake County, who introduced a bill into the Idaho Legislature to authorize Governor Ross to appropriate and hold in trust for the people of Idaho all the unappropriated waters of Bear Lake. Senator Rich said the purpose of the bill was to preserve Bear Lake and the

29 Ibid., May 12, 1934, p. 1.
surrounding area in its natural condition, and to make possible orderly multi-purpose development. Rich declared that no one except UP&L was using Bear Lake water for either power generation or irrigation purposes in Bear Lake County. The bill was not meant to interfere with the Utah Power and Light Company's rights on the lake, nor with its facilities.32

The attention that bill received was mainly unfavorable; the Senate Irrigation Committee recommended that action on the bill be postponed indefinitely, and representatives of the canal companies went on record in opposition to the bill. One objection was that adoption of Rich's proposal would impede progress on the proposed federal reclamation project for the use of Bear Lake as a reservoir for water diverted from Wyoming's Green River.33

In a closing speech, Senator Rich argued that the proposed Green River transfer was highly unlikely ever to take place. In the meantime, he declared, the loss to farmers around Bear Lake would be great because the water table was so low that hay would not grow.34 Nevertheless, the bill was defeated in the Senate by one vote.

In April, 1935, a meeting was held in Bear Lake County to present a protest to Robert Faris, the Idaho State Reclamation Engineer, over the matter of pumping water out of the lake for either power or irrigation. Senator Rich, the Bear Lake County Commissioners, and several Rich County, Utah, people were present at the meeting.35

About six weeks later an angry article in the Montpelier News

Examiner reported that Governor Ross had agreed to cooperate with the water users along the Bear River to supply the necessary water for irrigation, including the users in the Cache Valley. Mr. Thomas Heath of Preston and Fred Cooper of Grace were charged with influencing the governor's decision, which involved taking more water out of Bear Lake, a plan heartily unpopular around Bear Lake itself.36

Further repercussions from this decision included a resolution from the Board of County Commissioners of Bear Lake County, dated June 10, 1935, to Governor Ross, stating the commissioners' opposition to any further lowering of the level of Bear Lake. This resolution argued that great damage would be done to the residents of Bear Lake County if pumping of Bear Lake was allowed, and it was adopted by unanimous vote of the Board of Commissioners.37

The Attorney General for the state of Idaho, Bert H. Miller, was inclined to take the side of the Bear Lake residents in the matter, but Robert W. Faris, the Commissioner of Reclamation, pointed out to Governor Ross that Miller's stand was based on a misreading of the Dietrich decree, which had specifically given the Utah Power and Light Company the right to waters naturally flowing into or arising in Bear Lake. Faris also pointed out that the decree gave the power company the right to sell the impounded waters of Bear Lake. He felt that a better

37 Resolution of the Board of County Commissioners of Bear Lake County, June 10, 1935 (Governor's Files, C. Ben Ross, Idaho Historical Society Archives, Boise, Idaho).
understanding of the decree would reduce the opposition to the power company's actions. 38

Bear Lake County's Senator Rich was not so easily put off, and on July 8, 1935, he sent a letter to Governor Ross protesting the resumption of pumping by the UP&L. The spur that prompted the letter was a telegram from the Bear Lake Board of County Commissioners asking the senator's aid in stopping the power company. 39 A month later, a second letter, this from the state committeeman for Bear Lake County, Sam V. Tunks, warned that the resentment over the failure of the governor to stop the Utah Power and Light Company operation was jeopardizing the governor's political position in that county and asked for some action to quiet that criticism. 40

Federal funds were sought for a survey of the proposed Green River project. Governor Blood of Utah joined Champ and Petersen of the special water distribution committee in pushing this development. The amount they were asking for the three-state survey was $200,000, while the estimated cost of the project was $10,000,000. The total yield of the project was estimated at 300,000 acre-feet annually. 41 Blood held a meeting with Governor Ross of Idaho and Edwin W. Burritt, the state engineer for Wyoming, who was representing Governor Leslie A. Miller,

38 Robert W. Faris to C. Ben Ross, July 6, 1935 (Governor's Files, C. Ben Ross, Idaho Historical Society Archives, Boise, Idaho).


40 Sam V. Tunks to C. Ben Ross, August 10, 1935 (Governor's Files, C. Ben Ross, Idaho State Historical Society Archives, Boise, Idaho).

with the result that the three states made a joint appeal to Congress.\textsuperscript{42}

President Roosevelt informed the three governors that their request for funds for a detailed survey of supplemental water in the Bear River Basin was justifiable and that he would request an appropriation by the following Congress, since there were no funds then available for such a study.\textsuperscript{43}

The Bear River Compact

Movement towards the formation of the Bear River Commission was begun early in 1936 when Champ's Emergency Committee for Bear River Water Conservation urged the formation of a permanent interstate water regulation committee for the Bear River area. Other areas touched on in the committee's final report were the need for a long-term policy for water conservation, continuation of publicity about water supply, expediting the Green River Project, and becoming involved in the Flaming Gorge Project.\textsuperscript{44}

In 1942 a three-state commission was organized by Idaho, Utah, and Wyoming to draft a compact regulating water disputes in the Bear River Basin. E. O. Larsen, the director of District 4 of the Bureau of Land Management, was the chairman of the commission, and the Bureau provided the engineering and hydrographic reports that the commission used in its work. Compacts over interstate rivers are quite common, and Idaho, for

\textsuperscript{42} Ibid., October 11, 1935, p. 1.
\textsuperscript{43} Ibid., November 19, 1935, p. 1.
\textsuperscript{44} Ibid., January 14, 1936, p. 1.
example, already belonged to the Snake River Compact Commission and the Columbia Basin Compact Commission.\textsuperscript{45}

