TECHNICAL MEMORANDUM

TO: Doug Beahm, BRS, Inc.
Jon Wade, Wyoming Water Development Commission

FROM: Mark E. Stacy and Brian R. Wood, Lidstone and Associates, Inc.

DATE: October 4, 2002

SUBJECT: Wind / Bighorn Basin Plan
Municipal Basin Water Use Profile

Introduction

According to the U.S. Environmental Protection Agency (EPA), there are currently 58 active municipal and non-municipal community public water systems in the Wind/Big Horn Basin (Lamb, 2002). Through its water system surveys, the Wyoming Water Development Commission (WWDC) has acquired detailed information on approximately 40 of these public water systems (WWDC, 2002). Information provided in the 2002 Water System Survey indicates these systems are capable of storing more than 36.7 million gallons of water obtained from rivers, streams, wells, reservoirs, and lakes to serve more than 59,000 people, or roughly 87% of the Basin's population. The average daily municipal water use for the Wind/Big Horn Basin (Basin) is approximately 12.2 million gallons per day (MGD), or roughly 207 gallons per day per person.

This technical memorandum provides water use and capacity information for these 58 municipal and non-municipal community public water systems that are located in the Basin. Of the following 25 municipalities in the Basin, only 11 serve more than 1,000 people. Surface water is the primary source for most of these larger population centers and is utilized to supply 68% of the average water use in the Basin. Ground water is the source of supply for the larger populated areas of Greybull, Dubois, Basin, and Worland, and is utilized to supply 32% of the average water use in the Basin. The following municipalities primarily use ground water sources of supply:

- Burlington
- Cowley
- Greybull
- Hyattville
- Dubois
- Hudson
- Pavillion
- Shoshoni
- Ten Sleep
- Worland
- Basin
- Manderson

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The following municipalities utilize surface water sources as their principal supply:

- Lander
- Riverton
- Thermopolis
- Meeteetse
- Byron
- Deaver
- Powell
- Frannie
- Lovell
- East Thermopolis
- Kirby
- Lucerne
- Cody

Within the vicinity of these municipalities are various subdivisions, mobile home parks, water and sewer districts, and water users associations that utilize surface and ground water sources for community public water systems. Riverton supplements its surface water supply with ground water from the Wind River Aquifer, and it represents their sole supply during the non-irrigation season. In addition, Yellowstone National Park utilizes surface water for its visitors to the park.

Information used in the preparation of this technical memorandum was acquired from several different sources and is tabulated in Appendices A and B. For the community public water systems in the Basin that provided information to the WWDC, the 2002 Water System Survey Report provided the basis for establishing their water system capacity and existing use. The EPA public water system database provided the basis for information on the remaining community water systems. To acquire additional information, these systems were contacted by telephone and were asked to complete a brief questionnaire about their system. In a few cases, no information could be obtained on the water system or the data in the WWDC 2002 Water System Survey Report could not be verified.

Ground Water Use

Based on the listing of public water systems registered with the EPA in the Basin in Table 1, more than 16,000 people rely on ground water sources of supply for their community water systems. Some of these systems obtain water from shallow alluvial wells and/or springs, which may be regulated as ground water under the direct influence of surface water. Roughly 75% of these people are served by ground water delivered from the Towns of Greybull, Dubois, and Worland, and the South Big Horn County Joint Powers Board. The location, population served, and source for these and other community public water systems are listed in Table 1. More detailed usage information is included in Appendix A. Locations of wells that are used for municipal purposes and produce more than 50 gpm are shown on Figure 1.

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TABLE 1
Listing of Community Public Water Systems that Utilize Ground Water in the Wind/Big Horn Basin

County	PWS ID	Name	Population Served	Source	2002 WWDC
Bighorn	WY5601098	Town of Burlington	274	2 Willwood Aquifer Wells	Yes
Bighorn	WY5600206	Town of Cowley	700	1 Madison Aquifer Well	Yes
Bighorn	WY5600970	South End Water & Sewer District	140	Town of Cowley	Yes
Bighorn	WY5600022	Town of Greybull	3,200	3 Madison/ Bighorn Aquifer Wells	Yes
Bighorn	WY5601385	Airport Bench Water & Sewer District	26	Town of Greybull	Yes
Bighorn	WY5600230	Greybull Heights Water Users	70	Town of Greybull	Yes
Bighorn	WY5601272	Shell Valley West Water & Sewer	45	Town of Greybull	No
Bighorn	WY5600205	Shell Water Users, Inc.	60	Town of Greybull	Yes
Bighorn	WY5600209	Hyattville Water Company	48	1 Madison Aquifer Well	Yes
Bighorn	WY5601454	South Big Horn County Joint Powers Board	2,084	2 Madison/ Bighorn Aquifer Wells	No
Bighorn	WY5600004	Town of Basin	1,200	S. Bighorn Cty. JPB	Yes
Bighorn	WY5600204	Town of Manderson	115	S. Bighorn Cty. JPB	Yes
Bighorn	WY5600180	B&K Mobile Home Court	95	1 Well	No
Bighorn	WY5600181	Cozy Mobile Park	90	2 Wells	No
Fremont	WY5600177	Town of Dubois	1,067	4 Quaternary Aquifer Wells	Yes
Fremont	WY5600861	Warm Springs Water District	125	1 Madison Aquifer Well	Yes
Fremont	WY5600194	First Fike Subdivision	150	1 Well	No
Fremont	WY5600774	Gardens North Homeowners Association	200	1 Well	Yes
Fremont	WY5600183	Town of Hudson	450	11 Quaternary Aquifer Wells	Yes

