

**MUNICIPAL AND INDUSTRIAL
WATER SUPPLY AND USES
IN THE
BEAR RIVER BASIN**

(Data Collected for Calendar Year 2005)

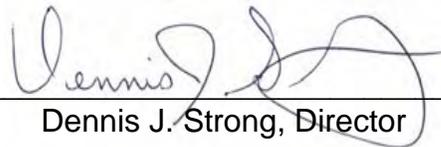
Prepared by

**Utah Department of Natural Resources
Division of Water Resources**

November 2007

ACKNOWLEDGMENTS

This water study was conducted under the direction of Todd Adams, assistant director, and supervised by Eric K. Klotz, chief, Water Conservation, Education, and Use Section, Utah State Division of Water Resources. Staff members assisting in the preparation of this report and/or in the data collection and analysis were Mandy Burbidge and Barbara Perry. Appreciation is expressed to the various water suppliers, the Utah Division of Water Rights, and the Utah Division of Drinking Water for supplying information for this report.



Dennis J. Strong, Director

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EXECUTIVE SUMMARY

The purpose of this report is to document the municipal and industrial (M&I) water system supplies and uses within the Bear River Basin during the calendar year of 2005. These water systems deliver culinary (potable) and/or secondary (non-potable) water and have been separated into four categories, as defined on page 18 of this report. The four categories are public community, public non-community, self-supplied industrial and private domestic water systems. Water supplies, under the current hydrologic and each systematic condition, are evaluated for only potable water service in public community water systems.

The base data for both water supply and uses of public community water systems was provided by each of the water systems. Data for the other categories of water systems was compiled by also using various other agencies and references.

M&I water uses, for the basin, were then totaled and tabulated by county. Portions of the four counties of Box Elder, Cache, Rich and Summit are contained within the Bear River Basin.

Public Community Water Systems

Of the aforementioned categories, public community systems serve about 95 percent of all residents in the State of Utah. There are 56 public community water systems within the Bear River Basin. Refer to **Figure 3** on page 7 for a location map of these systems, as well as the general boundaries of the basin.

For planning purposes, accurate and detailed current water use and supply information is invaluable in determining the ability of the basin to meet future water demands. The Division of Water Resources (DWR) uses the annual reliable potable water supply, as defined on page 9, as a tool to quantify the amount of water that can be delivered by each public community water system to satisfy current and projected peak day demands with present water supply conditions.

In the Bear River Basin, it was determined that the current annual reliable potable water supply is 56,597 acre-feet. Springs account for 31 percent of the

supply, wells 67 percent, and surface water 2 percent. The breakdown of this supply is presented in the following **Table I**.

Table I
BEAR RIVER BASIN
Reliable Potable Water Supplies for Public Community Systems
(Acre-Feet/Year)

County	Springs	Wells	Surface	Total
Box Elder	5,901.0	10,544.5	0.0	16,445.5
Cache	10,565.5	26,275.0	1,388.0	38,228.5
Rich	832.0	1,090.5	0.0	1,922.5
Summit	0.0	0.0	0.0	0.0
Basin Totals	17,298.5	37,910.0	1,388.0	56,596.5

Note: All values represent maximum system source capacities limited by water rights, hydrologic and/or distribution system constraints.

M&I water use, within these systems, can be subdivided by two types of water: potable (culinary) and non-potable (secondary). Potable water is delivered by the public community system itself. However, secondary water can be delivered not only by the system, but also by separate irrigation companies, exclusively in some locations.

Table II, on the following page, shows public community system water use data for both potable and non-potable categories within the Bear River basin. Categorically, the percentage of total water use is 23% residential indoor, 48% residential outdoor, 13% commercial, 8% institutional, and 8% light industrial/stockwatering.

TABLE II
BEAR RIVER BASIN
Water Use for Public Community Systems
(Acre-Feet/Year)

	Box Elder County	Cache County	Rich County	Summit County	Total
Potable Use					
Residential Indoor	3,203.6	7,679.4	248.7	0.0	11,131.7
Residential Outdoor	5,316.8	6,963.6	1,194.1	0.0	13,474.5
Commercial	1,200.6	3,867.3	308.4	0.0	5,376.3
Institutional	713.4	1,460.3	44.3	0.0	2,218.0
Industrial/Stockwater	782.6	2,447.3	20.3	0.0	3,250.2
Total Potable Use	11,217.0	22,417.9	1,815.8	0.0	35,450.7
Secondary Use					
Residential	924.3	8,624.6	57.8	0.0	9,606.7
Commercial	187.9	380.2	156.0	0.0	724.1
Institutional	721.2	1,018.1	18.0	0.0	1,757.3
Industrial/Stockwater	30.1	356.8	22.0	0.0	408.9
Total Secondary Use	1,863.5	10,379.7	253.8	0.0	12,497.0
TOTALS	13,080.5	32,797.6	2,069.6	0.0	47,947.7

A total of 140,966 people were served by the public community systems. For these systems, residential potable per capita water use calculates to 156 gallons per capita per day (gpcd). Similarly, non-potable residential water use calculated to 61 gpcd. The resultant total per capita water use is 217 gpcd for residential purposes within the public community systems of the basin. With the addition of commercial, institutional and industrial uses, the per capita water use for public community systems was 225 gpcd for potable uses and 79 gpcd for non-potable uses. In 2005, the Bear River Basin Public Community systems total M&I use averaged 304 gpcd.

Accessible canals and comparatively large lot sizes, in this basin, greatly increase the outside watering compared with the more densely populated basins along the Wasatch Front. Secondary (non-potable) water comprises a relatively high percentage of the residential and institutional outdoor use. Considering that secondary water is rarely metered, its use tends to far exceed outdoor watering needs. Combined, these factors all contribute to the above average per capita water

use, in this basin. The per capita water use values for various combinations of categories and types of water are shown in the following **Table III**.

**TABLE III
BEAR RIVER BASIN
Average Per Capita Use
(Supplied by Public Community Systems)**

CATEGORY	Average Per Capita Use (Ac-Ft/Yr)	Average Per Capita Use (GPCD)
Residential Potable Use	0.175	156
Residential Potable Plus Secondary Use	0.243	217
Total Potable Use	0.251	225
Total Potable Plus Secondary Use	0.340	304

Note: Total potable categories include residential, commercial, institutional and industrial uses.

Total M&I Water Use

Table IV, on the following page, shows the total potable and non-potable M&I water use for all system types in the Bear River Basin for the year 2005. As can be seen, public community systems deliver the majority of the potable water used within the basin. The table indicates that the total potable M&I water use in 2005 was 43,806.0 acre-feet. Total non-potable M&I water use in 2005 for the basin was 13,255.1 acre-feet. Therefore, total M&I water use for all system categories and types of water in 2005, for the Bear River basin, was 57,061.1 acre-feet.

**TABLE IV
BEAR RIVER BASIN
Total M&I Water Use for all Categories
(Acre-Feet/Year)**

	Box Elder County	Cache County	Rich County	Summit County	Total
Potable Use					
Public Community Systems	11,217.0	22,417.9	1,815.8	0.0	35,450.7
Public Non-Community Systems	41.2	587.1	367.8	65.0	1,061.1
Self-Supplied Industries	1,292.6	2,491.6	0.0	0.0	3,784.2
Private Domestic	1,100.0	2,200.0	200.0	10.0	3,510.0
Total Potable	13,650.8	27,696.6	2,383.6	75.0	43,806.0
Secondary Use					
Secondary Irrigation Companies	1,863.5	10,379.7	253.8	0.0	12,497.0
Public Non-Community Systems	82.3	324.0	0.0	100.0	506.3
Self-Supplied Industries	79.4	172.4	0.0	0.0	251.8
Total Secondary	2,025.2	10,876.1	253.8	100.0	13,255.1
TOTALS	15,676.0	38,572.7	2,637.4	175.0	57,061.1

M&I Water Deliveries and Depletions

On the following page, **Table V** shows both the deliveries and depletions for all the M&I water in the basin. The information contained in the table is very useful for overall water planning purposes. See pages 20 and 21 for detailed definitions of the terms used. In **Appendix B**, there is a table that contains a breakdown of all the deliveries and depletions of each public community water system, as well as all other categories of water systems, within the basin.

**TABLE V
BEAR RIVER BASIN
M&I Deliveries and Depletions
(Acre-Feet/Year)**

COUNTY	Deliveries			Depletions		
	Indoor Use	Outdoor Use	Total	Indoor Use	Outdoor Use	Total
Box Elder	6,856.6	8,819.1	15,675.7	2,598.3	5,879.4	8,477.7
Cache	16,950.0	21,622.6	38,572.6	7,133.6	14,415.1	21,548.6
Rich	725.8	1,911.7	2,637.4	124.4	1,274.4	1,398.9
Summit	62.8	112.2	175.0	4.3	74.8	79.1
Basin Totals	24,595.1	32,465.6	57,061.1	9,860.6	21,643.8	31,504.4

INTRODUCTION

Authority

The Utah Division of Water Resources (DWR_e) has the overall responsibility for completing studies, investigations, and plans to assist the responsible development and utilization of the water resources of the state of Utah. The State Water Plan, prepared and distributed in early 1990 by the DWR_e, provided the foundation and overall direction to establish and implement the state policy framework of water management. As part of the state water planning process, the DWR_e prepares detailed plans for each of the 11 hydrologic basins in the state. The Bear River Basin is one of these 11 basins. A location map of the Bear River Basin is shown in **Figure 1** on the next page.

Each basin water plan identifies potential conservation and development projects and describes alternatives to efficiently satisfy the water needs of that basin. As part of this effort, background data reports are completed for each river basin. These include a Water-Related Land Use Report and a Municipal & Industrial Water Supply & Use Report.

Scope

As stated earlier, the subject of this M&I report is a determination of present M&I water supplies and uses within this basin. The data presented in this report may be used in the State Water Plan for the Bear River Basin as well as other DWR_e reports and studies. Information considered for this report also includes related investigations recently completed by the DWR_e and the Utah Division of Water Rights (DWR_i).

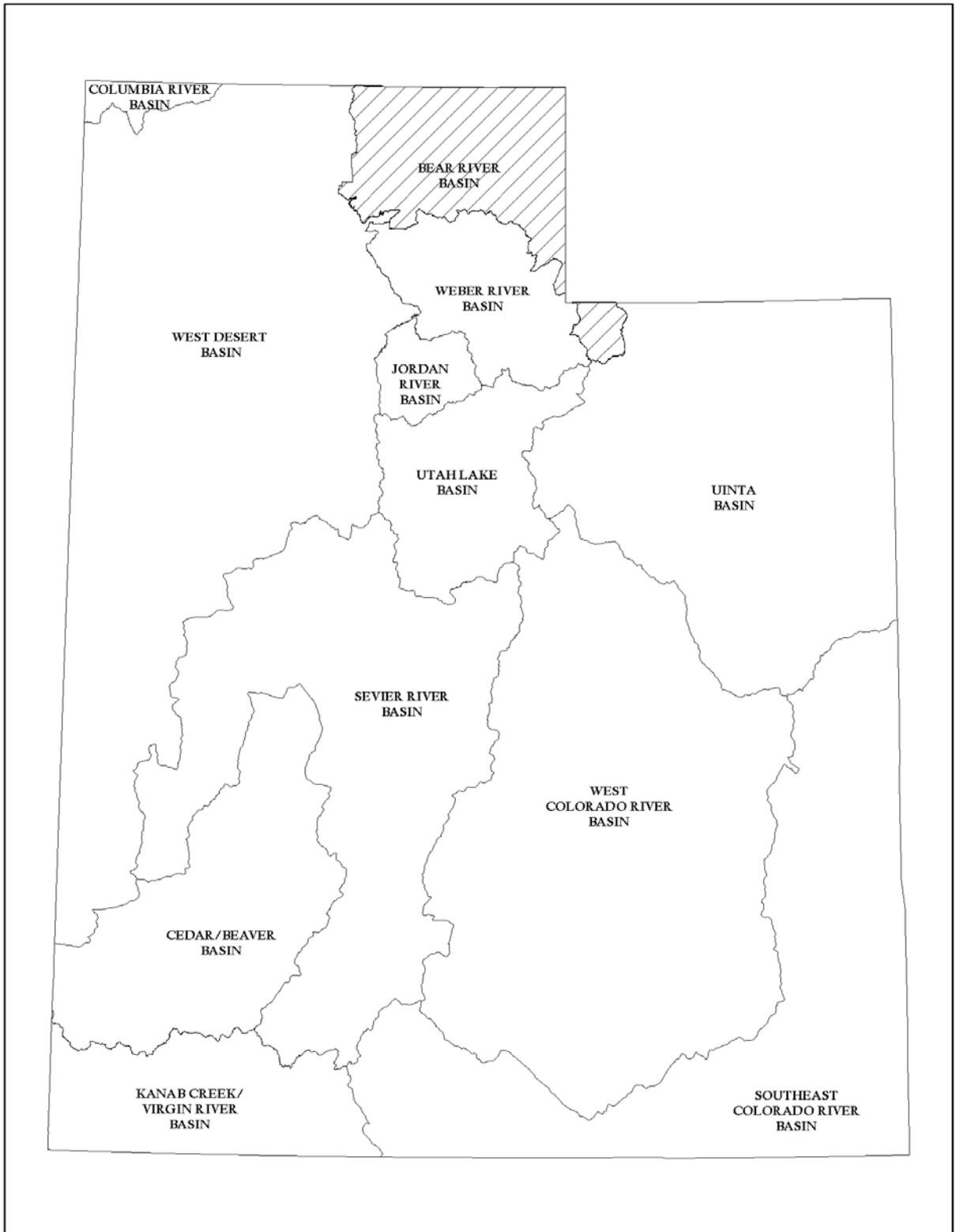


Figure 1. Location of Bear River Basin

Data Collection

This study was initiated in October 2006. The 2005 *Municipal and Industrial Water Use Forms*, distributed by the DWR, in cooperation with the DWRi and the Utah Division of Drinking Water (DDW), were used as the basis for the study. In all counties, the data collection process is as described in the following section, *Water Supply and Use Methodology*. Water rights discussions presented herein were prepared based on information obtained from the DWRi.

General Description of the Basin

The Bear River Basin encompasses a total of 7,583 square miles of varied terrain in the three western states of Utah, Wyoming, and Idaho. The Bear River itself begins in the western end of the Uinta Mountain Range in Summit County, Utah at elevations over 13,000 feet above mean sea level. As the river leaves this headwater area, it traverses through Wyoming with a drainage basin that widens to a gently sloping valley at about 7,000 feet elevation. This valley extends northward almost 100 miles through Wyoming, Utah (Rich County), back through Wyoming, then westward into Idaho and the Bear Lake Valley.

The Bear Lake Valley extends into Utah, with the southern end being inundated by Bear Lake, one of the more prominent hydrologic features of the basin, covering approximately 110 square miles in both Utah and Idaho. The Bear River, however flows northward from the valley through miles of hilly grazing land in Idaho until entering a deep, narrow channel near Soda Springs, Idaho. Here a hydroelectric power plant has been constructed on the river, which then continues its flow into the agricultural area known as Gem Valley. Although the river historically flowed through Gem Valley to the north, a lava flow redirected the river to the south on its present course towards Utah.

