

**MUNICIPAL AND INDUSTRIAL
WATER SUPPLY AND USES
in the
SEVIER RIVER BASIN**

(Data Collected for Calendar Year 1996)

Prepared by

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

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ACKNOWLEDGMENTS

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D. Larry Anderson, Director

TABLE OF CONTENTS

ACKNOWLEDGMENTS	I
TABLE OF CONTENTS	iii
LIST OF FIGURES	v
LIST OF TABLES	vii
EXECUTIVE SUMMARY	xi
INTRODUCTION	1
Authority	1
Scope	1
Data Collection	1
General Description of the Study Area	3
WATER SUPPLY AND USE METHODOLOGY	7
Background	7
Present Methodology for Community Water Systems	7
Present Methodology for Non-Community Water Systems	16
Present Methodology for Self-Supplied Industrial Water Systems ..	17
Present Methodology for Private Domestic Water Systems	17
DEFINITIONS OF WATER TERMS	19
Water Supply Terms	19
Water Use Terms	21
Other Water Terms	22
WATER RIGHTS IN THE SEVIER RIVER BASIN	25
Millard County	25
All Other Counties	25
Miscellaneous	25
GARFIELD COUNTY M&I WATER SUPPLIES AND USES	27
IRON COUNTY M&I WATER SUPPLIES AND USES	31
JUAB COUNTY M&I WATER SUPPLIES AND USES	33
KANE COUNTY M&I WATER SUPPLIES AND USES	37
MILLARD COUNTY M&I WATER SUPPLIES AND USES	39
PIUTE COUNTY M&I WATER SUPPLIES AND USES	45

TABLE OF CONTENTS (Continued)

SANPETE COUNTY M&I WATER SUPPLIES AND USES 49
SEVIER COUNTY M&I WATER SUPPLIES AND USES 53

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Location of Study Area	2
2	Sevier River Basin Drainage Map	4
3	Location of Public Community Systems	5
4	Water Supply and Use Hydrograph	13

LIST OF TABLES

<u>Table</u>	<u>Page</u>
I	1996 Public Community System Water Supplies xi
II	1996 Public Community System Water Use xii
III	1996 Total Municipal and Industrial Water Use xii
1	Garfield County Maximum Potable Water Supplies for Public Community Systems 27
2	Garfield County Water Use and Supply For Public Community Systems 28
3	Garfield County Secondary (Non-Potable) Water Use Within Public Community Systems 29
4	Garfield County Water Use For Public Non-Community Systems, Self-supplied Industries and Private Domestic Systems 29
5	Garfield County Average Per Capita M&I Water Use For All Public Community Systems 30
6	Iron County Water Use For Public Non-Community Systems, Self-supplied Industries and Private Domestic Systems 31
7	Juab County Maximum Potable Water Supplies for Public Community Systems 33
8	Juab County Water Use and Supply For Public Community Systems 34
9	Juab County Secondary (Non-Potable) Water Use Within Public Community Systems 35
10	Juab County Water Use For Public Non-Community Systems, Self-supplied Industries and Private Domestic Systems 35
11	Juab County Average Per Capita M&I Water Use For All Public Community Systems 36
12	Kane County Water Use For Public Non-Community Systems, Self-supplied Industries and Private Domestic Systems 37

LIST OF TABLES (Continued)

13	Millard County Maximum Potable Water Supplies for Public Community Systems	39
14	Millard County Water Use and Supply For Public Community Systems	40
15	Juab County Secondary (Non-Potable) Water Use Within Public Community Systems	41
16	Millard County Water Use For Public Non-Community Systems, Self-supplied Industries and Private Domestic Systems	42
17	Millard County Average Per Capita M&I Water Use For All Public Community Systems	43
18	Piute County Maximum Potable Water Supplies for Public Community Systems	45
19	Piute County Water use and Supply For Public Community Systems	46
20	Piute County Secondary (Non-Potable) Water Use Within Public Community Systems	47
21	Piute County Water Use For Public Non-Community Systems, Self-supplied Industries and Private Domestic Systems	47
22	Piute County Average Per Capita M&I Water Use For All Public Community Systems	48
23	Sanpete County Maximum Potable Water Supplies for Public Community Systems	49
24	Sanpete Water use and Supply For Public Community Systems . . .	50
25	Sanpete County Secondary (Non-Potable) Water Use Within Public Community Systems	51
26	Sanpete County Water Use For Public Non-Community Systems, Self-supplied Industries and Private Domestic Systems	52
27	Sanpete County Average Per Capita M&I Water Use For All Public Community Systems	52

LIST OF TABLES (Continued)

28	Sevier County Maximum Potable Water Supplies for Public Community Systems	53
29	Sevier County Water use and Supply For Public Community Systems	54
30	Sevier County Secondary (Non-Potable) Water Use Within Public Community Systems	55
31	Sevier County Water Use For Public Non-Community Systems, Self-supplied Industries and Private Domestic Systems	56
32	Sevier County Average Per Capita M&I Water Use For All Public Community Systems	56

EXECUTIVE SUMMARY

This document describes the municipal and industrial (M&I) water supplies and uses for the Sevier River Basin. Total M&I water supplies and uses for the basin are computed by tabulating the results of the eight counties that comprise the basin. These counties are portions of Garfield, Iron, Juab, Kane, Millard, Piute, Sanpete and Sevier. County data were compiled by meeting and surveying each public community and non-community system. The results reported herein represent totals for the 1996 calendar year.

The basin's maximum annual potable water supply under present conditions for Public Community Systems is 41,578 acre-feet. Springs account for 49 percent of this total and wells 51 percent. The reliable system source capacity for these systems is 20,840 acre-feet. Table I presents this data.

TABLE I
SEVIER RIVER BASIN
Maximum Culinary Water Supplies for Public Community Systems
(Units in Acre-Feet)

Source	Garfield County	Iron County	Juab County	Kane County	Millard County	Piute County	Sanpete County	Sevier County	Total
Springs	1,734.6	0.0	564.7	0.0	3,577.5	621.7	8,426.9	5,381.7	20,307.1
Wells	458.6	0.0	638.4	0.0	8,685.5	890.1	6,060.0	4,537.8	21,270.4
Surface	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	2,193.2	0.0	1,203.1	0.0	12,263.0	1,511.8	14,486.9	9,919.5	41,577.5
Reliable System Source Capacity	955.1	0.0	569.3	0.0	5,644.4	666.1	6,887.8	6,117.4	20,840.1

M&I water use can be divided into two categories: potable (culinary) and non-potable (secondary). Potable water is delivered by public community, public non-community, self-supplied industrial, and private domestic systems. Non-potable uses include residential and institutional secondary water usually delivered by separate irrigation companies and secondary water used by self-supplied industries. Table II presents water use data for the potable and non-potable categories delivered by public community systems. The table shows that the residential indoor category accounts for 27 percent, residential outdoor 42 percent, commercial 8

percent, institutional 17 percent, and light industrial 6 percent of the total public community system water use (20,085 ac-ft) in the basin.

TABLE II
SEVIER RIVER BASIN
Water Use for Public Community Systems
(Units in Acre-Feet)

Source	Garfield County	Iron County	Juab County	Kane County	Millard County	Piute County	Sanpete County	Sevier County	Total
<i>Potable Uses:</i>									
Residential Indoor	296.2	0.0	169.8	0.0	1,245.3	142.1	1,617.6	1,900.2	5,371.2
Residential Outdoor	105.5	0.0	341.6	0.0	1,122.3	157.8	682.1	1,393.6	3,802.9
Commercial	52.2	0.0	7.2	0.0	344.7	26.0	210.8	986.3	1,627.2
Institutional	34.2	0.0	37.4	0.0	759.6	72.2	743.6	699.1	2,346.1
Industrial/Stockwater	15.4	0.0	3.0	0.0	256.8	52.9	465.2	376.0	1,169.3
TOTAL CULINARY	503.5	0.0	559.0	0.0	3,728.7	451.0	3,719.3	5,355.2	14,316.7
<i>Non-Potable Uses:</i>									
Residential	208.6	0.0	0.0	0.0	975.0	58.2	2,129.7	1,282.0	4,653.5
Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
Institutional	34.7	0.0	2.0	0.0	91.5	27.5	477.8	478.7	1,112.2
Industrial/Stockwater	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
TOTAL SECONDARY	243.3	0.0	2.0	0.0	1,066.5	85.7	2,607.5	1,763.4	5,768.4
TOTAL WATER USE	746.8	0.0	561.0	0.0	4,795.2	536.7	6,326.8	7,118.6	20,085.1

Table III presents the total M&I water use in the Sevier River Basin. Public community systems deliver the majority of the potable water in the basin. The table shows that the total potable M&I water use in 1996 is 23,335 acre-feet. Non-potable M&I water use for the basin is 24,338 acre-feet. Therefore, total M&I (potable and non-potable) water use in the basin is about 47,673 acre-feet.

TABLE III
SEVIER RIVER BASIN
Total Municipal and Industrial Water Use for all Categories
(Units in Acre-Feet)

Source	Garfield County	Iron County	Juab County	Kane County	Millard County	Piute County	Sanpete County	Sevier County	Total
<i>Potable Suppliers:</i>									
Public Community Systems	503.5	0.0	559.0	0.0	3,728.7	451.0	3,719.3	5,355.2	14,316.7
Public Non-Community Systems	91.7	7.0	15.8	15.6	4.8	11.8	57.7	16.2	220.6
Self-Supplied Industries	0.0	0.0	89.4	0.0	6,385.0	0.0	529.6	113.5	7,117.5
Private Domestic	100.0	0.0	10.0	0.0	670.0	85.0	600.0	215.0	1,680.0
TOTAL CULINARY	695.2	7.0	674.2	15.6	10,788.5	547.8	4,906.6	5,699.9	23,334.8
<i>Non-Potable Suppliers:</i>									
Secondary Irrigation Companies	243.3	0.0	2.0	0.0	1,066.5	85.7	2,607.5	1,763.4	5,768.4
Non-Community Systems	0.0	0.0	0.0	0.0	180.0	0.0	390.0	0.0	570.0
Self-Supplied Industries	0.0	0.0	0.0	0.0	18,000.0	0.0	0.0	0.0	18,000.0
Private Domestic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL SECONDARY	243.3	0.0	2.0	0.0	19,246.5	85.7	2,997.5	1,763.4	24,338.4
TOTAL WATER USE	938.5	7.0	676.2	15.6	30,035.0	633.5	7,904.1	7,463.3	47,673.2

For 1996, population from public community systems in the Sevier River Basin was 47,815. Residential potable per capita water use is 171 gallons per capita per day (gpcd). Non-potable water use amounts to 87 gpcd resulting in uses of 258 gpcd for residential purposes within the public community systems of the basin. Furthermore, by adding commercial, institutional and industrial uses, public community systems use amounts to 267 gpcd for potable uses and 108 gpcd for non-potable uses for a total of 375 gpcd. Lastly, with a population of 54,280 (including the private domestic category), the total basin M&I per capita water use including all categories and types of systems is 784 gpcd. The high industrial (Largely from Intermountain Power Service Corporation in Millard County) use accounts for much of this above average value.

INTRODUCTION

Authority

The Utah Division of Water Resources has overall responsibility for completing studies, investigations, and plans directed at the responsible development and utilization of the water resources of the state of Utah. The State Water Plan, prepared and distributed in early 1990, 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, detailed plans are prepared for each of the 11 hydrologic basins in the state. The Sevier River Basin is one of these 11 reports. Each basin water plan will identify potential conservation and development projects and describe alternatives to satisfy the problems, needs, and demands. As part of this effort, background data reports are completed for each river basin. These include a water-related land use report and a water budget report.

Scope

The subject of this data report is a determination of present municipal and industrial (M&I) water supplies and uses within this basin. The data presented in these reports will be used in the State Water Plan for the Sevier River Basin as well as other division reports and studies. The basin is shown in Figure 1. Information considered includes related investigations recently completed by the Division of Water Resources and the Division of Water Rights.

Data Collection

This study was begun in January 1996 by Division staff. The *1996 Municipal and Industrial Water Use Forms*, distributed by the Division of Water Rights, in cooperation with the Division of Water Resources and the Division of Drinking Water, were used and is the basis for the study. In all counties the data collection process

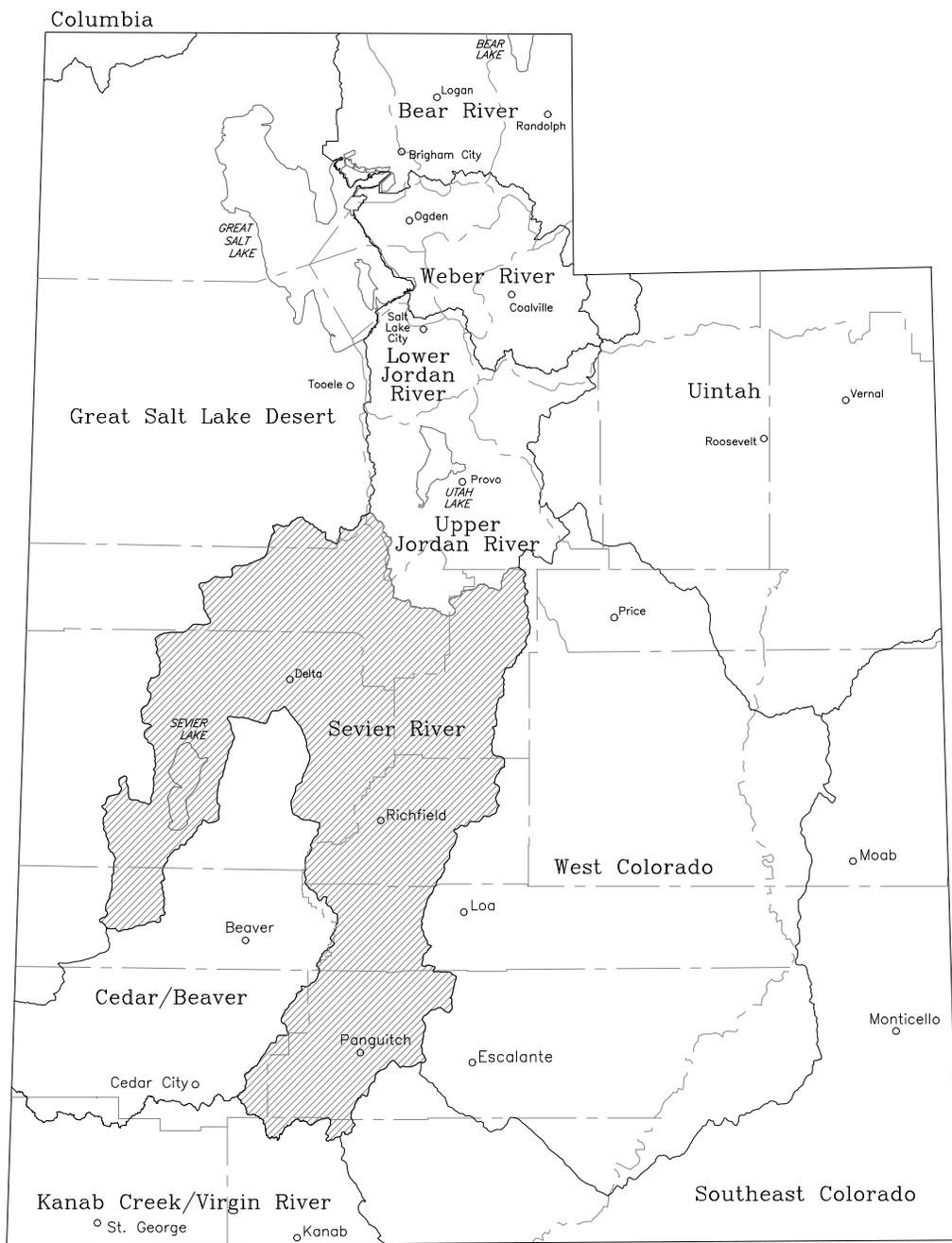


Figure 1. Location of the Sevier River Basin.

is as described in the following section, *Water Supply and Use Methodology*. Water rights discussions presented herein resulted from conversations with Kurt Forbush, Area Engineer from the State Engineer's Office covering the Sevier River Basin.

