

TECHNICAL MEMORANDUM

SUBJECT: **Green River Basin Plan II**
 Major Reservoir Information

DATE: 8/10/2009

PREPARED BY: WWC Engineering

This technical memorandum is an update of *Major Reservoir Information Technical Memorandum* completed by States West Water Resources' for the 2001 Green River Basin Plan. There have been no significant changes to major reservoirs in the Green River Basin aside from the completion of High Savery Reservoir in 2003; data on this new reservoir is included in this technical memorandum. Data on High Savery Reservoir was furnished by the Wyoming State Engineer's Office for this update.

Introduction

The Green River Basin contains many large reservoirs used for several purposes including storage for irrigation, municipal, industrial, recreation, fish propagation and flood control uses, among others. These reservoirs help sustain what is otherwise arid to semi-arid land. The reservoirs are owned by various state, federal, industrial and private interests. For purposes of this plan, reservoirs larger than 1,000 AF are focused upon although some that are smaller are also discussed. The list below includes reservoirs discussed in the Framework Water Plan (Wyoming Water Planning Program, 1970) and others that have been constructed, funded, or elevated in importance since. A map of major reservoirs in the Green River Basin is provided as Figure 1 at the end of this document.

In alphabetical order, the reservoirs discussed herein include:

<u>Water Course</u>	<u>Maximum Storage</u>	<u>AF</u>
➤ Big Sandy	Big Sandy River	39,700
➤ Black Joe Lake	Black Joe Creek	1,102
➤ Boulder Lake	Boulder Creek	22,280
➤ Bush Creek	Bush Creek	17,267
➤ Bush Lake	Bush Creek	1,686
➤ Divide Lake	Divide Creek	1,027
➤ Eden	Big & Little Sandy Rivers	18,490*
➤ Elkhorn	Little Sandy River	1,450
➤ Flaming Gorge	Green River	3,789,000
➤ Fontenelle	Green River	345,397
➤ Fremont Lake	Pine Creek	30,899
➤ Hay Reservoir	Red Creek	8,327
➤ High Savery	Savery Creek	22,433

<u>Water Course</u>	<u>Maximum Storage,</u>	<u>AF</u>
➤ Kemmerer City (Kemmerer No. 1)	Hams Fork	1,058
➤ McNinch No. 1	North Piney Creek	1,086
➤ McNinch No. 2	North Piney Creek	198
➤ Meeks Cabin	Blacks Fork	33,571
➤ Middle Piney	Middle Piney Creek	4,201
➤ New Fork Lake	West Fork New Fork River	20,340
➤ Paterson Lake	Blacks Fork	1,237
➤ Pacific No. 1	Pacific Creek	107
➤ Pacific No. 2	Pacific Creek	1,394
➤ Silver Lake	Silver Creek	933
➤ Sixty-Seven	North Piney Creek	5,211
➤ Stateline	East Fork Smiths Fork	14,000
➤ Viva Naughton	Hams Fork	42,393
➤ Willow Lake	Lake Creek	18,816

* currently reduced to 12,190 AF because of stability concerns at higher water levels

A brief description of each follows:

Big Sandy Reservoir

A Bureau of Reclamation project, the Big Sandy Reservoir is formed by an earthen dam located on the Big Sandy River about 10 miles north of Farson, Wyoming. The storage capacity of 39,700 AF is permitted for irrigation use, but the reservoir also provides local recreational benefits. The reservoir is operated by the Eden Valley Irrigation and Drainage District. Additional information and data are available at <http://dataweb.usbr.gov/html/eden.html> on the internet.



Big Sandy Reservoir Outlet

Black Joe Lake

Black Joe Lake, located high in the Wind River Range in the upper reaches of the Big Sandy River, is a natural lake with its storage increased using a small dam. The dam is constructed of rock-filled timber cribbing and is approximately 13.5 feet in height. This embankment increases storage in the reservoir by 1,101.8 AF, which is permitted for irrigation. Nearby is Clear Lake, a sister lake with a similar dam, also enlarged, with a permitted capacity of 318.6 AF.

Boulder Lake

Boulder Lake, as currently configured, is a natural lake which has been raised by the addition of a dam at the outlet. With an enlargement, the reservoir now impounds over 22,000 AF above the natural lake level. The additional storage is permitted for irrigation use. Boulder Lake is a morainal lake located on the western flank of the Wind River Mountains and is, in this regard, similar to Fremont, New Fork and Willow Lakes. Boulder Lake has no staff gage or lake level instrumentation, so storage fluctuations can only be estimated. Boulder Lake irrigation releases are managed by the Boulder Irrigation District.

Bush Lake

See Hay Reservoir.

Bush Creek Reservoir

Bush Creek Reservoir is constructed to be fed by a canal from Bush Creek, located in the Great Divide Basin. On maps it is sometimes denoted John Hay Reservoir. The outlet is not tributary to the Green River. This reservoir has a permitted capacity of 17,266.651 AF designated for irrigation, stock, and domestic uses.

Divide Lake

Divide Lake is located in the Wind River Range on Divide Creek, tributary to Boulder Creek (upstream of Boulder Lake) and the New Fork River. It is an enlargement of a natural lake, with a dam constructed of a combination earthfill/rock filled cribbing structure. The dam stores a permitted capacity of 1,027.36 AF designated for irrigation, stock, and domestic uses in the Scab Creek drainage.

Eden Reservoir

Originally permitted as “Eden Irrigation and Land Company No. 1,” the Eden Reservoir is an off-channel reservoir fed from the Little Sandy River and from Big Sandy Dam. Impoundment is created by three irregular dikes. Its total storage capacity, as permitted, is almost 18,500 AF, although current operations limit storage to 12,190 AF for stability reasons. Along with Big Sandy, Eden serves the Eden Valley Irrigation District. Originally planned for removal by the Bureau of Reclamation, Eden Reservoir still exists to provide irrigation water. Additional information and data are available at <http://dataweb.usbr.gov/html/eden.html> on the internet.

Elkhorn

Alternately named Little Sandy Reservoir, Elkhorn Reservoir is located high on Little Sandy Creek in the southern Wind River Range. It is an enlargement of a natural lake, containing 1,450 AF permitted for stock and irrigation uses.

Flaming Gorge

Created by a concrete arch dam in Utah, Flaming Gorge is a Bureau of Reclamation Project on the main stem of the Green River. The reservoir has no Wyoming water right, and serves no lands in Wyoming, although a significant amount of its surface area is in Wyoming. The capacity of Flaming Gorge is 3,789,000 AF, which is used for irrigation, power, fish and wildlife, and recreation. More information can be found at <http://dataweb.usbr.gov/dams/ut10121.html> on the internet. Because it contains no Wyoming water rights, Flaming Gorge Reservoir is not described in the Reservoir Summary Sheets.

Fontenelle

Another Bureau of Reclamation project, Fontenelle Reservoir is an earthen dam on the main stem of the Green River, located just downstream of the town of LaBarge. With a storage capacity of 345,397 AF, Fontenelle is a multi-purpose project with permitted uses that include irrigation, domestic, industrial, municipal, stock, fisheries, recreation, and hydropower. Additional information and data are available at <http://dataweb.usbr.gov/html/seedskadee.html> on the internet.



Fontenelle Dam

Fremont Lake

A morainal lake, Fremont is the seventh deepest lake in the contiguous United States, excluding the Great Lakes. Like Boulder, Willow, and New Fork Lakes, its level has been raised over time by the addition of a dam at the outlet. Having been enlarged several times, Fremont Lake now impounds over 30,000 AF above the natural lake level, of which about 25,400 AF is usable (available to the newest outlet). Fremont Lake has outstanding clarity. It serves not only irrigation and recreation uses, but is also the municipal supply for the Town of Pinedale, Wyoming. Other uses listed on permits for Fremont Lake include hydropower, industrial, and fisheries. The “Fremont Lake Reservoir Operating Guide” (Gilbert, 1996) provides detailed information on the lake, its watershed characteristics, and general operating recommendations.

Hay Reservoir

The Hay Irrigation Project includes both Hay and Bush Lake Reservoirs. These reservoirs are situated about 30 miles north of I-80 nearly midway between Rawlins and Rock Springs, and are about 10 miles southeast of Bush Creek (John Hay) Reservoir. Hay Reservoir, which has been enlarged, is permitted to store approximately 5,840 AF for irrigation and stock uses. The Bush Lake Reservoir stores approximately 1,390 AF.

High Savery Reservoir

High Savery Reservoir, completed November 15, 2003, primarily provides supplemental irrigation water to the Savery Creek and Little Snake River valleys in the southeastern corner of Wyoming's Green River Basin. Located high on Savery Creek in Carbon County, High Savery is permitted to store 22,432 acre-feet of water for late season irrigation, recreation, municipal, environmental, and fishery uses. High Savery is impounded by an earthen dam. The reservoir is be owned by the State of Wyoming Water Development Commission and operated by the Savery - Little Snake Water Conservancy District.

Kemmerer City (Kemmerer No. 1) Reservoir

Located on the Hams Fork River near the Town of Kemmerer, Wyoming, this reservoir serves as a diversion point for the town's municipal water supply. With 1,058 AF of storage, it is not large in comparison with other reservoirs in the basin.

McNinch No. 1 & 2 Reservoirs

The McNinch reservoirs are private impoundments located on McNinch Wash, tributary to North Piney Creek. They are situated about one mile west of Sixty Seven Reservoir. McNinch No. 1 is fed by Beaver Creek and Spring Creek, both tributary to North Piney Creek. McNinch No. 2 is fed by McNinch Wash (McNinch Draw). Capacities are 1,086 AF for No. 1, and 198 AF for No. 2. Both reservoirs are permitted for irrigation, stock, and domestic uses.

Meeks Cabin Reservoir

Meeks Cabin Dam is a Bureau of Reclamation Project on the Blacks Fork (of the Green) River. Located near the Utah border, Meeks Cabin provides water for irrigation and stock from its 33,571 AF permitted capacity. The reservoir is operated by the Bridger Valley Water Conservancy District. Additional



Meeks Cabin Dam

information and data are available at <http://dataweb.usbr.gov/html/lyman.html> on the internet.

Middle Piney Lake

Middle Piney Lake is located on the headwaters of Middle Piney Creek in the Bridger National Forest. It is situated about 15 miles due west of the McNinch reservoirs. The reservoir contains 4,201 AF of storage permitted for irrigation, stock, and domestic uses. In 1997, the interest in the reservoir was assigned to the USDA Forest Service. Currently, the reservoir is operated with the outlet gates fully open, essentially passing water through the reservoir.

New Fork Lake

Among those listed here, New Fork Lake is the northernmost of the morainal lakes on the east flank of the upper Green River Basin. It is located on the upper New Fork River, a major tributary of the Green River. As with Fremont, Boulder, and Willow Lakes, its capacity has been increased by man; currently, the lake stores 20,340 AF over and above the natural lake level. Water in this storage is permitted for irrigation use. Releases for use by the New Fork Irrigation District do not enter any single large canal near the dam as the river itself is the major conveyance, with individual irrigators taking storage water from the river at their own headgates.

Pacific Reservoirs No. 1 and 2

These two reservoirs are located on the very upper reaches of the Pacific Creek Basin, which is tributary to Little Sandy Creek, in Fremont County. Permitted capacities for the two reservoirs are 106.91 AF for No. 1 and 1,394.21 for No. 2. Interestingly, both reservoirs store water from the Sweetwater River via transbasin diversion. Both reservoirs are permitted for irrigation and stock uses.

Paterson Lake

Located about 1 mile northwest of Lyman, Paterson Reservoir is also denoted as Rollins Reservoir on some maps. It is an off-channel reservoir fed by the Fort Bridger Canal from the Blacks Fork River. The reservoir contains 1,237 AF permitted for irrigation use.

Silver Lake

Silver Lake is located in the Wind River Range on Silver Creek, tributary to the East Fork New Fork River and the New Fork River. Permitted for irrigation and stock use, the maximum capacity of the reservoir, as enlarged, is 2,151.63 AF.

Sixty-Seven

This reservoir is an off-channel structure fed by the Hughes Ditch from North Piney Creek and from Spring Creek, a tributary of North Piney Creek. As enlarged, the reservoir stores 4,329 AF for irrigation, stock, and domestic purposes. The reservoir is located about 6 miles northwest of the Town of Big Piney.

Stateline Reservoir

Stateline reservoir is located entirely within the State of Utah, and has no State of Wyoming permits. However, water within its storage capacity is used for irrigation of Wyoming lands and for municipal use in the Lyman/Fort Bridger valley. Additional information and data are available at <http://dataweb.usbr.gov/html/lyman.html> on the internet.