The Bear River once again enters Utah, where it began. The river flows into Cache Valley and combines with several tributaries, including the Cub and Logan Rivers, Blacksmith Fork River, and the Little Bear River. This combined flow then runs through a narrow gorge in Box Elder County of Utah where another hydroelectric power plant is located. Below the power plant, the river merges with the Malad River just before entering the Bear River Bay. Of note, this bay is the largest contiguous natural fresh water bay in the United States and includes the Bear River Migratory Bird Refuge, a federally controlled waterfowl management area. In the scope of this report, only the portion of the Bear River Basin that lies within the state of Utah is considered. The Utah portion consists of all of Cache and Rich counties, the eastern quarter of Box Elder County, and a small area of Summit County.

More specifically, the border of the report area is the Wyoming and Idaho State borders to the west and north, the crest of the West and Blue Spring Hills running south to the northern end of the Bear River Bay (including Willard Bay), continuing easterly along the southern boundaries of Cache and Rich County. Diverting from the Rich county boundary just west of the Wyoming state border, the basin boundary then encircles the head water area of the Bear River in the Uinta Mountains and ends at the east-west Wyoming and Utah state border in Summit County. The borders of this area in Summit County coincide with the hydrologic boundaries of Weber and Provo rivers as well as the Colorado-Great Basin Divide. See Figure 2 for a detailed map of the basin.

The Bear River Basin has 56 public community water systems. These water systems serve 140,966 people (most all of the 149,246 total basin population). See **Figure 3** for the location of these systems. Additionally, the basin has 52 public non-community water systems. These systems serve Federal Forest Service campgrounds, Bear Lake State Park facilities, isolated commercial and institutional establishments, summer home developments, roadside rest areas and parks. The basin also has six self-supplied industries, five of which are classified as non-community, non-transient water systems.

M&I water use is steadily increasing within the basin. The Logan area in Cache County and the Brigham City area of Box Elder County are experiencing the greatest population growth. The migration of the Wasatch Front population growth and increasing enrollment at Utah State University are driving most of this growth. This trend is likely to continue well into the future.

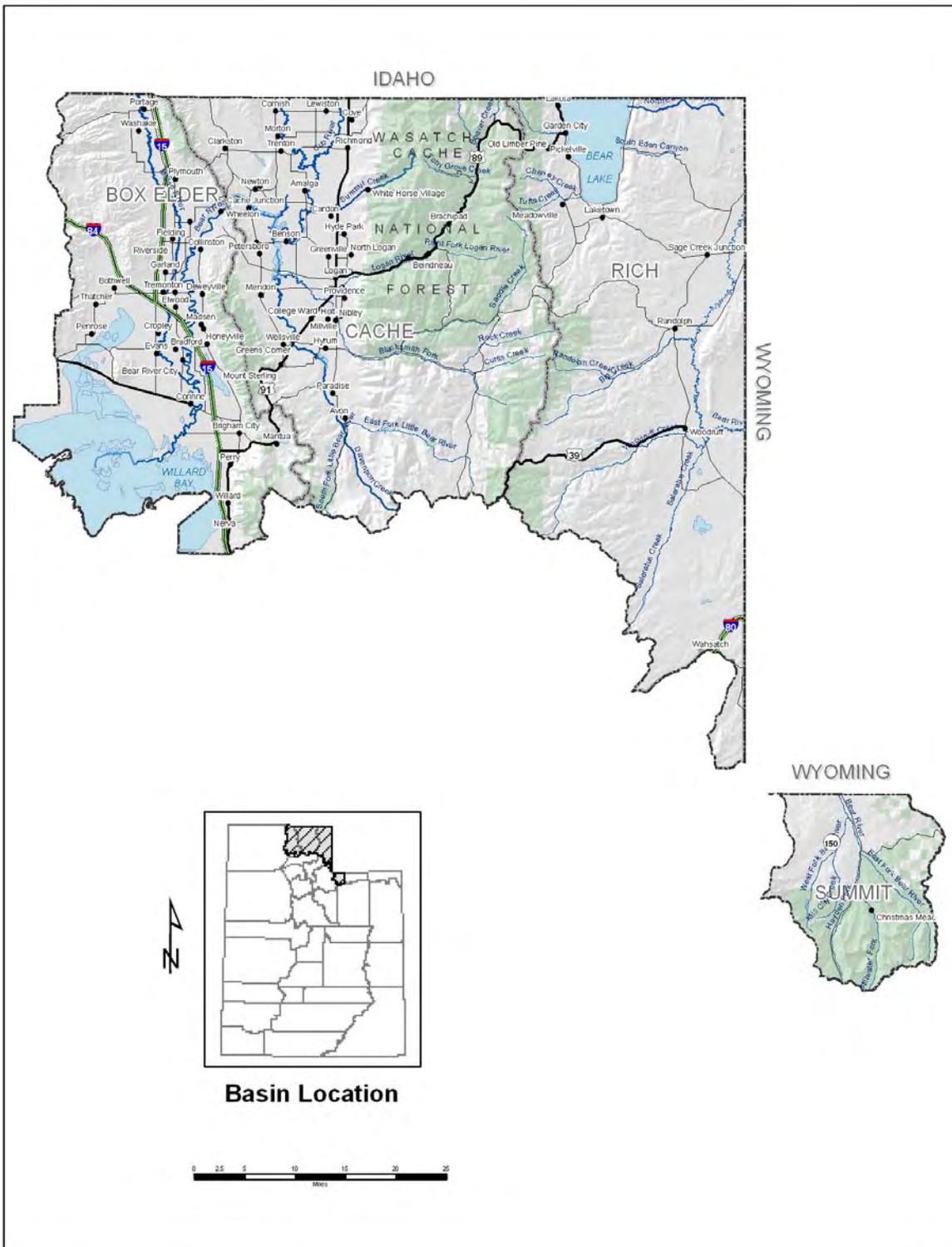


Figure 2. Bear River Basin Drainage Map

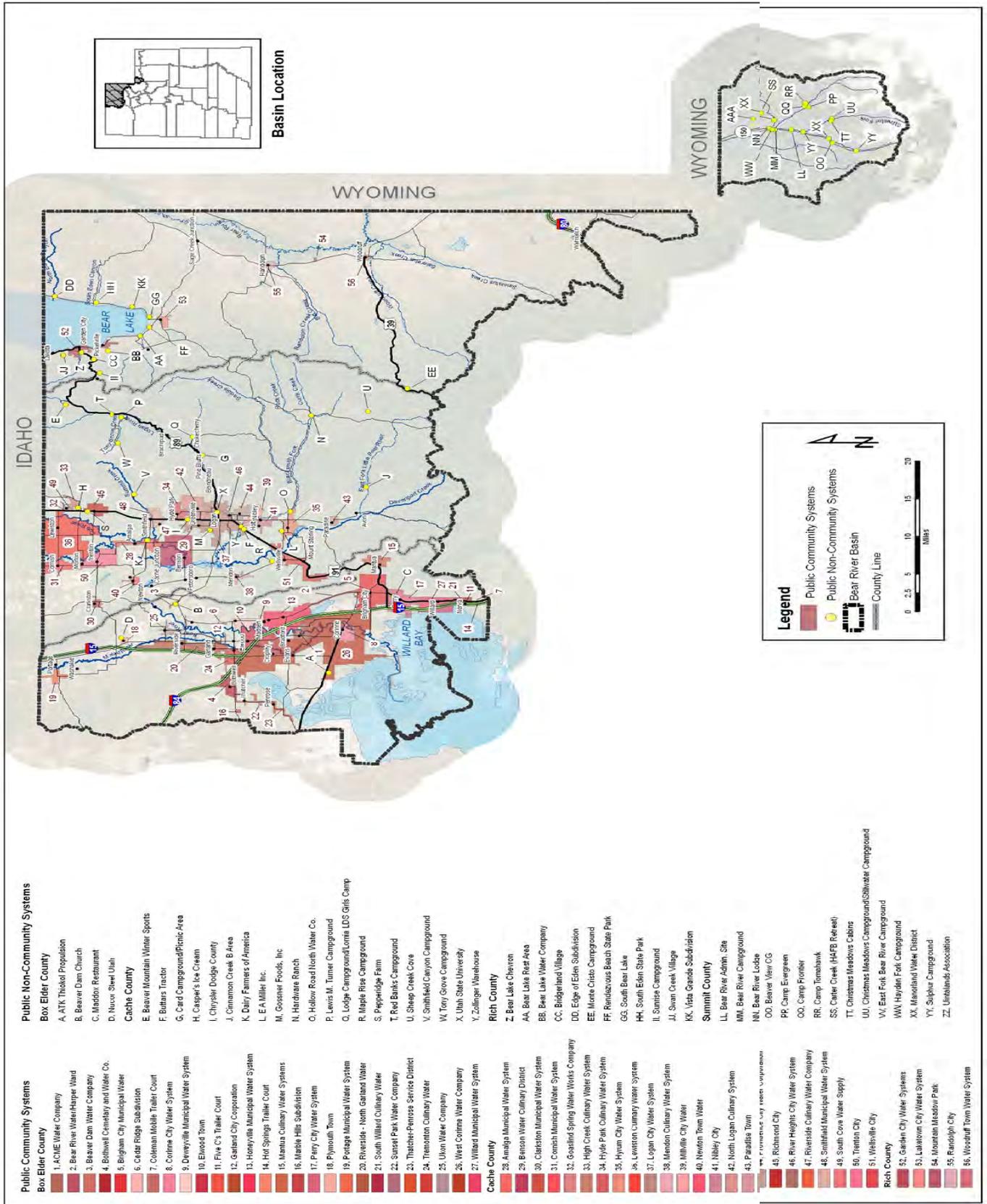


Figure 3. Locations of Public Community and Non-Community Systems

WATER SUPPLY AND USE METHODOLOGY

Background

Over the past 45 years, the Division of Water Resources (DWR_e) has employed various procedures to obtain municipal and industrial (M&I) water use data. In recent years, these procedures have become more comprehensive. When the DWR_e began water planning in the 1960's, available data consisted mainly of supplies and uses for the state as a whole. At that time, Utah's agricultural water uses far exceeded M&I uses. M&I water use was calculated simply by multiplying estimated per capita water use rates by census population data.

By the early 1980's, M&I diversions made up a larger percent of all statewide water uses and the entire water community increased their focus on M&I water supplies and uses. The Division of Water Rights (DWR_i) and the Division of Drinking Water (DDW) launched a program to collect yearly, statewide M&I data from each public community water system. The procedure involved mailing a survey designed to query major public water suppliers about their sources of water supply. Additionally, the United States Geological Survey (USGS) began M&I water use studies. The DWR_e relied on both data sources in its planning efforts by the late 1980's.

With the preparation of the State Water Plan Basin reports, and the increasing focus on water conservation, the DWR_e saw the need to verify and improve the quality and quantity of the available data. The first method used included assisting the DWR_i and the DDW in the improvement of their M&I data collection program. Currently, the collection of water use data is a joint effort between all three divisions, administered by the DWR_i. Additionally, the DWR_e began verifying the accuracy of the data through yearly field surveys, as described in the following four sections.

Data Collection Methodology for Public Community Water Systems

Each year, the DWRe targets several hydrologic basins for M&I water supply and use analysis. The most recent water use information supplied by the DWRi is the basis used to begin the study. Prior to 2003, this information was submitted using a standard form by each water supplier. An example of the water use data form for Enoch is found in **Appendix A**. Since 2003, the program has been updated, allowing for the water suppliers to electronically submit their data.

The DWRe staff contact the manager or operator of each community water system (as defined by the DDW) to schedule a data collection and analysis meeting. These meetings are necessary because data often is not reported (either on the water use forms or electronically) in the detail required for a complete M&I water use study. During these meetings, staff clarifies and collects additional data as needed. Total water supply and usage of the water systems are calculated based on information gathered during these meetings. When data is not available, it is necessary to estimate a part or all of the system use.

A secondary objective of these meetings is to instruct the operator or manager on how to most accurately and effectively complete the water use data form and/or submit their information electronically. This methodology has been used since 1992.

Water Supply

Potable Water

Two factors define the potable water supply for public community water systems: maximum developed potable water supply available under present conditions and reliable potable water supply. The maximum developed potable water supply available under present conditions is defined as the water resource that is presently being utilized. It is limited by a mechanical constraint (such as pump capacity or pipe size), a hydrologic constraint (such as reliable stream flow or groundwater safe yield) or a legal constraint (such as a water right or legal contract).

The lesser amount of water supply, due to these three constraints, is considered to be the maximum developed potable water supply available under present conditions used in this analysis.

The determination of well pump capacities, average annual spring flow estimates, treatment plant capacities, and water right information aid in the calculation of this value. It should be noted that, due to the complexity of water rights, contracts, exchanges, etc., a detailed search of water right limitations associated with each entity is not within the scope of this study.

The reliable potable water supply is defined as the capacity to meet peak day demands, expressed as an annual volume. It is valuable in determining future water supply capacities of the particular community water system sources (wells, springs, etc.). **The reliable potable water supply is calculated by adding together the maximum developed water supply capacity of surface sources, one-half of the maximum yield of wells or their pump capacities (unless otherwise indicated by the system manager), and a percentage of the average annual flow of spring sources.** The percentage of the spring source flows range between 50% and 100%. The determination of the percentage is based on information provided by the water supplier.

On page 12, **Figure 4** graphically presents the relationship between the maximum developed potable water supply and the reliable potable water supply of a system. By quantifying the maximum developed and the reliable potable water supply of a system, the total population that a system may potentially support can be determined. The current total yearly water use is the volume under the lower curve (*Present Water Use Pattern*). The future total yearly water use is the volume under the upper curve (*Future Water Use Pattern*). The latter volume is equivalent to the reliable developed potable water supply.

The maximum developed potable water supply under present conditions is the volume under the upper line (*Maximum Water Supply*) in **Figure 4**. This amount is a

theoretical annual volume based upon a maximum daily flow rate (limited by the water right or system capacity). Consequently, the peak day demand point on the future water use curve (*Future Peak Day Demand*) cannot exceed this upper limit. Due to the fluctuating nature of some sources (particularly springs), and the fact that most culinary water system storage tanks are designed to store only about one day of water demand, not all of the total maximum developed potable water supply is available to meet future water needs.

It is important to note that the reliable potable water supply is a theoretical annual volume based upon the current daily peak demand flow rate of any one system, under its current demand conditions. Additional supply may be made available by lowering and/or increasing the size of existing well pumps, pumping existing wells for longer durations, increasing storage capacity and/or distribution pipe sizes. However, being based only on current conditions, these systematic changes may cause operational problems during times of peak demand. Therefore, the DWRe uses the reliable potable water supply only as a reference tool to quantify the annual amount of water that can be delivered by each community water system.

For planning purposes, the reliable potable water supply is essential for estimating what population base each system can theoretically support with current demand patterns. It is also a guideline to help predict the approximate timing of future system improvements in order to meet any increase in demand.