General Description of the Basin

The Sevier River Basin covers approximately 10,522 (about 12.5 percent of Utah) square miles in the south-central portion of the state. The northern boundary generally follows the Sheeprock Mountains and the Tintic Range. Land forms such as the Wasatch, Awapa, Aquarius and Paunsaugunt Plateaus. The Pink Cliffs and Tushar Mountains surround the eastern bend of the basin. The Crickett, Beaver, San Francisco and Wah Wah Mountains along with the House Range help comprise the boundary of the western bend of the basin.

The Sevier River Basin covers all or part of eight counties: Garfield, Iron, Juab, Kane, Millard, Piute, Sanpete and Sevier. Furthermore, the basin divides into the Delta, East Fork Sevier, Fillmore, Gunnison, San Pitch, Sevier, Sevier Lake and Upper Sevier subareas.

The shape of the basin generally resembles a large horseshoe and is made up of high plateaus, narrow valleys and broad deserts. The mountains of the basin generally trend from southwest to northeast. Valleys in the basin are generally long and narrow, except where the river flows into Sevier Lake. Drainage in the basin is primarily to the north and west. However, because the basin offers no outward drainage, precipitation remains a part of the basin.

Currently, the basin includes 57 public community water systems. These systems serve 47,815 people (about 88 percent of the basin's 54,280 total population). Figure 3 shows each system's location. The basin also includes 64 public non-community systems. These systems serve National Parks, State Parks, campgrounds, isolated commercial establishments, roadside rest stops and parks.

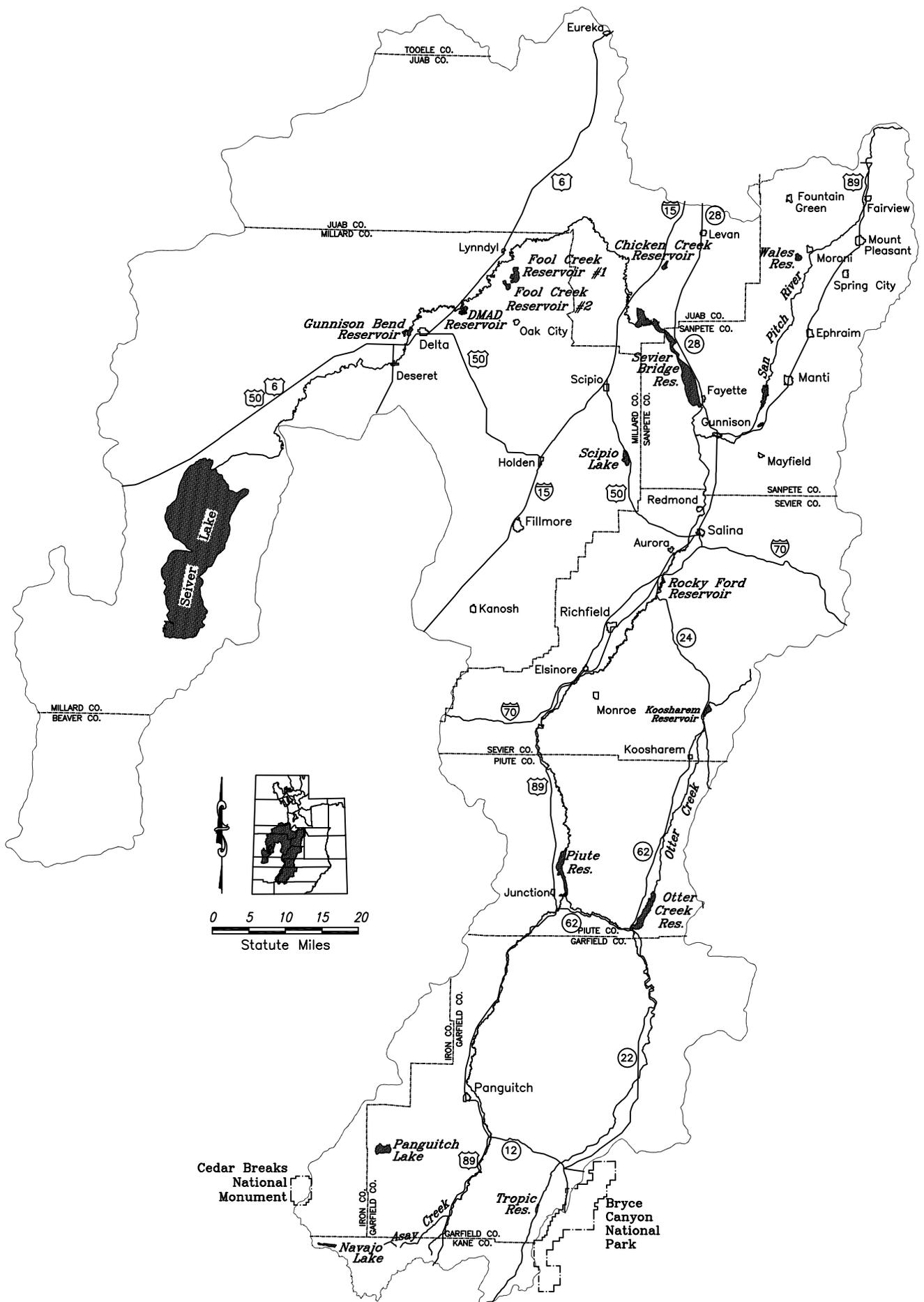
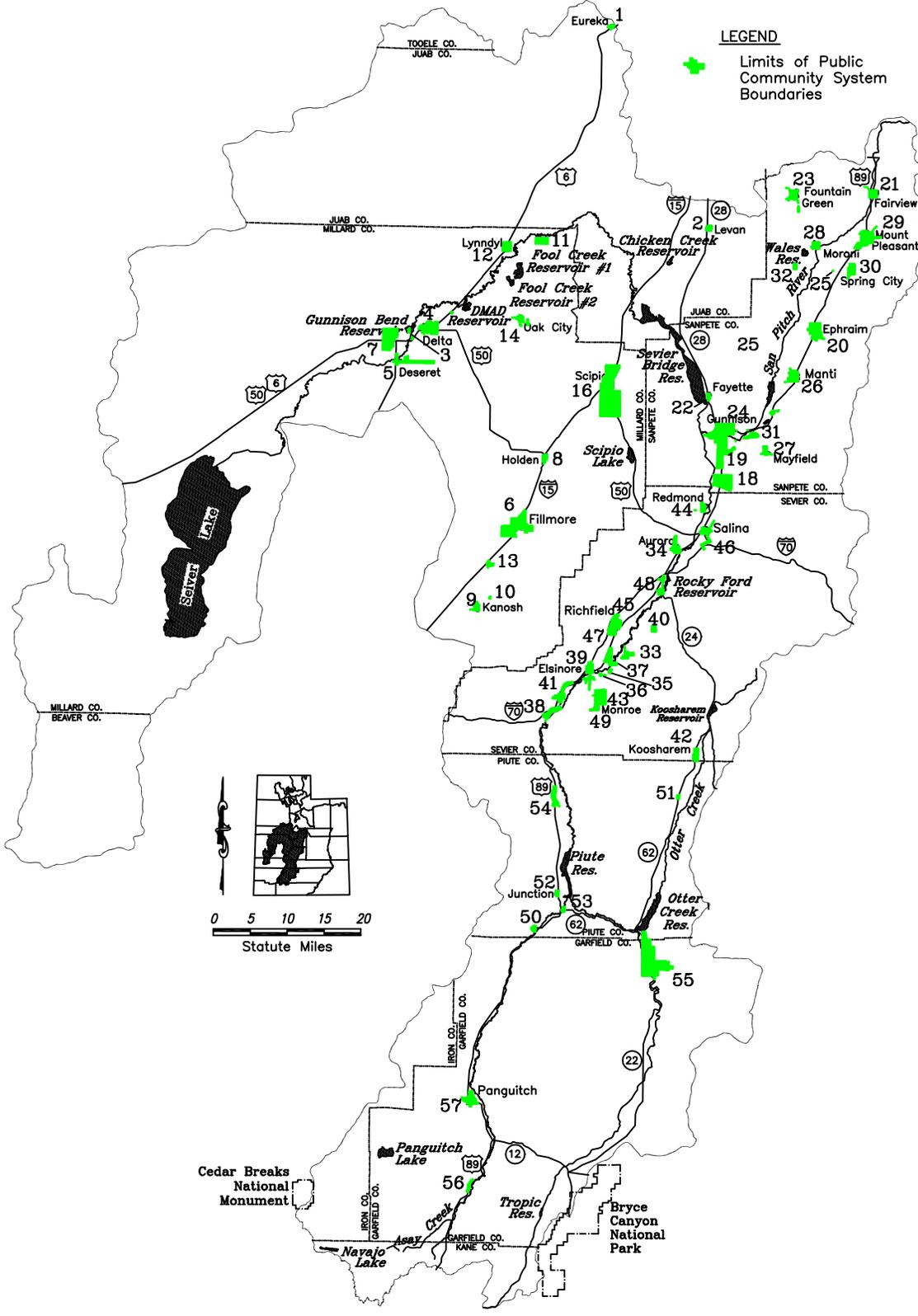


Figure 2 Sevier River Basin Drainage Map



LEGEND

+ Limits of Public Community System Boundaries
 Millard County Boundaries

- JUAB COUNTY**
1. Eureka City Water
 2. Levan Culinary Water
- MILLARD COUNTY**
3. Country Estates
 4. Delta City
 5. Deseret-Oasis Special Service District
 6. Fillmore Municipal Water System
 7. Hinckley City Water
 8. Holden Town Corporation Water
 9. Kanosh City Water System
 10. Kanosh-Paiute Indian Reservation
 11. Leamington Town Water
 12. Lynndyl
 13. Meadow Town Corporation Water
 14. Oak City Municipal Water System
 15. Oak Meadows Subdivision
 16. Scipio Culinary Water System
 17. Sherwood Water Company
- SANPETE COUNTY**
18. Axtell Community Service District
 19. Centerfield Water and Improvement District
 20. Ephriam Municipal Water Department
 21. Fairview Municipal Water
 22. Fayette Town
 23. Fountain Green
 24. Gunnison City Corporation Water
 25. Heartland Mobile Home Park
 26. Manti City Corporation Water
 27. Mayfield Water Department
 28. Moroni Municipal Water System
 29. Mt. Pleasant City
 30. Spring City Municipal Water System
 31. Sterling Municipal Water System
 32. Wales Town Water
- SEVIER COUNTY**
33. Annabella
 34. Aurora
 35. Austin Community Special Service District
 36. Brooklyn Tap Line Company
 37. Central Waterworks Company
 38. Cove Special Service District
 39. Elsinore Town
 40. Glenwood Municipal Water System
 41. Joseph
 42. Koosharem
 43. Monroe City
 44. Redmond
 45. Richfield City
 46. Salina
 47. Shadow Mountain Estates Subdivision
 48. Sigurd Municipal Water System
 49. South Monroe
- PIUTE COUNTY**
50. Circleville Culinary Water
 51. Greenwich Waterworks Company
 52. Junction Town
 53. Kingston Town Corporation
 54. Marysvale Culinary Water
- GARFIELD COUNTY**
55. Antimony Town Water System
 56. Hatch Culinary Water
 57. Panguitch City Water

Figure 3 Public Community Systems within the Sevier Basin

WATER SUPPLY AND USE METHODOLOGY

Background

Over the past 40 years the Division of Water Resources has employed various procedures to obtain needed M&I data. In recent years, these procedures have become more comprehensive. When the division began water planning in the 1960's, available data consisted mainly of supplies and uses for the entire state. At that time Utah's agriculture uses far exceeded M&I uses. M&I water use was generated by multiplying estimated per capita rates and 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 began an increased focus on M&I water supplies and uses. The Division of Water Rights launched a program to collect yearly, statewide M&I data. The procedure involved mailing a survey designed to query each major public water supplier about their sources of water supply. In addition, the United States Geological Survey (USGS) began M&I water use studies. The division relied on both data sources in its planning efforts by the late 1980's.

With the preparation of the State Water Plan Basin reports, the division saw the need to check and improve the quality and quantity of the available data through two methods. The first was to join with the Division of Water Rights to improve their M&I data collection program. Secondly, the division began exploring the accuracy of the data through yearly field surveys described in the following four sections.

Present Methodology for Community Water Systems

Each year, division staff targets a particular hydrologic basin or study area for M&I water supply and use analysis. The division of Water Rights' most recent water use form is the primary analysis tool. As an example, the next three pages exhibit the 1995 form submitted by Delta City.