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County	PWS ID	Name	Population Served	Source	2002 WWDC
Fremont	WY5601275	Juniper Park Water Association	36	1 Tensleep Aquifer Well	No
Fremont	WY5600179	Monroe Avenue Mobile Home Park	100	3 Wells	No
Fremont	WY5600182	Mountain View Acres	165	2 Wells	No
Fremont	WY5600173	North Riverton Water & Sewer District	150	1 Well	Yes
Fremont	WY5600837	Northfork Acres Water Co-op	30	1 Spring	Yes
Fremont	WY5600039	Town of Pavillion	160	5 Wind River Aquifer Wells	Yes
Fremont	WY5601100	Raintree Estates	75	2 Wells	No
Fremont	WY5600195	Second Fike Subdivision	26	1 Well	No
Fremont	WY5600053	Town of Shoshoni	550	4 Wells	Yes
Fremont	WY5600184	Spencer Homesites	40	2 Wells	No
Fremont	WY5601225	Sunridge Estates	160	1 Wind River Aquifer Well	Yes
Park	WY5601450	Cooper Sub Mobile Home Park	100	2 Wells	No
Park	WY5600043	North End Water Users	500	3 Willwood Aquifer Wells	Yes
Park	WY5601193	Vision Quest Estates	45	1 Quaternary Aquifer Well	No
Washakie	WY5600203	Town of Ten Sleep	400	2 Madison Aquifer Wells	Yes
Washakie	WY5600197	Worland Utilities Commission	7,550	2 Madison Aquifer Wells	Yes
Washakie	WY5600235	South Worland Water Users, Inc.	450	Worland Utilities Commission	Yes

Notes: PWS ID: Public Water System identification according to EPA.
Source: Ground water source according to WWDC and EPA. Note that if source is other than a well or spring, the ground water is purchased from the entity indicated.
2002 WWDC: Yes, indicates additional details available from 2002 WWDC water system survey report; No, indicates no information available from WWDC in 2002.

Of the 58 municipal and non-municipal community public water systems that are located in the Basin, 36 of these systems are serviced by ground water derived from high quality sources in the Basin. These community systems use at least 3.9 MGD on average based on information provided to the WWDC. Peak ground water usage is more than double that amount at 8.8 MGD. Several small communities report low average per capita use ranging from 40 to 70 gallons per capita per day (GPCD), while the Towns of Greybull and Ten Sleep reportedly use

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the most on average ranging from 450 to 500 GPCD. Peak usage per capita ranges from 48 GPCD in the North Riverton Water & Sewer District to 1,500 GPCD in the Town of Ten Sleep. Several of these systems are unmetered and per capita usage could not be verified.

Surface Water Use

Based on the listing of public water systems registered with the EPA in the Basin in Table 2, at least 43,000 people in the Basin rely on surface water sources of supply for their community water systems. While 22 public water systems service residents of the Basin with surface water, only seven sources that are controlled by various entities are utilized for supply. These sources include the Middle Popo Agie River, Wind / Big Horn River, Wood River, Buffalo Bill Reservoir (Shoshone River), Gardner Creek, Panther Creek, and the Firehole River. Lander and Thermopolis divert water for their own use and supply other entities. The largest surface water diversion is the Shoshone Municipal Pipeline that obtains water from Buffalo Bill Reservoir and distributes water to roughly 21,000 people downstream along the Shoshone River. Riverton, Meeteetse, and Yellowstone National Park all divert surface waters for their own water supply use. Of the municipalities in the basin, Riverton is unique in that the town supplements with ground water during the summer months and exclusively uses ground water for municipal supply during the non-irrigation season. The location, population served, and source for these community public water systems are listed in Table 2. More detailed usage information is included in Appendix B.

TABLE 2
Listing of Community Public Water Systems
that Utilize Surface Water in the Wind/Big Horn Basin

County	PWS ID	Name	Population Served	Source	2002 WWDC
Fremont	WY5600176	City of Lander	7,300	Middle Popo Agie River; 1 Alluvial Well	Yes
Fremont	WY5600805	Redd Fox Park Homeowners Association	50	City of Lander	No
Fremont	WY5600047	City of Riverton	10,500	Wind River: 13 Wells	Yes
Hot Springs	WY5600056	Town of Thermopolis	3,247	Big Horn River; 3 Alluvial Wells	Yes
Hot Springs	WY5600226	Town of East Thermopolis	278	Town of Thermopolis	Yes
Hot Springs	WY5600236	Town of Kirby	50	Town of Thermopolis	Yes

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County	PWS ID	Name	Population Served	Source	2002 WWDC
Hot Springs	WY5600935	Lucerne Water & Sewer District	100	Town of Thermopolis	Yes
Hot Springs	WY5600232	Red Lane Domestic Water, Inc.	120	Town of Thermopolis	Yes
Hot Springs	WY5601083	South Thermopolis Water & Sewer District	112	Town of Thermopolis	Yes
Park	WY5600035	Town of Meeteetse	415	Wood River	Yes
Park	WY5601198	Shoshone Municipal Pipeline	21,200	Buffalo Bill Reservoir	No
Park	WY5600042	City of Powell	6,000	Shoshone Municipal Pipeline	Yes
Park	WY5601254	Northwest Rural Water District	4,272	Shoshone Municipal Pipeline	Yes
Bighorn	WY5600008	Town of Byron	600	Shoshone Municipal Pipeline	Yes
Bighorn	WY5600016	Deaver Municipal Water System	340	Shoshone Municipal Pipeline	Yes
Bighorn	WY5600210	Town of Frannie	207	Shoshone Municipal Pipeline	Yes
Bighorn	WY5600031	Town of Lovell	2,250	Shoshone Municipal Pipeline	Yes
Park	WY5600207	City of Cody	8,200	Shoshone Municipal Pipeline	Yes
Park	WY5600238	Green Acres Village	375	Shoshone Municipal Pipeline	No
Park	WY5601496	Juby's Mobile Home Park	300	Shoshone Municipal Pipeline	No
Teton	WY5680092	Yellowstone National Park Mammoth Hot Spring	600	Gardner River; Panther Creek	No
Teton	WY5680095	Yellowstone National Park Old Faithful	150	Firehole River	No