After 13 years and 27 formal meetings the commission agreed on the terms of the Bear River Compact. Commissioners George D. Clyde of Utah, L. C. Bishop of Wyoming, and Fred Cooper of Idaho signed the compact agreement on February 5, 1955, and submitted the proposed compact to the three state legislatures and Congress for ratification.\textsuperscript{46} The legislatures of Idaho, Wyoming, and Utah passed bills approving the Bear River Compact in short order, but Congressional ratification was held up until March, 1958.\textsuperscript{47}

According to the act of Congress, the purpose of the compact was to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River, to permit additional development of the water resources of Bear River, to provide for efficient multiple use of water, and to promote interstate friendship.\textsuperscript{48}

The act provided for a ten-member Bear River Compact Commission, three each from Idaho, Wyoming, and Utah, and one commissioner for the United States appointed by the President. The duties of the commission were to enforce the Bear River Compact, to compile annually a report on the work of the commission, and to provide an account of expenses incurred during the biennium.\textsuperscript{49} The compact limited water rights on the

\textsuperscript{45} Copies of the Bureau of Reclamation reports to the Bear River Commission and of the several drafts of the Bear River Compact may be seen at the Logan, Utah, office of the bureau.


\textsuperscript{47} United States Statutes at Large, DXII, p. 38.

\textsuperscript{48} Ibid.

\textsuperscript{49} Ibid.
various divisions of the river and established rules to govern inter-state developments and disputes. The authority of the compact was limited to interstate matters and no property or right in one state was to be subject to laws made by either of the two other states. The Compact could be terminated by the unanimous agreement of the signatory states. 50

State governments in Idaho and Utah, as well as the Bureau of Reclamation felt at the time that the passage of the Bear River Compact would lead to the construction of several reclamation projects in the Bear River Basin. 51 The Bureau of Reclamation did present a proposal for the multiple use development of the Bear River in 1962, but unexpected opposition has stalled the plan cold and made its adoption the subject of the most heated interstate political question between Utah and Idaho.

50 Ibid.

CHAPTER VII

BEAR RIVER AND THE UNITED STATES BUREAU OF RECLAMATION

Early Bureau Activities in the Bear River Basin

The first Bureau of Reclamation surveys and investigations in the Bear River Basin followed closely the passage of the Reclamation Act of 1902. G. S. Swendsen made reports on the Bear River Basin in 1902, 1903, and 1904. The next study of the Basin was not until 1922, when W. W. McLaughlin of the Department of Agriculture submitted a paper entitled "The Utilization of Land and Water Resources of Cache Valley." ¹

This paper renewed interest in a Cache Valley Irrigation Project and the Bureau of Reclamation reentered the picture. On September 19, 1924, William M. Green submitted a preliminary report on the Cache Valley Project, followed by a supplemental report in October of 1926. On August 22, 1928, E. O. Larson, who was to become a prominent figure in Bear River matters, submitted his report on the Cache Valley Project.²

By late 1929 the plans for the Hyrum Damsite Project had reached the point where Larson made a report on the testing of construction materials for the dam. In 1931 Larson wrote an up-to-the-minute status

¹ United States Department of the Interior, Bureau of Reclamation, "Project History, Hyrum Project, Utah, 1933" (typescript history kept at the Logan Office of the Bureau of Reclamation), p. I.

² Ibid., pp. I-II.
report on the Cache Valley Division, incorporating the many revisions in the Hyrum Project plans.³

Ten years of preparation went into the planning of the Hyrum Dam Project. The first definite proposal of a Hyrum Project had come on March 21, 1923, at a meeting of representatives of the Cache Valley Water Users Association with the Utah Storage Commission in Salt Lake City.⁴ On June 1, 1923, a cooperative agreement had been made between the United States and the State of Utah to make an investigation of the proposed Cache Valley Project. The Bureau's investigation, which began about two weeks later, had resulted in a preliminary project report submitted on September 19, 1924. Following the adoption of Larson's 1931 report in April of 1932, the Wellsville-Mendon Conservation District was organized. On September 1, 1933, funds were allotted for the construction of the Hyrum Project, and the South Cache Water Users Association was incorporated to take the contract for repayment, which was signed on October 9, 1933.⁵

The Bureau of Reclamation opened its first office in Logan to direct the project. The preliminary steps to construction went smoothly, with the Wellsville-Mendon Conservation District subscribing for 6,125 acre-feet of stored water from the proposed reservoir on November 14, 1933. On November 20, the Hyrum Irrigation Company subscribed for 3,300 acre-feet and the Wellsville City Irrigation

³ Ibid., p. II.
⁴ Ibid., p. V.
⁵ Ibid.
Company for 1,700 acre-feet. This accomplished, bids were opened at Ogden on December 13, 1933, for construction of the project.6

Construction began in 1934 and by August 10, 1935, the dam was completed. On August 26, the pumping plant, canal linings, and the Hyrum-Mendon, Wellsville, and Hyrum-Mendon, Wellsville, and Hyrum Feeder canals were completed. The Hyrum Project, the first Bureau of Reclamation effort in the Bear River Basin, was expected to benefit 11,110 acres of new and supplemental land with 14,000 acre-feet of water. The total cost of the project was $931,800.7 With the project completed, the South Cache Water Users Association took over control and maintenance of the works on May 1, 1936, and water was supplied for the 1936 irrigation season.8