AKA

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

UTAH WATER USE DATA FORM
DATA FOR 1996

Return completed form to:
Utah Division of Water Rights
3594 West North Temple
Salt Lake City, UT 84114-6300

System Name: Delta City
Address: 76 North 200 West
Delta, UT 84624

Population Served: 2998 (1990 Census) 1203/14001
Total No. Connections: 1020 active County: Millard
Average Lot Size Served: .25 acre(s)
Estimated Percent of Lot Irrigated: 40 %
Phone Number: (801)864-2759
Number of Tanks: 3

Contact Person: Neil Forster, Public Works Supt.
Form filled out by: Same

I. STORAGE INVENTORY: Total treated storage capacity: 1,800,000 in gallons.

II. SOURCE INVENTORY:

1. Source Name: Main Well (16") Type: WE Location: Sec 12, T17S, R7W, SLB&M WR Number: 68-396, 68-531, 68-724
Method of Measurement: [] Master Meter, [X] Individual Meters, [X] Estimate, [] Other
Units of Measurement: 1000 gal.
Rated Pump Capacity: 1200 [X] gpm, [] cfs
Date of Last Pump Test _____ Yield of Well _____ [] gpm, [] cfs

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL
							1,800	9,432					11,232

2. Source Name: Well - Airport Use
Method of Measurement: [] Master Meter, [X] Individual Meters, [X] Estimate, [] Other
Units of Measurement: 1000 gal.
Rated Pump Capacity: 50 [X] gpm, [] cfs
Date of Last Pump Test _____ Yield of Well _____ [] gpm, [] cfs

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL
				84	40	30							254

3. Source Name: Yard Well (12") Type: WE Location: Sec 12, T17S, R7W, SLB&M -WR Number: 68-531, 68-2532, 68-2562
Method of Measurement: [] Master Meter, [] Individual Meters, [X] Estimate, [] Other
Units of Measurement: 1000 gal.
Rated Pump Capacity: 420 [X] gpm, [] cfs
Date of Last Pump Test _____ Yield of Well _____ [] gpm, [] cfs

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL
	2,520	10,231	10,861	15,548	18,219	18,068	17,388	18,572	14,989	11,239	252	226	138,113

4 Source Name: Gardner Well (16") Type: WE Location: Sec 17, T17S, R6W, SLB&M WR Number: 68-531, 68-2532, 68-2562

Method of Measurement: Master Meter, Individual Meters, Estimate, Other
 Units of Measurement: 1000 gal.
 Date of Last Pump Test: _____ Yield of Well: _____ () gpm, () cfs

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL
6,144	0	1,152	10,560	31,104	34,752	40,800	33,504	12,192	2,400	0	0	0	172,608

5 Source Name: Sugar Factory Well (12") Type: WE Location: Sec 12, T17S, R7W, SLB&M WR Number: 68-531, 68-2532, 68-2562

Method of Measurement: Master Meter, Individual Meters, Estimate, Other
 Units of Measurement: 1000 gal.
 Date of Last Pump Test: _____ Yield of Well: _____ () gpm, () cfs

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL
0	0	0	0	2,841	12,307	13,708	13,824	13,766	13,248	9,984	10,310	89,988	

** If you are using other sources which are not shown above, please enter the appropriate data in the space provided below. **

6 Source Name: _____ Type: _____ Location: _____ WR Number: _____

Method of Measurement: Master Meter, Individual Meters, Estimate, Other
 Units of Measurement: _____

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL

7 Source Name: _____ Type: _____ Location: _____ WR Number: _____

Method of Measurement: Master Meter, Individual Meters, Estimate, Other
 Units of Measurement: _____

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL

8 Source Name: _____ Type: _____ Location: _____ WR Number: _____

Method of Measurement: Master Meter, Individual Meters, Estimate, Other
 Units of Measurement: _____

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL

SOURCE COMMENTS: Water supply conditions were: Above normal, Normal, Below normal.

III. WATER USE BREAKDOWN: (If quantities are not known, please estimate percentages. See instructions for definition of uses shown in bold.)
 Units of Measurement: 1000 gal.

Source of data: () Meter readings at the source; Meter readings at individual connections; or Estimated

Residential: Annual quantity of water delivered for residential purposes - 232,438 Total number of residential connections 854
 Commercial: Annual quantity of water delivered for commercial purposes - 38,502 Total number of commercial connections 113
 Industrial: Annual quantity of water delivered for industrial purposes - NA Total number of industrial connections NA
 Institutional: Annual quantity of water delivered for institutional purposes - 87,335 Total number of institutional connections 50
 Stockwatering: Annual quantity of water delivered for stockwatering purposes - 2,220 Total number of stockwatering connections 4
 Wholesale: Annual quantity of water delivered to other systems - NA
 Other Uses: Annual quantity of water delivered for other purposes - NA
 Please attach a listing of those supplied.

Describe other uses _____
 Total number of other connections _____
 BLM, Auction, FFA Feedlot, Bunker & Sons Feedlot (no longer in service)

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

Is your area served by a separate irrigation water system? Yes, () No If yes, please provide the following information:

What percent of your customers are served by a separate irrigation system? 10 % The water is delivered 100 % by ditch & 0 % by pressurized system
 If system is operated by another entity, please give name of company, contact person & phone number: Delta Canal Co., Dean Anderson
864-2494

Number of stock holders: _____ Total shares of stock: _____ Total acres irrigated: _____

Please enter quantity of water delivered by the irrigation system: _____ Institutional acreage _____ Quantity of water _____

Method of Measurement: () Master Meter, () Individual Meters, () Estimate, () Other _____

Units of Measurement: Acres Feet

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL
				16.76	69.65	51.11	53.75	48.54	48.63	2.64			291.08

Do these quantities reflect water delivered to the municipal service area only? () Yes, () No If no, percent delivered to municipal service area? _____

V. ADDITIONAL INFORMATION:

Which of the following maps are available? Service area, Zoning, Distribution systems (pipes-~~and~~ structures)
 Can a listing of businesses served by the water system be provided? Yes, () No

Division staff contact the manager or operator of each community water system (as defined by the Division of Drinking Water) to schedule a data analysis meeting. Many times operators inadvertently omit necessary information of their yearly form. During such meetings, division staff attempts to retrieve missing data as well as obtain an overall feeling of the supplies and demands of the water system, in case estimates are necessary. Additionally, a secondary objective of these meetings is to educate the operator or manager to correctly complete the water use data form. Division staff supply a new form to those systems that either didn't receive one or didn't return one. This methodology has been used since 1994, and all of the community water systems for the various basins studied have provided the necessary M&I water supply and use data.

During the analysis, division staff determines the system's water supply and use. Two factors define water supply: 1) maximum water supply available under present conditions and 2) reliable system source capacity. The maximum water supply available under present conditions is defined as the water resource which is presently developed. The resource is limited by either a mechanical constraint (such as pump capacity or pipe size), a hydrologic constraint (such as reliable streamflow or groundwater safe yield) or a legal constraint (such as a water right or contract). The lesser amount of these three constraints is considered in this study as the maximum water supply available under present conditions. Determination of well pump capacities, spring flow estimates, treatment plant capacities, and water right information aid in the calculation of this value. It should be noted here that due to the complexity of water rights, contracts, exchanges, etc., a detailed search of water right limitations associated with each entity is not in the scope of this study.

The reliable system source capacity is defined as the capacity to meet peak day demands, expressed as an annual volume. The maximum water supply available under present conditions (defined earlier) deals with an average annual volume. Many water supply components in M&I systems (treatment plants, storage facilities, pump motors, etc.) are sized using demand during a peak 24-hour period. The

relationship between average day and peak day demand is important. It is for this reason that a more reliable system source capacity is determined to accurately reflect future M&I water conditions for each system. The relationship that is used is as follows:

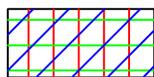
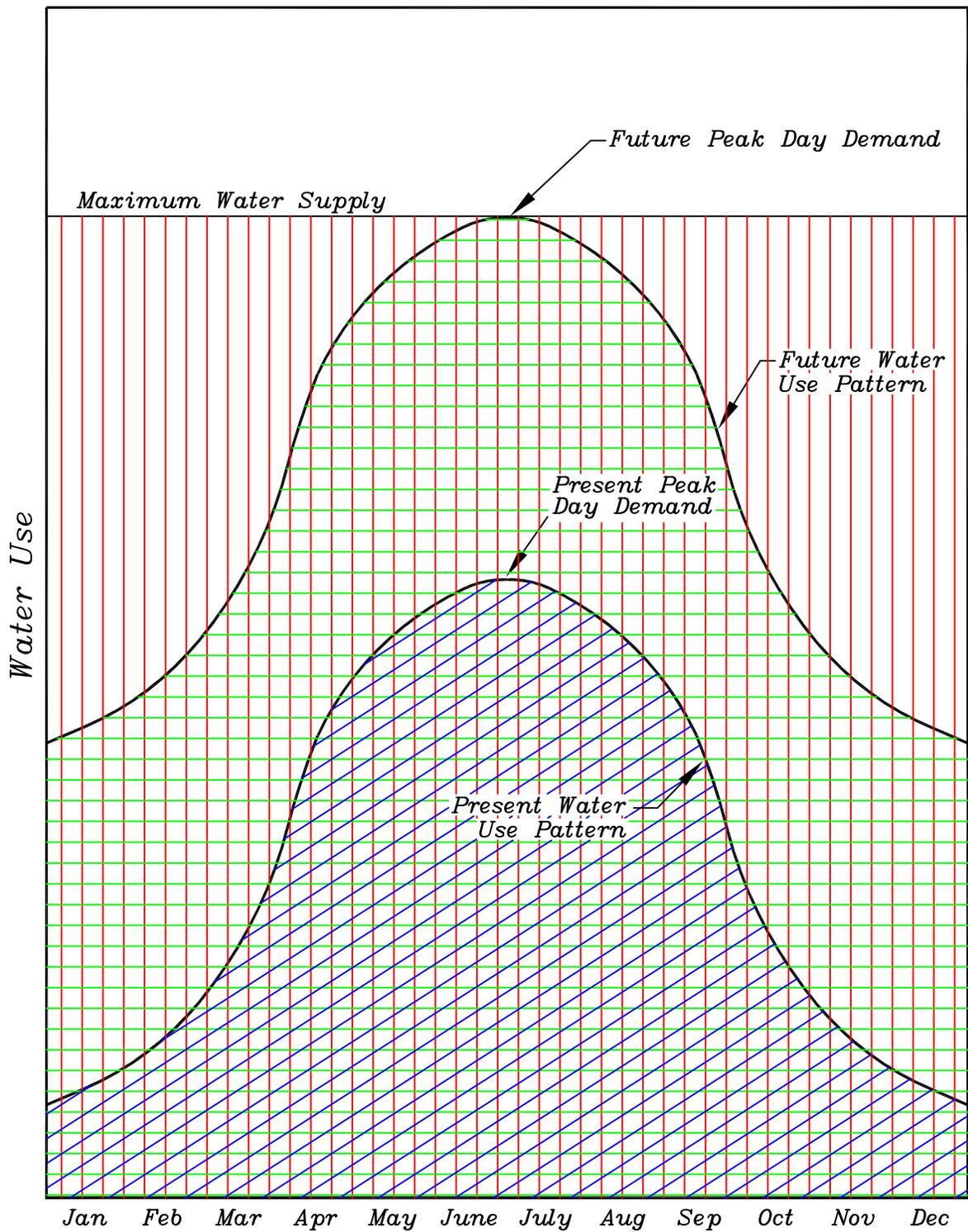
$$P_D = - 49.4 + 2.5 A_D$$

where P_D is peak day demand and A_D is average daily demand

For each public community system, the average per capita use (described later) is used in the relationship above to determine a peak factor, and the maximum water supply available under present conditions is used to determine a peak day supply. These two values are then used in calculating the reliable system source capacity which represents the systems' annual maximum water supply's ability to meet peak day demand conditions. It also represents the volume of water which, when divided by the average annual per capita water use, gives the population that can be reliably served by the present system sources.

Figure 4 graphically presents the relationship between maximum water supply and reliable system source capacity. Current water use is shown in the figure as the volume under the lower curve. The future water use is shown as the volume under the upper curve. The maximum water supply under present conditions is shown by the volume under the upper line. Because this amount is associated with a maximum daily flow rate (limited by the water right or system capacity), the line in the figure must pass through the peak day demand point on the future water use curve. It is for this reason (and the fact that most culinary water system storage tanks are designed to store only about one days' worth of water demand) that not all of the maximum water supply is available to meet future water needs. Therefore, the reliable system source capacity, which is equal to the volume under the future water use curve, is a better indication for meeting future water needs. For most systems this value is about one half of the maximum water supply.

The reliable system source capacity is valuable in determining future water capacities of the particular community water system sources (wells, springs, etc.).



Present Yearly Water Use (Volume under curve)



Present Reliable System Source Capacity/Future Water Use (Volume under curve)
When this volume is divided by annual per capita water use, this yields the population that can be reliably served.



Maximum Source Capacity Available Under Present Conditions (Volume under line)

Figure 4. Water Supply and Use Hydrograph.

Although future water projections are not addressed in this study, the data provided here is used in the state water plans which the division is formulating for each major hydrologic basin in the state. These basin plans deal with considerable detail about future water demands and supplies.

The last part of the data collection process is to determine the present water use for each community water system. Present water use, as defined herein, includes the developed water which is actually diverted into the distribution system from surface or subsurface sources. The data collected represents the latest available complete calendar year from when the study is started. Water use is divided into four categories: residential, commercial, institutional and industrial. For comparative purposes the division chose these categories to correlate with the United States Geological Survey's (USGS) categories of domestic, commercial, industrial, and mining. The division's residential category is equivalent to the USGS domestic category and includes water used in residential homes for inside and outside uses. The USGS commercial category is equivalent to the division's combined commercial and institutional categories. The commercial category includes water use for retail establishments and businesses. The institutional category includes water use for government facilities, military facilities, schools, hospitals, churches, parks, cemeteries, golf courses, etc. The division's industrial category is equivalent to the combined USGS categories of industrial and mining which includes a wide variety of water uses associated with businesses that produce a specific product.