Notes: PWS ID: Public Water System identification according to EPA.
Source: Surface water source according to WWDC and EPA. Note that if source is other than a river or well, the surface water is purchased from the entity indicated.
2002 WWDC: Yes, indicates additional details available from 2002 WWDC water system survey report; No, indicates no information available from WWDC in 2002.

The 22 municipal and non-municipal community public water systems that are located in the Basin utilize a substantial amount of water to supply both average and peak demands. These community systems use an average of 8.3 MGD based on information provided to the WWDC by the community public water systems. As with ground water sources, peak surface water usage is almost more than double average use and is approximately 16.2 MGD. On a per

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capita basis, the Mammoth Hot Spring system within Yellowstone National Park reportedly uses the least amount of water at an average rate of 10 GPCD, while the City of Thermopolis uses the most on average at 530 GPCD. Peak usage per capita ranges from 100 GPCD at Mammoth Hot Spring to 1,136 GPCD in Meeteetse. Again, several of these systems are unmetered and per capita use could not be verified.

TABLE 3
Monthly Surface Water Augmentation/Depletion due to Municipal Water Use for Major Population Centers in the Wind/Big Horn Basin

Month	Entity						
	Worland	Greybull	Thermopolis	Cody	Powell	Lander	Riverton
January	<23,220,000>	<12,925,800>	0	0	0	0	0
February	<20,520,000>	<11,422,800>	0	0	0	0	0
March	<21,060,000>	<11,723,400>	0	0	0	0	0
April	<28,080,000>	<15,631,200>	0	0	0	0	0
May	<28,080,000>	<15,631,200>	18,180,000	38,048,200	27,673,500	37,032,700	34,542,000
June	<28,080,000>	<15,631,200>	34,020,000	71,199,100	51,785,100	69,298,700	64,638,000
July	<28,080,000>	<15,631,200>	39,060,000	81,747,100	59,457,000	79,565,200	74,214,000
August	<28,080,000>	<15,631,200>	41,760,000	87,397,300	63,566,900	85,065,100	79,344,000
September	<28,080,000>	<15,631,200>	24,840,000	51,986,600	37,811,400	50,599,100	47,196,000
October	<28,080,000>	<15,631,200>	2,340,000	4,897,300	3,561,400	4,766,600	4,446,000
November	<21,060,000>	<11,723,400>	0	0	0	0	0
December	<17,280,000>	<9,619,200>	0	0	0	0	0
Annual Total	**<299,700,000>**	**<154,984,350>**	**160,200,000**	**351,311,285**	**256,852,862**	**326,327,400**	**304,380,000**

Notes: All depletions reported in gallons per month.
Augmentation to river flows from ground water sources are indicated by <> symbols.

While seven entities obtain their municipal water supply from surface water sources, most of the 22 community water systems that are actually served return water from their wastewater treatment facilities to the stream from which they obtained their supply. The impact of this practice upon surface waters can best be determined by assuming that depletions in streamflow are equal to the unit amount of the diversion minus the unit return flow to the stream. In several instances, municipal return flows, however, actually augment streamflow because those municipalities obtain their water supply from non-tributary ground water sources. Shown in Table 3, the estimated surface water depletions were calculated on a monthly basis to accommodate the modeling efforts for this planning study. These estimates of monthly diversion and wastewater discharge were developed from information provided by each

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community system. Only actual wastewater point source discharges have been considered in this analysis.

Based on the data reviewed for this investigation, Lander and Thermopolis are the two largest consumers of surface water in the Basin, but their depletions are offset by return flows from water systems that exclusively utilize non-tributary ground water sources. Cody's diversions deplete surface water flows by 351.3 million gallons annually, while those of Thermopolis reduce surface flows by 160.2 million gallons annually. Return flows of 299.7 million gallons annually from Worland, which obtains all of its municipal supply from the Madison Aquifer, help offset the depletions of Cody and Thermopolis. Return flows from Greybull further reduce the depletions of the southern cities.

Conclusions

Surface and ground water resources within the Wind / Big Horn Basin are utilized to serve more than 59,000 people, or roughly 87% of the Basin's population. The average daily municipal water use for the Basin from all sources is nearly 12.2 MGD, or roughly 207 GPCD. Surface water is utilized to supply 68% of the average water use for 22 municipal and non-municipal community public water systems in the Basin. Ground water is used to supply 32% of the average water use for 36 public water systems, including the Towns of Greybull, Dubois, Basin, and Worland.

Based on EPA and WWDC data, it appears that the majority of the municipal and non-municipal community public water systems in the Basin have sufficient water to meet their current needs. However, it appears that Lander and Hudson may have insufficient water treatment and potentially water storage based on peak usage volumes. While it appears the municipal entities have sufficient water, Lander and other entities have expressed concern about the susceptibility of their water resources to drought periods. Certain groundwater dependant towns are concerned about declining water levels, storage capacity, well interference, and most importantly, well redundancy. For this reason, several municipalities have sought alternative water sources to supplement their existing sources.