Viva Naughton

Viva Naughton Reservoir is operated by the Naughton Power Plant in Kemmerer. This plant (previously owned by PacifiCorp, now owned by Scottish Power) uses water from the reservoir for cooling needs of the coal-fired process. While no irrigation uses are explicitly listed in the permit, Naughton does release water for downstream irrigation during times of sufficient supply. Similarly, while Viva Naughton is not a flood control structure, the owner does try to operate the plant in a fashion to minimize downstream flooding. Constructed capacity of the reservoir is 45,465 AF.



Viva Naughton Reservoir

Willow Lake

Willow Lake is the last morainal lake on this list. This lake is located on Lake Creek, tributary to the New Fork River. Operation is not by any particular district or political entity, but by owners of “shares” in the lake’s storage. Located north of Fremont Lake, the man-made storage is permitted for irrigation, stock, and domestic uses. The total permitted amount of the additional storage is 18,816 AF.

Evaporation

Evaporation from reservoirs constructed by man is a consumptive use associated with the beneficial use of water for other purposes and is charged against Wyoming's allocation under the Upper Colorado River Basin Compact. Traditionally, evaporation estimates are calculated by the Bureau of Reclamation and published in the "Consumptive Uses and Losses Report," (CULR) which is prepared every five years. In this report, the larger Bureau reservoirs in the Green and Colorado River Basins are classified as "main stem" reservoirs, the evaporation from which is tabulated and carried separately from evaporation calculated for in-state reservoirs. Upper Colorado River Basin main stem reservoirs include Flaming Gorge, Blue Mesa, Morrow Point and Lake Powell.

For these main stem reservoirs, the aggregate evaporation is charged against the various states' apportionment in the percentage allowed for each state by the Upper Colorado River Basin Compact, under *full development* (full use of allowed depletions). By this Compact Wyoming is allowed 14 percent of the total depletions allowed the States of the Upper Division (the Upper Basin States minus Arizona) by the Colorado River Compact; therefore, at full development, 14 percent of the Upper Basin mainstem evaporation is charged to Wyoming. Prior to full development, Article V of the Upper Colorado River Basin Compact states that Wyoming's share will be calculated as the same fraction of main stem evaporation as Wyoming's consumptive use bears to the total consumptive use by States of the Upper Division.

For the years 1996-2000, Wyoming's fraction of the total consumptive use of the Upper Division states was 11.64 percent. In these same years, the average main stem evaporation was 682,200 acre-feet. Therefore, Wyoming's charge for main stem evaporation would be calculated as 79,408 acre-feet. This value, however, overstates the amount of Wyoming's main stem evaporation portion when the basin sees full development. Under full development of all states' full compact allotments, reservoir levels will average lower than they do now, due to increased drawdowns. Under this scenario the Bureau estimates a full development main stem evaporation of 520,000 acre-feet annually, from which Wyoming's 14 percent charge can be estimated to be 72,800 acre-feet annually (Bureau of Reclamation, January 1999).

Reservoirs not included in the main stem calculations are handled separately and the evaporation therefrom is charged totally to the state within which they reside. In Wyoming, the Bureau has identified 76 individual reservoirs in the Green River Basin for which evaporation is explicitly calculated. Table 1 lists these reservoirs and the net annual evaporation at each for the years 1996-2000, which is the last full five year period for which a final CULR is available. The Bureau charges evaporation without regard to the uses for which a reservoir is permitted. That is, no separate accounting is kept for evaporation from irrigation, recreation, fish and wildlife or other pools.

Table 1 - Wyoming Reservoir Evaporation						
Reservoir	Net Annual Evaporation (acre-feet) ¹					
	1996	1997	1998	1999	2000	Average
Joe Budd	22.4	22.4	22.4	22.4	22.4	22.4
McNinch No.1	133.5	133.5	133.5	133.5	133.5	133.5
McNinch No.2	53.7	53.7	53.7	53.7	53.7	53.7
Middle Piney	227.5	227.5	227.5	227.5	227.5	227.5
Sixty-Seven	467.1	467.1	467.1	467.1	467.1	467.1
Sphaeralcea	17.4	17.4	17.4	17.4	17.4	17.4
Black Joe Lake	113.1	113.1	103.6	113.1	113.1	111.2
Boulder Lake ²	253.2	253.2	220.7	253.2	253.2	246.7
Boulter	44.1	44.1	40.2	44.1	44.1	43.3
Divide Lake	133.0	133.0	127.2	133.0	133.0	131.8
Fremont Lake (1993) ²	0.0	0.0	373.1	390.0	390.0	230.6
J-J No.3	8.4	8.4	7.7	8.4	8.4	8.3
Kitchen	17.4	17.4	17.0	17.8	17.8	17.5
New Fork Lake ²	190.0	190.0	190.0	190.0	190.0	190.0
Silver Lake	162.0	162.0	162.0	162.0	162.0	162.0
Soda Lake Wetlands (1989)	25.2	25.2	23.0	25.2	25.2	24.8
Sunset	13.7	13.7	12.0	13.7	13.7	13.4
Ward Ball	61.9	61.9	54.3	61.9	61.9	60.4
Willow Lake ²	263.7	263.7	252.3	263.7	263.7	261.4
Elias	8.9	8.9	8.9	8.9	8.9	8.9
Fontenelle	17,284.3	18,789.0	17,582.8	18,605.8	17,098.5	17,872.1
Graham No.2	30.0	30.0	30.0	30.0	30.0	30.0
Kovach (1988)	54.7	54.7	54.7	54.7	54.7	54.7
Big Sandy	5,104.0	5,587.4	5,633.7	5,653.3	3,830.0	5,161.7
Clear Lake	48.3	48.3	48.3	48.3	48.3	48.3
Eden	1,807.3	1,804.4	1,753.1	1,807.3	1,807.3	1,795.9
Elkhorn (Little Sandy)	145.0	145.0	145.0	145.0	145.0	145.0
Erramouspe	32.5	32.5	32.5	32.5	32.5	32.5
Pacific No.1	29.2	29.2	29.2	29.2	29.2	29.2
Pacific No.2 (Hay Meadow)	309.3	309.3	309.3	309.3	309.3	309.3
Prospect No.1	59.5	59.5	59.5	59.5	59.5	59.5
Sublette (Juel)	68.8	68.8	68.8	68.8	68.8	68.8
Williams No.2	20.0	20.0	20.0	20.0	20.0	20.0
Williams No.3	26.3	26.3	26.3	26.3	26.3	26.3
Zemba	19.5	19.5	19.5	19.5	19.5	19.5
Fifteen Mill Knoll	55.0	55.0	55.0	55.0	55.0	55.0
Uncapher	56.6	56.6	56.6	56.6	56.6	56.6
Fosdick	26.1	25.2	25.9	26.1	26.1	25.9
Stoffer Ridge	23.4	22.5	23.2	23.4	23.4	23.2
Byrne	16.1	16.1	16.1	16.1	16.1	16.1
Clifford F. Graham	77.2	77.2	77.2	77.2	77.2	77.2
Colleti No.2	7.6	7.6	7.6	7.6	7.6	7.6
Cottonwood	93.3	93.3	93.3	93.3	93.3	93.3
Coyote	18.4	18.4	18.4	18.4	18.4	18.4

Major Reservoir Information

Reservoir	Net Annual Evaporation (acre-feet) ¹					
	1996	1997	1998	1999	2000	Average
Davis No.1	22.0	22.0	22.0	22.0	22.0	22.0
Enlargement of the No.3	464.2	464.2	464.2	464.2	464.2	464.2
Erickson	27.3	27.3	27.3	27.3	27.3	27.3
Franklin	44.7	43.5	43.1	46.2	46.2	44.7
Graham	32.1	31.1	30.8	34.0	34.7	32.5
Hickey	8.0	8.0	8.0	8.0	8.0	8.0
Isom (Austin)	369.8	369.8	369.8	369.8	369.8	369.8
Kemmerer	216.2	216.2	216.2	216.2	216.2	216.2
Lake Viva Naughton	2,699.4	2,699.4	2,699.4	2,699.4	2,699.4	2,699.4
Lower Snake River Reservoir	1,776.3	1,776.3	1,776.3	1,776.3	1,776.3	1,776.3
Meeks Cabin	615.5	589.3	703.9	682.4	483.0	614.8
Paterson Lake (Rollins)	300.1	292.9	290.2	314.9	320.2	303.7
Philip	6.9	6.7	6.6	7.2	7.4	7.0
Powers Stock	58.4	58.4	58.4	58.4	58.4	58.4
Reed	141.0	137.2	135.8	146.2	146.2	141.3
Tipperary (Murray)	30.3	30.3	30.3	30.3	30.3	30.3
Wall Development Company Dam	163.8	159.8	158.2	169.5	169.5	164.2
Wasatch (Ringdahl)	21.3	21.3	21.3	21.3	21.3	21.3
Broadbent No.2	19.3	19.3	19.3	19.3	19.3	19.3
Byrne	26.4	26.4	26.4	26.4	26.4	26.4
Davis No.2	31.5	31.5	31.5	31.5	31.5	31.5
Guild	46.6	46.6	46.6	46.6	46.6	46.6
Guild & Dean	102.5	102.5	102.5	102.5	102.5	102.5
Moslander	27.5	27.5	27.5	27.5	27.5	27.5
Piedmont	62.1	62.1	62.1	62.1	62.1	62.1
Skull Point	6.3	6.3	6.3	6.3	6.3	6.3
Vacher (VanTassel)	4.4	4.4	4.4	4.4	4.4	4.4
Cow Creek (1987)	135.7	135.7	135.7	135.7	135.7	135.7
Beavers	38.1	37.6	38.1	38.1	38.1	38.0
Highline	60.4	59.5	60.4	60.4	60.4	60.2
Sheep Mountain	45.5	44.8	45.5	45.5	45.5	45.4
J.O.	16.3	16.3	16.3	16.3	16.3	16.3
Little Robber	48.7	48.7	48.7	48.7	48.7	48.7
Green River Basin CULR Total	37,293.2	39,231.9	38,430.7	39,653.7	36,130.9	36,150.1
Other Reservoirs Not in CULR:	Average Annual Estimates of Net Evaporation:					
High Savery						869
Muddy Creek Wetlands						284
Grand Total	38,446.2	40,384.9	39,583.7	40,806.7	37,283.9	37,303.1

¹Original data from supporting documentation, USBR Consumptive Uses and Losses Report, 1996-2000.

²Revised to only account for incremental evaporation due to enlargement.

Attachments

Attached to this memo is more information regarding the reservoirs listed above. Table 2, Green River Basin Reservoir Summary lists all of the reservoirs along with location, permit information, owner, etc. Following this table is Appendix A, where each reservoir is detailed on a Reservoir Summary Sheet, listing, in addition to most of the information from Table 1, summaries of the outlet works and spillway construction and capacities, monthly evaporation and precipitation rates, and operating notes. When available, the end-of-month contents are also listed. Following the summary sheet, area-capacity tables are presented for reservoirs if they could be obtained. The sources for the information contained in these attachments are the permits on file at the Wyoming State Engineer's Office and in the list of references to follow.

References

- Daly, Chris and George Taylor, April 1998, "Wyoming Average Monthly or Annual Precipitation, 1961-1990," Water and Climate Center of the Natural Resources Conservation Service.
- Farnsworth, Richard K., Edwin S. Thompson and Eugene L. Peck, June 1982, Evaporation Atlas for the Contiguous 48 United States, NOAA Technical Report NWS 33, Office of Hydrology, National Weather Service, Washington D.C.
- Gilbert, Ted, 1996, "Fremont Lake Reservoir Operating Guide," prepared for the Highland Irrigation District and the Town of Pinedale, Wyoming.
- Lewis, Larry Eugene, 1978, "Development of an Evaporation Map for the State of Wyoming for Purposes of Estimating Evaporation and Evapotranspiration," Masters Thesis, University of Wyoming.
- United States Department of the Interior, Bureau of Reclamation, September 1998, "Colorado River System Consumptive Uses and Losses Report, 1986-1990."
- United States Department of the Interior, Bureau of Reclamation, September 1998, "Colorado River System Consumptive Uses and Losses Report, 1996-2000."
- United States Department of the Interior, Bureau of Reclamation, January 1999, "Quality of Water, Colorado River Basin," Progress Report No. 19.
- Williams, Linda I., December 1995, "A Model of the Green River Using the Wyoming Integrated River System Operation Study (WIRSOS)," M.S. Thesis, University of Wyoming, Department of Civil Engineering.
- Wyoming Water Planning Program, September 1970, "Water and Related Land Resources of the Green River Basin, Wyoming: Wyoming Water Planning Program Report No. 3," Wyoming State Engineer's Office.