Residential Use

From the system operator, the staff collects data about the number of residential connections and the amount of water used by those connections. Water use in this category is divided into three subcategories: culinary-outside, culinary-inside, and secondary-outside use. The first step in calculating the amount of water used in each of these subcategories is determining the amount of outside irrigation.

Because very few entities meter outside water use, division staff attempts to determine the acreage that is actually irrigated by homeowners. Average lot size, percent irrigated, percent of residences that are supplied by separate secondary (pressurized and ditch) irrigation systems, water right-duty rates in the area, and other related information are used to estimate outside water use for each entity. Occasionally, delineation between lawns or gardens and farm fields becomes difficult. In these cases, the division's land use mapping program is utilized to take out the areas of the community that have been included as irrigated farmland.

Once residential outside water use is determined, it is subtracted from the given total residential water use. This amount becomes the residential inside water use. When available, indoor water use can be estimated by looking at several residences' winter water bills and meter readings. When either of these methods yield an unreasonable value, then the staff uses a general range of between 75 and 120 gallons per capita per day (gpcd) for inside use and back-calculates outside water use from the total water use given.

Commercial Use

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 division staff attempts to estimate commercial water use by inventorying commercial businesses in the area and using published commercial water use estimates. These publications come from the Division of Drinking Water and from reports published by the Utah State Water Lab. In some rural communities where there is a relatively small number of commercial connections, the businesses are visited by division staff and asked about their water use.

Institutional Use

Institutional water use is water used for city, county, state and federal government facilities, parks, golf courses, schools, hospitals, churches, military facilities, fire hydrant testing and other municipal losses in the water system. Because this water use is rarely metered, the process to acquire this data is a difficult one. Again, the system operator is asked to provide information about city facilities such as number and size of parks, schools, churches, and golf courses. Water right-duty rates for the area are used to calculate the amount of water these areas use. Also, estimates are made of leakage and testing of water system facilities and included in this category.

Industrial Use

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

Present Methodology for Non-Community Water Systems

Division staff attempts to contact each non-community system and make a personal visit. These systems rarely meter their water use, so estimates are made by division staff as to their actual annual water use. Questions are asked to determine type of facility, population served, water source information, irrigation of outside areas, etc. This data, along with other water -related publications, are used to determine water use. The maximum water supply for these systems is often not available and is not in the scope of this study.

Present Methodology for Self-Supplied Industrial Water Systems

For self-supplied industries, water use is acquired by using data given on the Division of Water Rights Industrial Water Use Form. The Division of Water Rights 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 given as county totals. Again, the maximum water supply is often not available and is not in the scope of this study.

Present 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. The water use data for this category is acquired by taking the State Office of Budget county population data and subtracting the population served by community water systems. The remainder is the population that is served by private domestic systems. A reasonable per capita rate (usually determined from the residential per capita rates from nearby community systems) is applied to this population to determine the total water use by private domestic systems. Since the maximum water supply for private wells is really an analysis of the total groundwater reservoir/recharge area, it is not in the scope of this study.

DEFINITIONS OF WATER TERMS

Some water terms peculiar to the water industry are briefly defined in order to better understand the information presented.

Water Supply Terms

Water is supplied by a variety of systems for many users. The general term supply is defined as the amount of water available. Most water supply systems are owned by a municipality, but in some cases the owner/operator is a private company or is a state or federal agency. Thus, a "public" water supply may be either publicly or privately owned. Also, systems may supply treated or untreated water.

Maximum Water Supply Available Under Present Conditions - The annual volume of water which is the lesser of the hydrologic capacity of the water source, the physical capacity of the water system, or the use allowed by the water right. See Figure 4.

Reliable System Source Capacity - The actual annual quantity of the maximum water supply that is available to meet peak demands. When this number is divided by the average per capita usage, the resulting number represents the maximum population that the water source can serve. See Figure 4.

Municipal Water Supply - A supply that provides potable (culinary) water for residential, commercial, and institutional uses. The terms municipal, community and city are often used interchangeably.

Municipal and Industrial Water Supply - Includes all water (potable and non-potable) supplied for residential, commercial, institutional, light industry, and large self-supplied industries. This supply is available for public community systems, public

non-community (transient and non-transient) system, self-supplied industrial systems, unregulated Indian systems and private wells.

Potable Water Supply - Water meeting all applicable safe drinking water requirements for residential, commercial, institutional and industrial uses. Sometimes referred to as culinary water supply.

Non -Potable Water Supply - Water not meeting safe drinking water requirements. Secondary irrigation companies and self-supplied industries supply this water. Sometimes referred to as non-culinary water supply, but usually referred to as secondary water.

Public Community Water Supply - Includes potable water supplied by either privately or publicly owned community systems which serve at least 15 service connections or 25 individuals occupied year round. Water from public community supplies may be used for residential, commercial, institutional, and industrial purposes. This can include both indoor and outdoor uses.

Public Non-Community Water Supply - Includes potable water supplied by either privately or publicly owned systems 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 combines transient and non-transient systems together and calls them all public non-community systems. Industries are reported under self-supplied industries.

Secondary Water Supply - Pressurized or open ditch water supply systems that supply untreated water for irrigation of privately and publicly owned lawns, gardens, parks, cemeteries, golf courses and other open areas. These systems, sometimes called "dual" water systems, are installed to provide an alternative to irrigating with culinary water for these outdoor areas. This supply is often provided by irrigation companies. Self-supplied industries can also use secondary water for industrial processes.

Self-supplied Industrial Supply - Includes potable or non-potable water supplied by individual privately owned industries usually from their own wells or springs.

Water Use Terms

Water is used in a variety of ways and for many purposes. Water is often said to be "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. The word *use* can be inserted where the word *supply* is written in most of the previous water supply terms to define the current demand associated with those definitions. Some additional water use terms are as follows:

Commercial Use - Uses normally associated with small business operations which may include drinking water, food preparation, personal sanitation, facility cleaning and maintenance and irrigation of facility landscapes. Retail businesses, restaurants and hotels are some examples.

Industrial Use - Uses 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. Manufacturing plants, oil and gas producers, mining companies, mink farms and dairies are some examples.

Institutional Use - Uses normally associated with general operation of various public agencies and institutions including drinking water, personal sanitation, facility cleaning and maintenance and irrigation of parks, cemeteries, playgrounds, recreational areas, golf courses, and other facilities. Many times the amount used by cities for outside irrigation of public areas is not metered.

Municipal and Industrial (M&I) Use - Term includes all residential, commercial, institutional, and industrial uses. It includes total uses (potable and non-potable) supplied by public water systems (community and non-community), self-supplied industries, private domestic systems, and secondary irrigation companies.

Private-Domestic Use - Includes water from private wells or springs for use in individual homes, usually in rural areas not accessible to public water supply systems.

Residential Use - Water 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 facilities. Single family homes, apartments, duplexes and condominiums are some examples.

Other Water Terms

Consumption - Water evaporated, transpired or irreversibly bound in either a physical, chemical or biological process.

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 and fish and wildlife also consumptively use water.

Depletion - Water lost or 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 to the basin system but is not consumed in the basin. The exported water is available for use in another system. Water diverted to irrigated 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 a depletion to the system.

Diversion - Water diverted from supply sources such as streams, lakes, reservoirs or groundwater for a variety of uses including cropland irrigation, residential, commercial, institutional and industrial. The terms diversion and withdrawal are often used interchangeably.

Withdrawal - Water withdrawn from supply sources such as lakes, streams, reservoirs or groundwater. This term is normally used in association with groundwater withdrawal.

WATER RIGHTS IN THE SOUTHEAST COLORADO 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 a discussion on the current water right regulations in the area. The following discussion was obtained from the Division of Water Rights, Richfield area office. It explains the current general water right regulations in the Sevier River Basin with regards to M&I uses.

Millard County

Surface and groundwater is fully appropriated except for the area west of Delta in Range 8 and 9 W, the area around Sevier Lake and Pavant Valley near Fillmore. This area is open for small applications for inside use for one family with .1 acres of irrigation and 5 head of stock.

All Other Counties

Surface and groundwater is fully appropriated. The entire drainage is closed to new applications.

Miscellaneous

A common method for obtaining municipal and industrial rights is to purchase existing agricultural rights and file a change application with the State Engineer to transfer these to a domestic purpose.

GARFIELD COUNTY M&I WATER SUPPLIES AND USES

The Sevier River Basin portion of Garfield County includes the incorporated communities of Antimony, Hatch and Panguitch. Within this area are 3 public community systems and 21 public non-community system. Location of the public community systems are shown back in figure 3.

Table 1 shows that the maximum annual water supply for public community systems in this portion of Garfield County is 2,193 acre-feet from both springs and wells. Reliable system source capacity is less than half that amount at 955 acre-feet.

**TABLE 1
GARFIELD COUNTY
Potable Water Supplies for Public Community Systems**

WATER SUPPLIER	Springs (Ac-Ft/Yr)	Wells (Ac-Ft/Yr)	Surface (Ac-Ft/Yr)	Total (Ac-Ft/Yr)
GARFIELD COUNTY				
Antimony Town Water System	286.6	0.0	0.0	286.6
Hatch Culinary Water	0.0	144.8	0.0	144.8
Panguitch City Water	1,448.0	313.8	0.0	1,761.8
GARFIELD COUNTY TOTALS	1,734.6	458.6	0.0	2,193.2

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

Table 2 shows the reliable system source capacity along with a breakdown of potable water use for each public community system. This table shows that for this portion of Garfield County the current annual potable water use of 504 acre-feet is about half of the reliable supply of 955 acre-feet of water.

Secondary water is another important aspect of total M&I use. Table 3 gives the secondary water used for various categories within the boundaries of the public community systems. In this portion of Garfield County various irrigation companies deliver secondary water to customers. Total secondary use is 243 acre-feet.

**TABLE 2
GARFIELD COUNTY
WATER USE AND SUPPLY FOR PUBLIC COMMUNITY SYSTEMS**

WATER SUPPLIER	POTABLE USAGE						POTABLE PER CAPITA USAGE			MAXIMUM WATER SUPPLY AVAILABLE UNDER PRESENT CONDITIONS (Ac-Ft/Yr)	POTABLE ESTIMATED PEAK DAY VALUES				RELIABLE SYSTEM SOURCE CAPACITY UNDER PRESENT CONDITIONS (Ac-Ft/Yr)
	Residential Indoor Use (Ac-Ft/Yr)	Residential Outdoor Use (Ac-Ft/Yr)	Commercial Indoor and Outdoor Use (Ac-Ft/Yr)	Institutional Indoor and Outdoor Use (Ac-Ft/Yr)	Industrial/Stockwater Indoor and Outdoor Use (Ac-Ft/Yr)	Total Potable M & I Use (Ac-Ft/Yr)	Population	Average Per Capita Water Use (Ac-Ft/Yr)	Average Per Capita Water Use (GPCPD)		Assumed Peaking Factor (PD/AD)	Peak Day Supply (MGD)	Peak Day Demand (MGD)	Peak Day Supply Over Demand (MGD)	
GARFIELD COUNTY															
Antimony Town Water System	24.1	14.2	1.8	6.8	15.1	62.0	215	0.288	257.4	287	2.3081	0.2558	0.1277	0.1281	124
Hatch Culinary Water	11.5	24.1	10.1	4.8	0.0	50.5	110	0.459	409.8	145	2.3795	0.1293	0.1073	0.0220	61
Panguitch City Water	260.6	67.2	40.3	22.6	0.3	391.0	1,500	0.261	232.7	1,762	2.2877	1.5727	0.7985	0.7742	770
										see note					
GARFIELD COUNTY TOTALS	296.2	105.5	52.2	34.2	15.4	503.5	1,825	0.276	246.3	2,193	2.2994	1.9578	1.0335	0.9243	955
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

* Note: Peak Day Demand exceeds the calculated Peak Day Supply. An assumption was made that in these cases the Peak Day Supply has been exactly met and should be set equal to the Peak Day Demand. Although some systems may withdraw the maximum water supply available under present conditions, the hydrologic conditions will probably limit all systems collectively from withdrawing this quantity, as presented.

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

G=B+C+D+E+F

I=G/H

J=I*892.682

L=(2.5*J-49.4)/J

M=K*892.682/1000000; (except as provided in the note above)

N=H*J*L/1000000

O=M-N

P=(M/(L*J))*J*1120.22

These values are all input data.

This value represents only Potable M&I Water Use.

Average per capita potable water use.

Converts from Ac-Ft/Yr to GPD

The factor which when multiplied to the average per capita water use represents water use during peak demands.

Peak Day Supply of potable water based on maximum reliable source capacity converted to MGD). Where the calculated Peak Day Supply of potable water is less than the Peak Day Demand of Potable Water, this value was set equal to the Peak Day Demand of potable water.

Peak Day Demand on potable water based on the total potable M&I water use multiplied by the peaking factor

The amount of Peak Day Supply of potable water above the amount of the Peak Day Demand of potable water.

Reliable system source capacity represents that volume of water, which when divided by the average annual water per capita use, gives that population that can be reliably served by the system sources under peak day demand conditions.

**TABLE 3
GARFIELD COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems**

WATER SUPPLIER	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Secondary Use (Ac-Ft/Yr)
GARFIELD COUNTY					
Antimony Town Water System	0.0	0.0	0.0	0.0	0.0
Hatch Culinary Water	67.5	0.0	11.6	0.0	79.1
Panguitch City Water	141.1	0.0	23.1	0.0	164.2
GARFIELD COUNTY TOTALS	208.6	0.0	34.7	0.0	243.3

Note: Separate irrigation companies provide secondary water to the water supplier unless indicated by an *.