References

Lamb, C., 2002, Personal communication with U.S. Environmental Protection Agency, Region VIII in Denver, Colorado.

Wyoming Water Development Commission, 2002, 2002 Water System Survey Report.

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Municipal Ground Water Use Summary

Appendix A

Wyoming Water Development Commission
Wind / Big Horn Basin Plan
Municipal Ground Water Use Summary

Name of Entity	Other Entities Served	Total Pop. Served	Percent Metered	# Taps in Entity	# Taps Outside Entity	# of Wells	Well Depth Min (ft)	Well Depth Max (ft)	Wellhead Protection	# of Springs	Type of Diversion	Surface Source	Other Source	Total Max Capacity (gpd)	Max Storage Raw (gal)	Max Storage Treated (gal)	Treatment	Avg Day Use (gpcpd)	Peak Day Use (gpcpd)	Avg Day Use (gpd)	Peak Day Use (gpd)	Sell Bulk Water	% Loss by Leakage	Other Conditions	Conservation Measures
Burlington	None	274	100	102	7	2	45	45	Yes	0	n/a	None	None	172,800	0	167,164	DC	200	370	60,000	120,000	No	UNK	FF, SO, LF, FD, P	TR, WO
Cowley	South End Water & Sewer District	700	95	222	64	1	2,469	2,469	No	0	n/a	None	None	1,152,000	0	200,000	None	240	341	180,200	256,366	Yes	UNK	LF, FD, P	NONE
South End Water & Sewer District	None	140				0	0	0		0	n/a	None	Town of Cowley												
Greybull	Airport Bench Water & Sewer District; Greybull Heights Water Users; Shell Valley West Water & Sewer; Shell Water Users, Inc.	3,200	100	995	316	3	2,051	3,379	No	0	n/a	None	None	1,800,000	0	1,450,000	DC	450	1,200	835,000	1,728,000	Yes	15	SO, LF, FD, LK, FF	WO, OT
Airport Bench Water & Sewer District	WYDOT Rest Area, County Airport	26	100	24	0	0				0	n/a	None	Town of Greybull			20,000	DC					No		LK	
Greybull Heights Water Users	None	70				0				0	n/a	None	Town of Greybull					40	107	3,000	8,000				
Shell Valley West Water & Sewer	None	45				0				0	n/a	None	Town of Greybull					60	150	3,000	9,000		<1		
Shell Water Users, Inc.	None	60	100	29	0	0	0	0	No	0	n/a	None	Town of Greybull		0	0	DC	67	130	2,000	4,000	No	6	NONE	NONE
Hyattville Water Company	None	48	0	42	8	1	2,895	2,895	No	0	n/a	None	None	144,000	25,000	0	None	85	85	4,080	4,080	No	0		OT
South Big Horn County Joint Powers Board	Basin & Manderson	2,084				2	5,351	5,419		0	n/a	None	None	604,800											
Basin	None	1,200	99	620	40	0	0	0	No	0	n/a	None	S. Big Horn Co. JPB	0	24,000	1,000,000	DC	250	850	300,000	1,000,000	Yes	35	FD, LK	NONE
Manderson	None	115	95	54	0	0	0	0	No	0	n/a	None	S. Big Horn Co. JPB	0	0	70,000	DC					No		NONE	NONE
B&K Mobile Home Court	None	95				2	200	250			n/a	None	None												
Cozy Mobile Park	None	90				2					n/a	None	None												
Town of Dubois	Painted Hills Subdivision	1,067	90	0		4	47	84	Yes	0	n/a	None	None	1,400,000	0	650,000	DC, OT	274	483	263,861	464,774	Yes	40	SO, LF, FD, LK	NONE
Warm Springs Water District	None	125	0	48	0	1	712	712	Yes	0	n/a	None	None	259,200	0	200,000	DC	240	450	11,500	21,500	No	5-10	LF, FD, LK, FF	NONE
First Fike Subdivision	None	150				1					n/a	None	None												
Gardens North Homeowners Association	None	200	0	175	0	1	325	325	No	0	n/a	None	NA	175,000	0	200,000	DC	170	200	34,000	40,000	No	<2	FD	NONE
Hudson	None	450	95	220	4	11	22	50	Yes	0	n/a	None	None	432,000	0	201,000	DC	336	816	132,895	320,000	No	UNK	FF, SO, LF, FD, LK	NONE
Juniper Park Water Association	None	36				1	1,520	1,520			n/a	None	None												
Monroe Avenue Mobile Home Park	None	100				3					n/a	None	None												
Mountain View Acres	None	165				2		300			n/a	None	None												
North Riverton Water & Sewer District	None	150	100	51	0	1	228	228	No	0	n/a	None	None	47,520	500	0	None	48	48	7,333	7,333	No	UNK	LK	NONE
Northfork Acres Water CO-OP	None	30				0				1	n/a	1 Spring	None												
Pavillion	School	160	98	79	5	5	400	520	Yes	0	n/a	None	None	360,000	225,000	308,700	DC	270	300	16,000	26,000	Yes	12	LF, FD, LK	WO
Raintree Estates	None	75				2					n/a	None	None												
Second Fike Subdivision	None	26				1					n/a	None	None												
Shoshoni	None	550	98	400	0	4	446	1,051	Yes	0	n/a	None	None	1,267,200	0	500,000	DC	408	814	220,643	425,498	Yes	2	FF, LF, FD, LK	OT
Spencer Homesites	None	40		17		2	150	210		0	n/a	None	None			80									
Sunridge Estates	None	160	0	100	0	1	460	460	No	0	n/a	None	None	144,000	0	125,000	DC					No	2	NONE	NONE
Cooper Sub Mobile Home Park	None	100				2					n/a	None	None												
North End Water Users	None	500	100	205	0	3	40	65	Yes	0	n/a	None	None	1,080,000	200,000	0	None	140	300	70,000	150,000	No	30	SO, LK, OT	NONE
Vision Quest Estates	None	45		32		1	130	130		0	n/a	None	None					70	100	3,710	5,300				
Ten Sleep	None	400	0	168	37	2	1,050	1,098	Yes	0	n/a	None	None	1,224,000	0	0	None	500	1,500	200,000	600,000	Yes	1	FD, LK	NONE
Worland Utilities Commission	South Worland Water Users, Inc.	7550	99	2450	97	2	2,334	4,210	No	0	n/a	None	None	5,500,000	0	5,000,000	DC	200	465	1,500,000	3,500,000	No	1	FD	TR, WO

