INTRODUCTION

Annual reports on actual operations and operating plans for reservoir regulation activities were initiated in 1953. The Montana Area Office, Wyoming Area Office, Dakota Area Office and the Regional Office are all responsible for preparing reports on actual operations and operating plans for reservoir within the Upper Missouri River Basin above Sioux City, Iowa. This report briefly summarizes weather and streamflow conditions in the Upper Missouri River Basin during water year 2008, which are principal factors governing the pattern of reservoir operations. This report also describes operations during water year 2008 for reservoirs constructed by the Bureau of Reclamation (Reclamation) for providing flood control and water supplies for power generation, irrigation, municipal and industrial uses, and to enhance recreation, fish, and wildlife benefits.

This report includes operating plans to show estimated ranges of operation for water year 2009, with a graphical presentation on a monthly basis. The operating plans for the reservoirs are presented only to show possible operations under a wide range of inflows, most of which cannot be reliably forecasted at the time operating plans are prepared; therefore, plans are at best only probabilities. The plans are updated monthly, as the season progresses, to better coordinate the actual water and power requirements with more reliable estimates of inflow.

A report devoted to Energy Generation is included at the end of this report. The energy generation and water used for power at Reclamation and Corps of Engineers (Corps) plants are discussed, and the energy generated in 2008 is compared graphically with that of previous years. Energy produced at the Reclamation and Corps mainstem plants is marketed by the Department of Energy. Table CET6, entitled "Total Reservoir Storage Contents at the End of Water Years 2007 and 2008," compares the water storage available at the beginning of water year 2009 to that available at the beginning of water year 2008. Table CET7 is a summary of the end of month storage contents for each reservoir during water year 2008. The Montana Area Office also assists in the preparation of plans for operation of the Corps reservoir on the main stem of the Missouri river by furnishing depletion estimates based upon the operating plans presented in this report.

All references to a year in this report will mean the water year extending from October 1 through September 30, unless specifically stated otherwise.

SUMMARY OF HYDROLOGIC CONDITIONS AND FLOOD CONTROL DURING 2008

Antecedent Conditions:

The conditions that existed following the 2007 water year indicated that the drought conditions remain prominent in some areas, but most of the basins in Montana east of the Continental Divide where Reclamation facilities are located showed some improvement. Conditions for the Upper Missouri River basin were showing moderate improvement overall, but conditions in the Bighorn Basin in Wyoming continued to remain more on the side of drought. The temperatures and precipitation for water year 2007 varied significantly between seasons. The mountain and valley precipitation for most basins in Montana east of the Continental Divide and the Bighorn basin in Wyoming were near to below normal during early fall until April. During May through August the precipitation continued to decline and reached levels much below average. By mid summer extremely hot and dry conditions returned to the Upper Missouri and Bighorn basins. Near normal precipitation throughout September brought a glimmer of light to the situation as most basins finished out the year with precipitation levels near 85 percent of normal.

The 2007 snowpack as of April 1 was well below normal in all the river basins in Montana and Wyoming. It ranged from 58 percent of normal in the Sun River basin above Gibson Reservoir to 84 percent of normal in the Bighorn Basin in Wyoming. Precipitation improved during April from that experienced in March. With the exception of the St. Mary River Basin and Bighorn River Basin, the valley precipitation was above normal during April, while the mountain precipitation remained well below average. Even with the varying precipitation received across Montana and northern Wyoming, the average streamflows also varied from below normal to above normal across many river basins. During May, the valley precipitation varied from basin to basin while the mountain precipitation was generally below average. Warm temperatures in May combined with varying precipitation, continued to maintain streamflows well below average during May. The precipitation during June and July remained well below average, resulting in many of the streamflows to remain well below average.

Inflows for water year 2007 were generally above average during the beginning of the year due to early fall storms with good precipitation; however the flows through the rest of the year were well below normal. Total inflows into Reclamation facilities varied from 50 percent of average in the Marias River Basin to 98 percent of average in the St. Mary River Basin. The well below normal inflows continued to reflect the cumulative drought conditions experienced in the Upper Missouri and Bighorn basins since water year 2000.

Water year 2007 ended with storages in many Reclamation reservoirs well below average, ranging from only 22 percent of average in Gibson Reservoir on the Sun River to 101 percent of average in Fresno Reservoir on the Milk River. The Reclamation reservoirs with the least amount of carryover storage going into water year 2008 were Clark Canyon at 50 percent of average and Gibson at 22 percent of average.

October through December:

Precipitation for the 2008 water year began with normal to much above normal precipitation to the mountains and valleys after a Pacific system brought moist and cooler weather to the area. Precipitation overall was much above normal during October and started to drop off sharply in November. The valley and mountain precipitation in November ranged from 33 and 68 percent of average respectively, in the Beaverhead River Basin to 89 and 71 percent of average in the Sun River Basin. During December weather conditions improved as frequent storms brought moderate precipitation to many areas of the mountains and valley regions in Montana and Wyoming. However the valley precipitation continued to be minimal in the Marias, Sun and Milk River Basins. The total valley precipitation for these areas during October through December was well below average, while the mountain precipitation was near to above average. For some basins, the early precipitation patterns indicated there may be some reprieve from the drought conditions. However other areas such as the Marias, Sun and Milk River Basins did not provide any indication the drought conditions were improving in water year 2008, Tables MTT1A and MTT1B.

As shown in Table CET-8, the October through December inflows were below normal at all Reclamation reservoirs in Montana east of the Continental divide, with the exception of Willow Creek Reservoir which was being refilled with releases from Gibson Reservoir.

January through March:

On January 1, the Natural Resources Conservation Service reported mountain snowpack in Montana east of the Continental Divide where Reclamation facilities are located ranged from 18 percent of normal in the Milk River Basin to 107 percent of normal in the Beaverhead River basin, Table MTT2. The mountain snowpack was 89 percent of normal in the Bighorn River Basin in Wyoming. Mountain snow water content statewide was 91 percent of average and 111 percent of last year. West of the Continental Divide, December mountain and valley precipitation was 121 percent of average and 167 percent of last year. East of the Continental Divide, December mountain and valley precipitation was 97 percent of average and 133 percent of last year. Mountain and valley precipitation during January was 105 percent of average and 154 percent of last year. Precipitation in the Upper Missouri River Basin was higher than this at 114 percent of normal.