**TABLE 4
GARFIELD COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems**

Non-Community System	POTABLE USAGE					SECONDARY USE (Ac-Ft/Yr)
	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Potable Use (Ac-Ft/Yr)	
GARFIELD COUNTY						
Forest Service Systems						
Kings Creek Campground	0.0	0.0	0.3	0.0	0.3	0.0
Panguitch Lake Campground	0.0	0.0	1.8	0.0	1.8	0.0
Pine Lake Campground	0.0	0.0	0.1	0.0	0.1	0.0
Red Canyon Rest stop	0.0	0.0	1.0	0.0	1.0	0.0
White Bridge Campground	0.0	0.0	0.2	0.0	0.2	0.0
National Park Systems						
Bryce Canyon National Park	10.1	0.0	12.7	0.0	22.8	0.0
Aspen Highlands Subdivision	1.8	0.0	0.0	0.0	1.8	0.0
Bear Pa Lakeview Resort	1.8	0.4	0.0	0.0	2.2	0.0
Beaver Dam Lodge	0.0	1.0	0.0	0.0	1.0	0.0
Bryce Canyon Pines	0.0	2.5	0.0	0.0	2.5	0.0
Bryce Junction Inn	0.0	3.0	0.0	0.0	3.0	0.0
Forest Garden Subdivision	1.0	0.0	0.0	0.0	1.0	0.0
Foster's Steakhouse & Market	1.0	3.0	0.0	0.0	4.0	0.0
Lake Front Estates	4.0	0.0	0.0	0.0	4.0	0.0
Panguitch Lake General Store	0.0	1.5	0.0	0.0	1.5	0.0
Pink Cliffs - Bryce Village	1.0	4.0	0.0	0.0	5.0	0.0
Red Canyon RV Park	0.0	3.5	0.0	0.0	3.5	0.0
Ruby's Inn	0.0	30.0	0.0	0.0	30.0	0.0
Skoots Creek Subdivision	2.0	0.0	0.0	0.0	2.0	0.0
Sportman's Paradise Park	0.0	2.5	0.0	0.0	2.5	0.0
Yellow Pine Water Company	1.5	0.0	0.0	0.0	1.5	0.0
SELF-SUPPLIED INDUSTRIES	0.0	0.0	0.0	0.0	0.0	0.0
PRIVATE DOMESTIC	100.0	0.0	0.0	0.0	100.0	0.0
GARFIELD COUNTY TOTALS	124.2	51.4	16.1	0.0	191.7	0.0

Table 4 gives water use for public non-community and private domestic systems. There are no self-supplied industries but there are several private domestic wells. All of these uses amount to 192 acre-feet.

Total potable M&I water use in the county is 695 acre-feet, while secondary use is 243 acre-feet; giving a total M&I water use of 938 acre-feet. Since the current population of this portion of Garfield County is about 2,060 the total M&I per capita use is 407 gpcd. Table 5 gives various per capita rates for public community systems. Appendix A shows the data for each public community system that is presented in the tables.

**TABLE 5
GARFIELD COUNTY
Average Per Capita M&I Water Use for all Public Community Systems**

CATEGORY	Average Per Capita Use (Ac-Ft/Yr)	Average Per Capita Use (GPCD)
Residential Potable Use	0.220	197
Residential Potable Plus Secondary Use	0.334	299
Total Potable Use	0.276	246
Total Potable Plus Secondary Use	0.409	365

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

IRON COUNTY M&I WATER SUPPLIES AND USES

The Sevier River Basin portion of Iron County includes no incorporated communities. Within this area are 3 public non-community systems. Table 6 gives water use for public non-community systems. There are no self-supplied industries and no private domestic wells. All of these uses amount to only 7 acre-feet.

**TABLE 6
IRON COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems**

Non-Community System	POTABLE USAGE					SECONDARY USE (Ac-Ft/Yr)
	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Potable Use (Ac-Ft/Yr)	
IRON COUNTY						
National Park Systems						
Cedar Breaks National Monument	0.3	0.0	3.5	0.0	3.8	0.0
Cross Hollow Hills Subdivision	1.2	0.0	0.0	0.0	1.2	0.0
Spring Creek Water Users	2.0	0.0	0.0	0.0	2.0	0.0
SELF-SUPPLIED INDUSTRIES	0.0	0.0	0.0	0.0	0.0	0.0
PRIVATE DOMESTIC	0.0	0.0	0.0	0.0	0.0	0.0
IRON COUNTY TOTALS	3.5	0.0	3.5	0.0	7.0	0.0

JUAB COUNTY M&I WATER SUPPLIES AND USES

The Sevier River Basin portion of Juab County includes the incorporated communities of Eureka and Levan. Within this area are 2 public community systems, 3 public non-community systems, and 2 self-supplied industries. Location of the public community systems are shown back in figure 3.

Table 7 shows that the maximum annual water supply for public community systems in Juab County is 1,203 acre-feet; 565 acre-feet from springs and 638 acre-feet from wells. Reliable system source capacity is less than half that amount at 569 acre-feet.

TABLE 7
JUAB COUNTY
Potable Water Supplies for Public Community Systems

WATER SUPPLIER	Springs (Ac-Ft/Yr)	Wells (Ac-Ft/Yr)	Surface (Ac-Ft/Yr)	Total (Ac-Ft/Yr)
JUAB COUNTY				
Eureka City Water*	0.0	154.7	0.0	154.7
Levan Culinary Water	564.7	483.7	0.0	1,048.4
JUAB COUNTY TOTALS	564.7	638.4	0.0	1,203.1

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

* Although Eureka is in the Sevier River drainage, their culinary water supply consists of 5 wells found in the Utah Lake drainage.

Table 8 shows the reliable system source capacity along with a breakdown of the potable water use for each public community system. This table shows that for Juab County the current annual potable water use of 559 acre-feet has nearly reached the reliable system source capacity of 569 acre-feet of water.

Secondary water is another important aspect of total M&I use. Table 9 gives the annual amount of secondary water used for various categories within the boundaries of the public community systems. In Juab County, only Eureka City uses

**TABLE 8
JUAB COUNTY
WATER USE AND SUPPLY FOR PUBLIC COMMUNITY SYSTEMS**

WATER SUPPLIER	POTABLE USAGE						POTABLE PER CAPITA USAGE			MAXIMUM WATER SUPPLY	POTABLE ESTIMATED PEAK DAY VALUES				RELIABLE SYSTEM SOURCE CAPACITY UNDER PRESENT CONDITIONS
	Residential Indoor Use (Ac-Ft/Yr)	Residential Outdoor Use (Ac-Ft/Yr)	Commercial Indoor and Outdoor Use (Ac-Ft/Yr)	Institutional Indoor and Outdoor Use (Ac-Ft/Yr)	Industrial/ Stockwater Indoor and Outdoor Use (Ac-Ft/Yr)	Total Potable M & I Use (Ac-Ft/Yr)	Population	Average Per Capita Water Use (Ac-Ft/Yr)	Average Per Capita Water Use (GPCPD)	AVAILABLE UNDER PRESENT CONDITIONS (Ac-Ft/Yr)	Assumed Peaking Factor (PD/AD)	Peak Day Supply (MGD)	Peak Day Demand (MGD)	Peak Day Supply Over Demand (MGD)	(Ac-Ft/Yr)
JUAB COUNTY															
Eureka City Water	50.4	4.1	6.7	6.7	0.0	67.9	640	0.106	94.7	155	1.9784	0.1381	0.1199	0.0182	78
Levan Culinary Water	119.4	337.5	0.5	30.7	3.0	491.1	564	0.871	777.3	1,048	2.4364	1.0681	1.0681 *	0.0000	491
										see note					
JUAB COUNTY TOTALS	169.8	341.6	7.2	37.4	3.0	559.0	1,204	0.464	414.5	1,203	2.3808	1.2062	1.1880	0.0182	569
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

* Note: Peak Day Demand exceeds the calculated Peak Day Supply. An assumption was made that in these cases the Peak Day Supply has been exactly met and should be set equal to the Peak Day Demand.

Although some systems may withdraw the maximum water supply available under present conditions, the hydrologic conditions will probably limit all systems collectively from withdrawing this quantity, as presented.

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

G=B+C+D+E+F

I=G/H

J=I*892.682

L=(2.5*J-49.4)/J

M=K*892.682/1000000; (except as provided in the note above)

N=H*J*L/1000000

O=M-N

P=(M/(L*J))*J*1120.22

These values are all input data.

This value represents only Potable M&I Water Use.

Average per capita potable water use.

Converts from Ac-Ft/Yr to GPD

The factor which when multiplied to the average per capita water use represents water use during peak demands.

Peak Day Supply of potable water based on maximum reliable source capacity converted to MGD). Where the calculated Peak Day Supply of potable water is less than the Peak Day Demand of Potable Water, this value was set equal to the Peak Day Demand of potable water.

Peak Day Demand on potable water based on the total potable M&I water use multiplied by the peaking factor

The amount of Peak Day Supply of potable water above the amount of the Peak Day Demand of potable water.

Reliable system source capacity represents that volume of water, which when divided by the average annual water per capita use, gives that population that can be reliably served by the system sources under peak day demand conditions.

a minimal amount of secondary water for outside purposes. Total secondary use is 2 acre-feet.

**TABLE 9
JUAB COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems**

WATER SUPPLIER	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Secondary Use (Ac-Ft/Yr)
JUAB COUNTY					
Eureka City Water	0.0	0.0	2.0	0.0	2.0
Levan Culinary Water	0.0	0.0	0.0	0.0	0.0
JUAB COUNTY TOTALS	0.0	0.0	2.0	0.0	2.0

Note: Separate irrigation companies provide secondary water to the water supplier unless indicated by an **.

Table 10 gives annual water use for public non-community systems, self-supplied industries, and private domestic systems. Maple Peak/Little Sahara and Yuba Lake State Recreation Area are among the 3 listed non-community systems. Ash Grove Cement West, Incorporated and North Lily Mining Company are the two listed self-supplied industries. There are a few residences that use their own wells. All of these uses amount to 115 acre-feet.

**TABLE 10
JUAB COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems**

Non-Community System	POTABLE USAGE					SECONDARY USE (Ac-Ft/Yr)
	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Potable Use (Ac-Ft/Yr)	
JUAB COUNTY						
Bureau of Land Management Systems						
Maple Peak - Little Sahara	2.7	0.0	8.0	0.0	10.7	0.0
Forest Service Systems						
Chicken Creek Campground	0.0	0.0	0.1	0.0	0.1	0.0
State Park Systems						
Yuba Lake State Recreation Area	0.0	0.0	5.0	0.0	5.0	0.0
SELF-SUPPLIED INDUSTRIES	0.0	0.0	0.0	89.4	89.4	0.0
PRIVATE DOMESTIC	10.0	0.0	0.0	0.0	10.0	0.0
JUAB COUNTY TOTALS	12.7	0.0	13.1	89.4	115.2	0.0

*SELF-SUPPLIED INDUSTRIES:
Ash Grove Cement West, Incorporated
North Lily Mining Company

Total potable M&I water use in the county is 674 acre-feet, while secondary use is 2 acre-feet; giving a total M&I water use of 676 acre-feet. Since the current population of this portion of Juab County is 1,361 the total M&I per capita use is 438 gpcd. Table 11 gives various per capita rates for public community systems. Appendix B shows the data for each public community system that is presented in the tables.

TABLE 11
JUAB COUNTY
Average Per Capita M&I Water Use for all Public Community Systems

CATEGORY	Average Per Capita Use (Ac-Ft/Yr)	Average Per Capita Use (GPCD)
Residential Potable Use	0.425	379
Residential Potable Plus Secondary Use	0.425	379
Total Potable Use	0.464	414
Total Potable Plus Secondary Use	0.466	416

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

KANE COUNTY M&I WATER SUPPLIES AND USES

The Sevier River Basin portion of Kane County includes no incorporated communities. Within this area are 9 public non-community systems. Table 12 gives water use for public non-community systems. There are no self-supplied industries and no private domestic wells. All of these uses amount to nearly 16 acre-feet.

**TABLE 12
KANE COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems**

Non-Community System	POTABLE USAGE					SECONDARY USE (Ac-Ft/Yr)
	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Potable Use (Ac-Ft/Yr)	
KANE COUNTY						
Forest Service Systems						
Duck Creek Campground	0.0	0.0	1.8	0.0	1.8	0.0
Navajo Lake Spruces Campground	1.2	0.0	0.8	0.0	2.0	0.0
Teah Campground	0.0	0.0	0.8	0.0	0.8	0.0
Bryce Woodland Estates	1.0	0.0	0.0	0.0	1.0	0.0
Duck Creek Ridge Homeowners	2.0	1.0	0.0	0.0	3.0	0.0
Meadow View Heights	2.0	0.0	0.0	0.0	2.0	0.0
Meadow View Water Users	3.0	0.0	0.0	0.0	3.0	0.0
Swains Creek Pines	1.0	0.0	0.0	0.0	1.0	0.0
Timber Trails Subdivision	1.0	0.0	0.0	0.0	1.0	0.0
SELF-SUPPLIED INDUSTRIES	0.0	0.0	0.0	0.0	0.0	0.0
PRIVATE DOMESTIC	0.0	0.0	0.0	0.0	0.0	0.0
KANE COUNTY TOTALS	11.2	1.0	3.4	0.0	15.6	0.0

MILLARD COUNTY M&I WATER SUPPLIES AND USES

The Sevier River Basin portion of Millard County includes the incorporated communities of Delta, Fillmore, Hinckley, Holden, Kanosh, Leamington, Lynndyl, Meadow, Oak City, and Scipio. Within this area are 14 public community systems, 1 unregulated Indian system, 8 public non-community systems and 3 self-supplied industries. Location of the public community systems are shown back in figure 3.

Table 13 shows that the maximum annual water supply for public community systems in this portion of Millard County is 12,263 acre-feet; 3,577 from springs and 8,686 from wells. Reliable system source capacity is less than half that amount at 5,644 acre-feet.