Secondary Water

Deliveries of non-potable (secondary) water are an important component of the water use within the boundaries of public community water systems. However, quantifying the available supply of this water is difficult. In Utah, many of the secondary water systems are part of a larger agricultural irrigation system. Hence, the theoretical supply includes both agricultural and M&I water. Currently, separating M&I secondary from agricultural water is mostly estimated, due to the lack of and/or absence of metering, particularly at the level of individual property connections.

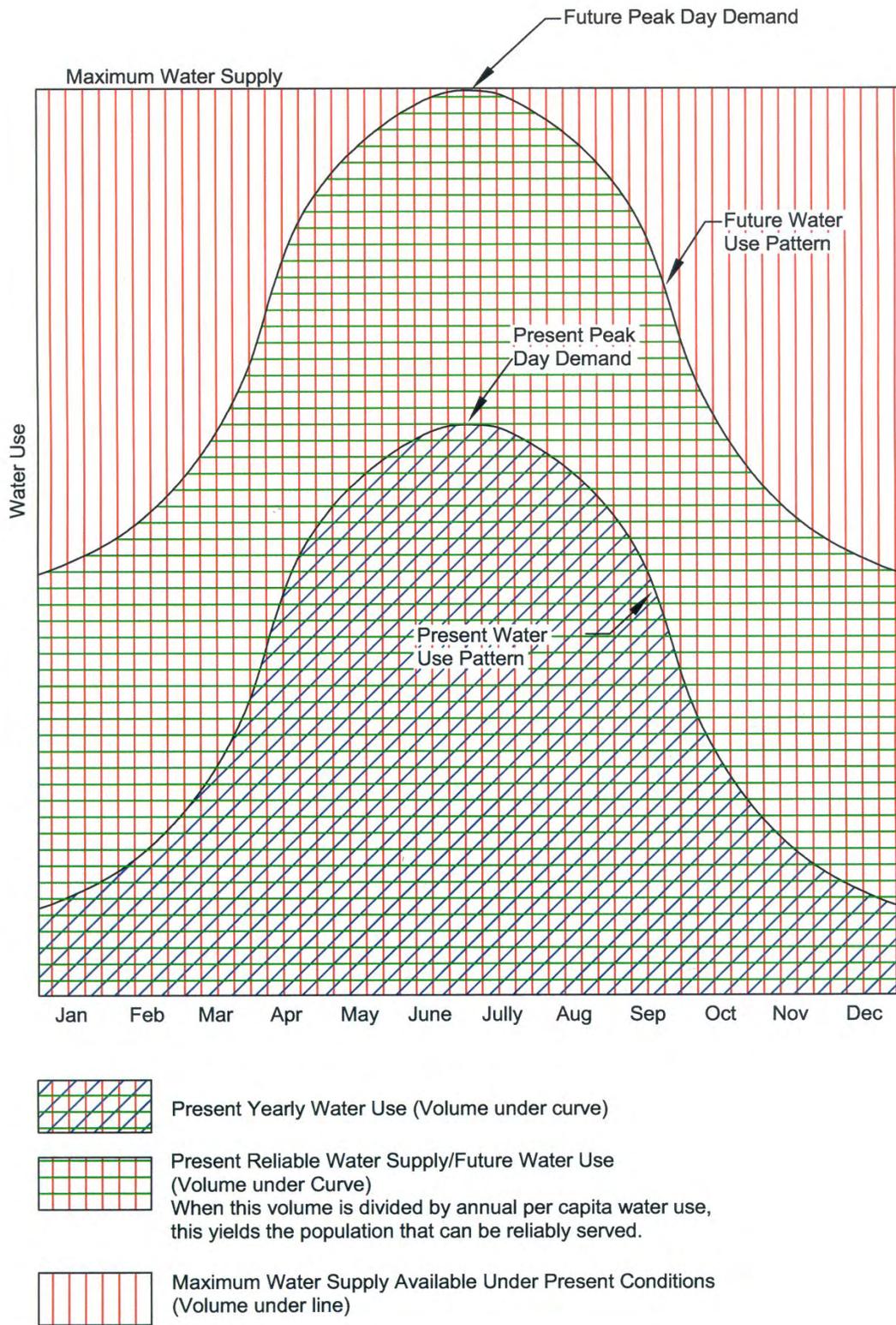


Figure 4. Water Supply and Use Hydrograph

With secondary water use becoming more prevalent for outdoor landscaping, estimating the available supply of this water is becoming increasingly more important. **For planning purposes, the DWRe assumes that the supply for M&I secondary irrigation is simply equal to the current use.**

Water Use

Present water use, as defined herein, is the developed water supply that is actually delivered by the distribution system from surface or subsurface sources. Water use is divided into four categories: residential, commercial, institutional and industrial.

Residential

The staff collects data about the number of residential connections and the amount of water used by those connections from a water system representative. Water use in this category is divided into three subcategories: culinary-outdoor, culinary-indoor, and secondary-outdoor. While most systems will meter the total culinary residential water use, indoor and outdoor use are rarely metered separately. Secondary water use is rarely metered. Therefore, the DWRe usually estimates these subcategory totals.

Typically, culinary indoor use will be estimated first. One method to estimate the indoor use is to review residential meter reading totals for the system from the winter months, if available. Since outdoor watering typically does not occur during the winter months, it can be assumed that the water used in winter months is for indoor use only. The winter water use is then used to determine the total yearly indoor use.

When the above method does not yield a reasonable value for indoor use, the per capita indoor water use for a system can be estimated by using an equation that was developed in a detailed residential study, "Identifying Residential Water Use",

completed by the DWRe in 2001. The mathematical equation that was developed is as follows:

$$\text{GPCD}_{\text{Indoor}} = 90.3 / P_{\text{PH}} + 42.3$$

where:

$\text{GPCD}_{\text{Indoor}}$ = gallons per capita day (per capita indoor water use)

P_{PH} = persons per household (US Census Bureau)

The total yearly indoor water use is then calculated for the system by multiplying the result of the above equation by the current population. Outdoor culinary water use can then be estimated by subtracting the total yearly indoor water use from the given total residential culinary water use.

Because very few entities meter secondary outdoor water use, the DWRe staff estimates the outdoor secondary water use by using the average lot size, percent irrigated, percent of residences that are supplied by separate secondary (pressurized and ditch) irrigation systems, water right-duty rates (volume of water required for turf growth) in the area, and other related information for each system. In determining residential secondary use, care is taken to not include irrigation water use for small pastures or farm fields that can often be found adjacent to residences, particularly in rural communities.

Commercial

For most systems, the system operator can separate metered commercial water use data from the total water use. In cases where this data is not available, or is extremely difficult to obtain, the DWRe staff attempts to estimate commercial water use by inventorying commercial businesses in the area and using published commercial water use estimates. The DDW and the Utah State Water Lab, among others, publish these estimates. In some rural communities where there are a relatively small number of commercial connections, the businesses are visited individually by the DWRe staff and asked about their water use.

Some commercial facilities use secondary water to irrigate outside landscapes. This is especially typical for commercial golf courses. Again, it is typical that secondary water is not metered. The DWRe staff estimates this use by multiplying the size of the irrigated area by a water right-duty rate or the evapotranspiration (ET) rate with assumed application efficiency percentage. The ET used is indicative of the amount of water, in inches, necessary for turf growth.

Institutional

Institutional water use is water used for city, county, state and federal government facilities, parks, municipal golf courses, schools, hospitals, churches, military facilities, as well as fire hydrant testing and other municipal losses in the water system. Because this water use is often not metered, the process to acquire this data is difficult. The system operator is asked to provide information about city facilities such as the number and size (irrigated acreage) of parks, schools, churches, and municipal golf courses. Water right-duty rates and/or the ET, with appropriate efficiencies, are used to calculate the amount of water that is needed to irrigate these areas. Estimates of leakage and water use for testing of system facilities are also included in this category.

Industrial

Industrial water use is defined as water used in the production of a product. Therefore, such commercial establishments as dairies, mink farms, and greenhouses, as well as stockwatering, are included in this category, provided a community water system serves them. Industrial water use within community water systems is calculated with the same process used to calculate commercial water use data discussed earlier.

Data Collection Methodology for Public Non-Community Water Systems

The DWRe staff attempts to contact each non-community system and/or make a personal visit to these systems. Non-community systems rarely meter their water use, so the DWRe staff estimate the annual water use. Questions are asked to determine the types of facilities on the system, population served, water source information, irrigation of outside areas, etc. This data, along with information found in water-related publications, is used to determine water use. The maximum and reliable water supplies for these systems are relatively small, often not available and are therefore not included in this study. However, for planning purposes, the DWRe assumes that the water supply for these systems is equal to their water use.

Data Collection Methodology for Self-Supplied Industrial Water Systems

Although self-supplied industries are included in the Non-Community Water Systems category as defined by the DDW, the DWRe has divided them into a separate category due to their importance. The category is equivalent to the DDW's Non-Community, Non-Transient category.

Water use is acquired for self-supplied industries by using data from the DWRi's Industrial Water Use Form and/or electronically submitted data. The DWRi collects

annual water use data from most of the major self-supplied industrial water users in the state. This data is confidential. Therefore, the data presented in this M&I study is only presented as county totals. As with other non-community systems, the maximum and reliable water supplies are often not available and are not in the scope of this study. For planning purposes, the DWRe assumes that the water supply for these systems is equal to their water use.

Data Collection Methodology for Private Domestic Water Systems

Private domestic systems are residences that are not connected to any public community or non-community water system. They are usually supplied by individual wells. To determine the water use data for this category, the population of those served by private domestic systems is estimated. This population is estimated by subtracting the population served by community water systems from the county population data acquired from the Governor's Office of Planning and Budget (GOPB).

The remainder is assumed to be the population that is served by private domestic systems. The per capita water use rate for this category is assumed to be the same as the rate for the public community system residential category for that county. To determine the total water use by private domestic systems, the estimated population is then multiplied by this rate. Again, the maximum and reliable water supplies for private wells, being relatively small, are not in the scope of this study. Similarly, for planning purposes, the DWRe assumes that the water supply for these systems is equal to their water use.

DEFINITIONS OF WATER TERMS

Water is supplied by a variety of systems for many types of users. The general term supply is defined as the amount of water available. Municipalities own most of the individual water supply systems. However, in some cases the owner/operator is a private company, state or federal agency. Thus, a "public" water supply may be either publicly or privately owned and supply treated and/or untreated water.

Water Supply Terms

Maximum Developed Potable Water Supply - The annual volume of potable (culinary) water which is the lesser of the hydrologic capacity of the water source, the physical capacity of the water system, or the amount allowed by the collective water rights. (See pages 8-10 for a more detailed explanation)

Reliable Potable Water Supply - The annual volume within the maximum developed water supply that is available to meet peak demands. This is generally calculated as 100% of the maximum supply from surface water sources, 50% of the maximum yield of wells, and between 50% and 100% of the average annual spring flows. When this number is divided by the average per capita usage, the resulting number represents the theoretical maximum population that the water source can serve. (See pages 8-10 for a more detailed explanation)

Municipal and Industrial Water Supply - Includes all water (potable and non-potable) supplied for residential, commercial, institutional, light industry, and self-supplied industries. This supply is delivered by public community systems, public non-community (transient and non-transient) systems, self-supplied industrial systems, unregulated Indian water systems and private wells.

Types of Water

Potable Water – Includes water meeting all applicable Federal, State, and Local drinking water requirements for residential, commercial, institutional and industrial uses. It is also referred to as culinary water supply.

Secondary Water – Includes water not meeting safe drinking water requirements. It is also referred to as non-potable (non-culinary) water. This water is usually delivered by pressurized or open ditch systems for irrigation of privately and publicly owned landscapes, gardens, parks, cemeteries, golf courses and other open areas. Sometimes called "dual" water systems, they are installed to provide an alternative to irrigating with culinary water for these outdoor areas. Although Irrigation companies most often provide this water, public community systems may deliver this water as well. Self-supplied industries can also use secondary water for industrial processes.

Water System Categories

Public Community Water System - Provides potable and/or non-potable water by either a privately or publicly owned water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. Water from the public community water supplies may be used in both indoor and outdoor applications for residential, commercial, institutional, and industrial purposes.

Public Non-Community Water System - Provides potable and/or non-potable water by either a privately or publicly owned water system of one of two types: transient and non-transient. Transient systems are systems that do not serve 25 of the same non-resident persons per day for more than six months per year. Examples include campgrounds, RV parks, restaurants, convenience stores, etc. Non-transient systems are systems that regularly serve 25 of the same non-resident persons per day for more than six months per year. Examples include churches, schools and industries. This report categorizes industrial non-transient systems as self-supplied industries.

Self-Supplied Industrial System - Provides potable and/or non-potable water for use by individual privately owned industries (usually from their own wells or springs).

Private Domestic System – Provides potable and/or non-potable water from privately owned wells and/or springs for use by individual homes.

Water Use Terms

Water is used in a variety of ways and for many purposes. It is often said that water is "used" when it is diverted, demanded, withdrawn, depleted or consumed. But it is also "used" in place for such things as fish and wildlife habitat, recreation and hydropower production. **Water use in this report is defined as “delivered” water.**

A table that shows the basin’s M&I water deliveries and depletions is provided in **Appendix B.**

In the previous water supply section, the word “use” can be interchanged with the word “supply” to define the current demand associated with those definitions. Some additional water use terms are as follows:

Commercial Use - Use normally associated with small business operations that may include drinking water, food preparation, personal sanitation, facility cleaning and maintenance and irrigation of facility landscapes. Examples include retail businesses, restaurants and hotels.

Industrial Use - Use associated with the manufacturing or production of products. The volume of water used by industrial businesses can be considerably greater than water used by commercial businesses. Examples include manufacturing plants, oil and gas producers, mining companies, mink farms and dairies.

Institutional Use - Use normally associated with general operation of various public agencies and institutions (i.e. schools, municipal buildings, churches) including

drinking water, personal sanitation, facility cleaning and maintenance and irrigation of parks, cemeteries, playgrounds, recreational areas, golf courses, and other facilities. The amount of water used by cities for outside irrigation of public areas typically is not metered.

Residential Use - Use associated with residential cooking, drinking water, washing clothes, miscellaneous cleaning, personal grooming and sanitation, irrigation of lawns, gardens and landscapes, and washing automobiles, driveways and other outside residential facilities. Examples include single-family homes, apartments, duplexes and condominiums.

Other Water Terms

Consumption - Water evaporated, transpired or irreversibly bound in either a physical, chemical or biological process. Consumed water results in a loss of the original water supplied.

Consumptive Use - Losses of water brought about by human endeavors when used for residential, commercial, institutional, industrial, agricultural, power generation, and recreation. Naturally occurring vegetation, fish and wildlife also consumptively use water.