In February, precipitation around the state was above average contributing to snowpack levels varying between 76 and 114 percent of average. The February mountain and valley precipitation was 110 percent of average and 89 percent of last year. By March 1, mountain snow water content essentially remained the same, varying from 94 percent of average to 114 percent of average. During March mountain and valley precipitation across the state areas east of the Continental Divide was 81 percent of average and 113 percent of last year, respectively. As a result, the NRCS reported snowpack conditions on April 1 to be at near to slightly above average levels.

TABLE MTT1A
PRECIPITATION IN INCHES AND PERCENT OF AVERAGE
2008 VALLEY PRECIPITATION

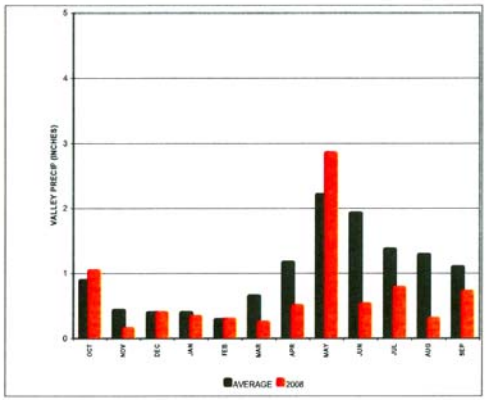
BASIN	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%
Beaverhead																								
Monthly Precip Average	0.89		0.43		0.39		0.39		0.28		0.65		1.16		2.20		1.92		1.37		1.28		1.09	
Monthly Precip and % of Average	1.03	116	0.14	33	0.39	99	0.33	83	0.29	102	0.24	37	0.49	42	2.85	130	0.52	27	0.77	56	0.30	23	0.71	65
Year-to-Date Precip and % of Average	1.03	116	1.17	89	1.56	91	1.88	90	2.17	91	2.41	80	2.90	69	5.75	90	6.27	76	7.04	73	7.33	67	8.04	67
Jefferson																								
Monthly Precip Average	0.80		0.58		0.47		0.48		0.35		0.71		1.13		2.14		2.12		1.47		1.36		1.13	
Monthly Precip and % of Average	1.29	162	0.31	53	0.52	110	0.39	81	0.43	121	0.35	49	0.80	71	2.69	125	1.13	53	1.01	69	0.52	38	0.76	68
Year-to-Date Precip and % of Average	1.29	162	1.59	116	2.11	114	2.50	108	2.92	109	3.27	97	4.07	90	6.76	102	7.88	90	8.89	87	9.41	81	10.17	80
Madison																								
Monthly Precip Average	1.49		1.77		2.04		1.87		1.55		1.88		1.70		2.78		2.71		1.81		1.61		1.67	
Monthly Precip and % of Average	3.63	244	0.92	52	3.05	149	3.34	179	2.44	158	1.88	100	1.67	98	3.36	121	2.92	108	1.25	69	0.86	54	1.15	69
Year-to-Date Precip and % of Average	3.63	244	4.56	140	7.60	143	10.94	153	13.38	154	15.26	144	16.93	138	20.29	135	23.21	131	24.46	125	25.32	119	26.47	116
Gallatin																								
Monthly Precip Average	1.61		1.10		0.79		0.84		0.70		1.40		2.06		3.22		2.85		1.44		1.48		1.79	
Monthly Precip and % of Average	3.42	212	1.19	108	0.93	118	1.00	119	0.56	80	1.36	97	2.48	120	4.33	134	3.92	138	2.40	167	1.14	77	0.98	55
Year-to-Date Precip and % of Average	3.42	212	4.61	170	5.54	158	6.54	151	7.10	141	8.46	131	10.94	129	15.27	130	19.19	132	21.59	135	22.73	130	23.71	123
Missouri Above Toston																								
Monthly Precip Average	1.06		1.01		1.02		0.97		0.78		1.16		1.38		2.44		2.37		1.57		1.46		1.37	
Monthly Precip and % of Average	2.29	216	0.59	58	1.35	133	1.44	149	1.07	138	0.96	83	1.26	92	3.02	124	2.11	89	1.21	77	0.68	47	0.90	66
Year-to-Date Precip and % of Average	2.29	216	2.88	139	4.23	137	5.68	140	6.75	140	7.71	129	8.97	122	11.99	122	14.10	116	15.32	111	16.00	105	16.90	102
Sun-Teton																								
Monthly Precip Average	1.17		1.29		1.22		1.33		1.09		1.12		1.41		2.63		2.55		1.54		1.67		1.43	
Monthly Precip and % of Average	1.41	121	1.15	89	0.29	24	0.62	108	1.29	119	0.65	58	1.00	71	4.17	158	2.17	85	1.44	94	1.30	78	1.76	123
Year-to-Date Precip and % of Average	1.41	121	2.56	104	2.85	78	3.47	69	4.76	78	5.41	75	6.41	74	10.58	94	12.75	92	14.19	93	15.49	91	17.24	94
Marias																								
Monthly Precip Average	0.57		0.43		0.38		0.39		0.28		0.59		0.93		2.11		2.43		1.41		1.56		1.13	
Monthly Precip and % of Average	0.74	128	0.24	57	0.18	47	0.34	87	0.35	123	0.35	59	0.75	80	4.17	197	2.61	107	1.11	79	1.29	83	1.78	158
Year-to-Date Precip and % of Average	0.74	128	0.98	98	1.16	84	1.49	85	1.84	90	2.19	83	2.94	82	7.11	125	9.72	120	10.83	114	12.12	109	13.90	114
Milk																								
Monthly Precip Average	0.60		0.43		0.42		0.41		0.30		0.52		0.86		2.01		2.23		1.58		1.18		1.20	
Monthly Precip and % of Average	0.56	92	0.09	21	0.22	52	0.15	37	0.49	161	0.11	22	0.27	31	2.88	143	3.28	147	1.04	66	0.99	84	1.68	140
Year-to-Date Precip and % of Average	0.56	92	0.65	63	0.87	59	1.02	54	1.51	69	1.62	60	1.89	53	4.76	86	8.05	103	9.08	97	10.08	96	11.76	100
St. Mary																								
Monthly Precip Average	1.47		1.98		1.94		1.86		1.36		1.49		1.52		2.82		2.97		1.86		2.00		1.75	
Monthly Precip and % of Average	1.54	104	1.02	51	1.74	90	1.86	100	2.17	159	0.18	12	0.48	32	5.82	207	4.69	158	1.58	85	1.90	95	1.41	81
Year-to-Date Precip and % of Average	1.54	104	2.55	74	4.29	80	6.15	85	8.31	97	8.49	84	8.97	77	14.78	102	19.47	112	21.05	109	22.94	108	24.35	106
Bighorn Above Yellowtail																								
Monthly Precip Average	0.82		0.47		0.33		0.34		0.29		0.61		1.17		1.95		1.35		0.97		0.73		1.05	
Monthly Precip and % of Average	1.69	206	0.18	38	0.51	154	0.25	72	0.20	68	0.42	68	0.48	41	4.03	207	0.59	44	0.42	44	0.40	55	1.23	117
Year-to-Date Precip and % of Average	1.69	206	1.87	145	2.38	147	2.62	134	2.82	125	3.24	113	3.72	92	7.75	130	8.35	114	8.77	106	9.17	101	10.40	103