Wyoming Water Development Commission
Wind / Big Horn Basin Plan
Municipal Ground Water Use Summary

Name of Entity	Other Entities Served	Total Pop. Served	Percent Metered	# Taps in Entity	# Taps Outside Entity	# of Wells	Well Depth Min (ft)	Well Depth Max (ft)	Wellhead Protection	# of Springs	Type of Diversion	Surface Source	Other Source	Total Max Capacity (gpd)	Max Storage Raw (gal)	Max Storage Treated (gal)	Treatment	Avg Day Use (gpcpd)	Peak Day Use (gpcpd)	Avg Day Use (gpd)	Peak Day Use (gpd)	Sell Bulk Water	% Loss by Leakage	Other Conditions	Conservation Measures
South Worland Water Users, Inc.	None	450	100	162	0	0	0	0	No	0	n/a	None	Worland Utilities Commission		0	0	None	63	203	64,000	94,000	No	5	FF, FD, LK	NONE

Other Entities: Lists any other entities which are supplied water from the system.
Total Pop. Served: The total population served by the water system.
Percent Metered: An estimated percentage of water system taps that are metered.
 # Taps In/Outside Entity: The number of service connections within the boundaries of the entity. The number of service connections outside the entity boundaries.
# of Wells: The number of wells used by an entity.
# of Springs: The number of springs used by an entity.
Type of Diversion: Surface Direct (SD), Infiltration Gallery (IG), Alluvial Wells (AW), Dam (DM), Other (OT); N/A is used for entities with no source of surface water.
Surface Source: The surface source of an entity's water supply.
Other Source: The name of other water systems or municipalities that provide the entity with water supply.
Total Max Capacity: The total production capabilities of all water sources in the particular entity, expressed in gallons per day (gpd).
Max Storage: The maximum values of water storage capacity, treated and untreated, in gallons.
Treatment: Methods that the water system currently uses on a regular basis to treat the water supply, including: Disinfection/Chlorination (DC), Filtration (FL), Conventional Water Treatment Plant (TP), Other (OT)
Avg Daily Use: The daily water use averaged and reported in gallons per capita per day (gpcpd).
Peak Daily Use: The maximum amount of water used per person per day reported in gallons per capita per day (gpcpd).
Avg Day Use: The total gallons of water used by the water system on an average day in gallons per day (gpd).
Peak Day Use: The maximum gallons of water used by the system in a 24 hour period in gallons per day (gpd).
Sell Bulk Water: Yes or No, if the entity sells bulk water on a regular basis.
% Loss by Leakage: The percentage of total water used by the system lost through leakage. Most answers are approximations. Values given that were less than 1% are displayed as 1%.
Other Conditions: Any other condition that may affect the amount of water used by a system, including: Frost Flow (FF), System or Tank Overflow (SO), Line Flushing (LF), Fire System Usage (FD), Ponds (P), Leaks (LK), Other (OT)
Conservation Measures: Programs supported by the entity to reduce water consumption and increase public awareness about water conservation, including: Tiered Rates (TR), Subsidies for Efficiency (SE), Municipal Wasting Ordinance (WO)