LEGEND
Reservoir



Figure 1
Major Reservoirs

Table 2 - Green River Basin Reservoir Summary											
Reservoir or Lake	Watercourse	County	S, T(N), R(W)	Permit No.	Priority Date	Permitted Uses	HWL Area (Ac)	HWL Capacity (AF)	Reservoir Owner/Manager	Year of Cert. of Const.	Notes
Big Sandy	Big Sandy River	Sweetwater	11, 26, 106	947R	11/09/1906	I	1,660.8	39,700	Eden Valley Irr Dist & USBR	1983	
Black Joe	Black Joe Creek	Sublette	17, 32, 103	5397R	03/21/1935	I	102.49	1,101.8	USA, c/o Farm Security Adm.	1945	
Boulder	Boulder Creek	Sublette	14, 33, 108	4038R	01/27/1927	I	1,698	16,207	Boulder Irr. Dist	1956	4,453 AF Irr, 1,621 AF FI & W
				6572R	04/26/1961	I, D, Ind, M, S, FI, R	1,676.5	6,073		1970	
Bush Creek	Bush Creek	Sweetwater	15, 25, 98	4058R	02/24/1928	I, S, D	2,629.243	17,266.651	Blair and Hay Land and Livestock Company	1959	Reservoir has 2 dams: Outlet No. 1 in Sec. 15, Outlet No. 2 in Sec. 14
Divide	Divide Creek	Sublette	14, 33, 106	5365R	07/30/1934	I, S, D	133.28	1,028.36	Mr. John Blatt	1967	Releases used in Scab Cr. Drainage
Eden	Big & Little Sandy Rivers	Sweetwater	20, 26, 105	818R	12/30/1905	I, D	1,361.85	18,489.93	Eden Irrigation & Land Co.	1925	off-channel storage
Elkhorn (Little Sandy)	Little Sandy Creek	Sublette	27, 31, 103	1025R	07/23/1906	I	145	1,450	Joe Thompson Jr. Livestock Co.	1947	Also known as Little Sandy
Flaming Gorge	Green River	Sweetwater	22, 12, 108	Utah							Dam is in UT
Fontenelle	Green River	Lincoln	25, 24, 112	6629R	01/22/1962	I, D, Ind, M, S, H, FI, R	8,058	345,397	USBR	1992	Enlargement activated prev. inactive cap.
				9502R	12/07/1973	I, D, Ind, M, S, H, FI, R	No Change	No Change			
Fremont	Pine Creek	Sublette	23, 34, 109	4452R	09/10/1931	I, M, H, Man, FI, Ind, R	5,067.96	9,844.12	Town of Pinedale	1962	Total Cap = 30,899.44 AF
				4453R	09/15/1931	I, S, D	5,087.02	5,377.92	L. H. Hennick et al		
				4465R	11/29/1951	I, S, D	5,105.72	5,385.4	Fremont Lake Res. Assn.	1956	
				8937R	02/02/1977	I, M	5,122.28	10,292.00	Town of Pinedale & Highland Irrigation District	1997	

Table 2 - Green River Basin Reservoir Summary											
Reservoir or Lake	Watercourse	County	S, T(N), R(W)	Permit No.	Priority Date	Permitted Uses	HWL Area (Ac)	HWL Capacity (AF)	Reservoir Owner/Manager	Year of Cert. of Const.	Notes
Hay	Red Creek	Sweetwater	33, 24, 97	547R	07/20/1904	I, S	310	2,480	Sweetwater Cattle Company	1930	Total Capacity = 5,846.59AF
				2339R	08/11/1911	I, S	1,036.63	3,366.59		1917	
High Savery	Savery Creek	Carbon	16, 15, 88	11472R	12/03/1997	I, M, FI, R	482	22,433	Water Development Commission	2003	
				11473R							
Kemmerer No. 1	Ham's Fork	Lincoln	26, 23, 117	5302R	05/24/1935	Ind, M	134.27	1,058	City of Kemmerer	1958	Total Cap = 1,768.78 AF
				9776R	01/12/1990	Ind, M	182.93	710.78		1990	
McNinch No. 1	Spring Creek	Sublette	11, 30, 113	5413R	03/05/1941	I, S, D	108.2	873	E.W. McNinch and Lois C. McNinch	1956	Total Cap = 1086.35 AF
				5801R	07/17/1947	I, S, D	107.04	213.35		1956	
McNinch No. 2	NcNinch Draw	Sublette	11, 30, 113	5412R	03/05/1941	I, S, D	26.4	198	E.W. McNinch and Lois C. McNinch	1957	
Meeks Cabin	Blacks Fork	Uinta	11, 12, 117	6276R	03/26/1935	I, S	326	16,301.5	USBR	1979	Total Cap = 33,571 AF : Enl Transfer from Willow Cr Res.
				5547R	04/06/1939		765	17,269.5			
Middle Piney	Middle Piney Creek	Sublette	8, 30, 115	3578R	07/04/1919	I, S, D	164.56	4,201	USDA Forest Service	1944	
New Fork Lake	W Fk New Fork River	Sublette	7, 36, 109	480R	11/11/1903	I	1,416	20,340		1951	
Pacific No. 1	Pacific Creek	Fremont	1, 27, 102	4025R	08/14/1926	I, S	23.27	106.91		1926	Source is Sweetwater River (transbasin)
Pacific No. 2	Whitehorse Creek	Fremont	32, 27, 102	4026R	08/14/1926	I, S	257.88	1394.21		1926	Source is Whitehorse Draw and Sweetwater River
Paterson Lake	Black's Fork River	Uinta	19, 16, 114	443R	08/12/1903	I, D, H	200	1,237	Farmer's Land and Livestock Co.	1955	
Silver Lake	Silver Creek	Sublette	34, 33, 105	3970R	11/19/1924	I	157.52	1,219.11	Silver Lake Reservoir Company	1948	Total Cap = 2,151.63 AF
				5769R	11/20/1950	I, S	180.0	932.52	Silver Lake Irrigation District		
Sixty Seven	North Piney Creek	Sublette	17, 30, 112	535R	07/08/1904	S, D	293.568	3,373.732	Mr. Jay Downes	1935	Total Cap = 4329 AF.
				2878R	07/12/1915	S, D	333	953.268		1935	
State Line	E. Fk. Smith's Fk	in Utah							USBR		dam and res in UT; UT permits not shown
Viva Naughton	Ham's Fork	Lincoln	14, 23, 117	6418R	08/01/1957	Ind	1,458.18	42,393	UP&L	1977	3,072 AF of 7476R Built; Total Cap. = 45,465 AF.
				7476R	08/20/1971	Ind, I	1,935.65	27,252	assigned to PacifiCorp	NA	
				7599R	08/20/1973	Ind	2,200	12,250			
Willow	Lake Creek (Trib. Willow Cr.)	Sublette	19, 35, 109	3831R	03/24/1922	I, S, D	1,945	15,120	Burleigh Binning	1931	Total Cap = 22,630 AF
				4475R	11/04/1931	I, S, D	1,856	3,696		1949	
				6257R		I, S, D	1,958	3,814		1962	

Reservoir Name: Big Sandy

Owner/Operator: Eden Valley Irr. Dist and U.S. Bureau of Reclamation

Storage Permit Nos: 947R

HWL Data: Area, ac: 1,660.80 Cap, ac-ft: 39,700 Elev, ft msl 6,760

Permitted Uses: Irr 39,700 ac-ft Water Right Owners:
Eden Valley Irr Dist

Service Outlet: Type: 5'6" dia. Horseshoe cor Capacity, cfs 650

Principal Spillway: Type: weir Capacity, cfs: 7,600

Emergency Spillway Type: weir Capacity, cfs 7,600

Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 40.00

Average Monthly Gross Evaporation (in.):

Oct <u>3.04</u>	Feb <u>1.00</u>	Jun <u>5.24</u>	
Nov <u>1.56</u>	Mar <u>1.56</u>	Jul <u>6.84</u>	
Dec <u>1.04</u>	Apr <u>3.20</u>	Aug <u>6.24</u>	
Jan <u>1.08</u>	May <u>4.60</u>	Sep <u>4.60</u>	Total, in: <u>40.00</u>

Average Monthly Precipitation (in.):

Oct <u>0.68</u>	Feb <u>0.34</u>	Jun <u>1.01</u>	
Nov <u>0.40</u>	Mar <u>0.52</u>	Jul <u>0.88</u>	
Dec <u>0.41</u>	Apr <u>0.63</u>	Aug <u>0.71</u>	
Jan <u>0.37</u>	May <u>1.16</u>	Sep <u>0.90</u>	Total, in: <u>8.01</u>

Average EOM Contents (ac-ft):

Oct <u>13,500</u>	Feb <u>13,400</u>	Jun <u>30,000</u>
Nov <u>15,000</u>	Mar <u>19,700</u>	Jul <u>26,800</u>
Dec <u>9,500</u>	Apr <u>22,300</u>	Aug <u>18,400</u>
Jan <u>12,100</u>	May <u>23,400</u>	Sep <u>13,100</u>

Operating Notes: Eden Valley Irrigation and Drainage District operates the Big Sandy Reservoir. The reservoir is operated to provide water to the district members on a call basis, through a canal system. The canals include the Means and Eden Canals, the Eden and West Side Laterals, and the Farson Lateral. Recent construction of regulating reservoirs for pump stations has decreased delivery delays to farmers, which used to be significant and helped with application efficiency. EOM data developed from USBR Consumptive Uses and Losses Report, 1996-2000.

Reservoir Name: Black Joe Lake

Owner/Operator: USA, c/o Farm Security Adm.

Storage Permit Nos: 5397R

HWL Data: Area, ac: 102.5 Cap, ac-ft: 1,102 Elev, ft msl 9,944

Permitted Uses:		Water Right Owners:
Use: <u>Irrigation</u>	<u>1,102</u> ac-ft	<u>5397R Farm Security Adm.</u>
	ac-ft	
	ac-ft	
	ac-ft	
	ac-ft	

Service Outlet: Type: Gated Outlet Capacity, cfs NR
 Principal Spillway: Type: Weir Capacity, cfs NR
 Emergency Spillway Type: _____ Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 36.17

Average Monthly Gross Evaporation (in.):

Oct <u>2.75</u>	Feb <u>0.90</u>	Jun <u>4.74</u>	
Nov <u>1.41</u>	Mar <u>1.41</u>	Jul <u>6.19</u>	
Dec <u>0.94</u>	Apr <u>2.89</u>	Aug <u>5.64</u>	
Jan <u>0.98</u>	May <u>4.16</u>	Sep <u>4.16</u>	Total, in: <u>36.17</u>

Average Monthly Precipitation (in.):

Oct <u>2.25</u>	Feb <u>3.25</u>	Jun <u>1.95</u>	
Nov <u>4.00</u>	Mar <u>3.00</u>	Jul <u>1.80</u>	
Dec <u>4.25</u>	Apr <u>2.85</u>	Aug <u>1.75</u>	
Jan <u>4.25</u>	May <u>2.85</u>	Sep <u>1.95</u>	Total, in: <u>34.15</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes:
No operating data are available

Reservoir Name:	<u>Boulder Lake</u>		
Owner/Operator:	<u>Boulder Irrigation District</u>		
Storage Permit Nos:	<u>4038R</u>	<u>6572R</u>	
<hr/>			
HWL Data:	Area, ac:	<u>1,676.5</u>	Cap, ac-ft: <u>22,208</u> Elev, ft msl <u>7289.5</u>
Permitted Uses:	Water Right Owners:		
Use:	<u>Irr.</u>	<u>16,207</u> ac-ft	<u>4038R</u>
	<u>Irr.</u>	<u>4,453</u> ac-ft	<u>6572R</u>
	<u>Fish & WL</u>	<u>1,621</u> ac-ft	<u>6572R</u>
		ac-ft	
		ac-ft	
<hr/>			
Service Outlet:	Type:	<u>2 - 4.5 ft x 4.5 ft RCP</u>	Capacity, cfs <u>900</u>
Principal Spillway:	Type:	<u>concrete weir</u>	Capacity, cfs <u>6,160</u>
Emergency Spillway Type:			Capacity, cfs:
Miscellaneous Spillway Info:	<u>Maps show location of emergency spillway, but give no details.</u>		
<hr/>			
<hr/>			

Average Annual Gross FWS Evaporation (in.):	<u>35.34</u>		
<hr/>			
Average Monthly Gross Evaporation (in.):			
Oct	<u>2.69</u>	Feb	<u>0.88</u>
Nov	<u>1.38</u>	Mar	<u>1.38</u>
Dec	<u>0.92</u>	Apr	<u>2.83</u>
Jan	<u>0.95</u>	May	<u>4.06</u>
		Jun	<u>4.63</u>
		Jul	<u>6.04</u>
		Aug	<u>5.51</u>
		Sep	<u>4.06</u>
		Total, in:	<u>35.34</u>
<hr/>			
Average Monthly Precipitation (in.):			
Oct	<u>0.95</u>	Feb	<u>0.97</u>
Nov	<u>1.27</u>	Mar	<u>0.98</u>
Dec	<u>1.25</u>	Apr	<u>1.06</u>
Jan	<u>1.38</u>	May	<u>1.85</u>
		Jun	<u>1.35</u>
		Jul	<u>1.30</u>
		Aug	<u>1.25</u>
		Sep	<u>1.42</u>
		Total, in:	<u>15.03</u>
<hr/>			
Average EOM Contents (ac-ft):			
Oct	<u>N/A</u>	Feb	<u>N/A</u>
Nov	<u>N/A</u>	Mar	<u>N/A</u>
Dec	<u>N/A</u>	Apr	<u>N/A</u>
Jan	<u>N/A</u>	May	<u>N/A</u>
		Jun	<u>N/A</u>
		Jul	<u>N/A</u>
		Aug	<u>N/A</u>
		Sep	<u>N/A</u>

Operating Notes: Irrigation releases are typically in the range of 360 cfs from May 15 to July 15. Releases occur at the dam and are picked up at the Boulder Irrigation Canal approximately 2 miles below the dam. Fall operations include a diversion of 100 to 125 cfs in September to increase soil moisture before winter. Approximately 35 cfs is diverted in October for stock water. The Howard-Ruth ditch is directly below the dam and annually purchases storage water from the lake. Boulder Reservoir has no staff gage, and no storage records are kept.