Deliveries - Water already within a system that is being provided to an individual connection, whether potable or non-potable and/or metered or not. The connection can be for residential, commercial, institutional, and/or industrial uses. **For the purpose of this report, the delivered water amount is equivalent to water use.**

Depletion - Water consumed and made unavailable for return to a given designated area, river system or basin. It is intended to represent the net loss to a system. The terms consumption and depletion are often used interchangeably but are not the same. For example, water exported from a basin is depletion from the basin system

but is not consumed in the basin. The exported water is available for use (consumption) in another basin or system. Water diverted to irrigate crops in a given system, but not returned for later use, is depletion. Precipitation that falls on irrigated crops is not considered a part of the supply like surface water and groundwater diversions. For this reason, precipitation falling on and consumed by irrigated crops is not considered as being depletion from the system.

Diversion - Water diverted from supply sources such as streams, lakes, reservoirs or groundwater for a variety of purposes, including cropland irrigation, as well as residential, commercial, institutional and industrial uses.

Withdrawal - Water withdrawn from supply sources such as lakes, streams, reservoirs or groundwater. This term is normally used in association with groundwater withdrawal. The terms *diversion* and *withdrawal* are often used interchangeably.

WATER RIGHTS IN THE BEAR RIVER BASIN

Although a detailed analysis of water rights is not part of this report, a water supply and use study would not be complete without at least a discussion on the current water right regulations in the area. The following discussion was obtained from the Division of Water Rights (DWRi). It explains the current general water right regulations in the Bear River Basin with regards to M&I uses.

Box Elder

This area is only conditionally open to new groundwater appropriations for any purpose. Each application will be carefully reviewed, particularly as it may impact on existing water rights. New applications are routinely protested by the Bear River Bird Refuge to insure that the necessary water to maintain the condition of the area is available.

Cache

This area is only open to new groundwater appropriations that comply with the Cache Valley Ground Water Management Plan of 1999, as well as the Bear River Compact of 1958 and its amendments of 1980. The recently enacted Management Plan allows an additional 25,000 acre-feet/year of potential ground-water withdrawals. This includes appropriations for individual domestic use up to 1.73 acre-feet/year, per point of diversion. Applications for larger amounts of water cannot impair any prior rights or there must be compensation, such as the replacement of adequate water to the affected system. There are other conditions which augment, not replace, any and all prior agreements. As discussed above, the 1980 amendments of the Bear River Compact protect all rights put to beneficial use prior to 1976 and all original rights of the 1958 agreement, whether currently in beneficial use or not.

Rich

This area is open for new applications for appropriation of M&I water rights, provided all conditions of the Bear River Compact and its amendments are met.

Summit

The Summit County area of the Bear River Basin is currently closed to all M&I applications for appropriations of water rights and will likely remain closed.

BOX ELDER COUNTY M&I WATER SUPPLIES AND USES

The Bear River Basin portion of Box Elder includes the incorporated communities of Bear River, Brigham, Corinne, Honeyville, Perry and Tremonton Cities, as well as the towns of Deweyville, Elwood, Fielding, Mantua, Plymouth, and Portage. Within this area are 27 public community systems, 2 public non-community water systems and 2 self supplied industries. Locations of public community systems are shown in **Figure 3**.

The maximum annual water supply for public community systems in this portion of Box Elder is 32,891 acre-feet; 11,802 acre-feet from springs, and 21,089 acre-feet from wells. **Table 1**, on the following page, displays the breakdown of this supply.

TABLE 1
BOX ELDER COUNTY
Maximum Potable Water Supplies for Public Community Systems
(Acre-Feet/Year)

WATER SUPPLIER	Springs	Wells	Surface	Total
BOX ELDER COUNTY				
ACME Water Co.	182.0	450.0	0.0	632.0
Bear River WCD - Harper Ward Retail	200.0	0.0	0.0	200.0
Bear River WCD - Other Retail Customers	0.0	1,820.0	0.0	1,820.0
Beaver Dam Water Company	234.0	0.0	0.0	234.0
Bothwell Cemetary and Water Corp.	0.0	250.0	0.0	250.0
Brigham City Municipal Water	6,339.0	7,035.0	0.0	13,374.0
Cedar Ridge Subdivision	0.0	362.0	0.0	362.0
Coleman Mobile Home Park	0.0	32.0	0.0	32.0
Corinne City Corp.	65.0	345.0	0.0	410.0
Deweyville municipal Water System	43.0	650.0	0.0	693.0
Elwood Town	18.0	695.0	0.0	713.0
Five C's Trailer Court	0.0	36.0	0.0	36.0
Garland City Corp.	1,290.0	0.0	0.0	1,290.0
Honeyville Municipal Water	186.0	1,550.0	0.0	1,736.0
Hot Springs Trailer Court	0.0	51.0	0.0	51.0
Mantua Culinary Water System	90.0	325.0	0.0	415.0
Marble Hills Subdivision	0.0	200.0	0.0	200.0
Perry City Water System	130.0	1,800.0	0.0	1,930.0
Plymouth Town	112.0	450.0	0.0	562.0
Portage	30.0	160.0	0.0	190.0
Riverside-North Garland Water Co.	0.0	762.0	0.0	762.0
South Willard	148.0	906.0	0.0	1,054.0
Sunset Park Water Company	0.0	50.0	0.0	50.0
Thatcher-Penrose Service District	0.0	800.0	0.0	800.0
Tremonton Culinary Water	2,180.0	0.0	0.0	2,180.0
Ukon Water Co.	120.0	60.0	0.0	180.0
West Corinne Water Co.	385.0	775.0	0.0	1,160.0
Willard Municipal Water System	50.0	1,525.0	0.0	1,575.0
BOX ELDER COUNTY TOTALS	11,802.0	21,089.0	0.0	32,891.0

Note: All values represent maximum system source capacities limited by water rights, hydrologic constraints, and/or system constraints.

The reliable potable water supply for public community systems in the Box Elder County portion of the Bear River Basin is 16,446 acre-feet or, in this case, 50% of the maximum supply. The breakdown of this supply is presented in **Table 2**, on the following page.

TABLE 2
BOX ELDER COUNTY
Reliable Potable Water Supplies for Public Community Systems
(Acre-Feet/Year)

WATER SUPPLIER	Springs	Wells	Surface	Total*
BEAVER COUNTY				
ACME Water Co.	91.0	225.0	0.0	316.0
Bear River WCD - Harper Ward Retail	100.0	0.0	0.0	100.0
Bear River WCD - Other Retail Customers	0.0	910.0	0.0	910.0
Beaver Dam Water Company	117.0	0.0	0.0	117.0
Bothwell Cemetary and Water Corp.	0.0	125.0	0.0	125.0
Brigham City Municipal Water	3,169.5	3,517.5	0.0	6,687.0
Cedar Ridge Subdivision	0.0	181.0	0.0	181.0
Coleman Mobile Home Park	0.0	16.0	0.0	16.0
Corinne City Corp.	32.5	172.5	0.0	205.0
Deweyville municipal Water System	21.5	325.0	0.0	346.5
Elwood Town	9.0	347.5	0.0	356.5
Five C's Trailer Court	0.0	18.0	0.0	18.0
Garland City Corp.	645.0	0.0	0.0	645.0
Honeyville Municipal Water	93.0	775.0	0.0	868.0
Hot Springs Trailer Court	0.0	25.5	0.0	25.5
Mantua Culinary Water System	45.0	162.5	0.0	207.5
Marble Hills Subdivision	0.0	100.0	0.0	100.0
Perry City Water System	65.0	900.0	0.0	965.0
Plymouth Town	56.0	225.0	0.0	281.0
Portage	15.0	80.0	0.0	95.0
Riverside-North Garland Water Co.	0.0	381.0	0.0	381.0
South Willard	74.0	453.0	0.0	527.0
Sunset Park Water Company	0.0	25.0	0.0	25.0
Thatcher-Penrose Service District	0.0	400.0	0.0	400.0
Tremonton Culinary Water	1,090.0	0.0	0.0	1,090.0
Ukon Water Co.	60.0	30.0	0.0	90.0
West Corinne Water Co.	192.5	387.5	0.0	580.0
Willard Municipal Water System	25.0	762.5	0.0	787.5
BEAVER COUNTY TOTALS	5,901.0	10,544.5	0.0	16,445.5

* Wells and springs are limited to 50% of their "maximum" capacity for reliable supply when well/pump capacity is the limiting factor. Surface water supplies are equal to their respective "maximum" capacities.

On the following page **Table 3** shows the breakdown of potable water use for each public community system. This table indicates that for Box Elder County, the current annual potable use of 11,217 acre-feet of water (within the public community systems) is about 68% of the reliable potable supply of 16,446 acre-feet of water.

**TABLE 3
BOX ELDER COUNTY
Water Use for Public Community Systems**

BOX ELDER COUNTY WATER SUPPLIER	POTABLE USAGE (Ac-Ft/Yr)							TOTAL M&I	Service Population	Gallons Per Capita Per Day
	Residential Indoor	Residential Outdoor	Commercial Total	Institutional Total	Industrial Total					
ACME Water Co.	74.3	109.9	0.0	0.0	21.8		206.0	934	196.9	
Bear River WCD - Harper Ward Retail	13.6	24.3	0.8	0.0	0.0		38.7	171	202.0	
Bear River WCD - Other Retail Customers	2.5	0.4	0.0	0.0	0.0		2.9	32	80.9	
Beaver Dam Water Company	5.5	21.0	0.0	0.0	0.0		26.5	69	342.9	
Bothwell Cemetary and Water Corp.	36.2	72.4	0.0	3.0	0.0		111.6	455	219.0	
Brigham City Municipal Water	1,365.3	2,285.2	592.3	286.2	64.2		4,593.2	18,279	224.3	
Cedar Ridge Subdivision	9.1	64.6	0.6	0.0	0.1		74.4	114	582.6	
Coleman Mobile Home Park	3.8	15.9	0.0	0.0	0.0		19.7	48	366.4	
Corinne City Corp.	54.6	57.6	3.9	2.8	14.7		133.6	686	173.9	
Deweyville municipal Water System	30.8	80.8	0.0	1.0	331.4		444.0	387	1,024.2	
Elwood Town	50.1	180.6	9.4	10.2	5.5		255.8	630	362.5	
Five C's Trailer Court	21.0	8.6	0.0	0.0	0.0		29.6	264	100.1	
Garland City Corp.	137.0	187.8	13.2	126.2	3.7		467.9	1,723	242.4	
Honeyville Municipal Water	106.0	492.9	21.0	31.0	124.0		774.9	1,333	519.0	
Hot Springs Trailer Court	9.9	0.0	0.0	0.0	0.0		9.9	125	70.7	
Mantua Culinary Water System	57.5	119.3	3.1	30.8	0.0		210.7	723	260.2	
Marble Hills Subdivision	17.9	94.1	0.0	0.0	0.2		112.2	225	445.2	
Perry City Water System	191.8	217.8	70.6	3.2	5.1		488.5	2,411	180.9	
Plymouth Town	37.1	53.1	0.0	0.1	12.8		103.1	466	197.5	
Portage	20.9	19.0	1.0	22.5	1.5		64.9	263	220.3	
Riverside-North Garland Water Co.	99.6	15.1	14.1	4.6	74.9		208.3	1,252	148.5	
South Willard	23.9	47.7	0.0	0.0	0.0		71.6	301	212.4	
Sunset Park Water Company	2.8	1.6	0.0	0.0	0.7		5.1	35	130.1	
Thatcher-Penrose Service District	63.4	96.2	0.5	10.1	11.0		181.2	797	203.0	
Tremonton Culinary Water	438.8	470.5	425.0	138.7	34.7		1,507.7	5,517	244.0	
Ukon Water Co.	83.3	165.1	0.0	8.3	19.3		276.0	1,047	235.3	
West Corinne Water Co.	121.8	186.5	8.2	11.3	56.4		384.2	1,531	224.0	
Willard Municipal Water System	125.1	228.8	36.9	23.4	0.6		414.8	1,573	235.4	
BOX ELDER COUNTY TOTALS	3,203.6	5,316.8	1,200.6	713.4	782.6	11,217.0	41,391	41,391	241.9	
A	B	C	D	E	F	G	H	J		

A, B, C, D, E, F, H Input data
G=B+C+D+E+F Potable M&I Water Use
J=C*(325,851 gallons per acre-foot)/(365 days per year)/H Average gallons per capita per day potable water use

Secondary water is another important aspect of total M&I use. **Table 4**, on the following page, presents the annual amount of secondary water used for various categories within the boundaries of the public community systems. In this portion of Box Elder County irrigation companies deliver a total of 1,864 acre-feet. The largest and most extensive irrigation company in Box Elder County is the Bear River Conservancy District. A schematic of there system is shown below in **Figure 5**.