Municipal Surface Water Use Summary

Appendix B

D_PRIN_CNTY_SVD_NM	PWS ID	2000 WWDC	TYPE	PWS NAME	POPULATION SERVED	CONTACT	ADDRESS	CITY	ZIP	PHONE	SRC	FACILITY TYPE CODE	FACILITY NAME
BIG HORN	WY5601098	YES	C	BURLINGTON, TOWN OF	210	STAGNER, LARRY	P.O. BOX 38	BURLINGTON	82411	307-762-3715	GW	WL	WELL #3, WELL #4
BIG HORN	WY5600206	YES	C	COWLEY, TOWN OF	477	WOODIS, DEXTER	P.O. BOX 635	COWLEY	82420	307-548-7700	GW	WL	MADISON WELL #1
BIG HORN	WY5600022	YES	C	GREYBULL, TOWN OF	3250	GRAHAM, BOB	BOX 271	GREYBULL	82426	307-765-2682	GW	WL	SHELL WELL #3, WELL #1-6, WELL #2-8
BIG HORN	WY5600209	YES	C	HYATTVILLE WATER COMPANY	60	SHERWIN, LEN	P.O. BOX 105	HYATTVILLE	82428	307-469-2229	GW	WL	ARTESIAN WELL #1
BIG HORN	WY5601454	NO	C	SO. BIG HORN COUNTY JPB	2084	DELLOS, MIKE	BOX 599	BASIN	82410	307-568-3333	GW	WL	WILD HORSE #1, WILD HORSE #2
FREMONT	WY5600180	NO	C	B & K MOBILE HOME COURT	95	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	GW	WL	GAINES WELL #2
FREMONT	WY5600181	NO	C	COZY MOBILE PARK	90	PACE, CARL	1575 E MONROE #72	RIVERTON	82501	307-856-0466	GW	WL	MONROE NO T1 BACK-UP WELL, MONROE NO T3
FREMONT	WY5600177	NO	C	DUBOIS WATER SYSTEM, TOWN OF	1067	MILLER, ARVIN	P.O. BOX 555	DUBOIS	82513	307-455-2345	GW	WL	WELL #10 (NEW - MAIN), WELL #7 (RV WELL), WELL #8, WELL #6 (BACKUP WELL)
FREMONT	WY5600861	YES	NC	WARM SPRINGS WATER DISTRICT	50	FRITZLER, BRUCE	P.O. BOX 1390	DUBOIS	82513	307-455-2111	GW	CC	TOWN OF DUBOIS-LO FLO MOS ONLY
FREMONT	WY5600861	YES	NC	WARM SPRINGS WATER DISTRICT		FRITZLER, BRUCE	P.O. BOX 1390	DUBOIS	82513	307-455-2111	GW	WL	HART WELL #1
FREMONT	WY5600194	NO	C	FIRST FIKE SUBDIVISION	150	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	GW	WL	MAIN WELL
FREMONT	WY5600774	YES	C	GARDENS NORTH HOMEOWNERS ASSN	250	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	GW	WL	WELL #1
FREMONT	WY5600183	YES	C	HUDSON, TOWN OF	450	WEST, E. ROBERT	P.O. BOX 56	HUDSON	82515	307-332-3605	GW	WL	WELLS #1 THROUGH 6
FREMONT	WY5601275	NO	C	JUNIPER PARK WTR. ASSN.	36	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	GW	WL	WELL, HALLETT #4
FREMONT	WY5600179	NO	C	MONROE AVE MHP	100	CLARK, JAY	1550 N. FEDERAL	RIVERTON	82501	307-856-9238	GW	WL	WELL #1, WELL #2, WELL #3
FREMONT	WY5600182	NO	C	MOUNTAIN VIEW ACRES	165	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	GW	WL	#1 WELL NORTH, #2 WELL SOUTH
FREMONT	WY5600173	YES	C	NORTH RIVERTON WTR & SWR DIST.	120	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	GW	WL	SPENSER WELL #1
FREMONT	WY5600837	YES	C	NORTHFORK ACRES WATER CO-OP	30	ROHN, RODNEY	11 BIRCHFIELD	LANDER	82520	307-332-7446	GW	SP	SPRING #1
FREMONT	WY5600039	YES	C	PAVILLION, TOWN OF	150	ZOLLER, LARRY	P.O. BOX 26	PAVILLION	82523	307-856-4431	GW	WL	WELL #1, WELL #2, WELL #4, WELL #6, WELL #7, WELL #8
FREMONT	WY5601100	NO	C	RAINTREE ESTATES	75	HUGHES, MIKE	1235 ROBIN LANE	RIVERTON	82501	307-857-3149	GW	WL	WELL #1, WELL #2
FREMONT	WY5600195	NO	C	SECOND FIKE SUBDIVISION	26	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	GW	WL	WELL #1
FREMONT	WY5600053	YES	C	SHOSHONI, TOWN OF	497	SCHUBACH, DON	BOX 267	SHOSHONI	82649	307-876-2515	GW	WL	WELL #2, WELL #4, WELL #5, WELL #6
FREMONT	WY5600184	NO	C	SPENCER HOMESITES	40	BROWN, GARTH	8 CLEARVIEW DRIVE	RIVERTON	82501	307-856-7550	GW	WL	#1 WELL, #2 MAIN WELL
FREMONT	WY5601225	YES	C	SUNRIDGE ESTATES	220	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	GW	WL	WELL, ANDREW'S #1
PARK	WY5601450	NO	C	COOPER SUB MOBILE HOME PARK	100	ROUNDTREE, J.B.	2103 GLEN MEADE ROAD	WILMINGTON	28403	910-763-3436	GW	WL	WELL #1, WELL #2
PARK	WY5600043	YES	C	NORTH END WATER USERS	375	BURCH, LOREN	993 LANE 4	POWELL	82435	307-754-3851	GW	WL	WELL #1, WELL #2, WELL #3
PARK	WY5601193	NO	C	VISION QUEST ESTATES	45	CHRISTIANSEN, STEVE	P.O. BOX 72	BURLINGTON	82411	307-762-3236	GW	WL	VALLEY FARMS WELL #2
WASHAKIE	WY5600203	YES	C	TENSLEEP, TOWN OF	311	BEISLER, NIEL	BOX 5	TEN SLEEP	82442	307-765-2598	GW	WL	ARTESIAN WELL #1, ARTESIAN WELL #2
WASHAKIE	WY5600197	YES	C	WORLAND UTILITIES COMMISSION	6200	MCCLURE, JEFF	101 GRACE AVEMIE	WORLAND	82401	307-347-8978	GW	WL	HUSKY #1 WELL, WORLAND WELL #3
BIG HORN	WY5601385	YES	C	AIRPORT BENCH WATER & SEWER DI	26	MCINTOSH, MELINA	P. O. BOX 105	GREYBULL	82426	307-765-2862	GWP	CC	CITY OF GREYBULL
BIG HORN	WY5600004	YES	C	BASIN, TOWN OF	1100	DELLOS, MIKE	BOX 599	BASIN	82410	307-568-3333	GWP	CC	SO BIG HORN COUNTY JPB