Reservoir Name: Bush Creek Reservoir

Owner/Operator: Blair and Hay Land and Livestock Company

Storage Permit Nos: 4058R _____

HWL Data: Area, ac: 2,629.2 Cap, ac-ft: 17,267 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irr., Stock, Dom.</u>	<u>17,267</u> ac-ft	<u>4058R, Blair and Hay Land &</u>
_____	_____ ac-ft	<u>Livestock</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: 2x30" Dia. Gated Condu Capacity, cfs NR

Principal Spillway: Type: Weir Capacity, cfs NR

Emergency Spillway Type: _____ Capacity, cfs: _____

Miscellaneous Spillway Info: _____

Note: Reservoir contains 2 dams, each dam containing it's own outlet.

Average Annual Gross FWS Evaporation (in.): 40.00

Average Monthly Gross Evaporation (in.):

Oct <u>3.04</u>	Feb <u>1.00</u>	Jun <u>5.24</u>	
Nov <u>1.56</u>	Mar <u>1.56</u>	Jul <u>6.84</u>	
Dec <u>1.04</u>	Apr <u>3.20</u>	Aug <u>6.24</u>	
Jan <u>1.08</u>	May <u>4.60</u>	Sep <u>4.60</u>	Total, in: <u>40.00</u>

Average Monthly Precipitation (in.):

Oct <u>0.94</u>	Feb <u>0.46</u>	Jun <u>1.05</u>	
Nov <u>0.50</u>	Mar <u>0.70</u>	Jul <u>0.99</u>	
Dec <u>0.47</u>	Apr <u>0.95</u>	Aug <u>0.89</u>	
Jan <u>0.46</u>	May <u>1.45</u>	Sep <u>0.99</u>	Total, in: <u>9.85</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes:

No reservoir operating data were obtained; impoundment is in the Great Divide Basin.

Reservoir Name: Divide

Owner/Operator: Mr. John Blatt

Storage Permit Nos: 5365R _____

HWL Data: Area, ac: 133.3 Cap, ac-ft: 1,027 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irr., Stock, Dom.</u>	<u>1,027</u> ac-ft	<u>5365R, T.J Land & Cattle</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: Gated 24" Corr. Iron Pipe Capacity, cfs NR
 Principal Spillway: Type: Weir Capacity, cfs NR
 Emergency Spillway Type: _____ Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 35.00

Average Monthly Gross Evaporation (in.):

Oct <u>2.66</u>	Feb <u>0.88</u>	Jun <u>4.59</u>	
Nov <u>1.37</u>	Mar <u>1.37</u>	Jul <u>5.99</u>	
Dec <u>0.91</u>	Apr <u>2.80</u>	Aug <u>5.46</u>	
Jan <u>0.95</u>	May <u>4.03</u>	Sep <u>4.03</u>	Total, in: <u>35.00</u>

Average Monthly Precipitation (in.):

Oct <u>1.80</u>	Feb <u>2.75</u>	Jun <u>1.70</u>	
Nov <u>3.45</u>	Mar <u>2.45</u>	Jul <u>1.55</u>	
Dec <u>3.70</u>	Apr <u>2.12</u>	Aug <u>1.35</u>	
Jan <u>4.06</u>	May <u>2.20</u>	Sep <u>1.75</u>	Total, in: <u>28.88</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes:

No reservoir operating data were obtained. Releases are made into the Scab Creek drainage.

Reservoir Name: Eden
 Owner/Operator: U.S. Bureau of Reclamation / Eden Valley Irr. Dist
 Storage Permit Nos: 818R

HWL Data: Area, ac: 1,361.85 Cap, ac-ft: 18,489.93 Elev, ft msl 6,710

Permitted Uses:		Water Right Owners:
Use: <u>Irr., Dom</u>	<u>18,489.93</u> ac-ft	<u>818R Eden Valley Irr Dist</u>
<u> </u>	<u> </u> ac-ft	<u> </u>
<u> </u>	<u> </u> ac-ft	<u> </u>
<u> </u>	<u> </u> ac-ft	<u> </u>
<u> </u>	<u> </u> ac-ft	<u> </u>

Service Outlet: Type: gated 5'x6' tunnel Capacity, cfs NR
 Principal Spillway: Type: Capacity, cfs:
 Emergency Spillway Type: NA Capacity, cfs:
 Miscellaneous Spillway Info: NR = not rated. There is no emergency spillway
because this is an off-channel structure.

Average Annual Gross FWS Evaporation (in.): 40.00

Average Monthly Gross Evaporation (in.):

Oct <u>3.04</u>	Feb <u>1.00</u>	Jun <u>5.24</u>	
Nov <u>1.56</u>	Mar <u>1.56</u>	Jul <u>6.84</u>	
Dec <u>1.04</u>	Apr <u>3.20</u>	Aug <u>6.24</u>	
Jan <u>1.08</u>	May <u>4.60</u>	Sep <u>4.60</u>	Total, in: <u>40.00</u>

Average Monthly Precipitation (in.):

Oct <u>0.68</u>	Feb <u>0.34</u>	Jun <u>1.01</u>	
Nov <u>0.40</u>	Mar <u>0.52</u>	Jul <u>0.88</u>	
Dec <u>0.41</u>	Apr <u>0.63</u>	Aug <u>0.71</u>	
Jan <u>0.37</u>	May <u>1.16</u>	Sep <u>0.90</u>	Total, in: <u>8.01</u>

Average EOM Contents (ac-ft):

Oct <u>400</u>	Feb <u>1,400</u>	Jun <u>5,000</u>
Nov <u>600</u>	Mar <u>1,800</u>	Jul <u>3,700</u>
Dec <u>1,000</u>	Apr <u>2,600</u>	Aug <u>1,100</u>
Jan <u>1,200</u>	May <u>5,200</u>	Sep <u>800</u>

Operating Notes: Eden Reservoir is operated by the Eden Valley Irrigation and
Drainage District. It is operated to compliment the operation of Big Sandy Reservoir.
Average EOM content data developed from USBR Consumptive Uses and Losses
Report, 1996-2000.

Reservoir Name: Elk Horn (Little Sandy)

Owner/Operator: Joe Thompson Jr. Livestock Co.

Storage Permit Nos: 1025R _____

HWL Data: Area, ac: 145.0 Cap, ac-ft: 1,450 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irrigation</u>	<u>1,450</u> ac-ft	<u>1025R, Joe Thompson Jr.</u>
_____	_____ ac-ft	<u>Livestock Co.</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet:	Type: <u>2' x 4' conduit</u>	Capacity, cfs: <u>NR</u>
Principal Spillway:	Type: <u>Weir</u>	Capacity, cfs: <u>NR</u>
Emergency Spillway:	Type: _____	Capacity, cfs: _____
Miscellaneous Spillway Info:	_____	

Average Annual Gross FWS Evaporation (in.): 35.00

Average Monthly Gross Evaporation (in.):

Oct <u>2.66</u>	Feb <u>0.88</u>	Jun <u>4.59</u>	
Nov <u>1.37</u>	Mar <u>1.37</u>	Jul <u>5.99</u>	
Dec <u>0.91</u>	Apr <u>2.80</u>	Aug <u>5.46</u>	
Jan <u>0.95</u>	May <u>4.03</u>	Sep <u>4.03</u>	Total, in: <u>35.00</u>

Average Monthly Precipitation (in.):

Oct <u>1.88</u>	Feb <u>2.85</u>	Jun <u>1.75</u>	
Nov <u>3.55</u>	Mar <u>2.50</u>	Jul <u>1.55</u>	
Dec <u>3.70</u>	Apr <u>2.30</u>	Aug <u>1.45</u>	
Jan <u>4.08</u>	May <u>2.40</u>	Sep <u>1.85</u>	Total, in: <u>29.86</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes:

Reservoir Name: Fontenelle
 Owner/Operator: U.S. Bureau of Reclamation
 Storage Permit Nos: 6629R 9502R

HWL Data: Area, ac: 8,058 Cap, ac-ft: 345,397 Elev, ft msl 6,506

Permitted Uses:		Water Right Owners:
Use: <u>various</u>	<u>345,397</u> ac-ft	<u>U.S. Bureau of Reclamation</u>
<u> </u>	<u> </u> ac-ft	<u> </u>
<u> </u>	<u> </u> ac-ft	<u> </u>
<u> </u>	<u> </u> ac-ft	<u> </u>
<u> </u>	<u> </u> ac-ft	<u> </u>

Service Outlet:	Type:	<u>11 ft dia. conduit</u>	Capacity, cfs	<u>19,000</u>
Principal Spillway:	Type:	<u>east - 2 - 4'x4' conduits</u>	Capacity, cfs	<u>NR</u>
Principal Spillway:	Type:	<u>west - 2 - 4'x6' conduits</u>	Capacity, cfs	<u>20,000</u>
Emergency Spillway	Type:	<u>weir</u>	Capacity, cfs	<u>20,500</u>
Miscellaneous Spillway Info:	<u>NR = not rated</u>			

Average Annual Gross FWS Evaporation (in.):	<u>41.33</u>				
Average Monthly Gross Evaporation (in.):					
Oct	<u>3.14</u>	Feb	<u>1.03</u>	Jun	<u>5.41</u>
Nov	<u>1.61</u>	Mar	<u>1.61</u>	Jul	<u>7.07</u>
Dec	<u>1.07</u>	Apr	<u>3.31</u>	Aug	<u>6.45</u>
Jan	<u>1.12</u>	May	<u>4.75</u>	Sep	<u>4.75</u>
				Total, in:	<u>41.33</u>

Average Monthly Precipitation (in.):					
Oct	<u>0.59</u>	Feb	<u>0.26</u>	Jun	<u>0.95</u>
Nov	<u>0.35</u>	Mar	<u>0.36</u>	Jul	<u>0.73</u>
Dec	<u>0.27</u>	Apr	<u>0.65</u>	Aug	<u>0.63</u>
Jan	<u>0.23</u>	May	<u>1.07</u>	Sep	<u>0.91</u>
				Total, in:	<u>7.00</u>

Average EOM Contents (ac-ft):					
Oct	<u>237,876</u>	Feb	<u>153,123</u>	Jun	<u>261,477</u>
Nov	<u>225,472</u>	Mar	<u>141,568</u>	Jul	<u>274,370</u>
Dec	<u>202,975</u>	Apr	<u>140,839</u>	Aug	<u>262,723</u>
Jan	<u>177,489</u>	May	<u>175,654</u>	Sep	<u>251,799</u>

Operating Notes: Fontenelle is generally operated to maximize storage, power generation and flood mitigation. It also is used to maintain the aquatic and riparian habitat at Seedska-dee Wildlife Refuge. Releases are typically 1,200 to 1,400 cfs from August to April. During spring runoff, releases are increased to maintain reservoir pool elevation increases to 1 to 2 feet daily. The maximum elevation target is 6,506 feet, or 345,000 AF in storage. The operator (Bureau) endeavors to keep release peaks below inflow peaks, which average about 11,000 cfs. After spring runoff ceases and peak storage is met, releases are again set back to 1,200 to 1,400 cfs.

Reservoir Name: Fremont Lake

Owner/Operator: _____

Storage Permit Nos: 4452R 4453R
4465R 8937R

HWL Data: Area, ac: 5,400 Cap, ac-ft: 30,899.44 Elev, ft msl 7,411.45

Permitted Uses:		Water Right Owners:
Use: _____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: gated Capacity, cfs NR
Principal Spillway: Type: weir/flashboards Capacity, cfs NR
Emergency Spillway Type: Capacity, cfs NR
Miscellaneous Spillway Info: Entire dam and control works act as the service and emergency spillway. Both the Highland and Fremont Ditch headgates are built directly into the face of the dam.