**TABLE 13
MILLARD COUNTY
Potable Water Supplies for Public Community Systems**

WATER SUPPLIER	Springs (Ac-Ft/Yr)	Wells (Ac-Ft/Yr)	Surface (Ac-Ft/Yr)	Total (Ac-Ft/Yr)
MILLARD COUNTY				
Country Estates	0.0	30.3	0.0	30.3
Delta City	0.0	1,768.0	0.0	1,768.0
Deseret - Oasis Special Service District	0.0	679.3	0.0	679.3
Fillmore Municipal Water System	724.0	3,448.5	0.0	4,172.5
Hinckley City Water	0.0	573.3	0.0	573.3
Holden Town Corporation Water	483.7	0.0	0.0	483.7
Kanosh City Water System	672.0	0.0	0.0	672.0
Kanosh-Paiute Indian Reservation	NA	NA	NA	NA
Leamington Town Water	133.8	47.2	0.0	181.0
Lynndyl	0.0	1,161.0	0.0	1,161.0
Meadow Town Corporation Water	249.9	290.2	0.0	540.1
Oak City Municipal Water System	1,128.7	266.1	0.0	1,394.8
Oak Meadows Subdivision	0.0	80.6	0.0	80.6
Scipio Culinary Water System	185.4	292.6	0.0	478.0
Sherwood Water Company	0.0	48.4	0.0	48.4
MILLARD COUNTY TOTALS	3,577.5	8,685.5	0.0	12,263.0

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

Table 14 shows the reliable system source capacity along with a breakdown of the potable water use for each public community system. This table shows that for

**TABLE 14
MILLARD COUNTY
WATER USE AND SUPPLY FOR PUBLIC COMMUNITY SYSTEMS**

WATER SUPPLIER	POTABLE USAGE						POTABLE PER CAPITA USAGE			MAXIMUM WATER SUPPLY AVAILABLE UNDER PRESENT CONDITIONS (Ac-Ft/Yr)	POTABLE ESTIMATED PEAK DAY VALUES				RELIABLE SYSTEM SOURCE CAPACITY UNDER PRESENT CONDITIONS (Ac-Ft/Yr)	
	Residential Indoor Use (Ac-Ft/Yr)	Residential Outdoor Use (Ac-Ft/Yr)	Commercial Indoor and Outdoor Use (Ac-Ft/Yr)	Institutional Indoor and Outdoor Use (Ac-Ft/Yr)	Industrial/ Stockwater Indoor and Outdoor Use (Ac-Ft/Yr)	Total Potable M & I Use (Ac-Ft/Yr)	Population	Average Per Capita Water Use (Ac-Ft/Yr)	Average Per Capita Water Use (GPCPD)		Assumed Peaking Factor (PD/AD)	Peak Day Supply (MGD)	Peak Day Demand (MGD)	Peak Day Supply Over Demand (MGD)		
MILLARD COUNTY																
Country Estates	8.1	0.0	0.0	0.0	0.0	8.1	72	0.113	100.4	30	2.0081	0.0270	0.0145	0.0125	15	
Delta City	405.9	307.4	188.2	268.5	6.8	1,176.8	2,998	0.393	350.4	1,768	2.3590	2.4782	2.4782 *	0.0000	1,177	
Deseret - Oasis Special Service District	55.3	62.5	0.0	16.6	0.7	135.1	491	0.275	245.6	679	2.2989	0.6064	0.2772	0.3292	295	
Fillmore Municipal Water System	250.8	115.2	131.2	297.2	112.1	906.5	2,300	0.394	351.8	4,173	2.3596	3.7247	1.9094	1.8153	1,768	
Hinckley City Water	107.1	92.4	0.6	10.8	0.0	210.9	680	0.310	276.9	573	2.3216	0.5118	0.4371	0.0747	247	
Holden Town Corporation Water	72.5	94.6	2.8	30.4	1.1	201.4	500	0.403	359.6	484	2.3626	0.4318	0.4248	0.0070	205	
Kanosh City Water System	62.6	118.5	3.1	52.8	47.6	284.6	450	0.632	564.6	672	2.4125	0.6129	0.6129 *	0.0000	285	
Kanosh-Paiute Indian Reservation	5.6	6.5	0.0	0.4	0.0	12.5	50	0.250	223.2	NA	NA	NA	NA	NA	NA	
Learnington Town Water	43.1	24.4	1.0	5.2	15.3	89.0	250	0.356	317.8	181	2.3446	0.1863	0.1863 *	0.0000	89	
Lynndyl	13.6	26.9	1.1	5.3	1.8	48.7	150	0.325	289.8	1,161	2.3296	1.0364	0.1013	0.9351	498	
Meadow Town Corporation Water	28.1	64.4	2.7	28.0	24.7	147.9	250	0.592	528.1	540	2.4065	0.4821	0.3177	0.1644	224	
Oak City Municipal Water System	79.8	191.7	2.4	42.6	14.7	331.2	650	0.510	454.9	1,395	2.3914	1.2451	0.7070	0.5381	583	
Oak Meadows Subdivision	6.7	9.5	0.0	0.0	0.0	16.2	60	0.270	241.0	81	2.2950	0.0720	0.0332	0.0388	35	
Scipio Culinary Water System	99.0	0.8	11.6	0.3	32.0	143.7	325	0.442	394.7	478	2.3748	0.4267	0.3046	0.1221	201	
Sherwood Water Company	7.1	7.5	0.0	1.5	0.0	16.1	54	0.298	266.2	48	2.3144	0.0432	0.0333	0.0099	21	
MILLARD COUNTY TOTALS	1,245.3	1,122.3	344.7	759.6	256.8	3,728.7	9,280	0.402	358.7	see note	12,263	2.3623	11.8846	7.8375	4,0471	5644
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	

* Note: Peak Day Demand exceeds the calculated Peak Day Supply. An assumption was made that in these cases the Peak Day Supply has been exactly met and should be set equal to the Peak Day Demand. Although some systems may withdraw the maximum water supply available under present conditions, the hydrologic conditions will probably limit all systems collectively from withdrawing this quantity, as presented.

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

G=B+C+D+E+F

I=G/H

J=I*892.682

L=(2.5*J-49.4)/J

M=K*892.682/1000000; (except as provided in the note above)

N=H*J*L/1000000

O=M-N

P=(M/(L*J))*J*1120.22

These values are all input data.

This value represents only Potable M&I Water Use.

Average per capita potable water use.

Converts from Ac-Ft/Yr to GPD

The factor which when multiplied to the average per capita water use represents water use during peak demands.

Peak Day Supply of potable water based on maximum reliable source capacity converted to MGD). Where the calculated Peak Day Supply of potable water less than the Peak Day Demand of Potable Water, this value was set equal to the Peak Day Demand of potable water.

Peak Day Demand on potable water based on the total potable M&I water use multiplied by the peaking factor

The amount of Peak Day Supply of potable water above the amount of the Peak Day Demand of potable water.

Reliable system source capacity represents that volume of water, which when divided by the average annual water per capita use, gives that population that can be reliably served by the system sources under peak day demand conditions.

this portion of Millard County the current annual potable water use of 3,729 acre-feet is about 66 percent the reliable supply of 5,644 acre-feet of water.

Secondary water is another important aspect of total M&I use. Table 15 gives the amount of secondary water used for various categories within the boundaries of the public community systems. In this portion of Millard County various irrigation companies deliver secondary water to customers. Total public community system secondary use is 1,067 acre-feet.

**TABLE 15
MILLARD COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems**

WATER SUPPLIER	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Secondary Use (Ac-Ft/Yr)
MILLARD COUNTY					
Country Estates	0.0	0.0	0.0	0.0	0.0
Delta City	26.5	0.0	41.9	0.0	68.4
Deseret - Oasis Special Service District	4.3	0.0	0.0	0.0	4.3
Fillmore Municipal Water System	357.1	0.0	3.1	0.0	360.2
Hinckley City Water	143.2	0.0	43.4	0.0	186.6
Holden Town Corporation Water	109.9	0.0	0.0	0.0	109.9
Kanosh City Water System	135.6	0.0	0.0	0.0	135.6
Kanosh-Paiute Indian Reservation	0.0	0.0	0.0	0.0	0.0
Leamington Town Water	4.7	0.0	3.1	0.0	7.8
Lynndyl	0.0	0.0	0.0	0.0	0.0
Meadow Town Corporation Water	0.0	0.0	0.0	0.0	0.0
Oak City Municipal Water System	191.7	0.0	0.0	0.0	191.7
Oak Meadows Subdivision	0.0	0.0	0.0	0.0	0.0
Scipio Culinary Water System	0.0	0.0	0.0	0.0	0.0
Sherwood Water Company	2.0	0.0	0.0	0.0	2.0
MILLARD COUNTY TOTALS	975.0	0.0	91.5	0.0	1,066.5

Note: Separate irrigation companies provide secondary water to the water supplier unless indicated by an **.

Table 16 gives water use for public non-community systems and private domestic systems. There are 3 self-supplied industries (Brush-Wellman Incorporated, Intermountain Power Service Corporation (IPP) and Delta Valley Farms) and several private domestic wells. In addition, Intermountain Power Service Corporation and Sunset View Golf Course used 18,180 ac-ft of secondary water. All of these uses amount to 25,240 acre-feet.

TABLE 16
MILLARD COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems

Non-Community System	POTABLE USAGE					SECONDARY USE (Ac-Ft/Yr)
	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Potable Use (Ac-Ft/Yr)	
MILLARD COUNTY						
Forest Service Systems						
Adelaide Campground	0.0	0.0	0.2	0.0	0.2	0.0
Chalk Creek Water System	0.0	0.0	0.2	0.0	0.2	0.0
Maple Hollow Campground	0.0	0.0	0.2	0.0	0.2	0.0
Oak Creek Campground	0.0	0.0	0.2	0.0	0.2	0.0
Sunset View Golf Course	0.0	0.0	0.5	0.0	0.5	180.0
Sutherland Latter Day Saint Church	0.0	0.0	3.5	0.0	3.5	0.0
SELF-SUPPLIED INDUSTRIES	0.0	0.0	0.0	6,385.0	6,385.0	18,000.0
PRIVAT DOMESTIC	670.0	0.0	0.0	0.0	670.0	0.0
MILLARD COUNTY TOTALS	670.0	0.0	4.8	6,385.0	7,059.8	18,180.0

*SELF-SUPPLIED INDUSTRIES
Brush-Wellman Incorporated
Intermountain Power Service Corporation
Delta Valley Farms

Total potable M&I water use in the county is 10,789 acre-feet, while secondary use is 19,246 acre-feet; giving a total M&I water use of 30,035 acre-feet. Since the current population of this portion of Millard County is 11,796, the total M&I per capita use is 2,273 gpcd. This value is high because of the self supplied industrial use. Without this the per capita use is 428 gpcd. Table 17 gives various per capita rates for public community systems. Appendix C shows the data for each public community system that is presented in the tables.

TABLE 17
MILLARD COUNTY
Average Per Capita M&I Water Use for all Public Community Systems

CATEGORY	Average Per Capita Use (Ac-Ft/Yr)	Average Per Capita Use (GPCD)
Residential Potable Use	0.255	228
Residential Potable Plus Secondary Use	0.360	322
Total Potable Use	0.402	359
Total Potable Plus Secondary Use	0.517	461

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

PIUTE COUNTY M&I WATER SUPPLIES AND USES

The Sevier River Basin portion of Piute County includes the incorporated communities of Circleville, Junction, Kingston and Marysvale. Within this area are 5 public community systems and 5 public non-community systems. Location of the public community systems are shown back in figure 3.

Table 18 shows that the maximum annual water supply for public community systems in Piute County is 1,512 acre-feet; 622 acre-feet from springs and 890 acre-feet from wells,. Reliable system source capacity is less than half that amount at 666 acre-feet.

**TABLE 18
PIUTE COUNTY
Potable Water Supplies for Public Community Systems**

WATER SUPPLIER	Springs (Ac-Ft/Yr)	Wells (Ac-Ft/Yr)	Surface (Ac-Ft/Yr)	Total (Ac-Ft/Yr)
PIUTE COUNTY				
Circleville Culinary Water	137.1	628.9	0.0	766.0
Greenwich Waterworks Company	149.1	0.0	0.0	149.1
Junction Town	80.6	100.0	0.0	180.6
Kingston Town Corporation	32.2	161.2	0.0	193.4
Marysvale Culinary Water	222.7	0.0	0.0	222.7
PIUTE COUNTY TOTALS	621.7	890.1	0.0	1,511.8

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

Table 19 shows the reliable system source capacity along with a breakdown of the potable water use by public community systems. This table shows that for Piute County the current annual potable water use of 451 acre-feet is more than half the reliable supply of 666 acre-feet of water.

Secondary water is another important aspect of total M&I use. Table 20 gives the amount of secondary water used for various categories within the boundaries of the public community systems. In Piute County three community systems use secondary water. The three secondary water suppliers delivering water to public

**TABLE 19
PIUTE COUNTY
WATER USE AND SUPPLY FOR PUBLIC COMMUNITY SYSTEMS**

WATER SUPPLIER	POTABLE USAGE						POTABLE PER CAPITA USAGE			MAXIMUM WATER SUPPLY AVAILABLE UNDER PRESENT CONDITIONS (Ac-Ft/Yr)	POTABLE ESTIMATED PEAK DAY VALUES				RELIABLE SYSTEM SOURCE CAPACITY UNDER PRESENT CONDITIONS (Ac-Ft/Yr)
	Residential Indoor Use (Ac-Ft/Yr)	Residential Outdoor Use (Ac-Ft/Yr)	Commercial Indoor and Outdoor Use (Ac-Ft/Yr)	Institutional Indoor and Outdoor Use (Ac-Ft/Yr)	Industrial/ Stockwater Indoor and Outdoor Use (Ac-Ft/Yr)	Total Potable M & I Use (Ac-Ft/Yr)	Population	Average Per Capita Water Use (Ac-Ft/Yr)	Average Per Capita Water Use (GPCPD)		Assumed Peaking Factor (PD/AD)	Peak Day Supply (MGD)	Peak Day Demand (MGD)	Peak Day Supply Over Demand (MGD)	
PIUTE COUNTY															
Circleville Culinary Water	72.0	88.9	12.9	20.4	41.8	236.0	500	0.472	421.3	766	2.3828	0.6838	0.5020	0.1818	321
Greenwich Waterworks Company	7.2	7.1	0.0	0.0	0.0	14.3	65	0.220	196.4	149	2.2485	0.1331	0.0287	0.1044	66
Junction Town	16.4	16.2	4.5	8.3	7.3	52.7	150	0.351	313.6	181	2.3425	0.1612	0.1102	0.0510	77
Kingston Town Corporation	8.8	6.8	0.1	16.1	0.8	32.6	145	0.225	200.7	193	2.2539	0.1726	0.0656	0.1071	86
Marysville Culinary Water	37.7	38.8	8.5	27.4	3.0	115.4	310	0.372	332.3	223	2.3513	0.2422	0.2422 *	0.0000	115
										see note					
PIUTE COUNTY TOTALS	142.1	157.8	26.0	72.2	52.9	451.0	1,170	0.385	344.1	1,512	2.3564	1.3930	0.9487	0.4443	666
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

* Note: Peak Day Demand exceeds the calculated Peak Day Supply. An assumption was made that in these cases the Peak Day Supply has been exactly met and should be set equal to the Peak Day Demand.