A composite of the following National Weather Service stations was used to determine monthly valley precipitation and percent of average for the drainage basins:

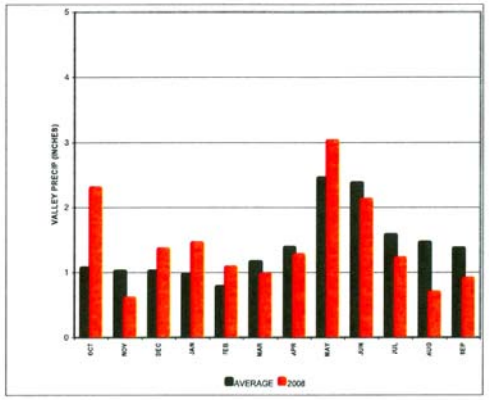
Beaverhead.....Lima and Dillon
Jefferson.....Lima, Dillon, Virginia City, and Boulder
Madison.....Hebgen, West Yellowstone, and Norris Madison
Gallatin.....Bozeman
Missouri Above Toston.....Townsend, Lima, Dillon, Virginia City, Boulder, Hebgen, West Yellowstone, Norris Madison, and Bozeman
Sun-Teton.....Summit, Choteau, Fairfield, Augusta, and Gibson
Marias.....Cut Bank, Conrad, Valier, Gold Butte, and Chester
Milk.....Havre, Chinook, Harlem, Malta, and Rudyard
St. Mary.....Babb and East Glacier
Bighorn Above Yellowtail....Buffalo Bill, Sunshine, Boysen Dam, Dubois, Gas Hills, Lander, Riverton, Basin, Lovell, Thermopolis, and Worland

TABLE MTT1A-1
PRECIPITATION IN INCHES AND PERCENT OF AVERAGE
2008 VALLEY PRECIPITATION

CLARK CANYON RESERVOIR



CANYON FERRY RESESRVOIR



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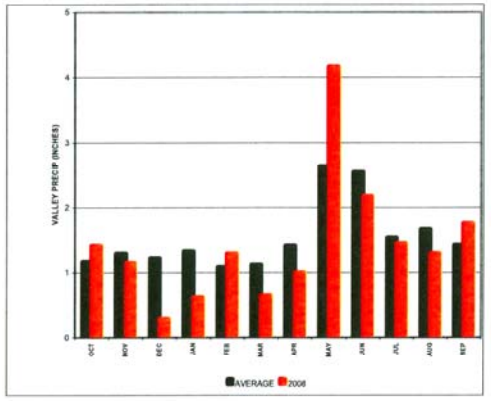
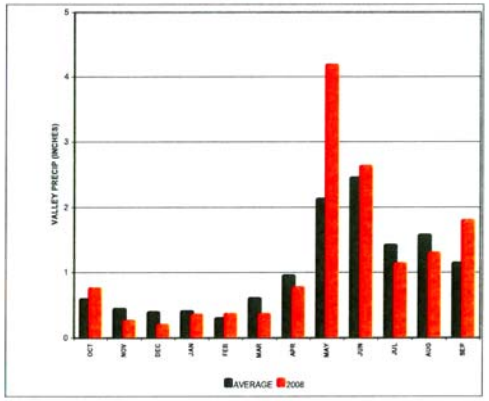
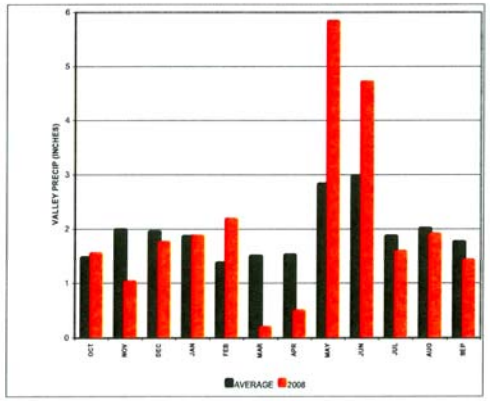