Newton Dam Project

The second project undertaken by the Bureau in the Bear River Basin was the replacement of the Newton Dam and the enlargement of the Newton Reservoir. The Newton Reservoir was the first storage facility for water built in Utah. Begun in 1871, the dam had washed out several times until a permanent dam was finished in 1886. By 1939 the reservoir was inadequate in storage capacity for the number of acres it was to serve and the dam had deteriorated to a dangerous point. The Bureau of

6 Ibid., p. V.
7 Ibid., p. 3.
8 Ibid., p. 16.
Reclamation plan proposed in 1941 called for the construction of a new dam about one and one-half miles downstream from the old dam, which was to be inundated. 9

On March 13, 1941, Donald Jerman was appointed engineer in charge of the project, which called for the Work Projects Administration (W.P.A.) to provide the labor while the Bureau of Reclamation supplied the equipment. On August 28, 1941, work began. 10

The start of World War II slowed progress on the dam. The W.P.A. withdrew from the project on November 30, 1942, since one of President Roosevelt's first acts during the war was to dissolve the W.P.A. 11 Work progressed slowly through 1943 and 1944, since both men and materials for the work were difficult to obtain. By June 1, 1944, however, it was possible to turn the water out of the old Newton Reservoir. By December 1, 1944, water was being stored behind the new dam. 12 The major achievement of 1945 was the construction on the Clarkston Creek Diversion Dam, 13 finally completed on June 13, 1946. The new Newton Dam impounded 5,300 acre-feet and benefited 2,225 privately owned acres of new and supplemental land. The Newton Users Association was organized

10 Ibid., p. 8.
May 7, 1941, as a mutual irrigation company with a capital stock of 6,000 shares at no par value. Repayment of project costs, estimated at $595,000, of which $350,000 was reimbursable, was to be made in 40 equal annual installments. 14

The Preston Bench Project

The third effort of the Bureau of Reclamation in the Bear River Basin was a somewhat different type of project. By 1946 the old Preston, Riverdale, and Mink Creek Canal was in such bad condition that it was nearly unusable. The irrigation company that ran the canal was so deeply in debt that it could not repair the system, and the company notified its users that it would cease operations in two years. The Bureau of Reclamation was asked in, and it determined that the construction of a new canal along more stable terrain would be the most practical solution to the problem. Surveys for the project were begun July 1, 1948. 15

This was a rush job and construction work on the Preston Bench Project began on October 11, 1948. The contractor was the Thatcher Construction Company. In less than a year the canal was completed and tests were begun, although the canal had been opened rapidly these tests showed it to be adequate. The total cost of the Preston Bench Project was $441,614.14. 16


16 Ibid., p. 17.
Reclamation Bureau Plans for the Bear River Basin

These three projects are the only ones in which the Bureau of Reclamation has participated in the Bear River Basin, but Basin-wide studies for a major Bear River Project began as early as 1938. During the period 1938-1945 studies were made of the Bear River Basin as a separate basin and as a part of the larger Bonneville Basin. The result of these investigations was a 1946 general plan for the further development of the Bear River.\(^7\)

The plan contained 12 units. The Evanston, Wyoming, Unit called for a reservoir with a capacity of 10,000 acre-feet to be built ten miles southeast of Evanston. The Woodruff-Cokeville Unit involved a 100,000 acre-foot reservoir fifteen miles northeast of Evanston. The Montpelier Unit envisioned a 45,000 acre-foot reservoir on Thomas Fork. The Bloomington-Bern Unit was to be a 9,000 acre-foot reservoir in Spring Valley near Bloomington, Idaho. The Treasureton Unit was to include a 6,300 acre-foot reservoir located sixteen miles north of Preston. The key spot in the plan was the 210,000 acre-foot reservoir to be built in the Oneida Unit twenty miles northeast of Preston and expected to benefit nearly 100,000 acres in Cache and Malad Valleys.\(^8\)

The enlargement of the Glendale Reservoir to 25,000 acre-feet was the plan for the Glendale-Mapleton Unit. The South Cache Unit involved


the construction of two reservoirs. The Hardware Ranch reservoir was to be 20,000 acre-feet in capacity and the reservoir at the Porcupine site ten miles southeast of Hyrum was to be 9,500 acre-feet in capacity. The Cutler power reservoir was to be increased in size from 17,000 acre-feet to 200,000 acre-feet by adding 13 feet to the height of the dam.19

The Malad Valley Project envisioned a 7,500 acre-foot reservoir fifteen miles northwest of Malad and a 13,000 acre-foot reservoir four miles west of the city. The Green River-Bear River Project, touted so strongly by F. P. Champ following the droughts of 1934-1935, proposed the importation of 337,000 acre-feet annually from the Green River in Wyoming. A corollary project, the Ham's Fork-Twin Creek Unit would import 37,000 acre-feet annually from Ham's Fork, a tributary of the Green River. The Green River-Smith's Fork Unit would allow the importation of 300,000 acre-feet annually from the Green River through Smith's Fork. A part of this unit was to be the construction of a new power plant at Cokeville with a 9,000-kilowatt capacity. A line would run from this plant to Sage, Wyoming. Seasonal exchanges between the Green River-Bear River project and the Oneida Unit would be possible because the canal diverting from Bear River at Oneida Dam would serve both systems.20

This 1946 proposal sets out the main areas of concern to the Bureau of Reclamation in terms of future development of the Bear River. All the plans presented by the Bureau for the further development of the Bear River Basin are modified and sophisticated takeoffs from this master plan. This broad general plan attempted to offer as many

19 Ibid., p. 57.
20 Ibid., p. 57.
possible alternatives as the Bureau's engineers could devise and was expected to lead to more detailed investigations and feasibility studies in the Basin.