Although some systems may withdraw the maximum water supply available under present conditions, the hydrologic conditions will probably limit all systems collectively from withdrawing this quantity, as presented.

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

G=B+C+D+E+F

I=G/H

J=I*892.682

L=(2.5*J-49.4)/J

M=K*892.682/1000000; (except as provided in the note above)

N=H*J*L/1000000

O=M-N

P=(M/(L*J))*J*1120.22

These values are all input data.

This value represents only Potable M&I Water Use.

Average per capita potable water use.

Converts from Ac-Ft/Yr to GPD

The factor which when multiplied to the average per capita water use represents water use during peak demands.

Peak Day Supply of potable water based on maximum reliable source capacity converted to MGD). Where the calculated Peak Day Supply of potable water is less than the Peak Day Demand of Potable Water, this value was set equal to the Peak Day Demand of potable water.

Peak Day Demand on potable water based on the total potable M&I water use multiplied by the peaking factor

The amount of Peak Day Supply of potable water above the amount of the Peak Day Demand of potable water.

Reliable system source capacity represents that volume of water, which when divided by the average annual water per capita use, gives that population that can be reliably served by the system sources under peak day demand conditions.

community systems are Circleville Irrigation Company, City Creek Reservoir & Irrigation Company and Kingston Irrigation Water Company. Total secondary use is 86 acre-feet.

**TABLE 20
PIUTE COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems**

WATER SUPPLIER	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Secondary Use (Ac-Ft/Yr)
PIUTE COUNTY					
Circleville Culinary Water	0.0	0.0	12.5	0.0	12.5
Greenwich Waterworks Company	0.0	0.0	0.0	0.0	0.0
Junction Town	54.0	0.0	10.0	0.0	64.0
Kingston Town Corporation	4.2	0.0	5.0	0.0	9.2
Marysville Culinary Water	0.0	0.0	0.0	0.0	0.0
PIUTE COUNTY TOTALS	58.2	0.0	27.5	0.0	85.7

Note: Separate irrigation companies provide secondary water to the water supplier unless indicated by an **.

Table 21 gives water use for public non-community systems, self-supplied industries, and private domestic systems. Otter Creek Lake State Park is among the 5 listed non-community systems. There are numerous residences using their own wells. All of these uses amount to 97 acre-feet.

**TABLE 21
PIUTE COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems**

Non-Community System	POTABLE USAGE					SECONDARY USE (Ac-Ft/Yr)
	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Potable Use (Ac-Ft/Yr)	
PIUTE COUNTY						
Forest Service Systems						
City Creek Campground	0.1	0.0	0.0	0.0	0.1	0.0
State Park Systems						
Otter Creek Lake State Park	0.0	0.0	8.5	0.0	8.5	0.0
Grass Valley Guest Ranch	0.0	2.0	0.0	0.0	2.0	0.0
Hoover's Cafe	0.0	0.2	0.0	0.0	0.2	0.0
Otter Creek RV Park	0.0	1.0	0.0	0.0	1.0	0.0
SELF-SUPPLIED INDUSTRIES	0.0	0.0	0.0	0.0	0.0	0.0
PRIVAT DOMESTIC	85.0	0.0	0.0	0.0	85.0	0.0
PIUTE COUNTY TOTALS	85.1	3.2	8.5	0.0	96.8	0.0

Total potable M&I water use in the county is 548 acre-feet, while secondary use is 86 acre-feet; giving a total M&I water use of 634 acre-feet. Since the current population of the Sevier River Drainage portion of Piute County is about 1,508 the total M&I per capita use is 375 gpcd. Table 22 gives various per capita rates for public community systems. Appendix D shows the data for each public community system that is presented in the tables.

TABLE 22
PIUTE COUNTY
Average Per Capita M&I Water Use for all Public Community Systems

CATEGORY	Average Per Capita Use (Ac-Ft/Yr)	Average Per Capita Use (GPCD)
Residential Potable Use	0.256	229
Residential Potable Plus Secondary Use	0.306	273
Total Potable Use	0.385	344
Total Potable Plus Secondary Use	0.459	410

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

SANPETE COUNTY M&I WATER SUPPLIES AND USES

The Sevier River Basin portion of Sevier County includes the incorporated communities of Centerfield, Ephraim, Fairview, Fayette, Fountain Green, Gunnison, Manti, Mayfield, Moroni, Mt. Pleasant, Spring City, Sterling and Wales. Within this area are 15 public community systems, 9 public non-community systems, and 1 self-supplied industry. Location of the public community systems are shown in figure 3.

Table 23 shows that the maximum annual water supply for public community systems in Sanpete County is 14,487 acre-feet; 8,427 acre-feet from springs and 6,060 acre-feet from wells. The reliable system source capacity is 6,888 acre-feet.

TABLE 23
SANPETE COUNTY
Potable Water Supplies for Public Community Systems

WATER SUPPLIER	Springs (Ac-Ft/Yr)	Wells (Ac-Ft/Yr)	Surface (Ac-Ft/Yr)	Total (Ac-Ft/Yr)
SANPETE COUNTY				
Axtell Community Service District	241.9	0.0	0.0	241.9
Centerfield Water and Improvement District	724.0	0.0	0.0	724.0
Ephraim Municipal Water Department	3,627.2	0.0	0.0	3,627.2
Fairview Municipal Water	275.7	451.5	0.0	727.2
Fayette Town	0.0	177.0	0.0	177.0
Fountain Green	293.6	0.0	0.0	293.6
Guinnison City Corporation Water	674.2	1,447.9	0.0	2,122.1
Heartland Mobile Home Park	0.0	48.4	0.0	48.4
Manti City Corporation Water	910.8	1,613.0	0.0	2,523.8
Mayfield Water Department	153.5	0.0	0.0	153.5
Moroni Municipal Water System	0.0	1,088.8	0.0	1,088.8
Mt. Pleasant City	1,114.9	725.4	0.0	1,840.3
Spring City Municipal Water System	192.1	362.9	0.0	555.0
Sterling Municipal Water System	88.7	145.1	0.0	233.8
Wales Town Water	130.3	0.0	0.0	130.3
SANPETE COUNTY TOTALS	8,426.9	6,060.0	0.0	14,486.9

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

Table 24 shows this along with a breakdown of the potable water use by public community systems. This table shows that for Sanpete County the current annual

potable water use of 3,719 acre-feet is about half the reliable supply of 6,888 acre-feet of water.

**TABLE 24
SANPETE COUNTY
WATER USE AND SUPPLY FOR PUBLIC COMMUNITY SYSTEMS**

WATER SUPPLIER	POTABLE USAGE						POTABLE PER CAPITA USAGE			MAXIMUM WATER SUPPLY AVAILABLE UNDER PRESENT CONDITIONS (Ac-Ft/Yr)	POTABLE ESTIMATED PEAK DAY VALUES				RELIABLE SYSTEM SOURCE CAPACITY UNDER PRESENT CONDITIONS (Ac-Ft/Yr)	
	Residential Indoor Use (Ac-Ft/Yr)	Residential Outdoor Use (Ac-Ft/Yr)	Commercial Indoor and Outdoor Use (Ac-Ft/Yr)	Institutional Indoor and Outdoor Use (Ac-Ft/Yr)	Industrial/Stockwater Indoor and Outdoor Use (Ac-Ft/Yr)	Total Potable M & I Use (Ac-Ft/Yr)	Population	Average Per Capita Water Use (Ac-Ft/Yr)	Average Per Capita Water Use (GPCPD)		Assumed Peaking Factor (PD/AD)	Peak Day Supply (MGD)	Peak Day Demand (MGD)	Peak Day Supply Over Demand (MGD)		
SANPETE COUNTY																
Axtell Community Service District	34.7	12.6	0.0	3.2	3.2	53.7	155	0.346	309.3	242	2.3403	0.2159	0.1122	0.1038	103	
Centerfield Water and Improvement District	89.6	188.4	9.2	6.2	151.4	444.8	800	0.556	496.3	724	2.4005	0.9531	0.9531 *	0.0000	445	
Ephraim Municipal Water Department	258.8	188.4	42.5	292.2	37.6	819.5	3,300	0.248	221.7	3,627	2.2772	3.2379	1.6659	1.5721	1,593	
Fairview Municipal Water	117.0	0.0	5.4	1.7	84.6	208.7	1,300	0.161	143.3	727	2.1553	0.6492	0.4015	0.2476	337	
Fayette Town	45.8	27.0	0.0	11.5	4.8	89.1	195	0.457	407.9	177	2.3789	0.1892	0.1892 *	0.0000	89	
Fountain Green	149.6	93.4	4.1	4.1	44.0	295.2	950	0.311	277.4	294	2.3219	0.6119	0.6119 *	0.0000	295	
Guinnison City Corporation Water	164.6	23.9	44.1	130.8	55.9	419.3	2,000	0.210	187.2	2,122	2.2360	1.8944	0.8370	1.0574	949	
Heartland Mobile Home Park	3.4	0.0	0.0	0.0	0.0	3.4	30	0.113	101.2	48	2.0117	0.0432	0.0061	0.0371	24	
Manti City Corporation Water	263.2	7.5	34.3	112.5	64.8	482.3	2,500	0.193	172.2	2,524	2.2132	2.2530	0.9529	1.3001	1,140	
Mayfield Water Department	45.4	17.5	0.1	13.0	0.1	76.1	500	0.152	135.9	154	2.1364	0.1451	0.1451 *	0.0000	76	
Moroni Municipal Water System	127.6	0.0	15.8	54.4	4.8	202.6	2,000	0.101	90.4	1,089	1.9537	0.9720	0.3533	0.6186	557	
Mt. Pleasant City	183.3	106.2	51.4	86.3	4.5	431.7	2,333	0.185	165.2	1,840	2.2009	1.6428	0.8482	0.7946	836	
Spring City Municipal Water System	82.3	0.0	1.5	20.0	4.9	108.7	900	0.121	107.8	555	2.0418	0.4954	0.1981	0.2973	272	
Sterling Municipal Water System	38.0	7.5	2.3	0.6	4.6	53.0	350	0.151	135.2	234	2.1346	0.2087	0.1010	0.1077	110	
Wales Town Water	14.3	9.7	0.1	7.1	0.0	31.2	200	0.156	139.3	130	2.1453	0.1163	0.0597	0.0566	61	
SANPETE COUNTY TOTALS	1,617.6	682.1	210.8	743.6	465.2	3,719.3	17,513	0.212	189.6	see note	14,487	2,2394	13.6281	7.4352	6.1929	6888
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	

* Note: Peak Day Demand exceeds the calculated Peak Day Supply. An assumption was made that in these cases the Peak Day Supply has been exactly met and should be set equal to the Peak Day Demand. Although some systems may withdraw the maximum water supply available under present conditions, the hydrologic conditions will probably limit all systems collectively from withdrawing this quantity, as presented.

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

G=B+C+D+E+F

I=G/H

J=I*892.682

L=(2.5*J-49.4)/J

M=K*892.682/1000000; (except as provided in the note above)

N=H*J*L/1000000

O=M-N

P=(M/(L*J))*J*1120.22

These values are all input data.

This value represents only Potable M&I Water Use.

Average per capita potable water use.

Converts from Ac-Ft/Yr to GPD

The factor which when multiplied to the average per capita water use represents water use during peak demands.

Peak Day Supply of potable water based on maximum reliable source capacity converted to MGD). Where the calculated Peak Day Supply of potable water is less than the Peak Day Demand of Potable Water, this value was set equal to the Peak Day Demand of potable water.

Peak Day Demand on potable water based on the total potable M&I water use multiplied by the peaking factor

The amount of Peak Day Supply of potable water above the amount of the Peak Day Demand of potable water.

Reliable system source capacity represents that volume of water, which when divided by the average annual water per capita use, gives that population that can be reliably served by the system sources under peak day demand conditions.

Secondary water is another important aspect of total M&I use. Table 25 gives the amount of secondary water used for various categories within the boundaries of the public community systems. Nearly every community system in the Sevier River Basin portion of Sanpete County utilizes secondary water sources. A variety of companies supply secondary water for municipal use. Total public community system secondary use is 2,608 acre-feet.

TABLE 25
SANPETE COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems

WATER SUPPLIER	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Secondary Use (Ac-Ft/Yr)
SANPETE COUNTY					
Axtell Community Service District	10.9	0.0	0.0	0.0	10.9
Centerfield Water and Improvement District	40.8	0.0	65.0	0.0	105.8
Ephraim Municipal Water Department	30.1	0.0	0.0	0.0	30.1
Fairview Municipal Water	147.6	0.0	59.8	0.0	207.4
Fayette Town	12.4	0.0	0.0	0.0	12.4
Fountain Green	80.9	0.0	28.9	0.0	109.8
Guinnison City Corporation Water	215.1	0.0	83.9	0.0	299.0
Heartland Mobile Home Park	0.0	0.0	0.0	0.0	0.0
Manti City Corporation Water	123.5	0.0	117.7	0.0	241.2
Mayfield Water Department	57.0	0.0	18.5	0.0	75.5
Moroni Municipal Water System	236.6	0.0	0.0	0.0	236.6
Mt. Pleasant City	678.0	0.0	74.1	0.0	752.1
Spring City Municipal Water System	431.6	0.0	9.1	0.0	440.7
Sterling Municipal Water System	62.4	0.0	20.8	0.0	83.2
Wales Town Water	2.8	0.0	0.0	0.0	2.8
SANPETE COUNTY TOTALS	2,129.7	0.0	477.8	0.0	2,607.5

Note: Separate irrigation companies provide secondary water to the water supplier unless indicated by an '*'.

Table 26 gives water use for public non-community systems, self-supplied industries, and private domestic systems. Palisade State Park is among the 9 listed non-community systems. Moroni Feed Company is the only self-supplied industry. There are numerous residences using their own wells. In addition, Palisade State Park and Skyline Mountain Resort use a total of 390 acre-feet of secondary water. All of these uses amount to 1,187 acre-feet of potable water and 390 acre-feet of non-potable water for a total of 1,577 acre-feet of water.