LAKE ELWELL



LAKE SHERBURNE



BIGHORN LAKE

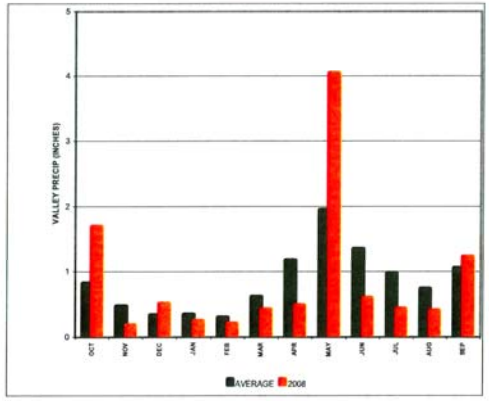


TABLE MTT1B
PRECIPITATION IN INCHES AND PERCENT OF AVERAGE
2008 MOUNTAIN PRECIPITATION

BASIN	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%
Lima Reservoir																								
Monthly Precip Average	8.70		12.60		14.20		14.20		13.10		15.70		13.00		16.00		14.20		8.70		8.40		9.40	
Monthly Precip and % of Average	17.10	197	4.30	34	18.30	129	22.90	161	10.50	80	6.80	43	7.50	58	16.70	104	10.70	75	2.80	32	3.00	36	5.10	54
Year-to-Date Precip and % of Averag	17.10	197	21.40	100	39.70	112	62.60	126	73.10	116	73.10	102	87.40	96	104.10	97	114.80	94	117.60	90	120.60	87	125.70	85
Clark Canyon Reservoir																								
Monthly Precip Average	13.50		20.20		21.40		20.30		17.10		22.00		21.30		27.00		21.20		12.40		11.70		12.90	
Monthly Precip and % of Average	24.50	181	13.70	68	25.90	121	24.40	120	14.30	84	15.40	70	15.20	71	25.10	93	16.70	79	2.80	23	3.80	32	8.80	68
Year-to-Date Precip and % of Averag	24.50	181	38.20	113	64.10	116	88.50	117	102.80	111	118.20	103	133.40	98	158.50	97	175.20	95	178.00	91	181.80	87	190.60	86
Jefferson Drainage																								
Monthly Precip Average	31.40		45.80		48.90																			
Monthly Precip and % of Average	49.30	157	30.60	67	59.60	122	49.70	105	40.80	104	36.10	76	37.70	77	60.90	105	45.00	98	8.90	32	9.50	36	20.40	70
Year-to-Date Precip and % of Averag	49.30	157	79.90	103	139.50	111	189.20	109	230.00	108	266.10	102	303.80	98	364.70	99	409.70	99	418.60	95	428.10	91	448.50	90
Madison Drainage																								
Monthly Precip Average	21.30		33.10		35.30		35.90		30.90		36.40		30.20		32.90		26.00		15.90		14.90		17.90	
Monthly Precip and % of Average	36.70	172	18.60	56	47.40	134	47.40	122	29.10	94	27.50	76	26.40	87	38.20	116	30.60	118	5.60	35	6.30	42	9.10	51
Year-to-Date Precip and % of Averag	36.70	172	55.30	102	102.70	114	102.70	117	175.60	112	203.10	105	229.50	103	267.70	105	298.30	106	303.90	102	310.20	99	319.30	97
Gallatin Drainage																								
Monthly Precip Average	9.40		11.20		11.30		11.40		9.90		14.90		14.40		15.90		13.10		7.20		6.70		8.20	
Monthly Precip and % of Average	14.40	153	7.10	63	13.80	122	13.40	118	12.00	121	12.80	86	12.90	90	21.70	136	14.30	109	3.90	54	5.70	85	5.50	67
Year-to-Date Precip and % of Averag	14.40	153	21.50	104	35.30	111	48.70	112	73.50	114	73.50	108	86.40	105	108.10	110	122.40	110	126.30	106	132.00	105	137.50	103
Canyon Ferry Reservoir																								
Monthly Precip Average	51.80		75.90		80.70		80.40		67.80		82.40		77.60		89.30		70.60		42.20		40.20		45.80	
Monthly Precip and % of Average	84.00	162	49.00	65	101.40	126	89.80	112	67.30	99	65.40	79	62.50	81	98.80	111	75.10	106	16.50	39	17.30	43	29.10	64
Year-to-Date Precip and % of Averag	84.00	162	133.00	112	234.40	112	324.20	112	391.50	110	456.90	104	519.40	101	618.20	102	693.30	102	709.80	99	727.10	96	756.20	94
Gibson Reservoir																								
Monthly Precip Average	9.70		13.60		13.90		13.40		11.00		11.40		11.00		14.80		15.00		7.70		9.10		8.70	
Monthly Precip and % of Average	10.80	111	9.70	71	17.90	129	13.80	103	13.70	125	6.70	59	7.00	64	39.80	269	15.70	105	6.40	83	6.80	75	8.00	92
Year-to-Date Precip and % of Averag	10.80	111	20.50	103	38.40	103	52.20	103	65.90	107	72.60	99	79.60	95	119.40	121	135.10	119	141.50	116	148.30	114	156.30	112
Lake Elwell Reservoir																								
Monthly Precip Average	14.70		22.30		23.70		25.20		19.50		19.80		17.30		20.70		19.80		10.50		12.80		12.80	
Monthly Precip and % of Average	16.70	114	14.50	65	30.10	127	23.60	94	25.90	133	14.00	71	11.20	65	56.60	273	28.50	144	8.80	84	10.00	78	9.70	76
Year-to-Date Precip and % of Averag	16.70	114	31.20	101	61.30	101	84.90	99	110.80	105	124.80	100	136.00	95	192.60	118	221.10	121	229.90	119	239.90	116	249.60	114
Sherburne Reservoir																								
Monthly Precip Average	9.80		16.50		16.20		15.70		12.10		11.20		9.60		10.00		10.30		6.00		5.10		6.80	
Monthly Precip and % of Average	11.10	113	8.80	53	16.70	103	16.70	125	14.80	122	7.30	65	8.50	89	13.20	132	9.80	95	2.50	42	7.60	149	5.10	75
Year-to-Date Precip and % of Averag	11.10	113	19.90	76	36.60	86	56.30	97	71.10	101	78.40	96	86.90	95	100.10	99	109.90	99	112.40	96	120.00	98	125.10	97
Bighorn Lake																								
Monthly Precip Average	42.30		48.80		43.20		42.20		34.80		50.10		63.00		69.70		55.60		37.70		26.10		42.20	
Monthly Precip and % of Average	78.70	186	27.90	57	43.40	100	44.50	105	34.60	99	60.70	121	40.60	64	125.90	181	54.70	98	15.00	40	9.20	35	42.60	101
Year-to-Date Precip and % of Averag	78.70	186	106.60	117	150.00	112	194.50	110	229.10	108	289.80	111	330.40	102	456.30	116	511.00	114	526.00	108	535.20	104	577.80	104

A composite of the following Natural Resources Conservation Service SNOTEL sites was used to determine monthly mountain precipitation and percent of average for the drainage basins:

Lima Reservoir.....Crab Creek, Island Park, Tepee Creek, Divide, and Lakeview Ridge

Clark Canyon Reservoir.....Beagle Springs, Darkhorse Lake, Lemhi Ridge, Tepee Creek, Divide, Bloody Dick, and Lakeview Ridge