BIG HORN	WY5600230	YES	C	GREYBULL HEIGHTS WATER USERS	70	BEISLER, NEIL	3389 RIMROCK ROAD	GREYBULL	82426	307-765-2598	GWP	CC	GREYBULL, TOWN OF
BIG HORN	WY5600204	YES	C	MANDERSON, TOWN OF	83	JOYCE, JOHN	182 HIGHWAY 31	MANDERSON	82432	307-568-2514	GWP	CC	SO. BIG HORN COUNTY JPB
BIG HORN	WY5601272	NO	C	SHELL VALLEY WEST W & S	37	GRAHAM, ROBERT	925 NORTH 4th STREET	GREYBULL	82426	307-765-2030	GWP	CC	GREYBULL
BIG HORN	WY5600205	YES	C	SHELL WATER USERS, INC.	55	NELSON, DAVE	P.O. BOX 185	SHELL	82441	307-765-9623	GWP	CC	GREYBULL, TOWN OF
BIG HORN	WY5600970	YES	C	SOUTH END WATER & SEWER DIST.	140	MONK, CHARLES	868 LANE 10	LOVELL	82431	307-548-6686	GWP	CC	TOWN OF COWLEY
WASHAKIE	WY5600235	YES	C	SOUTH WORLAND WATER USERS INC	490	SMITH, RAY	103 COUNTRY DRIVE	WORLAND	82401	307-347-2117	GWP	CC	CITY OF WORLAND
FREMONT	WY5600176	YES	C	LANDER, CITY OF	7100	TRUJILLO, JOHN	240 LINCOLN STREET	LANDER	82520	307-332-4291	SW	IG	INFILTRATION GALLERY
FREMONT	WY5600176	YES	C	LANDER, CITY OF		TRUJILLO, JOHN	240 LINCOLN STREET	LANDER	82520	307-332-4291	SW	IN	POPO AGIE RIVER INTAKE
FREMONT	WY5600176	YES	C	LANDER, CITY OF		TRUJILLO, JOHN	240 LINCOLN STREET	LANDER	82520	307-332-4291	SW	WL	WELL
FREMONT	WY5600047	YES	C	RIVERTON, CITY OF	9800	SABAN, RON	816 N. FEDERAL BLVD.	RIVERTON	82501	307-857-6891	SW	IN	WIND RIVER-VIA CANAL: MAY-SEPT
FREMONT	WY5600047	YES	C	RIVERTON, CITY OF		SABAN, RON	816 N. FEDERAL BLVD.	RIVERTON	82501	307-857-6891	SW	WL	AIRPORT WELL #2, AIRPORT WELL #3, HONOR FARM WELL, WELL #11, WELL #12, WELL #13, WELL #14, WELL #15, WELL #16, WELL #3, WELL #4, WELL #6, WELL #9
HOT SPRINGS	WY5600056	YES	C	THERMOPOLIS, TOWN OF	3247	LARSON, DELMAE	420 BROADWAY	THERMOPOLIS	82443	307-864-2658	SW	IN	BIG HORN RIVER
HOT SPRINGS	WY5600056	YES	C	THERMOPOLIS, TOWN OF		LARSON, DELMAE	420 BROADWAY	THERMOPOLIS	82443	307-864-2658	SW	WL	WELL NO 1, WELL NO 2, WELL NO 3
PARK	WY5600035	YES	C	MEETEETSE, TOWN OF	400	GRIFFIN, DAN	BOX 38	MEETEETSE	82433	307-868-2278	SW	IN	WOOD RIVER INTAKE
PARK	WY5601198	NO	C	SHOSHONE MUNICIPAL PIPELINE	21200	BARSNESS, CRAIG	P.O. BOX 488	CODY	82414	307-527-6492	SW	IN	INTAKE, BUFFALO BILL RESERVOIR
TETON	WY5680092	NO	C	YELLOWSTONE NP MAMMOTH HOT SPG	150	JERLA, RALPH	P.O. BOX 168	YELLOWSTONE NP	82190	307-344-2353	SW	IN	GARDNER RIVER INTAKE(BACKUP), PANTHER CREEK INTAKE(PRIMARY SOURCE)
TETON	WY5680085	NO	C	YELLOWSTONE NP OLD FAITHFUL	150	WARD, NANCY A.	P.O. BOX 168	YELLOWSTONE	82190	307-344-2310	SW	IN	FIREHOLE RIVER
BIG HORN	WY5600008	YES	C	BYRON, TOWN OF	633	GOLLER, KEN	P.O. BOX 5	BYRON	82412	307-548-7490	SWP	CC	SHOSHONE JOINT POWERS BOARD
BIG HORN	WY5600016	YES	C	DEAVER MUNICIPAL WATER SYSTEM	230	KLEBENSTEIN, PHILLIP	BOX 207	DEAVER	82421	307-664-2384	SWP	CC	SHOSHONE JOINT POWERS BOARD
BIG HORN	WY5600210	YES	C	FRANNIE, TOWN OF	178	KUZARA, MIKE	P.O. BOX 72	FRANNIE	82423	307-664-2323	SWP	CC	SHOSHONE JOINT POWERS BOARD
BIG HORN	WY5600031	YES	C	LOVELL, TOWN OF	2131	ALLRED, EDWARD	P.O. BOX 188	LOVELL	82431	307-548-6551	SWP	CC	SHOSHONE JOINT POWERS BOARD
FREMONT	WY5600805	NO	C	REDD FOX PARK HOMEOWNERS ASSOC	50	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	SWP	CC	CITY OF LANDER
HOT SPRINGS	WY5600226	YES	C	EAST THERMOPOLIS, TOWN OF	268	READY, MIKE	112 EAST WARREN	THERMOPOLIS	82443	307-864-9221	SWP	CC	THERMOPOLIS
HOT SPRINGS	WY5600236	YES	C	KIRBY, TOWN OF	50	SLAGLE, ERNEST	P.O. BOX 45	KIRBY	82430	307-864-9383	SWP	CC	THERMOPOLIS PWS#5600056
HOT SPRINGS	WY5600935	YES	C	LUCERNE WATER AND SEWER DIST.	300	DAY, TONY	BOX 611	THERMOPOLIS	82443	307-864-5659	SWP	CC	THERMOPOLIS
HOT SPRINGS	WY5600232	YES	C	RED LANE DOMESTIC WATER, INC.	111	BERRY, TOM	P.O. BOX 745	THERMOPOLIS	82443	307-864-3265	SWP	CC	THERMOPOLIS
HOT SPRINGS	WY5601083	YES	C	SOUTH THERMOPOLIS WAT/SEW DIS	300	BELLAH, DIANE	22 NO. MOUNTAIN VIEW DR.	RIVERTON	82501	307-856-0157	SWP	CC	THERMOPOLIS
PARK	WY5600207	YES	C	CODY, CITY OF	8200	PAYNE, STEVE	P.O. DRAWER 2200	CODY	82414	307-527-7511	SWP	CC	SHOSHONE JOINT POWERS BOARD
PARK	WY5600238	NO	C	GREEN ACRES VILLAGE	375	SORENSON, TONY	2821 ROCKY ROAD #16	CODY	82414	307-587-3738	SWP	CC	CITY OF CODY
PARK	WY5601496	NO	C	JUBY'S MOBILE HOME PARK	300	SORENSON, TONY	2821 ROCKY ROAD #16	CODY	82414	307-587-3738	SWP	CC	CITY OF CODY
PARK	WY5601254	YES	C	NORTHWEST RURAL WATER DISTRICT	3000	NIELSEN, CHRIS	P.O. BOX 2347	CODY	82414	307-527-4426	SWP	CC	SHOSHONE MUNICIPAL PIPELINE
PARK	WY5600042	YES	C	POWELL, CITY OF	6700	JONES, DICK	BOX 1008	POWELL	82435	307-754-5106	SWP	CC	SHOSHONE JOINT POWERS BOARD