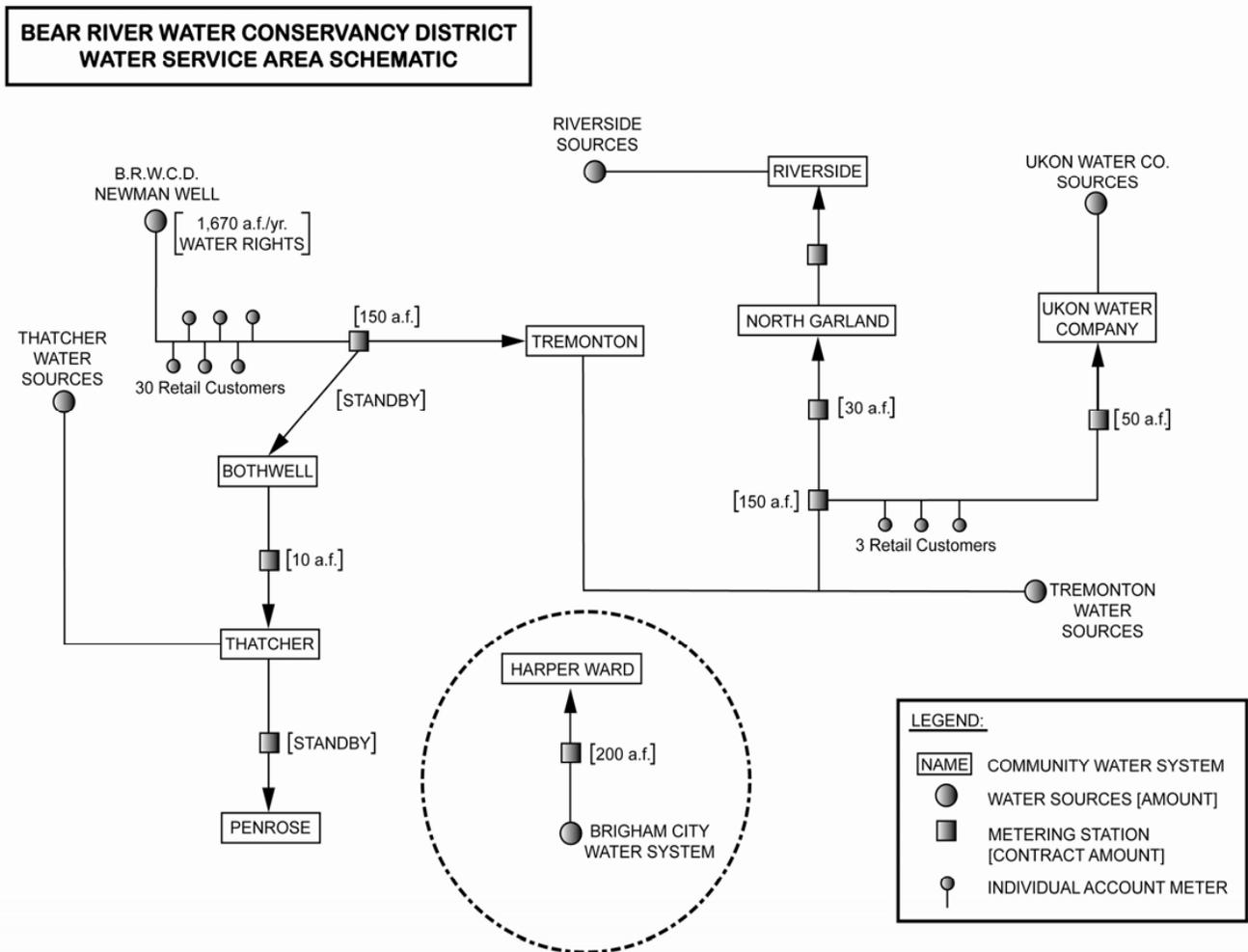


Figure 5. Bear River Conservancy District Water Service Area Schematic

**TABLE 4
BOX ELDER COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems
(Acre-Feet/Year)**

WATER SUPPLIER	Residential Use	Commercial Use	Institutional Use	Industrial/ Stockwater Use	Total Secondary Use
BOX ELDER COUNTY					
ACME Water Co.					
Bear River Canal Co.	31.9	0.0	20.0	5.0	56.9
Bear River WCD - Harper Ward Retail					
Bear River Canal Co.	31.3	0.0	0.0	0.0	31.3
Bear River WCD - Other Retail Customers					
Bear River Canal Co.	6.6	0.0	0.0	0.0	6.6
Beaver Dam Water Co.	0.0	0.0	0.0	0.0	0.0
Bothwell Cemetary and Water Corp.					
Bear River Canal Co.	17.2	0.0	12.5	0.0	29.7
Brigham City Municipal Water					
Brigham City North Field Water Co.	28.0	0.0	96.3	0.0	124.3
Box Elder Creek	24.5	0.0	84.1	0.0	108.6
First North Water District	7.0	0.0	24.1	0.0	31.1
PineView	31.5	0.0	108.1	0.0	139.6
Cedar Ridge Subdivision	0.0	0.0	0.0	0.0	0.0
Coleman Mobile Home Park					
PineView	21.2	0.0	7.5	0.0	28.7
Corinne City Corp.					
Bear River Canal Co.	57.7	0.0	36.0	0.0	93.7
Deweyville Mincipal Water System					
Bear River Canal Co.	15.4	0.0	25.0	5.0	45.4
Elwood Town					
Bear River Canal Co.	19.6	0.0	0.0	0.0	19.6
Five C's Trailer Court	0.0	0.0	0.0	0.0	0.0
Garland City Corp.					
Bear River Canal Co.	0.0	0.0	30.0	0.0	30.0
Honeyville Municipal Water					
Bear River Canal Co.	0.0	30.0	7.5	0.0	37.5
Hot Springs Trailer Court					
Cold Spring	4.0	0.0	1.3	0.0	5.3
Mantua Culinary Water System					
Mantua Irrigation Company	24.0	8.0	0.0	5.0	37.0
Marble Hills Subdivision	0.0	0.0	0.0	0.0	0.0
Perry City Water System					
PineView	135.4	2.5	33.8	0.0	171.7
Plymouth Town	0.0	0.0	0.0	0.0	0.0
Portage					
Portage Irrigation Reservoir & Power Co.	79.7	0.0	0.0	0.0	79.7
Riverside-North Garland Water Co.					
Bear River Canal Co.	42.0	83.4	4.0	5.0	134.4
South Willard					
PineView	89.3	0.0	0.0	0.0	89.3
Sunset Park Water Co.					
Bear River Canal Co.	1.8	0.0	0.0	0.0	1.8
Thatcher-Penrose Service District					
Bear River Canal Co.	44.4	0.0	1.0	0.0	45.4
Tremonton Culinary Water					
Bear River Canal Co.	8.8	64.0	50.0	0.0	122.8
Ukon Water Co.					
Bear River Canal Co.	140.0	0.0	175.0	5.0	320.0
West Corinne Water Co.					
Bear River Canal Co.	25.7	0.0	2.0	0.0	27.7
Willard Muncipal Water System					
Willard Irrigation Co.	36.9	0.0	3.0	5.0	44.9
PineView	0.4	0.0	0.0	0.1	0.5
BOX ELDER COUNTY TOTALS	924.3	187.9	721.2	30.1	1863.5

Table 5, below, presents various per capita rates for the public community system in the Box Elder County portion of the Bear River Basin.

**TABLE 5
BOX ELDER COUNTY
Average GPCD Water Use
for Public Community Systems**

Water Supplier	Service Population	Residential Water Use			CII Water Use*			TOTAL WATER USE		
		Potable	Non-Potable	Sub Total	Potable	Non-Potable	Sub Total	Potable	Non-Potable	TOTAL
ACME Water Co.	934	176	30	207	21	24	45	197	54	251
Bear River WCD - Harper Ward Retail	171	198	163	361	4	0	4	202	163	365
Bear River WCD - Other Retail Customers	32	81	184	265	0	0	0	81	184	265
Beaver Dam Water Company	69	343	0	343	0	0	0	343	0	343
Bothwell Cemetary and Water Corp.	455	213	34	247	6	25	30	219	58	277
Brigham City Municipal Water	18,279	178	4	183	46	15	61	224	20	244
Cedar Ridge Subdivision	114	577	0	577	5	0	5	583	0	583
Coleman Mobile Home Park	48	366	394	761	0	139	139	366	534	900
Corinne City Corp.	686	146	75	221	28	47	75	174	122	296
Deweyville municipal Water System	387	257	36	293	767	69	836	1,024	105	1,129
Elwood Town	630	327	28	355	36	0	36	362	28	390
Five C's Trailer Court	264	100	0	100	0	0	0	100	0	100
Garland City Corp.	1,723	168	0	168	74	16	90	242	16	258
Honeyville Municipal Water	1,333	401	0	401	118	25	143	519	25	544
Hot Springs Trailer Court	125	71	29	99	0	9	9	71	38	109
Mantua Culinary Water System	723	218	30	248	42	16	58	260	46	306
Marble Hills Subdivision	225	444	0	444	1	0	1	445	0	445
Perry City Water System	2,411	152	50	202	29	13	43	181	64	244
Plymouth Town	466	173	0	173	25	0	25	198	0	198
Portage	263	135	271	406	85	0	85	220	271	491
Riverside-North Garland Water Co.	1,252	82	30	112	67	66	133	149	96	244
South Willard	301	212	265	477	0	0	0	212	265	477
Sunset Park Water Company	35	112	46	158	18	0	18	130	46	176
Thatcher-Penrose Service District	797	179	50	229	24	1	25	203	51	254
Tremonton Culinary Water	5,517	147	1	149	97	18	115	244	20	264
Ukon Water Co.	1,047	212	119	331	24	153	177	235	273	508
West Corinne Water Co.	1,531	180	15	195	44	1	45	224	16	240
Willard Municipal Water System	1,573	201	21	222	35	5	39	235	26	261
BOX ELDER COUNTY TOTALS	41,391	184	20	204	58	20	78	242	40	282

*Commercial, Institutional, and Industrial

The following, **Table 6** indicates water use for public non-community and private domestic systems in this portion of the Bear River Basin. There are 2 self-supplied industries and several private domestic wells. All of these uses amount to 2,434 acre-feet of potable water and 162 acre-feet of non-potable water.

TABLE 6
BOX ELDER COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries, and Private Domestic Systems
(Acre-Feet/Year)

BOX ELDER COUNTY WATER SUPPLIER	POTABLE USAGE (Ac-Ft/Yr)					Total Secondary Water Use
	Residential	Commercial	Institutional	Industrial	Total Potable Use	
Non-Communties						
Beaver Dam Church	0	0.0	0.2	0.0	0.2	0.3
Maddox Restaurant	9	32.0	0.0	0.0	41.0	82.0
	9.0	32.0	0.2	0.0	41.2	82.3
Self-Supplied Industries*	0.0	0.0	0.0	1,292.6	1,292.6	79.4
Private Domestic	1,100.0	0.0	0.0	0.0	1,100.0	0.0
BOX ELDER COUNTY TOTALS	1,109.0	32.0	0.2	1,292.6	2,433.8	161.7

* Nucor Steel Corporation; ATK Thiokol Corporation

Collectively, the total potable M&I water use from all systems in this portion of the Bear River Basin is 13,651 acre-feet, while secondary use is 2,025 acre-feet; giving a total M&I water use of 15,676 acre-feet.

CACHE COUNTY M&I WATER SUPPLIES AND USES

The Bear River Basin encompasses all of Cache County, which includes the incorporated communities of Hyde Park, Hyrum, Lewiston, Logan, Mendon, Millville, Nibley, North Logan, Providence, Richmond, River Heights, Smithfield and Wellsville cities, as well as the towns of Amalga, Clarkston, Cornish, Newton, Paradise, and Trenton. Within this area are 24 public community systems, 16 public non-community systems and 5 self-supplied industries. Utah State University is listed as a public non-community water system. They have their own supplies of water, as well as receiving additional water supplies from Logan City. Locations of public community systems are shown back in **Figure 3**.

**TABLE 7
CACHE COUNTY
Maximum Potable Water Supplies for Public Community Systems
(Acre-Feet/Year)**

WATER SUPPLIER	Springs	Wells	Surface	Total
Amalga Municipal Water System	0.0	853.0	0.0	853.0
Benson Water Culinary District	0.0	1,800.0	0.0	1,800.0
Clarkston Municipal Water System	1,150.0	0.0	0.0	1,150.0
Cornish Municipal Water System	55.0	160.0	0.0	215.0
Goaslind Spring Water Works Co.	788.0	0.0	0.0	788.0
High Creek Culinary Water System	145.0	0.0	0.0	145.0
Hyde Park Culinary Water System	450.0	2,910.0	0.0	3,360.0
Hyrum City Water System	2,650.0	6,700.0	0.0	9,350.0
Lewiston Culinary Water System	1,100.0	1,000.0	0.0	2,100.0
Logan Municipal Water System	7,244.0	21,009.0	0.0	28,253.0
Mendon Culinary Water System	0.0	224.0	0.0	224.0
Millville City Water	75.0	900.0	0.0	975.0
Newton Town Water	309.0	0.0	0.0	309.0
Nibley City	229.0	3,800.0	0.0	4,029.0
North Logan Culinary System	500.0	3,110.0	1,388.0	4,998.0
Paradise Town	60.0	555.0	0.0	615.0
Providence City Corp. Water	1,200.0	2,550.0	0.0	3,750.0
Richmond City	655.0	1,120.0	0.0	1,775.0
River Heights City Water System	0.0	3,020.0	0.0	3,020.0
Riverside Culinary Water Co.	0.0	139.0	0.0	139.0
Smithfield Municipal Water System	2,150.0	1,100.0	0.0	3,250.0
South Cove Water Supply	271.0	0.0	0.0	271.0
Trenton	1,000.0	0.0	0.0	1,000.0
Wellsville City	1,100.0	1,600.0	0.0	2,700.0
CACHE COUNTY TOTALS	21,131.0	52,550.0	1,388.0	75,069.0

Note: All values represent maximum system source capacities limited by water rights, hydrologic constraints, and/or system constraints.

As shown in **Table 7**, on the previous page, the maximum annual potable water supply for public community systems in this portion of Cache County is 75,069 acre-feet; 21,131 acre-feet from springs, 52,550 acre-feet from wells, and 1,388 acre-feet from surface water.

The reliable potable water supply for public community systems in the Cache County portion of the Bear River Basin is 32,229 acre-feet, 51% of the maximum supply. A breakdown of this supply is shown below in **Table 8**.

**TABLE 8
CACHE COUNTY
Reliable Potable Water Supplies for Public Community Systems
(Acre-Feet/Year)**

WATER SUPPLIER	Springs	Wells	Surface	Total*
Amalga Municipal Water System	0.0	426.5	0.0	426.5
Benson Water Culinary District	0.0	900.0	0.0	900.0
Clarkston Municipal Water System	575.0	0.0	0.0	575.0
Cornish Municipal Water System	27.5	80.0	0.0	107.5
Goasland Spring Water Works Co.	394.0	0.0	0.0	394.0
High Creek Culinary Water System	72.5	0.0	0.0	72.5
Hyde Park Culinary Water System	225.0	1,455.0	0.0	1,680.0
Hyrum City Water System	1,325.0	3,350.0	0.0	4,675.0
Lewiston Culinary Water System	550.0	500.0	0.0	1,050.0
Logan Municipal Water System	3,622.0	10,504.5	0.0	14,126.5
Mendon Culinary Water System	0.0	112.0	0.0	112.0
Millville City Water	37.5	450.0	0.0	487.5
Newton Town Water	154.5	0.0	0.0	154.5
Nibley City	114.5	1,900.0	0.0	2,014.5
North Logan Culinary System	250.0	1,555.0	1,388.0	3,193.0
Paradise Town	30.0	277.5	0.0	307.5
Providence City Corp. Water	600.0	1,275.0	0.0	1,875.0
Richmond City	327.5	560.0	0.0	887.5
River Heights City Water System	0.0	1,510.0	0.0	1,510.0
Riverside Culinary Water Co.	0.0	69.5	0.0	69.5
Smithfield Municipal Water System	1,075.0	550.0	0.0	1,625.0
South Cove Water Supply	135.5	0.0	0.0	135.5
Trenton	500.0	0.0	0.0	500.0
Wellsville City	550.0	800.0	0.0	1,350.0
CACHE COUNTY TOTALS	10,565.5	26,275.0	1,388.0	38,228.5

* Wells and springs are limited to 50% of their "maximum" capacity for reliable supply when well/pump capacity is the limiting factor. Surface water supplies are equal to their respective "maximum" capacities.

Table 9, on the following page, shows the breakdown of potable water use for each public community system. This table indicates that for Cache County, the current annual potable use of 22,418 acre-feet of water (within the public community systems) is about 59% of the reliable potable supply of 38,229 acre-feet of water.