**Later Bureau of Reclamation Plans**

One of the upper Bear River units to receive further attention from the Bureau was the Woodruff-Cokeville Project in Utah and Wyoming. In December, 1956, the Bureau of Reclamation issued a reconnaissance report on upper Bear River Development. This report indicated that a combination of the potential Woodruff-Cokeville and Evanston projects would be the best means for providing greater storage capacity in Utah and Idaho under the division of water made by the Bear River Compact.21

The plan proposed for the development of the Woodruff-Cokeville project included a reservoir on Bear River at the Woodruff Narrows with an active capacity of 33,000 acre-feet. This plan was expected to provide 44,200 acre-feet of water a year, with Utah receiving 32,500 acre-feet annually and Wyoming 11,700. The water was to irrigate 34,100 acres of land in Utah and 9,800 acres in Wyoming.22

The Evanston part of the project called for a reservoir at the Hilliard site with a capacity of 11,500 acre-feet. This was to be built on Sulphur Creek about twelve miles southeast of Evanston and would provide an estimated 15,300 acre-feet of water to 12,800 acres of land in Wyoming annually. This part of the plan proved impractical, but the

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22 Ibid.
Wyoming Natural Resources Board constructed a 1,100 acre-foot reservoir at that site.23

To provide the data needed for the development of the Bear River Compact, the State Engineers of Utah, Idaho, and Wyoming proposed in 1943 that a study of the Bear River be made. The Geological Survey and the Bureau of Reclamation undertook this project together. Before 1948 these studies consisted chiefly of the establishment of gauging stations and the taking of stream flow measurements. From 1948 to 1954 the Geological Survey issued 27 reports on water supply. The Bureau of Reclamation made two studies (May 1952, and December, 1954) on the subject of potential upstream storage. The Woodruff-Cokeville project derives from these reports.24

A modified version of the Woodruff plan was the Woodruff Narrows Reservoir built by funds from the Utah and Water Power Board in cooperation with the state of Wyoming. Construction of the reservoir has increased the amount of irrigable farm land in Rich County, Utah, and Uinta County, Wyoming. One large phosphate plant has also been built at Randolph in Rich County, although the danger of pollution in Bear Lake threatens the further development of this industry in the upper Bear River Basin.25 Residents of Rich County have shown little interest in downstream projects, except those parts relating directly to Bear Lake, since construction of the Woodruff reservoir.

23 Ibid.

24 Ibid., pp. 5-6.

Bureau Plans in the Bear River Compact Period

It was expected that after the Bear River Compact went into effect in 1958 several new reclamation projects would be built in the Bear River Basin. In 1962 the Bureau of Reclamation submitted a two-part report; the first part was a feasibility study for the Oneida Division of the Bear River Project and the second a reconnaissance report on the Blacksmith Division of the Bear River Project.

The Oneida Division plan was the part of the program that the Bureau was ready to build. The area included in the project extended from Grace, Idaho, to Ogden, Utah, about one hundred miles. The Bureau's plan for the multi-purpose development of the Bear River and its Cache Valley tributaries was designed to make additional water available for irrigation, municipal and industrial use, conservation, recreation, and some degree of flood control. Irrigation supplies were to be increased by 202,900 acre-feet yearly, and 23,00 acre-feet of water was to be supplied for industrial and municipal use. About 88,000 acre-feet were to be provided for conservation purposes.26

The mainstem segment of the project pivoted around a 375,000 acre-foot dam to be built at the Oneida Narrows ten miles northeast of Preston. The Oneida Canal would run from the dam for 105 miles along the northern and western edges of Cache Valley. The canal would deliver water to existing irrigation systems and to both new and old

conservation projects. Some water would be diverted for use above the proposed Oneida Narrows Dam in the Grace area. The proposed Honeyville Reservoir would be formed by a dam on the Bear River four miles from Tremonton, Utah. The water from this reservoir would be used by the Bear River Migratory Bird Refuge, with some some water being transferred to the Willard Reservoir for municipal and industrial use in Ogden.27

The second, or East Cache, segment of the project called for the enlargement of the Glendale Reservoir on Worm Creek, four miles north-east of Preston, Idaho, while additional water would be diverted from Cub River and Mink Creek. The East Cache Canal would be built from Glendale Reservoir to Summit Creek near Smithfield. Most of the water would go to existing irrigation systems, but some would go to Smithfield and Lewiston for municipal purposes, either directly or through exchange. Some lands above the canal would be served by exchange.28

The second, or reconnaissance, section of the report dealt with plans for the Blacksmith Division. The Bureau was not interested in the construction of the Blacksmith Division in 1962. The Blacksmith project was intended to use water from Blacksmith Fork and the Little Bear River to irrigate 4,750 acres, including 3,360 not now under irrigation. The plan would also provide 1,800 acre-feet of water to Logan for municipal purposes and reduce the production at power plants on the Logan River.29

The Providence Canal would branch from the Blacksmith-Little Bear

27 Ibid., pp. 1-2.
28 Ibid., p. 2.
Canal and siphon water into the Logan River. In the process the canal would also carry water to the Providence Bench.30

Oneida Division Plans Opposed

Even before the proposal for the Oneida Division of the Bear River Project had been released, the Bureau of Reclamation ran into opposition to its plans. On January 16, 1960, a meeting was held at which a progress report was given on water development in the Bear River Basin. The audience included farmers from the Bear River, Cache, and Malad Valleys, as well as Bureau of Reclamation staff members, Utah Power and Light representatives, Utah-Idaho Sugar Company officials, and county commissioners.31 The Bear River Compact Commission examined advance reports on the Bear River Project on November 29, 1960. About a month later the Bureau received the first formal protest against the project. This protest, which called for the full disclosure of the undesirable effects of the plan, was signed by two members of the Bear River Compact Commission and the presidents of the Utah-Idaho Sugar Company and the Utah Power and Light Company.32