Average Annual Gross FWS Evaporation (in.): 35.90

Average Monthly Gross Evaporation (in.):

Oct <u>2.73</u>	Feb <u>0.90</u>	Jun <u>4.70</u>	
Nov <u>1.40</u>	Mar <u>1.40</u>	Jul <u>6.14</u>	
Dec <u>0.93</u>	Apr <u>2.87</u>	Aug <u>5.60</u>	
Jan <u>0.97</u>	May <u>4.13</u>	Sep <u>4.13</u>	Total, in: 35.90

Average Monthly Precipitation (in.):

Oct <u>0.95</u>	Feb <u>1.00</u>	Jun <u>1.35</u>	
Nov <u>1.20</u>	Mar <u>0.98</u>	Jul <u>1.30</u>	
Dec <u>1.20</u>	Apr <u>1.10</u>	Aug <u>1.30</u>	
Jan <u>1.38</u>	May <u>1.85</u>	Sep <u>1.38</u>	Total, in: 14.99

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: Highland Irrigation District is the operator of the dam. Operating procedures are as follows: Beginning Nov. 1 each year, inflow bypasses are adjusted in an effort to satisfy storage rights while maintaining a reasonable fishery in Pine Creek below the dam. During spring runoff, inflows will be used to meet storage rights as well as downstream irrigation rights. Otherwise endeavor to operate the reservoir such that all rights, even those not signatory to the operating procedures, are not adversely affected in times of water shortage. Discharges from the reservoir can be taken directly into the Highland and Fremont Irrigation Canals or returned to Pine Creek.

Reservoir Name: Hay

Owner/Operator: Sweetwater Cattle Company

Storage Permit Nos: 547R 2339R

HWL Data: Area, ac: 1,036.6 Cap, ac-ft: 5,847 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irr, Stock</u>	<u>2,480 ac-ft</u>	<u>547R, Sweetwater Cattle</u>
<u>Irr, Stock</u>	<u>3,363 ac-ft</u>	<u>Company 2339R, Sweetwater</u>
_____	_____ ac-ft	<u>Cattle Company</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: 2'3"x2'0" Conc. Culvert Capacity, cfs: NR

Principal Spillway: Type: Weir Capacity, cfs: NR

Emergency Spillway Type: _____ Capacity, cfs: _____

Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 44.50

Average Monthly Gross Evaporation (in.):

Oct <u>3.38</u>	Feb <u>1.11</u>	Jun <u>5.83</u>	
Nov <u>1.74</u>	Mar <u>1.74</u>	Jul <u>7.61</u>	
Dec <u>1.16</u>	Apr <u>3.56</u>	Aug <u>6.94</u>	
Jan <u>1.20</u>	May <u>5.12</u>	Sep <u>5.12</u>	Total, in: <u>44.50</u>

Average Monthly Precipitation (in.):

Oct <u>0.85</u>	Feb <u>0.40</u>	Jun <u>0.95</u>	
Nov <u>0.45</u>	Mar <u>0.46</u>	Jul <u>0.97</u>	
Dec <u>0.42</u>	Apr <u>0.93</u>	Aug <u>0.87</u>	
Jan <u>0.40</u>	May <u>1.25</u>	Sep <u>0.94</u>	Total, in: <u>8.89</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes:

Reservoir Name: High Savery

Owner/Operator: State of Wyoming-Water Development Commission

Storage Permit Nos: 11472R 11473R

HWL Data: Area, ac: 482.3 Cap, ac-ft: 22,432.90 Elev, ft msl 7,305

Permitted Uses:		Water Right Owners:
Use: <u>inactive</u>	<u>47.7 ac-ft</u>	<u>State of Wyoming- Water</u>
<u>inactive - fisheries</u>	<u>5,724 ac-ft</u>	<u>Development Commission</u>
<u>mun. & env.</u>	<u>1,000 ac-ft</u>	
<u>Irr. & rec.</u>	<u>15,661.2 ac-ft</u>	
<u>flood pool</u>	<u>7954.2 ac-ft</u>	

Service Outlet: Type: 48 inch conduit Capacity, cfs 1,130

Principal Spillway: Type: concrete chute Capacity, cfs 7,715

Emergency Spillway Type: earthen - excavated Capacity, cfs 24,666

Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 45.10

Average Monthly Gross Evaporation (in.):

Oct	<u>3.7</u>	Feb	<u>1</u>	Jun	<u>5.9</u>		
Nov	<u>1.6</u>	Mar	<u>1.8</u>	Jul	<u>7.7</u>		
Dec	<u>1.2</u>	Apr	<u>3.9</u>	Aug	<u>6.7</u>		
Jan	<u>1.2</u>	May	<u>5.3</u>	Sep	<u>5.1</u>	Total, in:	<u>45.10</u>

Average Monthly Precipitation (in.):

Oct	<u>1.60</u>	Feb	<u>0.80</u>	Jun	<u>1.40</u>		
Nov	<u>1.00</u>	Mar	<u>1.20</u>	Jul	<u>1.30</u>		
Dec	<u>1.20</u>	Apr	<u>1.40</u>	Aug	<u>1.40</u>		
Jan	<u>1.10</u>	May	<u>1.40</u>	Sep	<u>1.30</u>	Total, in:	<u>15.10</u>

Average EOM Contents (ac-ft):

Oct	<u>N/A</u>	Feb	<u>N/A</u>	Jun	<u>N/A</u>
Nov	<u>N/A</u>	Mar	<u>N/A</u>	Jul	<u>N/A</u>
Dec	<u>N/A</u>	Apr	<u>N/A</u>	Aug	<u>N/A</u>
Jan	<u>N/A</u>	May	<u>N/A</u>	Sep	<u>N/A</u>

Operating Notes: High Savery dam construction was completed Nov, 15, 2003. The reservoir will primarily serve agriculture with a 12,000 AF yield of late season irrigation water from a 15,661.2 AF irrigation and recreation pool. Irrigation water is allocated by the Savery - Little Snake Water Conservation District. The reservoir also includes a municipal and environmental pool of 1,000 AF and an inactive fisheries pool of 5,724 AF. When storage is available part of the municipal and environmental pool is reserved for release to maintain 10 cfs flow in the stream below the reservoir each year from July 15th to September 30th.

Reservoir Name: Kemmerer No. 1

Owner/Operator: City of Kemmerer

Storage Permit Nos: 5302R 9776R

HWL Data: Area, ac: 182.93 Cap, ac-ft: 1,768.78 Elev, ft msl 7,145.90

Permitted Uses:		Water Right Owners:
Use: <u>M&I</u>	<u>1,025.00</u> ac-ft	<u>5302R</u>
<u>M&I</u>	<u>710.78</u> ac-ft	<u>9776R</u>
<u>inactive</u>	<u>33.00</u> ac-ft	

Service Outlet: Type: 2 - 36" CMP w/ 28" line Capacity, cfs 185
 Principal Spillway: Type: weir Capacity, cfs 1,120
 Emergency Spillway Type: weir Capacity, cfs 27,000
 Miscellaneous Spillway Info: Emergency spillway capacity includes principal spillway.
Liners inside service pipes are HDPE.

Average Annual Gross FWS Evaporation (in.): 38.63

Average Monthly Gross Evaporation (in.):

Oct <u>2.94</u>	Feb <u>0.97</u>	Jun <u>5.06</u>	
Nov <u>1.51</u>	Mar <u>1.51</u>	Jul <u>6.61</u>	
Dec <u>1.00</u>	Apr <u>3.09</u>	Aug <u>6.03</u>	
Jan <u>1.04</u>	May <u>4.44</u>	Sep <u>4.44</u>	Total, in: <u>38.63</u>

Average Monthly Precipitation (in.):

Oct <u>0.84</u>	Feb <u>0.65</u>	Jun <u>1.15</u>	
Nov <u>0.87</u>	Mar <u>0.73</u>	Jul <u>0.82</u>	
Dec <u>0.75</u>	Apr <u>0.96</u>	Aug <u>0.91</u>	
Jan <u>0.69</u>	May <u>1.22</u>	Sep <u>1.19</u>	Total, in: <u>10.78</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: This reservoir serves the City of Kemmerer. The reservoir itself used to be the point of diversion for the city treatment plant; however operational changes are such that the city now diverts from the Hams Fork River downstream of the reservoir. There are no special operating criteria for this reservoir, it is typically operated as a flow-through structure with little, if any changes made to the gate settings.

Reservoir Name: McNinch No. 1

Owner/Operator: E.W. McNinch and Lois C. McNinch

Storage Permit Nos: 5413R 5801R

HWL Data: Area, ac: 107.0 Cap, ac-ft: 1,086 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irr., Stock, Dom.</u>	<u>1,086</u> ac-ft	<u>5801R, E.W. & Lois C. McNinch</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: Gated 18" CMP Capacity, cfs NR

Principal Spillway: Type: Weir Capacity, cfs 548

Emergency Spillway Type: _____ Capacity, cfs: _____

Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 38.95

Average Monthly Gross Evaporation (in.):

Oct <u>2.96</u>	Feb <u>0.97</u>	Jun <u>5.10</u>	
Nov <u>1.52</u>	Mar <u>1.52</u>	Jul <u>6.66</u>	
Dec <u>1.01</u>	Apr <u>3.12</u>	Aug <u>6.08</u>	
Jan <u>1.05</u>	May <u>4.48</u>	Sep <u>4.48</u>	Total, in: <u>38.95</u>

Average Monthly Precipitation (in.):

Oct <u>0.58</u>	Feb <u>0.47</u>	Jun <u>1.01</u>	
Nov <u>0.60</u>	Mar <u>0.55</u>	Jul <u>0.89</u>	
Dec <u>0.52</u>	Apr <u>0.69</u>	Aug <u>0.89</u>	
Jan <u>0.52</u>	May <u>1.17</u>	Sep <u>0.97</u>	Total, in: <u>8.86</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: The McNinch Reservoirs are private storage reservoirs the operation of which is at the whim of the owner. Sources of supply are the numerous springs and draws tributary to North Piney Creek as outlined in the Tabulation of Adjudicated Water Rights.

Reservoir Name: McNinch No. 2

Owner/Operator: E.W. McNinch and Lois C. McNinch

Storage Permit Nos: 5412R

HWL Data: Area, ac: 26.4 Cap, ac-ft: 198 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irr., Stock, Dom.</u>	<u>198</u> ac-ft	<u>5412R, E.W. & Lois C. McNinch</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: 18" Cast Iron Pipe Capacity, cfs NR
 Principal Spillway: Type: Weir Capacity, cfs NR
 Emergency Spillway Type: _____ Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 38.96

Average Monthly Gross Evaporation (in.):

Oct <u>2.96</u>	Feb <u>0.97</u>	Jun <u>5.10</u>	
Nov <u>1.52</u>	Mar <u>1.52</u>	Jul <u>6.66</u>	
Dec <u>1.01</u>	Apr <u>3.12</u>	Aug <u>6.08</u>	
Jan <u>1.05</u>	May <u>4.48</u>	Sep <u>4.48</u>	Total, in: <u>38.96</u>

Average Monthly Precipitation (in.):

Oct <u>0.58</u>	Feb <u>0.47</u>	Jun <u>1.01</u>	
Nov <u>0.60</u>	Mar <u>0.55</u>	Jul <u>0.89</u>	
Dec <u>0.52</u>	Apr <u>0.69</u>	Aug <u>0.89</u>	
Jan <u>0.52</u>	May <u>1.17</u>	Sep <u>0.97</u>	Total, in: <u>8.86</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: The McNinch Reservoirs are private storage reservoirs the operation of which is at the whim of the owner. Sources of supply are the numerous springs and draws tributary to North Piney Creek as outlined in the Tabulation of Adjudicated Water Rights.