TABLE 26
SANPETE COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems

Non-Community System	POTABLE USAGE					SECONDARY USE (Ac-Ft/Yr)
	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Potable Use (Ac-Ft/Yr)	
SANPETE COUNTY						
Forest Service Systems						
Lake Hill Campground	0.0	0.0	0.2	0.0	0.2	0.0
Manti Community Campground	0.0	0.0	0.2	0.0	0.2	0.0
Spring City Campground	0.0	0.0	0.3	0.0	0.3	0.0
State Park Systems						
Palisade State Park	0.0	0.0	39.5	0.0	39.5	300.0
Camperworld - Mt. Pleasant	0.0	1.0	0.0	0.0	1.0	0.0
Palisade Lodge	1.0	1.0	0.0	0.0	2.0	0.0
Pine Creek Property Owners	3.0	0.0	0.0	0.0	3.0	0.0
Provo/Orem Stake Girls Camp	0.0	0.0	1.5	0.0	1.5	0.0
Skyline Mountain Resort	6.0	4.0	0.0	0.0	10.0	90.0
SELF-SUPPLIED INDUSTRIES	0.0	0.0	0.0	529.6	529.6	0.0
PRIVATE DOMESTIC	600.0	0.0	0.0	0.0	600.0	0.0
SANPETE COUNTY TOTALS	610.0	6.0	41.7	529.6	1,187.3	390.0

*SELF-SUPPLIED INDUSTRIES
*Moroni Feed Company

Total potable M&I water use in the county is 4,907 acre-feet, while secondary use is 2,998 acre-feet; giving a total M&I water use of 7,904 acre-feet. Since the current population of Sanpete County is about 19,884 the total M&I per capita use is 355 gpcd. Table 27 gives various per capita rates for public community systems. Appendix E shows data for each public community system presented in the tables.

TABLE 27
SANPETE COUNTY
Average Per Capita M&I Water Use for all Public Community Systems

CATEGORY	Average Per Capita Use (Ac-Ft/Yr)	Average Per Capita Use (GPCD)
Residential Potable Use	0.131	117
Residential Potable Plus Secondary Use	0.253	226
Total Potable Use	0.212	190
Total Potable Plus Secondary Use	0.361	323

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

SEVIER COUNTY M&I WATER SUPPLIES AND USES

The Sevier River Basin portion of Sevier County includes the incorporated communities of Annabella, Aurora, Elsinore, Glenwood, Joseph, Koosharem, Monroe, Redmond, Richfield, Salina and Sigurd. Within this area are 17 public community systems, 6 public non-community systems, and 2 self-supplied industries. Location of the public community systems are shown back in figure 3.

Table 28 shows that the maximum annual water supply for public community systems in Sanpete County is 9,920 acre-feet; 5,382 acre-feet from springs and 4,538 acre-feet from wells. The reliable system source capacity is 6,117 acre-feet.

TABLE 28
SEVIER COUNTY
Potable Water Supplies for Public Community Systems

WATER SUPPLIER	Springs (Ac-Ft/Yr)	Wells (Ac-Ft/Yr)	Surface (Ac-Ft/Yr)	Total (Ac-Ft/Yr)
SEVIER COUNTY				
Annabella	353.2	370.8	0.0	724.0
Aurora	88.7	364.5	0.0	453.2
Austin Community Special Service District	88.7	0.0	0.0	88.7
Brooklyn Tap Line Company	0.0	0.0	NA	NA
Central Waterworks Company	137.1	222.7	0.0	359.8
Cove Special Service District	0.0	257.0	0.0	257.0
Elsinore Town	161.3	521.4	0.0	682.7
Glenwood Municipal Water System	181.0	0.0	0.0	181.0
Joseph	107.4	300.4	0.0	407.8
Koosharem	112.9	332.5	0.0	445.4
Monroe City	564.7	724.0	0.0	1,288.7
Redmond	0.0	935.0	0.0	935.0
Richfield City	2,418.7	0.0	0.0	2,418.7
Salina	905.0	0.0	0.0	905.0
Shadow Mountain Estates Subdivision	0.0	58.0	0.0	58.0
Sigurd Municipal Water System	263.0	451.5	0.0	714.5
South Monroe	NA	NA	0.0	NA
SEVIER COUNTY TOTALS	5,381.7	4,537.8	0.0	9,919.5

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

Table 29 shows the reliable system source capacity along with a breakdown of the potable water use by public community systems. This table shows that for the

**TABLE 29
SEVIER COUNTY
WATER USE AND SUPPLY FOR PUBLIC COMMUNITY SYSTEMS**

WATER SUPPLIER	POTABLE USAGE						POTABLE PER CAPITA USAGE			MAXIMUM WATER SUPPLY AVAILABLE UNDER PRESENT CONDITIONS (Ac-Ft/Yr)	POTABLE ESTIMATED PEAK DAY VALUES				RELIABLE SYSTEM SOURCE CAPACITY UNDER PRESENT CONDITIONS (Ac-Ft/Yr)
	Residential Indoor Use (Ac-Ft/Yr)	Residential Outdoor Use (Ac-Ft/Yr)	Commercial Indoor and Outdoor Use (Ac-Ft/Yr)	Institutional Indoor and Outdoor Use (Ac-Ft/Yr)	Industrial/ Stockwater Indoor and Outdoor Use (Ac-Ft/Yr)	Total Potable M & I Use (Ac-Ft/Yr)	Population	Average Per Capita Water Use (Ac-Ft/Yr)	Average Per Capita Water Use (GPCPD)		Assumed Peaking Factor (PD/AD)	Peak Day Supply (MGD)	Peak Day Demand (MGD)	Peak Day Supply Over Demand (MGD)	
SEVIER COUNTY															
Annabella	79.2	9.3	0.0	24.8	1.7	115.0	700	0.164	146.7	724.0	2.1632	0.6463	0.2221	0.4242	335
Aurora	139.5	8.3	4.6	13.1	4.0	169.5	993	0.171	152.4	453.2	2.1758	0.4046	0.3292	0.0753	208
Austin Community Special Service District	16.8	16.5	2.2	0.0	0.0	35.5	142	0.250	223.2	88.7	2.2786	0.0792	0.0722	0.0070	39
Brooklyn Tap Line Company	32.4	13.5	0.0	0.0	6.1	52.0	160	0.325	290.1	NA	NA	NA	NA	NA	NA
Central Waterworks Company	57.8	45.0	0.0	5.3	5.5	113.6	741	0.153	136.9	359.8	2.1390	0.3212	0.2169	0.1043	168
Cove Special Service District	19.4	32.0	0.0	0.1	23.6	75.1	130	0.578	515.7	257.0	2.4042	0.2294	0.1612	0.0682	107
Elsinore Town	106.8	128.7	15.3	267.7	11.4	529.9	750	0.707	630.7	682.7	2.4217	1.1455	1.1455 *	0.0000	530
Glenwood Municipal Water System	111.8	1.5	1.8	6.7	0.3	122.1	437	0.279	249.4	181.0	2.3019	0.2509	0.2509 *	0.0000	122
Joseph	63.4	42.3	10.4	3.0	0.9	120.0	450	0.267	238.0	407.8	2.2925	0.3640	0.2456	0.1185	178
Koosharem	44.8	21.5	8.7	3.2	1.5	79.7	400	0.199	177.9	445.4	2.2223	0.3976	0.1581	0.2395	200
Monroe City	175.8	161.0	3.3	45.9	241.6	627.6	1,606	0.391	348.8	1,288.7	2.3584	1.3213	1.3213 *	0.0000	628
Redmond	84.0	56.7	0.0	93.4	11.1	245.2	850	0.288	257.5	935.0	2.3082	0.8347	0.5052	0.3294	405
Richfield City	682.6	786.4	384.6	196.2	27.5	2,077.3	6,800	0.305	272.7	2,418.7	2.3188	4.3000	4.3000 *	0.0000	2,077
Salina	228.6	0.0	553.5	10.5	0.0	792.6	2,200	0.360	321.6	905.0	2.3464	1.6602	1.6602 *	0.0000	793
Shadow Mountain Estates Subdivision	4.7	3.8	0.0	0.0	0.0	8.5	37	0.230	205.1	58.0	2.2591	0.0518	0.0171	0.0346	26
Sigurd Municipal Water System	47.1	60.3	1.9	29.2	22.5	161.0	385	0.418	373.3	714.5	2.3677	0.6378	0.3403	0.2975	302
South Monroe	5.5	6.8	0.0	0.0	18.3	30.6	42	0.729	650.4	NA	NA	NA	NA	NA	NA
										see note					
SEVIER COUNTY TOTALS	1,900.2	1,393.6	986.3	699.1	376.0	5,355.2	16,823	0.318	284.2	9,919.50	2.3262	12.6444	10.9458	1.6986	6117
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

* Note: Peak Day Demand exceeds the calculated Peak Day Supply. An assumption was made that in these cases the Peak Day Supply has been exactly met and should be set equal to the Peak Day Demand.

Although some systems may withdraw the maximum water supply available under present conditions, the hydrologic conditions will probably limit all systems collectively from withdrawing this quantity, as presented.

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

G=B+C+D+E+F

I=G/H

J=I*892.682

L=(2.5*J-49.4)/J

M=K*892.682/1000000; (except as provided in the note above)

N=H*J/1000000

O=M-N

P=(M/(L*J))*J*1120.22

These values are all input data.

This value represents only Potable M&I Water Use.

Average per capita potable water use.

Converts from Ac-Ft/Yr to GPD

The factor which when multiplied to the average per capita water use represents water use during peak demands.

Peak Day Supply of potable water based on maximum reliable source capacity converted to MGD). Where the calculated Peak Day Supply of potable water is less than the Peak Day Demand of Potable Water, this value was set equal to the Peak Day Demand of potable water.

Peak Day Demand on potable water based on the total potable M&I water use multiplied by the peaking factor

The amount of Peak Day Supply of potable water above the amount of the Peak Day Demand of potable water.

Reliable system source capacity represents that volume of water, which when divided by the average annual water per capita use, gives that population that can be reliably served by the system sources under peak day demand conditions.

Sevier River Basin portion of Sevier County the current annual potable water use of 5,355 acre-feet is about half the reliable supply of 6,117 acre-feet of water.

Secondary water is another important aspect of total M&I use. Table 30 gives the amount of secondary water used for various categories within the boundaries of the public community systems. A variety of irrigation companies serve these community systems' secondary needs. Total public community system secondary use is 1,763 acre-feet.

TABLE 30
SEVIER COUNTY
Secondary (Non-Potable) Water Use Within Public Community Systems

WATER SUPPLIER	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Secondary Use (Ac-Ft/Yr)
SEVIER COUNTY					
Annabella	75.0	0.0	10.8	0.0	85.8
Aurora	189.7	0.0	21.6	1.3	212.6
Austin Community Special Service District	0.0	0.0	0.0	0.0	0.0
Brooklyn Tap Line Company	2.0	0.0	0.0	0.0	2.0
Central Waterworks Company	3.4	0.0	0.0	0.0	3.4
Cove Special Service District	8.1	0.0	0.0	0.0	8.1
Elsinore Town	30.0	0.0	0.0	0.0	30.0
Glenwood Municipal Water System	49.3	1.4	13.5	0.0	64.2
Joseph	9.5	0.0	5.4	0.0	14.9
Koosharem	12.9	0.0	10.8	0.0	23.7
Monroe City	326.0	0.0	108.0	0.0	434.0
Redmond	34.0	0.0	10.8	0.0	44.8
Richfield City	13.5	0.0	249.2	0.0	262.7
Salina	527.9	0.0	48.6	0.0	576.5
Shadow Mountain Estates Subdivision	0.7	0.0	0.0	0.0	0.7
Sigurd Municipal Water System	0.0	0.0	0.0	0.0	0.0
South Monroe	0.0	0.0	0.0	0.0	0.0
SEVIER COUNTY TOTALS	1,282.0	1.4	478.7	1.3	1,763.4

Note: Separate irrigation companies provide secondary water to the water supplier unless indicated by an *.

Table 31 gives water use for public non-community systems, self-supplied industries, and private domestic systems. Fremont Indian State Park is among the 6 listed non-community systems. United States Gypsum Company and Canyon Fuel Company are the two listed self-supplied industries. There are numerous residences using their own wells. All of these uses amount to 345 acre-feet.

**TABLE 31
SEVIER COUNTY
Water Use for Public Non-Community Systems,
Self-Supplied Industries and Private Domestic Systems**

Non-Community System	POTABLE USAGE					SECONDARY USE (Ac-Ft/Yr)
	Residential Use (Ac-Ft/Yr)	Commercial Use (Ac-Ft/Yr)	Institutional Use (Ac-Ft/Yr)	Industrial/ Stockwater Use (Ac-Ft/Yr)	Total Potable Use (Ac-Ft/Yr)	
SEVIER COUNTY						
Forest Service Systems						
Gooseberry Campground	0.0	0.0	0.1	0.0	0.1	0.0
State Park Systems						
Fremont Indian State Park	0.0	0.0	1.5	0.0	1.5	0.0
Burrville Culinary Water	7.1	0.0	0.0	0.0	7.1	0.0
Ivie Creek Rest Stop	0.0	0.0	1.5	0.0	1.5	0.0
St. Elizabeth Catholic Church	0.0	0.0	2.0	0.0	2.0	0.0
Venice Ward	0.0	0.0	4.0	0.0	4.0	0.0
SELF-SUPPLIED INDUSTRIES	0.0	0.0	0.0	113.5	113.5	0.0
PRIVATE DOMESTIC	215.0	0.0	0.0	0.0	215.0	0.0
SEVIER COUNTY TOTALS	222.1	0.0	9.1	113.5	344.7	0.0

*SELF-SUPPLIED INDUSTRIES
United States Gypsum Company
Canyon Fuel Company

Total potable M&I water use in the county is 5,700 acre-feet, while secondary use is 1,763 acre-feet; giving a total M&I water use of 7,463 acre-feet. Since the current population of Sevier County is 17,607 the total M&I per capita use is 378 gpcd. Table 32 gives various per capita rates for public community systems. Appendix F shows data for each public community system presented in the tables.

**TABLE 32
SEVIER COUNTY
Average Per Capita M&I Water Use for all Public Community Systems**

CATEGORY	Average Per Capita Use (Ac-Ft/Yr)	Average Per Capita Use (GPCD)
Residential Potable Use	0.196	175
Residential Potable Plus Secondary Use	0.272	243
Total Potable Use	0.318	284
Total Potable Plus Secondary Use	0.423	378

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