Lamont Tueller, then the Cache County Agricultural Agent, was one of the prime backers of the project. The Cache County Water Users Association became interested in the proposed project and began to work

30 Ibid., p. 2.

31 Interview with Lamont Tueller, Secretary of the Central Coordinating Committee for the Bear River Project, conducted by Lila Garr, 1965.

for its adoption. The Central Coordinating Committee for the Bear River Project was organized by the Cache County group.\textsuperscript{33}

The Cache County Water Users Association, in close cooperation with Utah Senator Frank Moss, became the sponsoring group for the Bear River Project.\textsuperscript{34} Other meetings held in connection with the project attempted to bring the support of the Preston area to the project. The Franklin County Farm Bureau, the Chamber of Commerce in Preston, and the Rotary Club all discussed the project.\textsuperscript{35} A tour of the proposed project was arranged for October, 1962, by the Cache County Water Users.\textsuperscript{36}

These promotional activities did not reach the water users in Caribou and Bear Lake Counties, and Idaho Governor Robert Smylie, responding to their requests, asked that the project be delayed until further study had been done on the project. Lloyd Dunn, the chief spokesman for the opposition from Bear Lake County, defined their opposition as an attempt to protect vested interests in Bear Lake and River.\textsuperscript{37}

Before making his recommendation, however, Governor Smylie had investigated the feelings of the people in the Idaho section of the basin through a series of three hearings held in Preston, Grace, and Montpelier and conducted by Carl Tappan, the Idaho State Reclamation

\textsuperscript{33} Tueller, Interview.

\textsuperscript{34} Summary of the Minutes of the Meetings of the Cache County Water Users, March 16, 1962, (copies obtained from Lamont Tueller's collection of minutes).

\textsuperscript{35} Journal, September 6, 1962, p. 8.

\textsuperscript{36} Tueller, Interview.

\textsuperscript{37} Minutes of the Cache County Water Users Association, March 15, 1963.
Engineer. One of Tappan's main concerns was the effect that the proposed project would have on the development of the phosphate industry in southeastern Idaho.\textsuperscript{38}

A separate meeting, sponsored by Bear Lake County's state legislators, Senator Whitney J. Transtrum and Representative Frank W. Hirschi, called for the University of Idaho to make an independent study of the proposed plan. A county committee, composed of Rolland Jaussi, Melvin Lauridsen, and Lloyd Dunn, was appointed to study the plan for Bear Lake County.\textsuperscript{39}

Strong opposition to the plan was also shown in the three public hearings on the Bear Lake Project. In the meeting held at Montpelier an attorney for the Utah Power and Light Company put the company on record as opposed to the Bear River Plans. In the course of the three meetings 54 separate protests were heard.\textsuperscript{40}

Despite the opposition in Idaho, Senator Moss of Utah went ahead and introduced a bill in Congress to authorize construction of the Oneida Division of the Bear River Project. Bear Lake County groups quickly asked the Idaho Congressional delegation to oppose Moss's bill or any other involving the construction of a dam at the Oneida Narrows.\textsuperscript{41}

The Bear Lake study committee recommended that Bear Lake County withdraw from the proposed conservancy district that was to operate


\textsuperscript{39} Ibid., December 27, 1962, p. 1.

\textsuperscript{40} Ibid., January 3, 1963, p. 1; January 4, 1963, p. 2.

\textsuperscript{41} Ibid., January 24, 1963, p. 1.
the project. Bear Lake County was interested in storing water for industrial use in the Bear Lake Reservoir.\textsuperscript{42}

The chief promotional effort of the Central Coordinating Committee was a brochure designed to answer the main complaints against the proposed project and to explain the need for a conservancy district. These were distributed in all of the Bear River Basin counties except Bear Lake and Caribou Counties in Idaho.\textsuperscript{43} Some of the main points made in the pamphlet were that the project would not nullify the Bear River Compact, that it would not affect existing water rights, that it would aid in the development of the phosphate industry in the basin, and that the project cost, estimated at \$87,000,000, was balanced and justified by a 2.89 benefit-to-cost ratio.\textsuperscript{44}

The Bureau of Reclamation had filed applications for 325,000 acre-feet of water in June of 1963, but the Caribou Water Development Company, organized by opponents of the Bear River Project, had already filed for 40,000 acre-feet in April.\textsuperscript{45} The approval of the Caribou Project appropriation would take enough water from the Bear River Project that it could not be built as planned, and so the Bureau filed a protest the filing that was to be heard August 26, 1963, in Boise.\textsuperscript{46}

At its next meeting the Central Coordinating Committee passed a

\textsuperscript{42} Ibid.

\textsuperscript{43} Cache County Water Users Association Minutes, June 11, 1963.

\textsuperscript{44} The Bear River Project, Know the Facts (a pamphlet issued by the Central Coordinating Committee for the Bear River Project).

\textsuperscript{45} Water Rights on Bear Lake and Bear River below Bear Lake (a table from the Logan office of the Bureau of Reclamation, 1965).