Jefferson Drainage.....Beagle Springs, Clover Meadow, Darkhorse Lake, Mule Creek, Lemhi Ridge, Rocker Peak, Tepee Creek, Clavert Creek, Saddle Mountain, Lower Twin, Divide, Bloody Dick, Lakeview Ridge, Short Creek, Frohner Meadow, and Moose Creek

Madison Drainage.....Carrot Basin, Clover Meadow, Tepee Creek, Black Bear, Lower Twin, Beaver Creek, Madison Plateau, and Whiskey Creek

Gallatin Drainage.....Carrot Basin, Shower Falls, and Lick Creek

Canyon Ferry Reservoir.....Beagle Springs, Darkhorse Lake, Carrot Basin, Clover Meadow, Shower Falls, Mule Creek, Rocker Peak, Black Bear, Saddle Mountain, Lower Twin, Beaver Creek, Madison Plateau, Short Creek, Lick Creek, Whiskey Creek, Frohner Meadow, Calvert Creek, Moose Creek, Lemhi Ridge, Tepee Creek, Divide, Bloody Dick, and Lakeview Ridge

Gibson Reservoir.....Mount Lockhart, Wood Creek, Dupuyer Creek, and Waldron

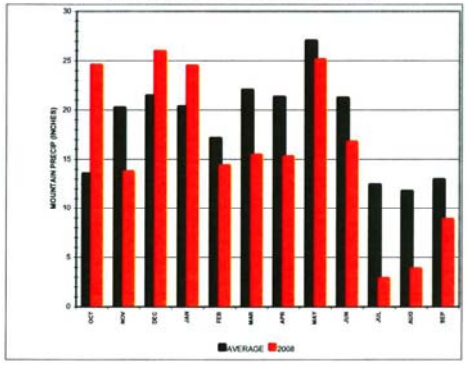
Lake Elwell Reservoir.....Mount Lockhart, Badger Pass, Pike Creek, Dupuyer Creek, and Waldron

Sherburne Reservoir.....Flattop Mountain and Many Glacier

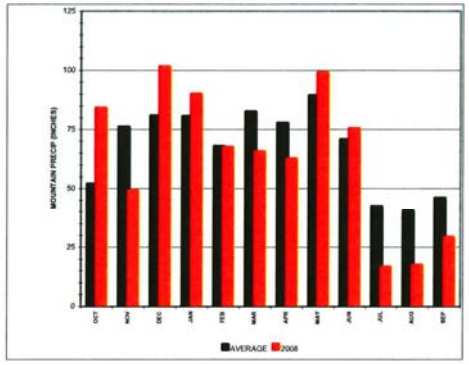
Bighorn Lake.....Kirwin, Blackwater, Evening Star, Shell Creek, Powder River, Bald Mountain, Bone Springs Divide, Owl Creek, Sucker Creek, Dome Lake, Hansen Sawmill, Timber Creek, Bear Trap Meadow, Burgess Junction, Middle Powder, Marquette, Sylvan Lake, Younts Peak, and Sylvan Road