Descriptions of data fields:

TYPE =

C = Community Water Systems: Water systems that serve the same people year-round (e.g. in homes or businesses).

NC = Transient Non-Community Water Systems: Water Systems that do not consistently serve the same people (e.g. rest stops, campgrounds, gas stations).

NTNC = Non-Transient Non-Community Water Systems: Water Systems that serve the same people, but not year-round (e.g. schools that have their own water system).

SRC = A system-generated coded value that categorizes the primary water source for the water system.

GU = Ground water UDI

GUP = Purchased Ground water UDI

GW = Ground water

GWP = Purchased ground water

Verify Location in Basin and yield

Call to discuss current, future use, and water quality issues

Use Purchased water, discuss actual use with purveyor

SW = Surface water

SWP = Purchased surface water

Determination of primary source is based upon two factors, the type of the source and the availability of the source (e.g., used on a permanent, seasonal, interim, emergency basis). A specific hierarchy is followed in calculating the primary source. It is

1) Initially, only permanently available sources are examined;

2) If a non-purchased surface source is encountered, the water system is considered to be a surface water system, and the determination process is complete;

3) If a purchased surface source is encountered, the water system is considered to be a purchased surface water system, and the determination process is complete;

4) If a non-purchased ground water (Under Direct Influence [UDI]) source is encountered, the water system is considered to be a ground water (UDI) system, and the determination process is complete;

5) If a purchased ground water (UDI) source is encountered, the water system is considered to be a purchased ground water (UDI) system, and the determination process is complete;

6) If a non-purchased ground water source is encountered, the water system is considered to be a ground water system, and the determination process is complete;

7) If a purchased ground water source is encountered, the water system is considered to be a purchased ground water system, and the determination process is complete;

8) If there are no permanently available sources, all sources are treated equally, regardless of their individual availability, and steps 2 through 7 are repeated.

FACILITY TYPE CODE = A coded value which categorizes the water facility.

Every water system must include at least one WATER_SYSTEM_FACILITY occurrence.

CC = Consecutive Connection

CH = Common Headers

CS = Cistern

CW = Clear Well

DS = Distribution System/Zone

IG = Infiltration Gallery

IN = Intake

NP = Non-piped

OT = Other

PC = Pressure Control

PF = Pump Facility

RC = Roof Catchment

RS = Reservoir

SI = Surface Impoundment

SP = Spring

SS = Sampling Station A sampling station is a water system facility, such as a tap, that is used only to take samples.

ST = Storage

TM = Transmission Main (Manifold)

TP = Treatment Plant

WH = Well Head

WL = Well