\textsuperscript{46} Cache County Water Users Association Minutes, July 18, 1963.
motion urging that the protest against the Caribou water filings be dropped and that Bear Lake and Caribou Counties be allowed to leave the project as they desired.\textsuperscript{47} Delegations from each of the counties in the basin attended the Boise hearing on the Bureau of Reclamation protest.\textsuperscript{48} At the hearing the Bureau did withdraw its protest to the Caribou plans and the appropriation was granted.\textsuperscript{49}

On October 20, 1963, the Commissioner of the Bureau of Reclamation, Floyd E. Dominy, visited Logan to confer with the Central Coordinating Committee. Dominy listened to representatives of the basin counties explain their positions on the Bear River Project. After this meeting, Dominy conferred with opponents of the project in Caribou County, assuring them that their interests would be protected and that further studies would be made and incorporated into the final feasibility report. Proposals to divert Idaho water to Arizona and California were reported to have made Governor Smylie more amenable to development of unutilized water in Idaho, and it was hoped that he would come out in favor of the Bear River Project.\textsuperscript{50}

Examination of the revised Bureau of Reclamation plan by the Cache County Water Users in 1964 caused some discussion over the cutback in benefits for Box Elder County.\textsuperscript{51} This revised plan, in an attempt to placate the Idaho opposition, made the benefits accruing to Utah and

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\textsuperscript{47} Cache County Water Users Association Minutes, July 31, 1963.
\textsuperscript{48} Cache County Water Users Association Minutes, August 22, 1963.
\textsuperscript{49} Cache County Water Users Association Minutes, October 20, 1963.
\textsuperscript{50} Cache County Water Users Association Minutes, December 19, 1963
\textsuperscript{51} Cache County Water Users Association Minutes, January 18, 1964.
\end{flushright}
Idaho nearly equal. The plan also attempted to take into account the effect of the Caribou Project. The report in its final form was never released officially by the Bureau of Reclamation since they were already working on alternative plans.  

In 1966 the Bureau of Reclamation presented two alternative plans for the development of the Oneida Division; both retained a dam on the Oneida Narrows but decreased the size of the dam and the length of the canals. By this time the state of Idaho was adamant, with the Idaho Water Resources Board supporting the construction of the Caribou project. No work could be contemplated on the Bear River Project until the Bureau of Reclamation's filings in Idaho were approved, and the Idaho State Reclamation Engineer continued to keep the filings under advisement.

Proposed Alternatives to the Oneida Division Plan

The Bureau's most recent report, published in 1970, includes three alternative plans for the Oneida Narrows part of the project and a pair of plans for the Blacksmith Fork section. The smallest of the reservoirs projected for the Oneida Narrows would have a capacity of 203,500 acre-feet, while the largest would have a capacity of 211,200 acre-feet. In use the entire difference in the water supply would be taken out of the irrigation supply, servicing 2,000 fewer acres from the


smaller reservoir. The third alternative, the middle-sized reservoir, would involve the greatest difference from the original plan in terms of depletion of the Bear River by states. Under the third plan Idaho would supply 75,000 acre-feet annually and Utah 57,000 acre-feet. The other two alternatives would use more Idaho and less Utah water. The first two plans would involve an expense of about $80,000,000 while the third would run up to $102,000,000. The first plan would provide the greatest benefits in dollars annually while costing less than either of the other two plans to build. This plan, however, calls for the greatest amount of Idaho water.54

A Bear River policy statement issued by the Idaho Water Resource Board during the development of the Bureau's last report makes acceptance of any of the alternatives unlikely. Issued in Boise on April 8, 1969, the nine-part policy statement asserts that the Idaho Water Resource Board exists to serve the people of Idaho and that its main interest is in furthering the welfare of the Idaho citizens in the Bear River area. The statement also demands the allocation of Bear River waters among Idaho, Wyoming, and Utah before any multiple-purpose development on the Bear. The Board's Bear River Negotiation Team will seek to obtain as much of the unconsumed flow of the Bear River entering the Great Salt Lake as possible, while maintaining good faith with Utah and Wyoming. Recommendations for water allocations will be subject to review by Bear River citizens and must be formally recognized by the legislature, the governor, and the United States Congress. Plans for the utilization of Idaho's entailments will consider first serving

demonstrated supplemental water needs where financially feasible and then new lands. Preliminary review of the allocation board's report by water committees and through public hearings will precede the adoption of any plan of allotment. The Board feels that the preservation of the present Bear River Compact is vital. A supplemental compact or amendment to the existing compact is possible for the purpose of allocating the water of the lower division of the Bear River below Bear Lake. The right of each state to use its entitlement of Bear River water according to each state's water laws is recognized by the Board and supported by the opinion of the Idaho Attorney General. The Idaho Water Resource Board reaffirmed its support of the Caribou Project. The Board's position is that all present water rights for irrigation must be protected and that holders of rights to water for power generation must be compensated when such water, usually released during the winter and spring, is held for storage and later consumption. 55

The position of the Idaho Water Resource Board creates an impasse since an allocation of waters among Utah, Idaho, and Wyoming would have to be tacked onto the Bear River Compact before there would be any possibility of multi-purpose development of the Bear. The provision for local review and approval also guaranteed a slow response to any proposal. Until this problem can be resolved and until the Bureau of Reclamation's water filings in Idaho are recognized, Bureau development of the Bear River Project remains halted and in limbo.

An especially interesting sideline is the role of Dr. Evan Kackley of Caribou County, Idaho, in the development of opposition to the

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Commission and has been the most vociferous opponent of the plan. Since 1962 he has flooded southeastern Idaho newspapers with new releases about the Bear River Project, has made numerous speeches in Caribou County, and has been a thorn in the side of Governors Smylie and Samuelson of Idaho. A leading member of the Bear River Protective Committee, his opposition to the plan is highly emotional. He has charged that the plan is a subterfuge to eventually deprive the Bear River area of water to supply Ogden and Salt Lake City.