Reservoir Name: Meeks Cabin
 Owner/Operator: U.S.Bureau of Reclamation/Bridger Valley Water Conservation Dist.
 Storage Permit Nos: 6276R 5547R
 HWL Data: Area, ac: 326.6 Cap, ac-ft: 16,301.50 Elev, ft msl 8,740.0
 Permitted Uses: Irr. 16,301.50 ac-ft Water Right Owners:
 Use: Irr., Stock, Power 17,269.50 ac-ft 6276R U.S. Bureau of
Reclamation 5547R U.S. Bureau
of Reclamation
 _____ ac-ft _____
 _____ ac-ft _____
 _____ ac-ft _____
 Service Outlet: Type: _____ Capacity, cfs: _____
 Principal Spillway: Type: _____ Capacity, cfs: _____
 Emergency Spillway Type: concrete lined channel Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.):		35.00	
Average Monthly Gross Evaporation (in.):			
Oct	<u>2.66</u>	Feb	<u>0.88</u>
Nov	<u>1.37</u>	Mar	<u>1.37</u>
Dec	<u>0.91</u>	Apr	<u>2.80</u>
Jan	<u>0.95</u>	May	<u>4.03</u>
		Jun	<u>4.59</u>
		Jul	<u>5.99</u>
		Aug	<u>5.46</u>
		Sep	<u>4.03</u>
		Total, in:	35.00
Average Monthly Precipitation (in.):			
Oct	<u>2.25</u>	Feb	<u>1.85</u>
Nov	<u>1.85</u>	Mar	<u>2.80</u>
Dec	<u>1.78</u>	Apr	<u>2.85</u>
Jan	<u>1.85</u>	May	<u>2.75</u>
		Jun	<u>1.85</u>
		Jul	<u>1.50</u>
		Aug	<u>1.75</u>
		Sep	<u>1.75</u>
		Total, in:	24.83
Average EOM Contents (ac-ft):			
Oct	<u>8,950</u>	Feb	<u>10,700</u>
Nov	<u>9,270</u>	Mar	<u>11,290</u>
Dec	<u>9,760</u>	Apr	<u>18,070</u>
Jan	<u>10,170</u>	May	<u>>16,300</u>
		Jun	<u>>16,300</u>
		Jul	<u>>16,300</u>
		Aug	<u>12,550</u>
		Sep	<u>9,950</u>

Operating Notes: Meeks Cabin Reservoir is operated by the Bridger Valley Water Conservation District on a call basis. District members are provided water upon demand, usually after their requirements cannot be met from direct flow water rights due to recession of the runoff. Typically about 30 percent of the annual reservoir demand is used prior to the hay cutting (July 24, in a typical year), with the remainder used in the fall to fill the soil profile. Meeks Cabin Reservoir has a 10-cfs minimum by-pass amount.

Reservoir Name: Middle Piney

Owner/Operator: USDA Forest Service

Storage Permit Nos: 3578R

HWL Data: Area, ac: 164.6 Cap, ac-ft: 4,201 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irr, Stock, Dom</u>	<u>4,201</u> ac-ft	<u>3578R, USDA Forest Service</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: Gated 24" and 42" CMF Capacity, cfs NR

Principal Spillway: Type: Weir Capacity, cfs 603

Emergency Spillway Type: _____ Capacity, cfs: _____

Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 37.75

Average Monthly Gross Evaporation (in.):

Oct <u>2.87</u>	Feb <u>0.94</u>	Jun <u>4.95</u>	
Nov <u>1.47</u>	Mar <u>1.47</u>	Jul <u>6.46</u>	
Dec <u>0.98</u>	Apr <u>3.02</u>	Aug <u>5.89</u>	
Jan <u>1.02</u>	May <u>4.34</u>	Sep <u>4.34</u>	Total, in: <u>37.75</u>

Average Monthly Precipitation (in.):

Oct <u>2.30</u>	Feb <u>5.00</u>	Jun <u>1.85</u>	
Nov <u>5.75</u>	Mar <u>4.00</u>	Jul <u>1.50</u>	
Dec <u>6.25</u>	Apr <u>2.82</u>	Aug <u>1.55</u>	
Jan <u>6.75</u>	May <u>3.25</u>	Sep <u>1.80</u>	Total, in: <u>42.82</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: Middle Piney Reservoir has recently (1997) had its agricultural storage rights abandoned and all interest in the reservoir has been assigned to the U. S. Forest Service. The State Engineer's Office reports that operation of the reservoir is essentially unmanaged, and that the discharge gates are simply left wide open.

Reservoir Name: New Fork Lake

Owner/Operator: _____

Storage Permit Nos: 480R _____

HWL Data: Area, ac: 1,416 Cap, ac-ft: 20,340 Elev, ft msl 7,819

Permitted Uses:		Water Right Owners:
Use: <u>Irr</u>	<u>1,416</u> ac-ft	<u>New Fork Lake Irrigation District</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: 3 gated concrete condu Capacity, cfs 838
 Principal Spillway: Type: _____ Capacity, cfs: _____
 Emergency Spillway Type: weir Capacity, cfs 2,260
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 35.00

Average Monthly Gross Evaporation (in.):

Oct <u>2.66</u>	Feb <u>0.88</u>	Jun <u>4.59</u>	
Nov <u>1.37</u>	Mar <u>1.37</u>	Jul <u>5.99</u>	
Dec <u>0.91</u>	Apr <u>2.80</u>	Aug <u>5.46</u>	
Jan <u>0.95</u>	May <u>4.03</u>	Sep <u>4.03</u>	Total, in: <u>35.00</u>

Average Monthly Precipitation (in.):

Oct <u>1.45</u>	Feb <u>2.38</u>	Jun <u>1.45</u>	
Nov <u>2.85</u>	Mar <u>2.00</u>	Jul <u>1.45</u>	
Dec <u>3.25</u>	Apr <u>1.85</u>	Aug <u>1.35</u>	
Jan <u>3.45</u>	May <u>1.95</u>	Sep <u>1.48</u>	Total, in: <u>24.91</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: New Fork Lake is owned and operated by the New Fork Lake Irrigation District. It is operated primarily as an irrigation storage reservoir. Runoff is stored in the reservoir until elevation 38.0 is exceeded, at which point water will begin to flow through the spillway. Release of water through the outlet is dependent on manual operation of three (3) slide gates, and is governed by irrigation needs and adjudicated water rights. There is no major District canal or ditch which is fed by the reservoir; the New Fork River itself is the primary conveyance with individual irrigators diverting directly from there.

Reservoir Name: Pacific Reservoir No. 1

Owner/Operator: _____

Storage Permit Nos: 4025R _____

HWL Data: Area, ac: 23.27 Cap, ac-ft: 106.91 Elev, ft msl 7220 +/-

Permitted Uses:		Water Right Owners:
Use: <u>Irr, Stock</u>	<u>106.91</u> ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: _____ Capacity, cfs: _____
 Principal Spillway: Type: _____ Capacity, cfs: _____
 Emergency Spillway Type: _____ Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 35.00

Average Monthly Gross Evaporation (in.):

Oct <u>2.66</u>	Feb <u>0.88</u>	Jun <u>4.59</u>	
Nov <u>1.37</u>	Mar <u>1.37</u>	Jul <u>5.99</u>	
Dec <u>0.91</u>	Apr <u>2.80</u>	Aug <u>5.46</u>	
Jan <u>0.95</u>	May <u>4.03</u>	Sep <u>4.03</u>	Total, in: <u>35.00</u>

Average Monthly Precipitation (in.):

Oct <u>0.75</u>	Feb <u>0.70</u>	Jun <u>1.50</u>	
Nov <u>0.75</u>	Mar <u>1.00</u>	Jul <u>1.00</u>	
Dec <u>0.75</u>	Apr <u>1.25</u>	Aug <u>0.75</u>	
Jan <u>0.75</u>	May <u>1.30</u>	Sep <u>1.00</u>	Total, in: <u>11.50</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: _____

Reservoir Name: Pacific Reservoir No. 2

Owner/Operator: _____

Storage Permit Nos: 4026R _____

HWL Data: Area, ac: 257.88 Cap, ac-ft: 1,394.21 Elev, ft msl 7010 +/-

Permitted Uses:		Water Right Owners:
Use: <u>Irr, Stock</u>	<u>106.91</u> ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: _____ Capacity, cfs: _____
 Principal Spillway: Type: _____ Capacity, cfs: _____
 Emergency Spillway Type: _____ Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 38.00

Average Monthly Gross Evaporation (in.):

Oct <u>2.89</u>	Feb <u>0.95</u>	Jun <u>4.98</u>	
Nov <u>1.48</u>	Mar <u>1.48</u>	Jul <u>6.50</u>	
Dec <u>0.99</u>	Apr <u>3.04</u>	Aug <u>5.93</u>	
Jan <u>1.03</u>	May <u>4.37</u>	Sep <u>4.37</u>	Total, in: <u>38.00</u>

Average Monthly Precipitation (in.):

Oct <u>0.60</u>	Feb <u>0.55</u>	Jun <u>1.30</u>	
Nov <u>0.60</u>	Mar <u>0.80</u>	Jul <u>0.90</u>	
Dec <u>0.60</u>	Apr <u>1.00</u>	Aug <u>0.60</u>	
Jan <u>0.60</u>	May <u>1.20</u>	Sep <u>0.90</u>	Total, in: <u>9.65</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: _____

Reservoir Name: Paterson Lake

Owner/Operator: Famer's Land and Livestock Company

Storage Permit Nos: 433R

HWL Data: Area, ac: 200.0 Cap, ac-ft: 1,874 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irr, Dom, HydroPower</u>	<u>1,874</u> ac-ft	<u>433R, Farmer's Land & Livestock</u>
_____	_____ ac-ft	<u>Co.</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: _____ Capacity, cfs: _____

Principal Spillway: Type: _____ Capacity, cfs: _____

Emergency Spillway Type: _____ Capacity, cfs: _____

Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 41.02

Average Monthly Gross Evaporation (in.):			
Oct <u>3.12</u>	Feb <u>1.03</u>	Jun <u>5.37</u>	
Nov <u>1.60</u>	Mar <u>1.60</u>	Jul <u>7.01</u>	
Dec <u>1.07</u>	Apr <u>3.28</u>	Aug <u>6.40</u>	
Jan <u>1.11</u>	May <u>4.72</u>	Sep <u>4.72</u>	Total, in: <u>41.02</u>

Average Monthly Precipitation (in.):			
Oct <u>0.83</u>	Feb <u>0.31</u>	Jun <u>1.11</u>	
Nov <u>0.48</u>	Mar <u>0.52</u>	Jul <u>0.90</u>	
Dec <u>0.44</u>	Apr <u>0.86</u>	Aug <u>0.89</u>	
Jan <u>0.36</u>	May <u>1.15</u>	Sep <u>0.95</u>	Total, in: <u>8.80</u>

Average EOM Contents (ac-ft):			
Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>	
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>	
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>	
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>	

Operating Notes: _____

Reservoir Name: Silver Lake

Owner/Operator: Silver Lake Reservoir Company

Storage Permit Nos: 3790R 5769R

HWL Data: Area, ac: 180.0 Cap, ac-ft: 2,152 Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: <u>Irrigation</u>	<u>1,219</u> ac-ft	<u>3790R, Silver Lake Reservoir</u>
<u>Irr, Stock</u>	<u>933</u> ac-ft	<u>Company 5769R, Silver Lake</u>
_____	_____ ac-ft	<u>Irrigation Company</u>
_____	_____ ac-ft	_____
_____	_____ ac-ft	_____

Service Outlet: Type: Gated 30" CMP Capacity, cfs NR
 Principal Spillway: Type: Weir Capacity, cfs 784
 Emergency Spillway Type: _____ Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 35.00

Average Monthly Gross Evaporation (in.):

Oct <u>2.66</u>	Feb <u>0.88</u>	Jun <u>4.59</u>	
Nov <u>1.37</u>	Mar <u>1.37</u>	Jul <u>5.99</u>	
Dec <u>0.91</u>	Apr <u>2.80</u>	Aug <u>5.46</u>	
Jan <u>0.95</u>	May <u>4.03</u>	Sep <u>4.03</u>	Total, in: <u>35.00</u>

Average Monthly Precipitation (in.):

Oct <u>1.85</u>	Feb <u>3.10</u>	Jun <u>1.75</u>	
Nov <u>3.70</u>	Mar <u>2.50</u>	Jul <u>1.65</u>	
Dec <u>4.10</u>	Apr <u>2.25</u>	Aug <u>1.40</u>	
Jan <u>4.30</u>	May <u>2.30</u>	Sep <u>1.75</u>	Total, in: <u>30.65</u>

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: _____

Reservoir Name: Sixty Seven

Owner/Operator: Mr. Jay Downes

Storage Permit Nos: 535R 2878R

HWL Data: Area, ac: 333.0 Cap, ac-ft: 4,329 Elev, ft msl: _____

Permitted Uses:

Use:	<u>Stock, Dom</u>	<u>3,376</u>	<u>ac-ft</u>	Water Right Owners:	<u>535R, Perry W. Jenkins</u>
	<u>Stock, Dom</u>	<u>953</u>	<u>ac-ft</u>		<u>2878R, Perry W. Jenkins</u>
	_____	_____	<u>ac-ft</u>		_____
	_____	_____	<u>ac-ft</u>		_____
	_____	_____	<u>ac-ft</u>		_____

Service Outlet: Type: 2 x 16" CIP Capacity, cfs NR
 Principal Spillway: Type: Weir Capacity, cfs NR
 Emergency Spillway Type: _____ Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 39.18

Average Monthly Gross Evaporation (in.):

Oct	<u>2.98</u>	Feb	<u>0.98</u>	Jun	<u>5.13</u>		
Nov	<u>1.53</u>	Mar	<u>1.53</u>	Jul	<u>6.70</u>		
Dec	<u>1.02</u>	Apr	<u>3.13</u>	Aug	<u>6.11</u>		
Jan	<u>1.06</u>	May	<u>4.51</u>	Sep	<u>4.51</u>	Total, in:	<u>39.18</u>

Average Monthly Precipitation (in.):

Oct	<u>0.58</u>	Feb	<u>0.47</u>	Jun	<u>1.01</u>		
Nov	<u>0.60</u>	Mar	<u>0.55</u>	Jul	<u>0.89</u>		
Dec	<u>0.52</u>	Apr	<u>0.69</u>	Aug	<u>0.89</u>		
Jan	<u>0.52</u>	May	<u>1.17</u>	Sep	<u>0.97</u>	Total, in:	<u>8.86</u>

Average EOM Contents (ac-ft):

Oct	<u>N/A</u>	Feb	<u>N/A</u>	Jun	<u>N/A</u>
Nov	<u>N/A</u>	Mar	<u>N/A</u>	Jul	<u>N/A</u>
Dec	<u>N/A</u>	Apr	<u>N/A</u>	Aug	<u>N/A</u>
Jan	<u>N/A</u>	May	<u>N/A</u>	Sep	<u>N/A</u>

Operating Notes: Sixty Seven is a privately owned reservoir the operation of which is at the whim of the owner.