**TABLE 9
CACHE COUNTY
Water Use for Public Community Systems**

CACHE COUNTY WATER SUPPLIER	POTABLE USAGE (Ac-Ft/Yr)						TOTAL M&I	Service Population	Gallons Per Capita Per Day
	Residential Indoor	Residential Outdoor	Commercial Total	Institutional Total	Industrial Total				
Amalga Municipal Water System	34.5	36.4	0.0	0.0	125.3		440	398.1	
Benson Water Culinary District	77.0	3.4	12.2	0.0	49.5		982	129.2	
Clarkston Municipal Water System	56.1	297.6	10.7	22.3	7.3		716	491.3	
Cornish Municipal Water System	21.0	58.1	0.0	15.0	7.0		268	336.8	
Goaslind Spring Water Works Co.	8.2	16.5	0.0	0.0	0.0		105	210.0	
High Creek Culinary Water System	11.7	41.3	0.0	0.0	24.6		149	464.9	
Hyde Park Culinary Water System	254.0	168.5	39.6	93.8	57.3		3,239	169.0	
Hyrum City Water System	518.6	1,119.2	155.5	17.2	1,480.9		6,614	444.3	
Lewiston Culinary Water System	143.5	158.7	74.2	73.4	232.2		1,830	332.7	
Logan Municipal Water System	3,747.9	1,407.8	2,737.7	667.4	192.5		47,799	163.5	
Mendon Culinary Water System	74.7	253.2	6.3	6.1	14.6		952	332.8	
Millville City Water	113.2	176.5	2.8	16.2	2.5		1,443	192.5	
Newton Town Water	59.4	118.1	52.2	7.1	6.0		758	286.0	
Nibley City	186.1	411.4	0.2	45.8	15.4		2,373	247.9	
North Logan Culinary System	599.3	219.0	232.6	156.6	9.6		7,644	142.1	
Paradise Town	53.7	6.7	1.2	1.0	16.6		685	103.2	
Providence City Corp. Water	458.8	778.1	35.2	144.4	0.4		5,851	216.2	
Richmond City	162.3	267.7	22.4	28.7	106.8		2,070	253.5	
River Heights City Water System	123.3	168.2	0.0	36.0	0.0		1,573	185.9	
Riverside Culinary Water Co.	0.0	27.0	0.0	20.0	7.0		90	535.6	
Smithfield Municipal Water System	676.1	431.3	204.3	108.9	31.3		8,623	150.3	
South Cove Water Supply	5.7	6.2	0.0	0.4	0.0		73	150.4	
Trenton	42.2	50.0	0.0	0.0	26.8		538	197.5	
Wellsville City	252.1	742.7	280.2	0.0	33.7		3,215	363.4	
CACHE COUNTY TOTALS	7,679.4	6,963.6	3,867.3	1,460.3	2,447.3		98,030	204.2	
A	B	C	D	E	F	G	H	J	

Input data
 Potable M&I Water Use
 Average gallons per capita per day potable water use

A, B, C, D, E, F, H
 G=B+C+D+E+F
 J=G*(325,851 gallons per acre-foot)/(365 days per year)/H

Secondary water is another important aspect of total M&I use. **Table 10**, on the following page gives the annual amount of secondary water used for various categories within the boundaries of the public community systems. In Cache County, several separate irrigation companies and some municipalities serve secondary water to customers within public communities. Total secondary water use is 10,380 acre-feet.

**TABLE 10
CACHE COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems
(Acre-Feet/Year)**

WATER SUPPLIER	Residential Use	Commercial Use	Institutional Use	Industrial/ Stockwater Use	Public Total Secondary Use
CACHE COUNTY					
Amalga Municipal Water System					
West Cache Irrigation Co.	6.8	0.0	0.0	0.0	6.8
Benson Water Culinary District					
Benson Irrigation Co.	80.4	0.0	0.0	0.0	80.4
Clarkston Municipal Water System	0.0	0.0	0.0	0.0	0.0
Cornish Municipal Water System					
West Cache Irrigation Co.	3.3	0.0	6.0	0.0	9.3
Goaslind Spring Water Works Co.					
Coveville Irrigation Co.	3.8	0.0	0.0	5.0	8.8
High Creek Culinary Water System					
Coveville Irrigation Co.	12.6	0.0	0.0	0.0	12.6
Hyde Park Culinary Water System					
Hyde Park Irrigation Co.	254.4	0.0	26.0	0.0	280.4
Hyrum City Water System					
Hyrum Irrigation Co.	820.1	0.0	94.9	0.0	915.0
Porcupine Highline Canal Co.	43.6	0.0	5.1	0.0	48.7
Providence Blacksmith Irrigation Co.	8.7	0.0	1.0	0.0	9.7
Lewiston Culinary Water System					
West Cache Irrigation Co.	27.5	0.0	8.0	0.0	35.5
Logan Secondary Water System*	5,704.5	134.2	671.1	201.3	6,711.1
Mendon Culinary Water System					
Wellsville-Mendon Conservancy District (Canal)	128.8	0.0	26.0	0.0	154.8
Millville city Water					
Hyrum Blacksmith Fork	118.5	0.0	8.0	5.5	132.0
Newton Town Water					
West Cache Irrigation Co.	1.5	0.0	0.2	0.0	1.7
Newton Water Users Association	97.5	0.0	11.8	0.0	109.3
Nibley City					
Nibley Blacksmith Fork Irrigation Co.	46.7	0.0	4.0	0.0	50.7
North Logan Culinary System					
Logan, Hyde Park, Smithfield Irrigation Co.	28.1	0.0	20.4	0.0	48.5
Logan Northern Canal Co.	29.8	0.0	21.7	0.0	51.5
Twin Ditches (Logan North Fields & Hyde Park)	31.2	0.0	22.7	0.0	53.9
Logan Northwest Field Irrigation Co.	48.4	0.0	35.2	0.0	83.6
Paradise Town					
Paradise Irrigation and Reservoir Co.	80.0	0.0	34.0	120.0	234.0
Providence City Corp. Water					
Spring Creek Water Co.	22.1	0.0	0.0	0.0	22.1
Providence Blacksmith Fork Irrigation Co.	44.2	0.0	0.0	0.0	44.2
Richmond City					
Richmond Irrigation Co.	164.5	0.0	12.0	20.0	196.5
River Heights City Water System					
Providence Logan Irrigation Co.	39.5	0.0	0.0	0.0	39.5
Riverside Culinary Water Co.	0.0	0.0	0.0	0.0	0.0
Smithfield Municipal Water System					
Smithfield Irrigation Co.	602.8	246.0	0.0	0.0	848.8
South Cove Water Supply					
Coveville Irrigation Co.	28.0	0.0	4.0	5.0	37.0
Trenton					
West Cache Irrigation Co.	44.6	0.0	6.0	0.0	50.6
Wellsville City					
Wellsville City Irrigation Co.	102.7	0.0	0.0	0.0	102.7
CACHE COUNTY	8,624.6	380.2	1,018.1	356.8	10,379.7

* Logan's secondary water system is comprised of many canal systems which include:

Benson Ward Irrigation Co.	Logan and Northern Irrigation Co.
Central Mill	Logan Northwest Field Irrigation Co.
Hyde Park Irrigation Co.	Logan Southwest Field Irrigation Co.
Logan Cow Pasture Water Co.	Providence Logan Irrigation Co.
Logan Hollow Irrigation Co.	Providence Pioneer Irrigation Co.
Logan, Hyde Park, Smithfield Irrigation Co.	Seventh Ward Irrigation Co.
Logan Island Irrigation Co.	Sunday Water Users Ditch
Logan North Field Irrigation Co.	Thatcher Irrigation Co.

Below in **Table 11** is presented the various per capita rates for the public community system in the Cache County portion of the Bear River Basin.

**TABLE 11
CACHE COUNTY
Average Per Capita Water Use
for Public Community Systems**

Water Supplier	Service Population	Residential Water Use			CII Water Use*			TOTAL WATER USE		
		Potable	Non-Potable	Sub Total	Potable	Non-Potable	Sub Total	Potable	Non-Potable	TOTAL
Amalga Municipal Water System	440	144	14	158	254	0	254	398	14	412
Benson Water Culinary District	982	73	73	146	56	0	56	129	73	202
Clarkston Municipal Water System	716	441	0	441	50	0	50	491	0	491
Cornish Municipal Water System	268	263	11	274	73	20	93	337	31	368
Goasind Spring Water Works Co.	105	210	32	242	0	43	43	210	75	285
High Creek Culinary Water System	149	318	75	393	147	0	147	465	75	540
Hyde Park Culinary Water System	3,239	116	70	187	53	7	60	169	77	246
Hyrum City Water System	6,614	221	118	339	223	14	237	444	131	576
Lewiston Culinary Water System	1,830	147	13	161	185	4	189	333	17	350
Logan Municipal Water System	47,799	96	107	203	67	19	86	163	125	289
Mendon Culinary Water System	952	307	121	428	25	24	50	333	145	478
Millville City Water	1,443	179	73	253	13	8	22	193	82	274
Newton Town Water	758	209	117	326	77	14	91	286	131	417
Nibley City	2,373	225	18	242	23	2	25	248	19	267
North Logan Culinary System	7,644	96	16	112	47	12	58	142	28	170
Paradise Town	685	79	104	183	25	201	225	103	305	408
Providence City Corp. Water	5,851	189	10	199	27	0	27	216	10	226
Richmond City	2,070	185	71	256	68	14	82	254	85	338
River Heights City Water System	1,573	165	22	188	20	0	20	186	22	208
Riverside Culinary Water Co.	90	268	0	268	268	0	268	536	0	536
Smithfield Municipal Water System	8,623	115	62	177	36	25	61	150	88	238
South Cove Water Supply	73	146	342	488	5	110	115	150	452	603
Trenton	538	153	74	227	44	10	54	197	84	281
Wellsville City	3,215	276	29	305	87	0	87	363	29	392
CACHE COUNTY TOTALS	98,030	133	79	212	71	16	87	204	95	299

*Commercial, Institutional, and Industrial

The following **Table 12**, on the following page, indicates annual water use for public non-community systems, self-supplied industries, and private domestic systems in this portion of the Bear River Basin. All of these uses amount to 5,279 acre-feet of potable water and 496 acre-feet of secondary water.

TABLE 12
CACHE COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries, and Private Domestic Systems
(Acre-Feet/Year)

CACHE COUNTY WATER SUPPLIER	POTABLE USAGE (Ac-Ft/Yr)					Total Secondary Water Use
	Residential	Commercial	Institutional	Industrial	Total Potable Use	
Non-Communities						
Beaver Mtn. Winter Sports	0.0	9.6	0.0	0.0	9.6	0.0
Buttars Tractor	0.0	0.5	0.0	0.0	0.5	0.0
Chrysler Dodge Country	0.0	1.5	0.0	0.0	1.5	0.0
Cinnamon Creek B Area	0.0	0.0	15.7	0.0	15.7	0.0
Forest Service Facilities						
Card Campground	0.0	0.0	0.1	0.0	0.1	0.0
Lewis M. Turner Campground/ Mem Guard Station	0.0	0.0	0.7	0.0	0.7	0.0
Lodge Campground/ Lomia Girls Camp	0.0	0.0	0.1	0.0	0.1	0.0
Red Banks Campground	0.0	0.0	0.1	0.0	0.1	0.0
Smithfield Canyon Campground	0.0	0.0	0.1	0.0	0.1	0.0
Tony Grove Lake Campground-South	0.0	0.0	0.2	0.0	0.2	0.0
Hardware Ranch	0.0	0.0	63.1	0.0	63.1	0.0
Hollow Road North Water Co.	18.9	0.3	0.0	0.1	19.3	0.0
Maple Rise Campground	0.0	0.0	1.5	0.0	1.5	0.0
Sheep Creek Cove	7.2	0.0	0.0	0.0	7.2	1.0
Utah State University	0.0	0.0	460.9	0.0	460.9	323.0
Zollinger Warehouse	0.0	6.5	0.0	0.0	6.5	0.0
Total Non-Community	26.1	18.4	542.5	0.1	587.1	324.0
Self-Supplied Industries*	145.2	0.0	0.0	2,346.4	2,491.6	172.4
Private Domestic	2,200.0	0.0	0.0	0.0	2,200.0	0.0
CACHE COUNTY TOTALS	2,371.3	18.4	542.5	2,346.5	5,278.7	496.4

* Casper's Ice Cream; Pepperidge Farm; Gossner Foods, Inc.; Dairy Farmers of America; Miler, E.A. Inc.

Collectively, the total potable M&I water use from all systems in this portion of the Bear River Basin is 27,697 acre-feet, secondary use is 10,876 acre-feet; giving a total M&I water use of 38,573 acre-feet.

RICH COUNTY M&I WATER SUPPLIES AND USES

The Bear River Basin encompasses all of Rich County, which includes the incorporated communities of Garden City, Laketown, Randolph, and Woodruff. Within this area, there are 5 public community systems and 12 public non-community systems. Locations of the public community systems are shown in **Figure 3**.

As shown in **Table 13**, the maximum annual water supply for public community systems in Rich County is 3,845 acre-feet; 1,664 acre-feet from springs and 2,181 acre-feet from wells.

TABLE 13
RICH COUNTY
Maximum Potable Water Supplies for Public Community Systems
(Acre-Feet/Year)

WATER SUPPLIER	Springs	Wells	Surface	Total
Garden City	1192.0	134.0	0.0	1,326.0
Laketown	362.0	0.0	0.0	362.0
Mountain Meadow Park Improvement District	0.0	777.0	0.0	777.0
Randolph City	110.0	1000.0	0.0	1,110.0
Woodruff	0.0	270.0	0.0	270.0
RICH COUNTY TOTALS	1,664.0	2,181.0	0.0	3,845.0

Note: All values represent maximum system source capacities limited by water rights, hydrologic constraints, and/or system constraints.

The reliable potable water supply for public community systems in the Rich County portion of the Bear River Basin is 1,923 acre-feet, 50% of the maximum supply. The breakdown of this supply is presented in **Table 14** on the following page.

TABLE 14
RICH COUNTY
Reliable Potable Water Supplies for Public Community Systems
(Acre-Feet/Year)

WATER SUPPLIER	Springs	Wells	Surface	Total*
Garden City	596.0	67.0	0.0	663.0
Laketown	181.0	0.0	0.0	181.0
Mountain Meadow Park Improvement District	0.0	388.5	0.0	388.5
Randolph City	55.0	500.0	0.0	555.0
Woodruff	0.0	135.0	0.0	135.0
RICH COUNTY TOTALS	832.0	1,090.5	0.0	1,922.5

* Wells and springs are limited to 50% of their "maximum" capacity for reliable supply when well/pump capacity is the limiting factor. Surface water supplies are equal to their respective "maximum" capacities.

The following **Table 15**, on the next page, presents the breakdown of the potable water use for the public community system. These tables indicate that the current annual potable use of 1,816 acre-feet of water for Rich county (within the public community systems) is about 94% of the reliable potable water supply of 1,923 acre-feet of water.