In 1970 Kackley distributed a mimeographed paper of twenty-four pages summarizing his stand on the Bear River Project. The title of this report is "A Review of the Bear River Basin From the Present Official Situation—A Debacle without Precedent—And a Consideration of the Future, the Choice That Only the Citizens Themselves Can and Must Soon Make." It is easy to dismiss Kackley's florid style, but he demonstrates the intensity of the conflict over the future development of the Bear River. People listen to him and he has gained a number of devoted followers.

An entirely new problem entered the Bear River arena in the summer of 1971 when studies carried on by Utah State University at Bear Lake showed a high level of pollution. The possible ramifications of this situation on the development of the Bear River promise to lead to a major change in many attitudes towards water. Coupled as it is with national interest in the problems of ecology generally, the pollution

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56 Copies of Dr. Kackley's statement are to be found at the office of the Caribou County Sun in Soda Springs and in the library at Idaho State University.

of Bear Lake should interest people in Bear River water resources development who have never before felt themselves directly concerned. The future of the Bear River Project and the future development of the Bear River may well depend upon ecological considerations.
CHAPTER VIII

CONCLUSION

The purpose of this paper has been to examine the evolution of water resources development in the Bear River Basin with an eye to drawing out consistent patterns of behavior. In the pioneer period water resources development in the Basin, particularly in terms of irrigation institutions, showed an unusual and distinctive type of organization. The pioneers who settled the basin were chiefly Mormon, and they followed a characteristic pattern of development that had begun with the first irrigation efforts in the Salt Lake Valley.

The intrusion of non-Mormons into the Basin and the extension of federal land law to Utah required modifications in the Mormon system. The result was a breakdown in theocratic control over the distribution of land and water and a secularization of the system of land tenure and water holding. Every effort was made by the Mormons to preserve as much of the old system as possible while complying with federal law.

The strong tradition of cooperative water resources development that still exists in the Bear River Basin can look for its roots in the cooperative tradition of Mormon settlement.

The cooperative form of organization remains the most important in Bear River development, but the large-scale development of water resources called for aggregations of capital that could not be raised through cooperatives. In the period from 1880 to 1920 water rights and irrigation in the Bear River Basin became subject to territorial and state laws, and this is reflected in the organization of mutual
stock companies and irrigation districts. This period was also one in which water resources development offered an entrepreneurial challenge.

The construction of John Bothwell's Bear River Canal, while it was an unusual development for the Bear River Basin, did a great deal to change the direction of development in the Basin and gave the first glimpse of certain reactions that are to be seen again later. The introduction of corporate water resources development threatened the traditional forms of development in several ways. In an immediate sense, Bothwell's claims threatened to leave holders of less formal water rights without water. In a deeper sense he represented a threat to the traditional balance between water rights holders. There was a kind of kinship among the farmers of the Bear River Basin; most were Mormon and those who were not were engaged in the same kind and scale of farm activity. In this system no one appropriator controlled enough water to threaten another's livelihood through diversion of water upstream. Furthermore, the farmers were tied together by bonds of mutual dependence. The appearance of a corporation holding large water rights made them feel threatened, for the farmers distrusted any organization more interested in making a profit than in maintaining the life style of the region.

Bothwell represented foreign interests in the Bear River Basin. The support he found for his project was largely among Salt Lake and Bear River Basin businessmen. The Bothwell venture was a failure financially, but the Bear River has continued to have a big corporation on the river ever since, either the Utah-Idaho Sugar Company (U-I) or the Utah Power and Light Company (UP&L). In more recent times the
federal government, represented by the Bureau of Reclamation, has been opposed on the grounds that its interests are not those of the people of the basin.

The traditional attitudes towards water were changing for subtler reasons in this period as well. The influx of non-Mormons, quicker communications, and lessened isolation were all leading the people in the Bear River Basin to become more like people in the West generally. By the 1930's, when the Utah Power and Light Company was wrangling over the lowering of the level of Bear Lake with the residents of that area, the appeal of those citizens was to the state government of Idaho and the action they proposed showed no signs of religious orientation.

The first interstate rivalry between Idaho and Utah in the basin came over the building of the Bothwell Canal back in the '90's. However, the situation may also be viewed to a degree as a conflict between the traditional and the capitalistic forms of development, with the Idaho farmers representing the traditional and the Utah businessman the capitalistic point of view. The example of Dr. Evan Kackley of Caribou County, Idaho, as a leader of the opposition to the Bear River Project of the Bureau of Reclamation, tends to support this view. The root of his opposition to the plan is not that the plan is impractical or too expensive, but that it is a conspiracy to rob the users of the Bear River of their water in the interest of the metropolitan areas of Utah. Dr. Kackley distrusts the Bureau because he feels that its interests are not those of the people of the basin, but that it is influenced more by the pressure and wealth of populous Salt Lake City and Ogden. In this type of attitude one can see highly modified survivals of the cooperative tradition of the Mormon system still
present in the Bear River Basin. The other side of the coin in the rivalries between Utah and Idaho is that in the case of either the Bothwell Canal or the Bureau of Reclamation Bear River Project, the state of Utah derives the greater part of the obvious benefits. Despite the existence of the Bear River Compact, each of the three signatory states gives first priority to the maintenance of the largest possible supply of water. Each state is hesitant to release unutilized water that might later prove valuable in the economic development of that state. The presence of phosphate-processing plants in the Bear River Basin suggest some of the many varieties of water resource development.

The history of water resources development in the Bear River Basin is far from over, and new elements are just now entering into consideration. The awareness of ecology, pollution, and crowding is just beginning to have an impact on attitudes towards water resources development. The move against phosphates as a water pollutant threatens the future of that industry, while the pollution of Bear Lake and River adds another dimension to the arguments for and against further development of the Basin. And as people in rural areas become more and more aware of the problems created by large numbers of people, the traditional growth lure of further development loses much of its appeal and the emphasis shifts to preservation of the isolated rural life style. In the past it can be said that the people of the Bear River Basin have tended to become more and more like the rest of the West; as for the future, it is difficult to say more than that it is clear that a time of reevaluation is at hand.