TABLE MTT1B-1
PRECIPITATION IN INCHES AND PERCENT OF AVERAGE
2008 MOUNTAIN PRECIPITATION

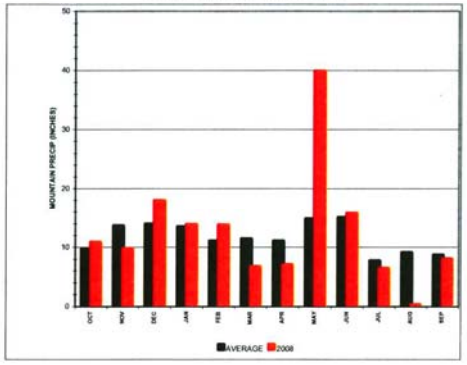
CLARK CANYON RESERVOIR



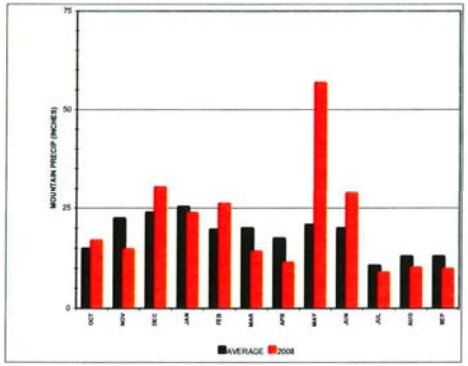
CANYON FERRY RESESRVOIR



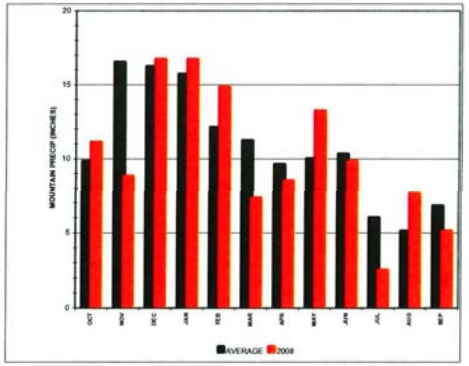
GIBSON RESERVOIR



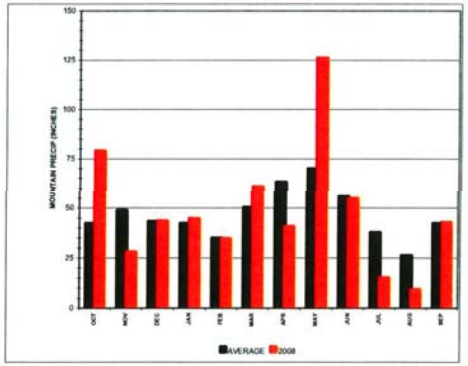
LAKE ELWELL



LAKE SHERBURNE



BIGHORN LAKE



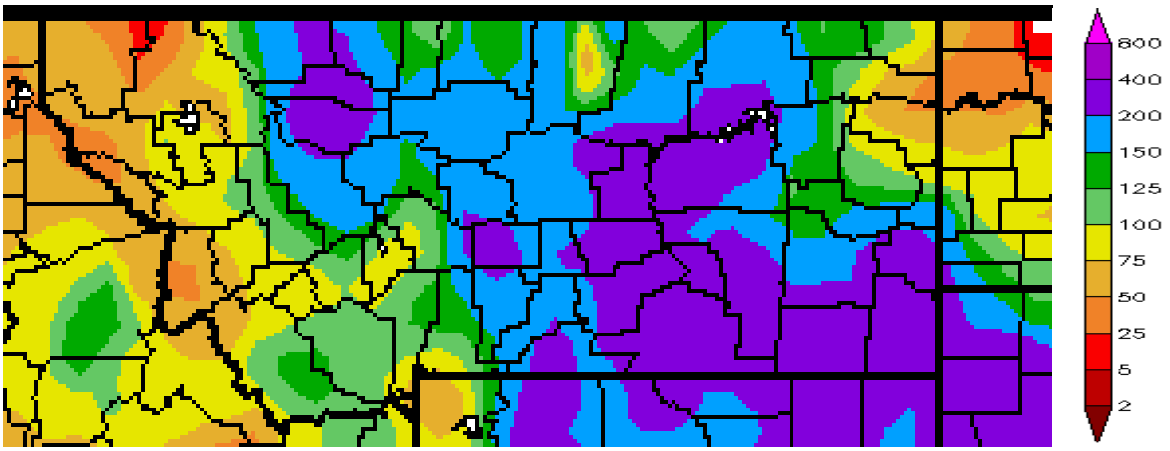
As shown in Table CET-8, the January through March inflows continued to remain well below to much below average, with Clark Canyon and Lake Elwell reservoirs recording the lowest. Inflows for January through March were 57 percent of average for Clark Canyon, and 50 percent of average for Bighorn Lake.

April through June:

According to NRCS records, the April 1 mountain snow water contents statewide for Montana were 108 percent of average and 155 percent of last year. West of the Continental Divide snowpack was 113 percent of average and 151 percent of last year. East of the Continental Divide snowpack was 103 percent of average and 153 percent of last year. Slight improvements were noticed in water supply conditions during February and March as reflected in the Natural Resources Conservation Service's Surface Water Supply Index map.

April mountain and valley precipitation across Montana was 73 percent of average and 79 percent of last year. The mountain precipitation varied from 58 to 90 percent of average, while the valley precipitation varied from 31 to 120 percent of average. Precipitation in the Bighorn Basin in Wyoming was much below average during April falling in at 64 percent of average in the mountains and only 41 percent of average in the valleys. April temperatures were well below average across Montana with temperatures in the Southwest eight degrees below normal for the month, but overall in the state the average temperature was only 3.6 degrees below average. These cooler temperatures delayed the high elevation snowmelt and resulted in a much later runoff season than what has been experienced in more recent years.

The precipitation across Montana during May improved significantly from the previous month. Mountain and valley precipitation across the state was 139 percent of average and 121 percent of last year. East of the Continental Divide, mountain and valley precipitation was 161 percent of average and 134 percent of last year. In general, many basins above Reclamation projects in Montana received precipitation rates much above average during May. With the heavy precipitation in the forms of both snow and rain, stream flows peaked near Memorial Day weekend due to a large storm system moving across the entire state. However; due to temperatures being much colder than normal, the high elevation snowmelt was substantially delayed and had not yet begun to melt. The picture below shows the precipitation pattern that occurred in May as a percent of average. Almost all of Montana east of the continental divide experienced above normal precipitation.



Normally the higher elevation snowpack reaches peak accumulations around the middle of April and begins to melt out. However, because of the cooler temperatures experienced in April and May, much of the higher elevation snowmelt did not begin to occur until late May or early June. The peak snowpack for many Reclamation reservoirs occurred between April 24 and May 14, with most watersheds experiencing more than one peak with the second peak being greater than the first. The peak generally occurs around April 15 for mountain locations, Figure MTG1.

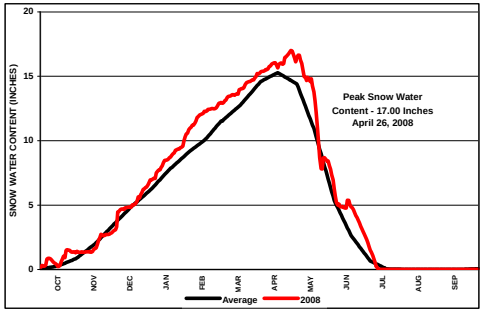
As shown in Table CET-8, the May and June inflows were above normal at most locations, with Clark Canyon and Lake Sherburne recording the lowest. Inflows into Clark Canyon during May and June were 41 and 47 percent of average, respectively.

July through September:

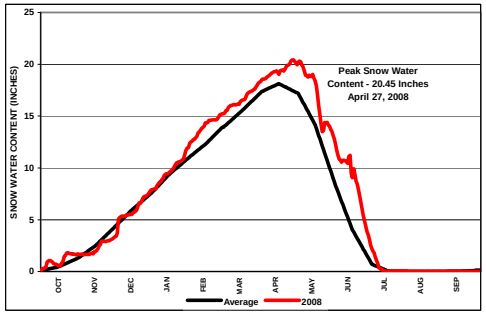
During July through September, precipitation was well below average with little to no precipitation reported across Montana and northern Wyoming. August temperatures were near average while precipitation was much below average in eastern Montana, but the western two-thirds of the state saw some of the best precipitation for the water-year-to-date that has been seen in recent history. Weather conditions improved slightly in early September when a storm system over Labor Day weekend brought some moisture into Montana and Wyoming. But by late September precipitation again returned to being well below normal. September temperatures and precipitation were varied; early in the month conditions were cold and wet, while in the latter part of the month warm temperatures returned. During July, temperatures were slightly above average, producing dry conditions around the state. The below normal precipitation across Montana once again brought fears that another fire season like last year was developing. Overall, precipitation across Montana was 93 percent of average during September. The dry areas included the eastern edge of the state, and the southeast corner east of the continental Divide. The valley precipitation during September varied from 66 percent of average in the Missouri River Basin to 158 percent of average in the Marias River Basin. The mountain precipitation during September varied from 64 percent of average in the Missouri River Basin to 101 percent of average in the Bighorn River Basin.