TABLE 15
RICH COUNTY
Water Use for Public Community Systems

RICH COUNTY WATER SUPPLIER	POTABLE USAGE (Ac-Ft/Yr)						Service Population	Gallons Per Capita Per Day
	Residential Indoor	Residential Outdoor	Commercial Total	Institutional Total	Industrial Total	TOTAL M&I		
Garden City	142.1	808.6	282.9	7.7	0.0	1,241.3	375	2,955.1
Laketown	36.6	130.6	17.8	20.7	20.3	226.0	436	462.8
Mountain Meadow Park Improvement District	15.1	7.5	0.0	4.6	0.0	27.2	80	303.5
Randolph City	42.9	222.5	4.6	6.1	0.0	276.1	511	482.4
Woodruff	12.0	24.9	3.1	5.2	0.0	45.2	143	282.2
RICH COUNTY TOTALS	248.7	1,194.1	308.4	44.3	20.3	1,815.8	1,545	1,049.2
A	B	C	D	E	F	G	H	J

A, B, C, D, E, F, H

G=B+C+D+E+F

J=C*(325,851 gallons per acre-foot)/(365 days per year)/H

Input data

Potable M&I Water Use

Average gallons per capita per day potable water use

Secondary water is another important aspect of total M&I use. The following **Table 16** presents the amount of secondary water used in Rich County portion. Total secondary water use is 254 acre-feet.

TABLE 16
RICH COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems
(Acre-Feet/Year)

WATER SUPPLIER	Residential Use	Commercial Use	Institutional Use	Stockwater Stockwater Use	Total Secondary Use
RICH COUNTY					
Garden City					
Swan Creek Canal Co.	0.7	46.0	0.0	3.3	50.0
Hodges Irrigation Co.	1.3	92.0	0.0	6.7	100.0
Laketown					
Laketown Irrigation Co.	15.3	0.0	10.0	12.0	37.3
Mountain Meadow Park Improvement District	0.0	0.0	0.0	0.0	0.0
Randolph City					
Randolph Irrigation Co.	0.0	18.0	0.0	0.0	18.0
Woodruff					
Woodruff Irrigation Co.	40.5	0.0	8.0	0.0	48.5
RICH COUNTY TOTALS	57.8	156.0	18.0	22.0	253.8

Various per capita rates for the public community system in the Rich County portion of the Bear River Basin are given in the following **Table 17**.

TABLE 17
RICH COUNTY
Average Per Capita Water Use
for Public Community Systems

Water Supplier	Service Population	Residential Water Use			CII Water Use*			TOTAL WATER USE		
		Potable	Non-Potable	Sub Total	Potable	Non-Potable	Sub Total	Potable	Non-Potable	TOTAL
Garden City	375	2,263	5	2,268	692	352	1,044	2,955	357	3,312
Laketown	436	342	31	374	120	45	165	463	76	539
Mountain Meadow Park Improvement	80	252	0	252	51	0	51	304	0	304
Randolph City	511	464	0	464	19	31	50	482	31	514
Woodruff	143	230	253	483	52	50	102	282	303	585
RICH COUNTY TOTALS	1,545	834	33	867	216	113	329	1,049	147	1,196

*Commercial, Institutional, and Industrial

Table 18, indicates annual water use for public non-community systems and private domestic systems. Bear Lake State Park facilities and several summer home developments around Bear Lake are among the listed non-community systems. There are no self-supplied industries in Rich County. There are numerous residences using their own wells. All of these uses amount to 568 acre-feet of potable water.

TABLE 18
RICH COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries, and Private Domestic Systems
(Acre-Feet/Year)

RICH COUNTY WATER SUPPLIER	POTABLE USAGE (Ac-Ft/Yr)					Total Secondary Water Use
	Residential	Commercial	Institutional	Industrial/ Stockwater	Total Potable Use	
Non-Communities						
Bear Lake Chevron	0.0	0.9	0.0	0.0	0.9	0.0
Bear Lake Rest Stop	0.0	0.0	0.1	0.0	0.1	0.0
Bear Lake Water Co.	214.8	0.0	0.0	0.0	214.8	0.0
Bridgerland Village	15.1	0.0	0.0	0.0	15.1	0.0
Edge of Eden Subdivision	17.9	0.0	0.0	0.0	17.9	0.0
Forest Service Systems:						
Monte Cristo Campground	0.0	0.0	0.6	0.0	0.6	0.0
Sunrise Campground	0.0	0.0	0.1	0.0	0.1	0.0
State Park Systems:						
Rendezvous Beach	5.5	0.0	48.4	0.0	53.9	0.0
South Eden State Park	0.0	0.0	0.1	0.0	0.1	0.0
South Bear Lake	23.0	0.0	0.0	0.0	23.0	0.0
Swan Creek Village	35.0	0.0	0.0	0.0	35.0	0.0
Vista Grande	6.3	0.0	0.0	0.0	6.3	0.0
	317.6	0.9	49.3	0.0	367.8	0.0
Self-Supplied Industries	0.0	0.0	0.0	0.0	0.0	0.0
Private Domestic	200.0	0.0	0.0	0.0	200.0	0.0
RICH COUNTY TOTALS	517.6	0.9	49.3	0.0	567.8	0.0

Collectively, the total potable M&I water use for all systems in Rich County is 2,384 acre-feet and non-potable M&I water use is 254 acre-feet. This amounts to a total M&I water use of 2,638 acre-feet for the county.

SUMMIT COUNTY M&I WATER SUPPLIES AND USES

The Summit County portion of the Bear River Basin does not include any incorporated communities or public community water systems. However, there are a total of 15 public non-community water systems. **Table 19** shows the water use for each of these systems. There are no self-supplied industries and a small number of private domestic wells in this portion of Summit County. The combined potable water use of 75 acre-feet and secondary (non-potable) water use of 100 acre-feet results in a total water use of 175 acre-feet.

TABLE 19
SUMMIT COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems
(Acre-Feet/Year)

SUMMIT COUNTY WATER SUPPLIER	POTABLE USAGE (Ac-Ft/Yr)					Total Secondary Water Use (Ac-Ft/Yr)
	Residential	Commercial	Institutional	Industrial	Total Potable Use	
Non-Communities						
Bear River Lodge	0.0	1.5	0.0	0.0	1.5	0.0
Boy Scouts of America Sites:						
Camp Evergreen	0.0	0.0	3.9	0.0	3.9	0.0
Camp Frontier	0.0	0.0	4.5	0.0	4.5	0.0
Camp Tomahawk	0.0	0.0	3.9	0.0	3.9	0.0
Carter Creek (HAFB Retreat)	0.0	0.0	1.8	0.0	1.8	0.0
Christmas Meadows Cabins	7.6	0.0	0.0	0.0	7.6	0.0
Forest Service Systems:						
Bear River Amnistration Site	0.0	0.0	0.2	0.0	0.2	0.0
Bear River Campground	0.0	0.0	0.1	0.0	0.1	0.0
Beaver View Campground	0.0	0.0	0.1	0.0	0.1	0.0
Christmas Meadows CG/ Stillwater CG/ Dump Station	0.0	0.0	0.1	0.0	0.1	0.0
East Fork Bear River Campground	0.0	0.0	0.1	0.0	0.1	0.0
Hayden Fork Campground	0.0	0.0	0.1	0.0	0.1	0.0
Sulphur Campground	0.0	0.0	0.1	0.0	0.1	0.0
Manorland Water District #1	1.0	0.0	0.0	0.0	1.0	0.0
Uintalands Association	40.0	0.0	0.0	0.0	40.0	100.0
	48.6	1.5	14.9	0.0	65.0	100.0
Self-Supplied Industries	0.0	0.0	0.0	0.0	0.0	0.0
Private Domestic	10.0	0.0	0.0	0.0	10.0	0.0
SUMMIT COUNTY TOTALS	58.6	1.5	14.9	0.0	75.0	100.0

APPENDIX A
ACME WATER USE
DATA FORM

UTAH WATER USE DATA FORM DATA FOR 2006

Information jointly requested by:
Utah Division of Water Resources, 538-7264
Utah Division of Drinking Water, 536-4200; and
Utah Division of Water Rights, 538-7392.

Return completed form to:
Utah Division of Water Rights
PO Box 146300
Salt Lake City, UT 84114-6300

System Name: ACME Water Company
Address: P.O. Box 266
Bear River City, UT 84031

Population Served: 900 DEQ#: 02001
County: Box Elder
E-Mail Address: _____

Contact Person: Curtis Christensen
Form filled out by: Wayne Hardy

Phone Number: (435) 279-8464
Phone Number: (435) 279-9412

I. STORAGE INVENTORY: Total treated storage capacity: 200,000 in gallons. Number of Tanks: 2

II. SOURCE INVENTORY:

1 Source Name: Chokecherry Type: Spring Location: Sec 03, T10N, R2W, S1B&M

WR Number(s): 29-1859 Method of Measurement: [] Master Meter, [X] Estimate, [] Other _____

Units of Measurement: M Gal Are there any spills/overflow? [] Yes, [X] No If yes, estimate annual quantity _____

When do spills/overflow occur? _____ Are spills/overflow included in the quantities reported? [] Yes [] No

Where is source measured? [] Before overflow, [] After overflow

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	34.8

2 Source Name: Orme Springs Type: Spring Location: Sec 03, T10N, R2W, S1B&M

WR Number(s): 29-1859 Method of Measurement: [] Master Meter, [] Estimate, [] Other _____

Units of Measurement: _____ Are there any spills/overflow? [] Yes, [X] No If yes, estimate annual quantity _____

When do spills/overflow occur? M Gal Are spills/overflow included in the quantities reported? [] Yes [] No

Where is source measured? [] Before overflow, [] After overflow

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	16.8

3 Source Name: Well Type: Well Location: Sec 04, T10N, R2W, S1B&M

WR Number(s): 29-1857 Method of Measurement: [X] Master Meter, [] Estimate, [] Other _____

Units of Measurement: 1000 Gal Are there any spills/overflow? [] Yes, [] No If yes, estimate annual quantity _____

Date of Last Pump Test: _____ Yield of Well: _____ Rated Pump Capacity: 98 gpm, [X] cfs

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
	0	0	0	0	0	32.5	42.8	59.7	0	0	0	0	0

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III. WATER USE BREAKDOWN: (Please use sum of the readings from individual meters, not master meter readings at source. If quantities are not known, please estimate. See instructions for definition of uses shown in bold).

Units of Measurement: M. G. G. /

Annual quantity of water delivered for residential purposes 80.0 Total number of residential connections 322
 Meter readings at individual connections [] or Estimated
 Number of connections serving multiple units (apartments) from a single connection 0 Units per connection (avg) 0
Commercial: Annual quantity of water delivered for commercial purposes 0 Total number of commercial connections 0
 Meter readings at individual connections [] or Estimated
Industrial: Annual quantity of water delivered for industrial purposes 0 Total number of industrial connections 0
 Meter readings at individual connections [] or Estimated
Institutional: Annual quantity of water delivered for institutional purposes 0 Total number of institutional connections 0
 Meter readings at individual connections [] or Estimated
Stockwatering: Annual quantity of water delivered for stockwatering purposes 0 Total number of stockwatering connections 0
 Meter readings at individual connections [] or Estimated
Wholesale: Annual quantity of water delivered for wholesale purposes 0 Please attach a listing of those supplied.
 Meter readings at individual connections [] or Estimated
Other Uses: Annual quantity of water delivered for other purposes 0 Total number of other connections 0
 Meter readings at individual connections [] or Estimated
 Describe other uses _____
Unmetered: Annual estimate of water delivered by unmetered connections 0 Total number of unmetered connections 0
 Unmetered connections used for: _____
Total annual quantity of water delivered for all purposes 322 **Total number of all connections** 322
 Of this total, how many connections are active? 322

IV. IRRIGATION SYSTEM (Lawn and garden irrigation, whether controlled by the drinking water supplier or not)

Average Residential Lot Size (Acres) 34 Average Amount of Lot Irrigated (%) 50
 Is any of your area served by a separate ditch or pipe fed irrigation water system? Yes, [] No If Yes, please provide the following information:
 What percent of your customers are served by a separate irrigation system? 90 %
 Of these customers, what percent are served by ditch? 90 %
 What percent are served by pressurized-pipe? 0 %
 Do you operate and maintain the separate lawn and garden irrigation water system? [] Yes, [] No
 If the separate irrigation system is operated by other entities, please give name of companies, contact person & phone number:

Beac River Canal Co

APPENDIX B

2005 BEAR RIVER BASIN
M&I DELIVERIES AND DEPLETIONS

2005 BEAR RIVER BASIN M&I DELIVERIES AND DEPLETIONS TABLE
(Acre-Feet/Year)

WATER SUPPLIER	Potable Residential Indoor Use	Potable Residential Outdoor Use	Potable Commercial Use	Potable Institutional Use	Potable Industrial/ Stockwater Use	Total Potable Use	Total Secondary Water Use	Total Indoor Use	Total Outdoor Use	Residential Indoor Return Flow	Commercial Indoor Return Flow	Institutional Indoor Return Flow	Industrial/ Stockwater Indoor Return Flow	Total Indoor Return Flow To Treatment Facility	Pond Evaporation	Treatment Facility Outflow (Indoor Return Flow)	Outdoor Return Flow	Total Return Flow	Total Deliveries	Total Depletions
Box Elder County																				
ACME Water Company	74.3	109.9	0.0	0.0	21.8	206.0	56.9	96.1	166.8	72.8	0.0	0.0	0.0	72.8	0.0	69.2	55.6	124.8	262.9	138.1
Bear River WCD - Harper Ward Retail	13.6	24.3	0.8	0.0	0.0	38.7	31.3	14.2	55.7	13.3	0.6	0.0	0.0	14.0	0.0	13.3	18.6	31.8	70.0	38.1
Bear River WCD - Other Retail Customers	2.5	0.4	0.0	0.0	0.0	2.9	6.6	2.5	7.0	2.5	0.0	0.0	0.0	2.5	0.0	2.3	2.3	4.7	9.5	4.8
Beaver Dam Water Company	5.5	21.0	0.0	0.0	0.0	26.5	0.0	5.5	21.0	5.4	0.0	0.0	0.0	5.4	0.0	5.1	7.0	12.1	26.5	14.4
Bothwell Cemetery and Water Corporation	36.2	72.4	0.0	3.0	0.0	111.6	29.7	36.8	104.5	35.5	0.0	0.6	0.0	36.1	0.0	34.3	34.8	69.1	141.3	72.2
Brigham City Municipal Water	1,365.3	2,285.2	592.3	286.2	64.2	4,593.2	403.6	1,960.6	3,036.2	1,338.0	464.4	56.1	0.0	1,858.5	0.0	1,765.5	1,012.1	2,777.6	4,996.8	2,219.2
Cedar Ridge Subdivision	9.1	64.6	0.6	0.0	0.1	74.4	0.0	9.7	64.7	8.9	0.5	0.0	0.0	9.4	0.0	8.9	21.6	30.5	74.4	43.9
Coleman Mobile Home Park	3.8	15.9	0.0	0.0	0.0	19.7	28.7	3.8	44.6	3.7	0.0	0.0	0.0	3.7	0.0	3.5	14.9	18.4	48.4	30.0
Corinne City Corporation	54.6	57.6	3.9	2.8	14.7	133.6	93.7	73.0	154.3	53.5	3.1	0.5	0.0	57.1	23.6	32.3	51.4	83.8	227.3	143.5
Deweyville Municipal Water System	30.8	80.8	0.0	1.0	331.4	444.0	45.4	362.4	127.0	30.2	0.0	0.2	0.0	30.4	0.0	28.9	42.3	71.2	489.4	418.2
Elwood Town	50.1	180.6	9.4	10.2	5.5	255.8	19.6	65.2	210.2	49.1	7.4	2.0	0.0	58.5	0.0	55.5	70.1	125.6	275.4	149.8
Five C's Trailer Court	21.0	8.6	0.0	0.0	0.0	29.6	0.0	21.0	8.6	20.6	0.0	0.0	0.0	20.6	0.0	19.6	2.9	22.4	29.6	7.2
Garland City Corporation	137.0	187.8	13.2	126.2	3.7	467.9	30.0	176.5	321.4	134.3	10.3	24.7	0.0	169.3	0.0	160.9	107.1	268.0	497.9	229.9
Honeyville Municipal Water	106.0	492.9	21.0	31.0	124.0	774.9	37.5	253.0	559.4	103.9	16.5	6.1	0.0	126.4	0.0	120.1	186.5	306.6	812.4	505.8
Hot Springs Trailer Court	9.9	0.0	0.0	0.0	0.0	9.9	5.3	9.9	5.3	9.7	0.0	0.0	0.0	9.7	0.0	9.2	1.8	11.0	15.2	4.2
Mantua Culinary Water System	57.5	119.3	3.1	30.8	0.0	210.7	37.0	66.1	181.6	56.4	2.4	6.0	0.0	64.8	0.0	61.6	60.5	122.1	247.7	125.6
Marble Hills Subdivision	17.9	94.1	0.0	0.0	0.2	112.2	0.0	18.1	94.1	17.5	0.0	0.0	0.0	17.5	0.0	16.7	31.4	48.0	112.2	64.2
Perry City Water System	191.8	217.8	70.6	3.2	5.1	488.5	171.7	254.0	406.1	188.0	55.4	0.6	0.0	243.9	104.7	134.3	135.4	269.7	660.2	390.4
Plymouth Town	37.1	53.1	0.0	0.1	12.8	103.1	0.0	49.9	53.2	36.4	0.0	0.0	0.0	36.4	0.0	34.6	17.7	52.3	103.1	50.8
Portage	20.9	19.0	1.0	22.5	1.5	64.9	79.7	27.7	116.9	20.5	0.8	4.4	0.0	25.7	0.0	24.4	39.0	63.4	144.6	81.2
Riverside-North Garland Water Company	99.6	15.1	14.1	4.6	74.9	208.3	134.4	186.7	156.0	97.6	11.1	0.9	0.0	109.6	0.0	104.1	52.0	156.1	342.7	186.6
South Willard	23.9	47.7	0.0	0.0	0.0	71.6	89.3	23.9	137.0	23.4	0.0	0.0	0.0	23.4	0.0	22.3	45.7	67.9	160.9	93.0
Sunset Park Water Company	2.8	1.6	0.0	0.0	0.7	5.1	1.8	3.5	3.4	2.7	0.0	0.0	0.0	2.7	0.0	2.6	1.1	3.7	6.9	3.2
Thatcher-Penrose Service District	63.4	96.2	0.5	10.1	11.0	181.2	45.4	76.8	149.8	62.1	0.4	2.0	0.0	64.5	0.0	61.3	49.9	111.2	226.6	115.4
Tremonton Culinary Water	438.8	470.5	425.0	138.7	34.7	1,507.7	122.8	841.2	789.3	430.0	333.2	27.2	0.0	790.4	0.0	750.9	263.1	1,014.0	1,630.5	616.5
Ukon Water Company	83.3	165.1	0.0	8.3	19.3	276.0	320.0	104.3	491.7	81.6	0.0	1.6	0.0	83.3	0.0	79.1	163.9	243.0	596.0	353.0
West Corinne	121.8	186.5	8.2	11.3	56.4	384.2	27.7	187.0	224.8	119.4	6.4	2.2	0.0	128.0	0.0	121.6	74.9	196.6	411.9	215.3
Willard Municipal Water System	125.1	228.8	36.9	23.4	0.6	414.8	45.4	159.9	300.3	122.6	28.9	4.6	0.0	156.1	0.0	148.3	100.1	248.4	460.2	211.8
TOTAL COMMUNITY SYSTEMS	3,203.6	5,316.8	1,200.6	713.4	782.6	11,217.0	1,863.5	5,089.4	7,990.9	3,139.5	941.3	139.8	0.0	4,220.6	128.4	3,890.3	2,663.6	6,553.9	13,080.3	6,526.4
Non-community Systems	3.0	6.0	32.0	0.2	0.0	41.2	82.3	28.6	94.9	2.9	25.1	0.0	0.0	28.1	0.0	26.7	31.6	58.3	123.5	65.2
Self-Supplied Industries	0.0	0.0	0.0	0.0	1,292.6	1,292.6	79.4	1,371.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,371.9	1,371.9
Private Domestic Systems	366.7	733.3	0.0	0.0	0.0	1,100.0	0.0	366.7	733.3	359.3	0.0	0.0	0.0	359.3	0.0	341.4	244.4	585.8	1,100.0	514.2
COUNTY TOTALS	3,573.3	6,056.1	1,232.6	713.6	2,075.2	13,650.8	2,025.2	6,856.6	8,819.1	3,501.8	966.4	139.9	0.0	4,608.0	128.4	4,258.3	2,939.7	7,198.0	15,675.7	8,477.7

Cache County																				
Amalga Municipal Water System	34.5	36.4	0.0	0.0	125.3	196.2	6.8	159.8	43.2	33.8	0.0	0.0	0.0	33.8	0.0	32.1	14.4	46.5	203.0	156.4
Benson Water Culinary District	77.0	3.4	12.2	0.0	49.5	142.1	80.4	136.3	86.2	75.5	9.6	0.0	0.0	85.0	0.0	80.8	28.7	109.5	222.5	113.0
Clarkston Municipal Water System	56.1	297.6	10.7	22.3	7.3	394.0	0.0	76.4	317.6	55.0	8.4	4.4	0.0	67.7	0.0	64.4	105.9	170.2	394.0	223.8
Cornish Municipal Water System	21.0	58.1	0.0	15.0	7.0	101.1	9.3	31.0	79.4	20.6	0.0	2.9	0.0	23.5	0.0	22.3	26.5	48.8	110.4	61.6
Goasland Spring Water Works Co.	8.2	16.5	0.0	0.0	0.0	24.7	8.8	8.2	25.3	8.0	0.0	0.0	0.0	8.0	0.0	7.6	8.4	16.1	33.5	17.4
High Creek Culinary Water System	11.7	41.3	0.0	0.0	24.6	77.6	12.6	36.3	53.9	11.5	0.0	0.0	0.0	11.5	0.0	10.9	18.0	28.9	90.2	61.3
Hyde Park Culinary Water System	254.0	168.5	39.6	93.8	57.3	613.2	280.4	361.7	531.9	248.9	31.0	18.4	0.0	298.4	29.4	262.9	177.3	440.2	893.6	453.4
Hyrum City Water System	518.6	1,119.2	155.5	17.2	1,480.9	3,291.4	973.4	2,127.3	2,137.5	508.2	121.9	3.4	0.0	633.5	0.0	601.8	712.5	1,314.3	4,264.8	2,950.5
Lewiston Culinary Water System	143.5	158.7	74.2	73.4	232.2	682.0	35.5	449.7	267.8	140.6	58.2	14.4	0.0	213.2	0.0	202.5	89.3	291.8	717.5	425.7
Logan Municipal Water System	3,747.9	1,407.8	2,737.7	667.4	192.5	8,753.3	6,711.1	6,264.0	9,200.4	3,672.9	2,146.4	130.8	0.0	5,950.1	1,192.2	4,638.9	3,066.8	7,705.7	15,464.4	7,758.7
Mendon Culinary Water System	74.7	253.2	6.3	6.1	14.6	354.9	154.8	95.6	414.1	73.2	4.9	1.2	0.0	79.3	0.0	75.4	138.0	213.4	509.7	296.2
Millville City Water	113.2	176.5	2.8	16.2	2.5	311.2	132.0	121.2	322.0	110.9	2.2	3.2	0.0	116.3	0.0	110.5	107.3	217.8	443.2	225.4
Newton Town Water	59.4	118.1	52.2	7.1	6.0	242.8	111.0	108.6	245.2	58.2	40.9	1.4	0.0	100.5	0.0	95.5	81.7	177.2	353.8	176.6
Nibley City	186.1	411.4	0.2	45.8	15.4	658.9	50.7	210.8	498.8	182.4	0.2	9.0	0.0	191.5	29.4	158.2	166.3	324.5	709.6	385.1
North Logan Culinary System	599.3	219.0	232.6	156.6	9.6	1,217.1	237.5	826.3	628.3	587.3	182.4	30.7	0.0	800.4	103.0	681.3	209.4	890.8	1,454.6	563.8
Paradise Town	53.7	6.7	1.2	1.0	16.6	79.2	234.0	71.5	241.7	52.6	0.9	0.2	0.0	53.8	0.0	51.1	80.6	131.7	313.2	181.5
Providence City Corp. Water	458.8	778.1	35.2	144.4	0.4	1,416.9	66.3	516.2	967.0	449.6	27.6	28.3	0.0	505.5	58.9	436.5	322.3	758.9	1,483.2	724.3
Richmond City	162.3	267.7	22.4	28.7	106.8	587.9	196.5	292.8	491.6	159.1	17.6	5.6	0.0	182.2	39.5	139.1	163.9	303.0	784.4	481.4
River Heights City Water System	123.3	168.2	0.0	36.0	0.0	327.5	39.5	130.5	236.5	120.8	0.0	7.1	0.0	127.9	14.7	110.6	78.8	189.4	367.0	177.6
Riverside Culinary Water Co.	0.0	27.0	0.0	20.0	7.0	54.0	0.0	11.0	43.0	0.0	0.0	3.9	0.0	3.9	0.0	3.7	14.3	18.1	54.0	35.9
Smithfield Municipal Water System	676.1</																			

WATER SUPPLIER	Potable Residential Indoor Use	Potable Residential Outdoor Use	Potable Commercial Use	Potable Institutional Use	Potable Industrial/ Stockwater Use	Total Potable Use	Total Secondary Water Use	Total Indoor Use	Total Outdoor Use	Residential Indoor Return Flow	Commercial Indoor Return Flow	Institutional Indoor Return Flow	Industrial/ Stockwater Indoor Return Flow	Total Indoor Return Flow To Treatment Facility	Pond Evaporation	Treatment Facility Outflow (Indoor Return Flow)	Outdoor Return Flow	Total Return Flow	Total Deliveries	Total Depletions
Rich County																				
Garden City	142.1	808.6	282.9	7.7	0.0	1,241.3	150.0	370.0	1,021.3	139.3	221.8	1.5	0.0	362.6	66.3	289.0	340.4	629.4	1,391.3	761.9
Laketown	36.6	130.6	17.8	20.7	20.3	226.0	37.3	75.3	188.0	35.9	14.0	4.1	0.0	53.9	0.0	51.2	62.7	113.9	263.3	149.4
Mountain Meadow Park Improvement District	15.1	7.5	0.0	4.6	0.0	27.2	0.0	16.0	11.2	14.8	0.0	0.9	0.0	15.7	0.0	14.9	3.7	18.6	27.2	8.6
Randolph City	42.9	222.5	4.6	6.1	0.0	276.1	18.0	47.8	246.3	42.0	3.6	1.2	0.0	46.8	0.0	44.5	82.1	126.6	294.1	167.5
Woodruff	12.0	24.9	3.1	5.2	0.0	45.2	48.5	15.5	78.2	11.8	2.4	1.0	0.0	15.2	0.0	14.4	26.1	40.5	93.7	53.2
TOTAL COMMUNITY SYSTEMS	248.7	1,194.1	308.4	44.3	20.3	1,815.8	253.8	524.6	1,545.1	243.7	241.8	8.7	0.0	494.2	66.3	414.0	515.0	929.0	2,069.6	1,140.6
Non-community Systems	123.9	193.6	0.9	49.3	0.0	367.8	0.0	134.5	233.3	121.5	0.7	9.7	0.0	131.8	0.0	125.2	77.8	203.0	367.8	164.8
Self-Supplied Industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Private Domestic Systems	66.7	133.3	0.0	0.0	0.0	200.0	0.0	66.7	133.3	65.3	0.0	0.0	0.0	65.3	0.0	62.1	44.4	106.5	200.0	93.5
COUNTY TOTALS	439.3	1,521.1	309.3	93.6	20.3	2,383.6	253.8	725.8	1,911.7	430.5	242.5	18.3	0.0	691.4	66.3	601.3	637.2	1,238.6	2,637.4	1,398.9
Summit County																				
none	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL COMMUNITY SYSTEMS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-community Systems	48.6	0.0	1.5	14.9	0.0	65.0	100.0	52.8	112.2	47.6	1.2	2.9	0.0	51.7	0.0	49.1	37.4	86.5	165.0	78.5
Self-Supplied Industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Private Domestic Systems	10.0	0.0	0.0	0.0	0.0	10.0	0.0	10.0	0.0	9.8	0.0	0.0	0.0	9.8	0.0	9.3	0.0	9.3	10.0	0.7
COUNTY TOTALS	58.6	0.0	1.5	14.9	0.0	75.0	100.0	62.8	112.2	57.4	1.2	2.9	0.0	61.5	0.0	58.4	37.4	95.9	175.0	79.1
BASIN COMMUNITY SYSTEMS	11,131.7	13,474.5	5,376.3	2,218.0	3,250.2	35,450.7	12,497.0	19,126.5	28,820.9	10,909.1	4,215.0	434.7	0.0	15,558.8	1,816.1	13,265.7	9,607.0	22,872.6	47,947.7	25,074.8
Total Non-Community Systems	189.0	212.2	52.8	606.9	0.1	1,061.1	506.3	352.8	1,214.6	185.2	41.4	119.0	0.0	345.6	0.0	328.3	404.9	733.2	1,567.4	834.2
Self-Supplied Industries	48.4	96.8	0.0	0.0	3,638.9	3,784.2	251.8	3,939.2	96.8	47.4	0.0	0.0	0.0	47.4	0.0	45.1	32.3	77.3	4,036.0	3,958.6
Private Domestic Systems	1,176.7	2,333.3	0.0	0.0	0.0	3,510.0	0.0	1,176.7	2,333.3	1,153.1	0.0	0.0	0.0	1,153.1	0.0	1,095.5	777.8	1,873.3	3,510.0	1,636.7
BEAR RIVER BASIN TOTALS	12,545.8	16,116.9	5,429.1	2,824.9	6,889.2	43,806.0	13,255.1	24,595.1	32,465.6	12,294.9	4,256.4	553.7	0.0	17,105.0	1,816.1	14,734.5	10,821.9	25,556.4	57,061.1	31,504.4

Color Code:

	Potable Use Data
	Secondary Use Data
	Indoor/Outdoor Use Data
	Return Flow Data
	Delivery Data
	Depletion Data

Treatment Facility Key: Regular = Sewage Treatment Plant
Bold = Facultative Ponds/ Lagoons
Bold/Italics = Septic System/Tanks