Reservoir Name: State Line

Owner/Operator: U.S.Bureau of Reclamation/Bridger Valley Water Conservation Dist.

Storage Permit Nos:Utah Permit

HWL Data: Area, ac: _____ Cap, ac-ft: _____ Elev, ft msl: _____

Permitted Uses:		Water Right Owners:
Use: _____	ac-ft	_____
_____	ac-ft	_____
_____	ac-ft	_____
_____	ac-ft	_____
_____	ac-ft	_____

Service Outlet: Type: _____ Capacity, cfs: _____
 Principal Spillway: Type: _____ Capacity, cfs: _____
 Emergency Spillway Type: _____ Capacity, cfs: _____
 Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 34.00

Average Monthly Gross Evaporation (in.):

Oct <u>2.58</u>	Feb <u>0.85</u>	Jun <u>4.45</u>	
Nov <u>1.33</u>	Mar <u>1.33</u>	Jul <u>5.81</u>	
Dec <u>0.88</u>	Apr <u>2.72</u>	Aug <u>5.30</u>	
Jan <u>0.92</u>	May <u>3.91</u>	Sep <u>3.91</u>	Total, in: 34.00

Average Monthly Precipitation (in.):

Oct _____	Feb _____	Jun _____	
Nov _____	Mar _____	Jul _____	
Dec _____	Apr _____	Aug _____	
Jan _____	May _____	Sep _____	Total, in: 0.00

Average EOM Contents (ac-ft):

Oct <u>N/A</u>	Feb <u>N/A</u>	Jun <u>N/A</u>
Nov <u>N/A</u>	Mar <u>N/A</u>	Jul <u>N/A</u>
Dec <u>N/A</u>	Apr <u>N/A</u>	Aug <u>N/A</u>
Jan <u>N/A</u>	May <u>N/A</u>	Sep <u>N/A</u>

Operating Notes: State Line Reservoir is operated by the Bridger Valley Water Conservation District on a call basis. District members are provided water upon demand, usually after their requirements cannot be met from direct flow water rights due to recession of runoff. Typically about 30 percent of the annual reservoir demand is used prior to the hay cutting (July 24, in a typical year), with the remainder used in the fall to fill the soil profile. In addition, municipal supplies are provided from June through September each year by agreement between the District and the Lyman-Fort Bridger Joint Powers Board. The State Line Reservoir has a 7-cfs minimum by-pass amount.

Reservoir Name: Viva Naughton

Owner/Operator: Naughton Power Plant (Scottish Power)

Storage Permit Nos: 6418R 7476R* * 3,072 AF Constructed
7599R** ** = not constructed

HWL Data: Area, ac: 1458.18 Cap, ac-ft: 45,465 Elev, ft msl 7,240

Permitted Uses: Ind, 6418R 42,393 ac-ft Water Right Owners: assigned to Pacificorp
Ind, 7476R 3,072 ac-ft

_____ ac-ft
_____ ac-ft

Service Outlet: Type: 2 hydropower penstock Capacity, cfs 840 (740 + 100)
Principal Spillway: Type: 2 slide gates Capacity, cfs 12,000 total
Emergency Spillway Type: fuse plug Capacity, cfs: _____
Miscellaneous Spillway Info: _____

Average Annual Gross FWS Evaporation (in.): 38.54

Average Monthly Gross Evaporation (in.):

Oct	<u>2.93</u>	Feb	<u>0.96</u>	Jun	<u>5.05</u>		
Nov	<u>1.50</u>	Mar	<u>1.50</u>	Jul	<u>6.59</u>		
Dec	<u>1.00</u>	Apr	<u>3.08</u>	Aug	<u>6.01</u>		
Jan	<u>1.04</u>	May	<u>4.43</u>	Sep	<u>4.43</u>	Total, in:	<u>38.54</u>

Average Monthly Precipitation (in.):

Oct	<u>0.84</u>	Feb	<u>0.65</u>	Jun	<u>1.15</u>		
Nov	<u>0.87</u>	Mar	<u>0.73</u>	Jul	<u>0.82</u>		
Dec	<u>0.75</u>	Apr	<u>0.96</u>	Aug	<u>0.91</u>		
Jan	<u>0.69</u>	May	<u>1.22</u>	Sep	<u>1.19</u>	Total, in:	<u>10.78</u>

Average EOM Contents (ac-ft):

Oct	<u>N/A</u>	Feb	<u>N/A</u>	Jun	<u>N/A</u>
Nov	<u>N/A</u>	Mar	<u>N/A</u>	Jul	<u>N/A</u>
Dec	<u>N/A</u>	Apr	<u>N/A</u>	Aug	<u>N/A</u>
Jan	<u>N/A</u>	May	<u>N/A</u>	Sep	<u>N/A</u>

Operating Notes: Viva Naughton is operated to provide a continuous supply of 25 cfs for cooling water to the Naughton Power Plant. The reservoir is sized to provide this amount under a 2-year drought scenario. Irrigation is not explicitly permitted in the reservoir's water right, but prior rights are bypassed and water for irrigation is released from storage for downstream irrigators if water supplies are sufficient. Flood control is also not explicitly stated in the permit, but the reservoir can and has been operated to reduce flooding effects downstream.

Reservoir Name: Willow Lake

Owner/Operator: Binning et al.

Storage Permit Nos: 3831R 4475R
6257R

HWL Data: Area, ac: 1,958 Cap, ac-ft: 22,630 Elev, ft msl 7,700

Permitted Uses:			Water Right Owners:	
Use:	<u>Irr., Stock, Dom.</u>	<u>15,120 ac-ft</u>	<u>3831R</u>	<u>Binning</u>
	<u>Irr., Stock, Dom.</u>	<u>3,696 ac-ft</u>	<u>4475R</u>	<u>Binning et al</u>
	<u>Irr., Stock, Dom.</u>	<u>3,814 ac-ft</u>	<u>6257R</u>	<u>Binning et al</u>
		<u>ac-ft</u>		
		<u>ac-ft</u>		

Service Outlet: Type: Gated Outlet Capacity, cfs NR
 Principal Spillway: Type: Weir Capacity, cfs 625
 Emergency Spillway Type: Weir Capacity, cfs:
 Miscellaneous Spillway Info: Drawings only define one spillway which apparently serves as both principal and emergency spillway.

Average Annual Gross FWS Evaporation (in.): 35.03

Average Monthly Gross Evaporation (in.):

Oct <u>2.66</u>	Feb <u>0.88</u>	Jun <u>4.59</u>	
Nov <u>1.37</u>	Mar <u>1.37</u>	Jul <u>5.99</u>	
Dec <u>0.91</u>	Apr <u>2.80</u>	Aug <u>5.46</u>	
Jan <u>0.95</u>	May <u>4.03</u>	Sep <u>4.03</u>	Total, in: <u>35.03</u>

Average Monthly Precipitation (in.):

Oct <u>1.20</u>	Feb <u>1.45</u>	Jun <u>1.40</u>	
Nov <u>1.82</u>	Mar <u>1.20</u>	Jul <u>1.35</u>	
Dec <u>1.82</u>	Apr <u>1.40</u>	Aug <u>1.25</u>	
Jan <u>2.00</u>	May <u>1.85</u>	Sep <u>1.45</u>	Total, in: <u>18.19</u>

Average EOM Contents (ac-ft):

Oct <u>33,695</u>	Feb <u>29,293</u>	Jun <u>42,618</u>
Nov <u>32,735</u>	Mar <u>27,235</u>	Jul <u>39,724</u>
Dec <u>31,638</u>	Apr <u>29,129</u>	Aug <u>36,866</u>
Jan <u>30,530</u>	May <u>38,580</u>	Sep <u>34,601</u>

Operating Notes: Willow Lake is operated primarily for irrigation. The lake ownership, unique to the area, is divided into "shares," the majority of which are owned by the Binning family. The operational and maintenance history of the reservoir is incomplete. The 2nd enlargement is unadjudicated with some information that the first two permits are not fully built.

Reservoir: Big Sandy

From Williams (1995):

Elevation (ft)	Area (ac)	Capacity (AF)	
6,697	1.0	0	
6,700	6.0	10	
6,705	25.0	85	
6,710	71.0	315	
6,715	108.0	765	
6,720	161.0	1,425	
6,725	246.0	2,425	
6,730	381.0	3,970	
6,735	605.0	6,390	
6,740	874.0	10,080	
6,745	1,357.0	15,490	
6,750	1,823.0	23,580	
6,755	2,261.0	33,780	
6,757.5	2,504.5	39,700	Spillway Elevation
6,760	2,748.0	46,330	
6,762.8	3,057.12	54,400	

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Black Joe Lake

Elevation (ft)	Area (ac)	Capacity (AF)	Total (AF)
31.7	79.36		0
		268.29	
35	83.24		268.29
		441.67	
40	93.43		709.96
		391.84	
44	102.49		1,101.8

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Boulder Lake

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
98	1,540			
		1,546	3,092	
100	1,552			3,092
		1,612	8,060	
105	1,673			11,152
		1,685	5,055	
108	1,698			16,207

Area-Capacity Characteristics as reported on Enl. Permit:

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)
7,275.4	1,464.0		
		1,509.5	6,844
7,280	1,555.0		
		1,585.0	7,925
7,285	1,615.0		
		1,621.75	1,338
7,285.825	1,628.5		
Total Cap. Permit 4038R			16,207
7,285.825	1,628.5		
		1,652.5	6,073
7,289.5	1,676.5		
Total Enlarged Capacity			22,280

From Williams (1995):

Elevation (ft)	Area (ac)	Capacity (AF)	Spillway Elevation
7,275.5	1,462.5	0	
7,280	1,555	6,900	
7,285	1,622.5	14,850	
7,289.5	1,677	22,280	
7,290	1,680	23,950	
7,295	1736.25	31,650	
7,298.5	1,775	37,800	

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Bush Creek

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
100	0			0
		826.382	1,239.573	
102	1,652.764			1,239.57
		1,716.41	6,007.417	
105	1,780.045			7,246.99
		2,204.67	9,859.661	
110	2,629.243			17,106.7

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Divide

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
0	124.24			0
		126.16	504.64	
4	128.08			504.64
		130.68	522.72	
8	133.28			1,027.36

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Eden

From Williams (1995):

Elevation (ft)	Area (ac)	Capacity (AF)
6,696	6	0
6,698	397	403
6,700	509	1,308
6,702	607	2,424
6,704	687	3,718
6,706	780	5,185
6,708	868	6,834
6,710	963	8,665
6,712	1,049	10,677
6,714	1,120	12,845
6,716	1,197	15,161
6,718	1,261	17,619
6,720	1,329	20,209
6,722	1,390	22,550
6,724	1,450	25,350
6,726	1,518	28,050
6,728	1,580	29,850