Figure MTG1
WATER YEAR 2008
S N O W W A T E R C O N T E N T

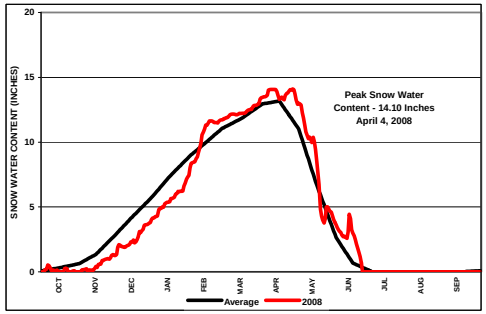
Clark Canyon Reservoir



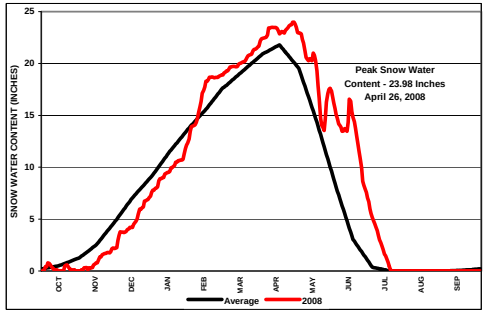
Canyon Ferry Reservoir



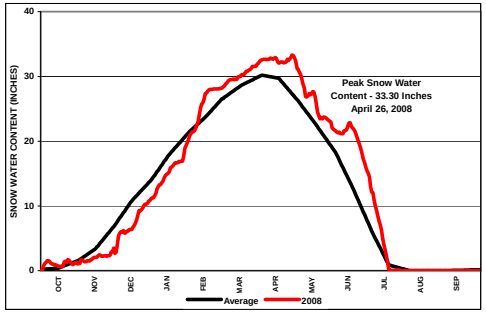
Gibson Reservoir



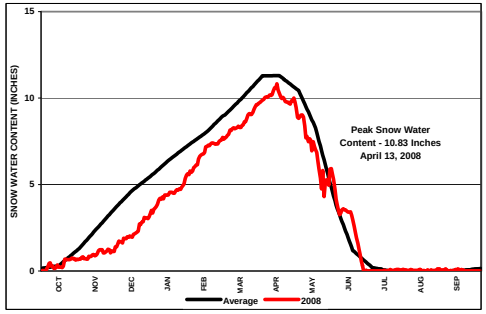
Lake Elwell



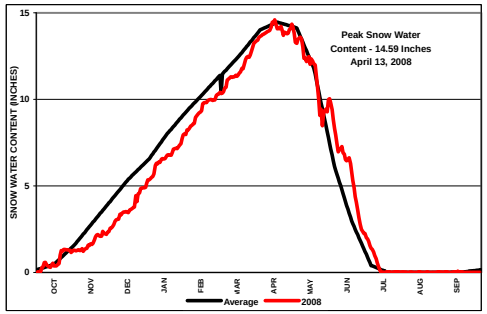
Lake Sherburne



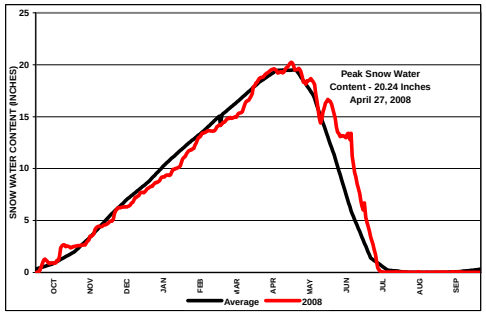
Bull Lake Reservoir



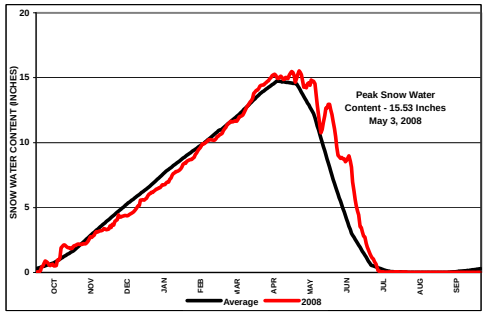
Boysen Reservoir



Buffalo Bill Reservoir



Bighorn Lake



The inflow conditions for August through September were below average at Clark Canyon, but near to above average at the rest of the projects. The total inflows for the water year ranged from 54 percent of normal at Clark Canyon to 105 percent of normal at Sherburne. Leading into water year 2009 the drought appears to be showing signs of relief across parts of the state, but continues to be hanging on in others areas. At the start of water year 2009, the early conditions showed a moderate improvement in drought conditions for all of the Reclamation projects except Clark Canyon.

Reservoir Storage, Releases and Inflows:

At the beginning of water year 2008, storages in all Reclamation reservoirs were well below average, with the exception of Fresno Reservoir located on the Milk River which was at 101 percent of average. October 1 reservoir storage in the Upper Missouri Basin totaled 2,291,800 acre-feet and was 85 percent of average. Storage for the Milk River Project totaled 100,700 acre-feet and was 96 percent of normal. Storage in Bighorn Lake totaled 956,700 acre-feet and was 94 percent of normal. Due to the ongoing drought, and the inflow predictions for the upcoming spring inflows, storage in many reservoirs were allowed to increase through the fall and winter, in hopes of being able to fill to reach full pool levels by May or June of 2008. By the end of March, storage levels ranged from 47 percent of normal at Pishkun Reservoir to 115 percent of normal at Lake Sherburne.

Due to the good spring precipitation during May the inflows improved in many basins located in northcentral and southwest Montana to above average levels. Therefore, storage conditions improved dramatically in May. The early precipitation patterns in conjunction with the above average snowpack indicated that drought conditions may be improving in Montana. With below average temperatures in April and May the snowmelt runoff was delayed until late May and early June. In the Bighorn River basin in Wyoming dry conditions quickly changed as a large precipitation events covered the basin during the last week of May and early June. With the high runoff volumes produced by these rains releases from all reservoirs on the Bighorn system were increased. The peak flow out of Bighorn Lake was just over 10,000 cfs on June 20th. The reservoir level was allowed to increase until reaching a peak elevation of 3642.5 on July 14th. After that time, the inflows began to recede and maintaining the river releases at about 6,200 cfs, allowed the reservoir to begin drafting.