CHAPTER III.

SETTLEMENT OF THE BEAR RIVER BASIN AND PIONEER IRRIGATION PATTERNS


Among the chief sources of information relating specifically to the spread of settlement in the Bear River Basin were a variety of publications of the Sons and Daughters of the Utah Pioneers. The History of Bear River City (Brigham City: Box Elder News Journal, 1947), compiled by Lucinda P. Jensen, had the greatest depth of any material relating to pioneer irrigation in the basin, while the History of Box Elder County (no more information available, 1937), by Lydia Walker Forsgren, covered the greatest area and the largest number of topics. The Sons of the Utah Pioneers published Box Elder Lore of the Nineteenth Century (Brigham City: Box Elder News and Journal, 1951), while the Soda Springs branch of the D.U.P. (Lula Bernard, Faunda Bybee, and Lola Waler) brought out Tosoiba (Salt Lake City: Utah Printing Company, 1958). In a similar vein are the History of Smithfield (Salt Lake City: Deseret News Press, 1927) by Mr. and Mrs Leonard Olsen, and the volume by Elizabeth Arnold Stone, Uinta County, Its Place in History (Laramie, Wyoming: The Laramie Printing Company, 1924).


CHAPTER IV.

CHANGING TIMES

Sources for irrigation and water rights legislation in Utah and Idaho include the Utah Territorial Legislature's Acts, Resolutions, and Memorials for 1864-65 and 1866-67 sessions; the Laws of Utah for 1867, 1901, 1909, 1917, and 1919; The Idaho Almanac; and the Idaho Session Laws for 1895, 1903, and 1911. Federal land legislation is found in
the United States Statutes at Large, volumes XIX, XXVIII, and XXXII.

Figures on the number of Desert Land Act entries in Utah's Bear River Basin counties were determined from township plats kept at the Salt Lake City office of the Bureau of Land Management.


CHAPTER V.

THE BEAR RIVER CANAL

Material on the Bear River Canal was found in Thomas's Institutions Under Irrigation; Paul W. Gates' History of Public Land Law Development (Washington: United States Government Printint Office, 1968); Alexander Toponce, Reminiscences of Alexander Toponce (Salt Lake City: Century Printing Company 1923); the previously referred to Box Elder Lore of the Nineteenth Century; Leonard J. Arrington's Beet Sugar in the West, a History of the Utah-Idaho Sugar Company, 1891-1966 (Seattle: University of Washington Press, 1966); Elwood Mead's Irrigation Institutions (New York: The Macmillan Company, 1903); and the frequently mentioned

CHAPTER VI.

BEAR RIVER UNDER THE UTAH POWER AND LIGHT COMPANY

Newspapers cited in this chapter were the Herald Journal, Logan Utah, the Logan Republican, Logan, Utah, the Montpelier News Examiner, Montpelier, Idaho. The decrees adjudicating rights to the Bear River were the Dietrich Decree, handed down by Judge F. S. Dietrich of the First District Court for the State of Idaho, Eastern Division, July 14, 1920; and the Kimball Decree, written by James N. Kimball, judge of the First Judicial District Court of Utah and handed down February 21, 1922. Also cited is the Conveyance and Agreement between Joseph F. Smith, President of the Utah-Idaho Sugar Company and E. B. Critchlow, Vice-President of the Utah Power and Light Company, made on December 30, 1912.

Information was also derived from the files of Governor C. Ben Ross of Idaho (Idaho State Historical Society Archives, Boise, Idaho), and from Water Rights Problems of Bear River, by Clarence T. Johnston and Joseph A. Breckons, Bulletin No. 70, United States Department of Agriculture (Washington: Government Printing Office, 1899). Some information on Utah Power and Light came from The History of a Valley

CHAPTER VII.

BEAR RIVER AND THE UNITED STATES BUREAU OF RECLAMATION

In the preparation of this chapter several typescript project histories housed at the Logan office of the Bureau of Reclamation were employed. These were the "Project History, Hyrum Project, Utah, 1933"; the "Project History, Hyrum Project, Utah, 1935"; "Report on Newton Project, June, 1940"; "Newton Project History, 1941"; Newton Project History, 1942"; "Newton Project History, 1943"; "Newton Project History 1944"; Newton Project History, 1945"; "Newton Project History, 1946"; and the "Project History, Preston Bench Project, Idaho, 1946-1949."

Bureau reports cited are "The Bonneville Basin, Project Planning Report No. 4-7, 0-1" (April, 1946); "Reconnaissance Report on Upper Bear River Development" (Region 4, Salt Lake City: 1956); the "Woodruff-Cokeville Project, Utah and Wyoming, Feasibility Report" (Region 4, Salt Lake City: April, 1961); the "Bear River Project, Part I--Feasibility Report, Oneida Division, Utah and Idaho; Part II--Reconnaissance Report, Blacksmith Division, Utah" (Region 4, Salt Lake City: July, 1962); the "Bear River Project, First Phase, Idaho and Utah, Feasibility Report" (Region 4, Salt Lake City: June, 1965); "Alternative Plans for Bear River Project, Utah and Idaho, Interim Information Summary" (Region 4, Salt Lake City: November, 1966); and "Bear River Investigations, Status Report, June, 1970" (Region 4, Salt Lake City: 1970).

Non-Bureau sources cited in this chapter include an interview with Lamont Tueller by Lila Carr in 1965; the Minutes of the Cache County
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