Spillway Elevation

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Fontenelle

Elevation (ft)	Area (ac)	Capacity (AF)	Appropriation
6,390	0	0	Inactive Cap (Dead Storage) 563 af, Permit 6629R
6,395		0	
6,400	19	28	
6,405	78	256	
6,408	128	563	
6,410	168	858	Active Capacity 154,584 af, Permit 9502R Uses: Irr, Dom, Ind, Rec, Mun, Stk, Fish & Wildlife, Minimum Streamflow, Power
6,415	257	1,894	
6,420	429	3,569	
6,425	717	6,378	
6,430	1,160	10,999	
6,435	1,620	17,977	
6,440	2,023	27,106	
6,445	2,381	38,132	
6,450	2,702	50,852	
6,455	3,010	65,112	
6,460	3,366	81,031	
6,465	3,773	98,857	
6,470	4,235	118,855	
6,475	4,771	141,355	
6,477.8	5,082	155,147	Active Capacity 190,250 af, Permit 6629R Uses: Irr, Dom, Ind, Rec, Mun, Stk, Fish & Wildlife, Power
6,480	5,396	166,661	
6,485	6,116	195,525	
6,490	6,709	227,603	
6,495	7,097	262,113	
6,500	7,532	298,677	
6,505	7,960	337,389	
6,506	8,058	345,397	Surcharge Capacity, 57,999 af
6,510	8,438	378,389	
6,513.1	8,819	403,396	
Total Available Cap.		345,397	
Total Permit 9502R		154,584	

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Fremont Lake

Elevation ¹ (ft)	Elevation ² (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)	Appropriation
7,405.45	7,415.00	4,888.00			unknown	Municipal, 8937R
			4,897.00	4,897.00		
7,406.45	7,416.00	4,907.01			4,897.00	4452R
7,407.45	7,417.00		4,922.06	9,844.12		
7,408.45	7,418.00	4,937.11			14,741.12	
			5,377.92	5,377.92		4453R
7,409.45	7,419.00	5,380.80			20,119.04	4465R
			5,385.40	5,385.40		
7,410.45	7,420.00	5,390.00			25,504.44	2,697.5 af - Irr & 2,697.5 af - Mun
			5,395.00	5,395.00		
7,411.45	7,421.00	5,400.00			30,899.44	8937R

Elevation¹ from previous maps

Elevation² from BM - USC & GS J-44

From Williams (1995):

Elevation (ft)	Area (ac)	Average Area (ac)	Capacity (AF)	Total Capacity (AF)
7,415.093	5,014.34			1
7,416.19	5,033.76	5,024.05	5510.41	5,510.4
7,418.139	5,067.96	5,050.86	9844.12	15,354.5
7,419.198	5,087.02	5,077.49	5377.92	20,732.5
7,420.255	5,105.72	5,096.37	5385.4	26,117.9
7,421.19	5,122.28	5,114	4781.59	30,899.4

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Kemmerer No. 1 (Kemmerer City Res.)

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)	Appropriation	
7,122.00	0.00			0.00	1,058 af Permit 5302R	Inactive Cap. 33 af Permit 5302R
		0.16	0.33			
7,124.00	0.33			0.33		
		0.80	1.60			
7,126.00	1.27			1.93		
		5.87	11.73			
7,128.00	10.46			13.66		
		17.58	19.34			
7,129.10	24.69			33.00		
		30.52	27.46			
7,130.00	36.34			60.46		
		46.49	92.98			
7,132.00	56.64			153.44		
		62.73	125.45			
7,134.00	68.81			278.89		
		78.84	157.68			
7,136.00	88.86			436.57		
		99.12	198.24			
7,138.00	109.37			634.81		
		118.28	236.56			
7,140.00	127.19			871.40		
		130.73	186.60			
7,141.43	134.27			1,058.00		
		137.67	78.88			
7,142.00	141.06			1,136.88	710.78 af Permit 9776R, M&I Use	
		151.83	303.66			
7,144.00	162.59			1,440.54		
		172.76	328.24			
7,145.90	182.93			1,768.78		

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: McNinch No. 1

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
0	8.6			0
		24.6	133	
5	40.6			133
		57.1	285.5	
10	73.7			418.5
		90.9	454.5	
15	108.2			873

Area-Capacity Characteristics as reported on Enl. Permit:

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)
80.00	1.02		
		11.43	57.15
85.00	21.85		
		38.19	190.95
90.00	54.54		
		70.70	353.50
95.00	86.86		
		96.65	484.75
100.00	107.04		
Total available capacity			1,086.35
Original capacity			873.00
Enlarged capacity			213.35

Permit No. 5413R & This Appl.

Permit No. 5413R

This Appl.

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: McNinch No. 2

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
0	2.4			0
		5.2	26	
5	8.0			26
		12.6	63	
10	17.2			89
		21.8	109	
15	26.4			198

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Meeks Cabin

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
8,630.0	0.6			
		5.9	59.4	
8,640.0	11.3			59.4
		18.0	180.3	
8,650.0	24.7			239.7
		42.7	426.6	
8,660.0	60.6			666.4
		81.0	809.9	
8,670.0	101.4			1,476.3
		118.6	1,185.6	
8,680.0	135.7			2,661.9
		150.4	1,504.4	
8,690.0	165.1			4,166.3
		179.9	1,798.5	
8,700.0	194.6			5,964.8
		206.4	2,064.5	
8,710.0	218.3			8,029.3
		237.5	2,375.4	
8,720.0	256.8			10,404.7
		277.4	2,774.0	
8,730.0	298.0			13,178.7
		312.3	3,122.8	
8,740.0	326.6			16,301.5

Area-Capacity Characteristics as reported on Enl. Permit:

Elevation (ft)	Area (ac)	Average (ac)	Total (AF)
8,533	0		
		4.0	28
8,540	8		
		14.0	168
8,550	20		
		37.0	538
8,560	54		
		73.0	1,268
8,570	92		
		107.5	2,343
8,580	123		
		137.0	3,713
8,590	151		
		164.5	5,358
8,600	178		
		189.5	7,253
8,610	201		
		217.5	9,428
8,620	234		
		251.0	11,938
8,630	268		
		283.0	14,768

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

8,640	298		
		314.5	17,913
8,650	331		
		342	19,623
8,655	353		
		365	21,448
8,660	377		
		387.5	23,386
8,665	398		
		408.5	25,428
8,670	419		
		428.5	27,570
8,675	438		
		449	29,815
8,680	460		
		465.5	32,143
8,685	471		
		476	33,571
8,688	481		

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Middle Piney

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
0	168			0
		171	855	
5	174			855
		177	885	
10	180			1,740
		183	915	
15	187			2,655
		191	955	
20	194			3,610
		198	591	
23	200			4,201

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: New Fork Lake

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
-5	1,296			
		1,316	6,580	
0	1,336			6,580
		1,356	6,780	
5	1,376			13,360
		1,396	6,980	
10	1,416			20,340

From Williams (1995):

Elevation (ft)	Area (ac)	Capacity (AF)
20		0
25	1,297	2,000
30	1,334	6,500
35	1,376	13,400
38	1,400	17,500
40	1417	20200
44.2	1450	25700

Spillway Elevation

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Paterson Lake

Elevation (ft)	Area (ac)	Average (ac)	Total Capacity (AF)
0	40.00		<i>0.00</i>
		<i>85.00</i>	
3	130.00		<i>255.00</i>
		<i>153.50</i>	
6	177.00		<i>715.50</i>
		<i>188.50</i>	
9	200.00		<i>1,281.00</i>

Figures in italics are computed from areas listed on permit maps.

Permitted Capacity: 1237 AF

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Silver Lake

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)
0	113.78		
		121.27	363.81
3	128.76		
		135.36	406.08
6	141.96		
		157.52	449.22
9	157.52		
		Total:	1,219.11

Area-Capacity Characteristics are reported on Enl. Permit:

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)
85	94.30		
		98.35	147.52
86.5	102.40		
		111.27	389.44
90	120.15		
		133.47	667.35
95	146.80		
		147.00	14.70
95.1	147.20		
		163.60	932.52
100.8	180.00		
		Total:	2,151.63

Original Appropriation = 1219.11AF, Irrigation

Enl., Irr. And Stock

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Sixty Seven

From Williams (1995):

Elevation (ft)	Area (ac)	Capacity (AF)
0	33	200
3	81	450
6	126.5	800
9	169.5	1,150
12	207	1,600
15	240	2,050
18	273	2,650
21	306	3,350
24	337.5	4,300
26	360	5,211
27	369	5,350
30	399	7,000
31.5	414	7,090

Spillway Elevation

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Lake Viva Naughton

Elevation (ft)	Area (ac)	Average (ac)	Total Cap (AF)	Appropriation
7,170.00	0.00			Allocation Permit 6418R, 42,393 AF
		23.16	116.00	
7,175.00	46.32			
		73.25	482.00	
7,180.00	100.18			
		137.46	1,169.00	
7,185.00	174.73			
		209.63	2,218.00	
7,190.00	244.53			
		289.69	3,666.00	
7,195.00	334.85			
		382.71	5,580.00	
7,200.00	430.56			
		500.64	8,083.00	
7,205.00	570.72			
		635.00	11,258.00	
7,210.00	699.28			
		743.47	14,975.00	
7,215.00	787.66			
		829.19	19,121.00	
7,220.00	870.71			
		981.09	24,026.00	
7,225.00	1,091.46			
		1,097.26	28,415.00	
7,229.00	1,103.05			
		1,104.50	29,520.00	
7,230.00	1,105.95			
		1,199.25	35,516.00	
7,235.00	1,292.54			
		1,375.36	42,393.00	
7,240.00	1,458.18			
		1,536.28	50,074.00	
7,245.00	1,614.38			
		1,692.48	58,536.00	
7,250.00	1,770.58			
		1,837.83	67,725.00	
7,255.00	1,905.08			
		1,920.36	69,645.00	
7,256.00	1,935.65			
		1,997.30	77,365.00	
7,260.00	2,058.95			
		2,130.00	81,895.00	
7,262.00	2,200.00			
		2,262.00	81,895.00	
7,265.00	2,325.00			
		2,468.00	101,021.00	
7,270.00	2,610.00			
			Surcharge 19,126 af	
		Total Capacity	81,895.00	
		Surcharge Capacity	19,126.00	

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

Reservoir: Willow Lake

Elevation (ft)	Area (ac)	Average (ac)	Capacity (AF)	Total (AF)
2	1,800			
		1,845	5,535	
5	1,890			5,535
		1,917	9,585	
10	1,945			15,120
Total Capacity Under Permit 3831R:				15,120
Capacity Under 1st Enlargement:				
10	1,840			
		1,848	3,696	
12	1,856			3,696
Total Capacity Under Permit 4475R:				3,696
Capacity Under 2nd Enlargement:				
12	1,856			
		1,907	3,814	
14	1,958			3,814
Total Capacity Under Permit 6257R:				3,814
Total Available Capacity				22,630

Reservoir: High Savery

Elevation feet	Area acres	Av Area acres	Incr. Volume acre-feet	Volume acre-feet
7180	0		0	0
		2.05		
7185	4.1		10.2	10.3
		7.5		
7190.5	10.9		37.5	47.7
		15.6		
7195	20.3		78	125.8
		27.1		
7200	33.9		135.6	261.3
		39.05		
7205	44.2		195.3	456.6
		50.1		
7210	56		250.4	706.9
		59.75		
7215	63.5		298.8	1005.7
		68.45		
7220	73.4		342.3	1348
		81.3		
7225	89.2		406.3	1754.3
		97.05		
7230	104.9		485.1	2239.4
		112.6		
7235	120.3		562.9	2802.3
		129.1		
7240	137.9		645.4	3447.7

DEAD POOL (INACTIVE CAPACITY)
47.7 A-F

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.

		146.55			
7245	155.2		7.32.5	4180.2	
		164.5			
7250	173.8		822.4	5002.7	
		183.1			
7254.2	192.4		769	5771.7	OPERATIONALLY INACTIVE MINIMUM POOL - FISHERIES 5724.0 A-F
		194.1			
7255	195.8		155.1	5926.8	
		205.07			
7259.12	214.3		844.9	6771.7	MUNICIPAL AND ENVIRONMENTAL POOL 1000.0 A-F
		216.42			
7260	218.5		191	6962.7	
		230.15			
7265	214.8		1150.8	8113.5	
		255.25			
7270	268.7		1276.3	9389.8	
		282.45			
7275	296.2		1412.4	10802.3	
		310.65			
7280	325.1		1553.4	12355.7	
		340.05			
7285	355		1700.4	14056.1	
		371.25			
7290	387.5		1856.4	15912.5	
		403.15			
7295	418.8		2015.7	17928.3	
		434.6			
7300	450.4		2172.9	20101.2	
		466.35			
7305-NHW	482.3		2331.7	22432.9	IRRIGATION AND RECREATION POOL 15661.2 A-F
		497.65			
7310	513		2488.2	24921.1	
		529.85			
7315	546.7		2649.2	27570.3	
		563.4			
7320-MHW	580.1		2816.8	30387.1	FLOOD POOL 7954.2 A-F
Total Available Capacity				22432.9	

Unless otherwise noted, all contours, areas, capacities and notes were taken directly from permit maps.