The only Reclamation reservoir in Montana that did not fill to normal full capacity was Clark Canyon Reservoir, located on the Beaverhead River near Dillon, MT. Three Reclamation reservoirs had to utilize part of their flood pool to reduce the potential for flooding downstream. These were Lake Elwell, located on the Marias River near Chester, MT, Canyon Ferry Reservoir, located on the Missouri River near Helena, MT and Bighorn Lake, located on the Bighorn River near Fort Smith, MT.

During June and July, storage was above average at many of Reclamation's Projects except for Clark Canyon and Nelson Reservoirs. June precipitation was average to above average during the first two weeks, and then the warm temperatures started to take hold. However July and August precipitation was below average but the mild temperatures and strong river flows

resulted in reservoirs being able to maintain strong storage levels through the summer.
By the end of August, Clark Canyon, Gibson, and Nelson Reservoirs were the only reservoirs with below normal pools; all other reservoirs varied between 101 and 163 percent of average. The inflows to Bighorn Lake during June through August were above average due to the combination of higher releases from Boysen and Buffalo Bill Reservoirs and the much delayed high elevation snowmelt. Maintaining conservative releases between 2,500-2,900 cfs during August and September, storage in Bighorn Lake at the end of the water year 2008 was at 105 percent of average.

Water year 2008 ended with varying storage levels. Clark Canyon was only 52 percent of average while Sherburne was 421 percent of average. The Reclamation reservoirs with the least amount of carryover storage were Clark Canyon and Gibson Reservoirs at 37 and 23 percent of full capacity.

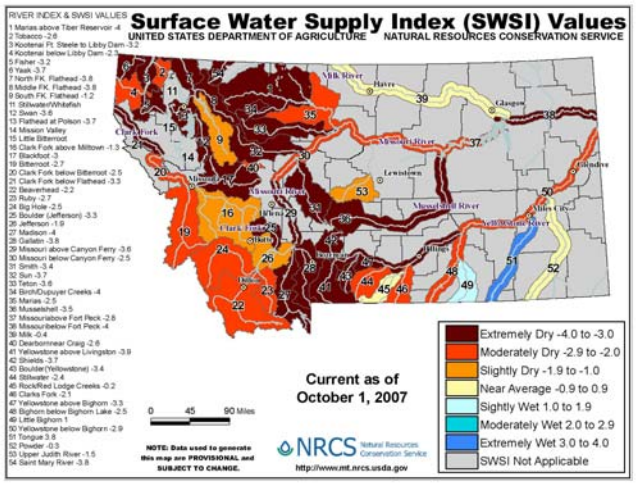
Spillway releases had to be used at Lake Elwell, Gibson Reservoir, Canyon Ferry Reservoir, and Bighorn Lake to control the large flows from the spring runoff. This was a result of the delayed snowmelt and storm events bringing good amounts of precipitation. The runoff pattern allowed most Reclamation facilities to maintain flows at or above the desired fishery flows through the remainder of the water year. In early October, releases from Clark Canyon Dam were set at approximately 35 cfs, below the desired minimum fishery flow, for the winter. Entering into water year 2009 releases from all Reclamation facilities in Montana except Clark Canyon is near the recommended fishery flow.

There was approximately $55,598,600 in flood damages prevented during water year 2008 by Reclamation facilities in Montana east of the Continental Divide. The total flood damage prevented by these facilities since 1950 is approximately $421,707,400.

Water Supply and Runoff:

The water supply forecasts prepared on January 1, indicated April-July runoff volumes ranged from 40 to 87 percent of average among Reclamation reservoirs east of the Continental Divide, MTT3. Based upon these forecasts, it appeared the drought may be continuing for most of Montana and Northwest Wyoming. All basins showed improvements in the snowpack levels during January and February, and by March 1, the forecasts had increased to 71 to 103 percent of average. The April 1 snowpack ranged from 96 percent of average in the Wind River basin in Wyoming to 109 percent of average in both the St. Mary and Milk River basins, Table MTT2. The resulting April-July forecasted runoff volumes ranged from 74 of average into Bighorn Lake to 102 percent of average into Lake Sherburne. In the end, due to spring precipitation, the actual April-July runoff volumes for water year 2008 ranged from 47 of average into Clark Canyon to 117 percent of average into Bighorn Lake, Table MTT3. All water users experienced full water supplies with exception of the water users along the Beaverhead River in southwestern Montana where they experienced minor water shortages during the irrigation season. Water users in the Beaverhead River Basin successfully implemented a Drought Management Plan in 2008, which helped to mitigate the impacts of the extended drought.

During water year 2008 the peak release at Clark Canyon was approximately 352 cfs greater than peak inflow. Peak release was 839 cfs on July 21, while the inflow peaked at 487 cfs on June 9, which was much below average. Canyon Ferry's peak inflow was 19,234 cfs on June 6, while the peak release was 14,793 cfs on Jun 8. In the Sun River Basin, Gibson Reservoir inflow peaked at 6,883 cfs on May 25, while the release peaked at 6,291 cfs on May 26. The peak inflow for Pishkun and Willow Creek Reservoirs were 1,403 cfs on July 25 and 170 cfs on May 23, respectively. Inflow to Lake Elwell peaked at 12,802 cfs on May 27 and releases peaked at 3,967 cfs on June 8. In the Milk River Basin, Lake Sherburne peak inflow was 1,502 on May 19 and releases peaked at 834 cfs on July 9. The peak inflow for Fresno Reservoir was 2,042 cfs on May 27 while the release peaked at 1,028 cfs on July 18.



Inflows to Reclamation facilities in Montana east of the Continental Divide ranged from 54 percent of average at Clark Canyon Reservoir to 134 percent of average at Willow Creek Reservoir for 2008.

TABLE MTT2
2008 MOUNTAIN SNOW WATER CONTENT
AS A PERCENT OF NORMAL

DRAINAGE BASIN	JAN 1	FEB 1	MAR 1	APR 1	MAY 1
Beaverhead	107	114	110	102	112
Jefferson	93	100	105	100	108
Madison	102	113	108	108	121
Gallatin	98	107	109	108	118
Missouri Headwaters above Toston	96	106	107	104	115
Sun	84	100	114	105	129
Marias	81	98	107	104	114
Milk River	18	76	114	109	161
St. Mary	79	97	110	109	116
Wind	84	89	93	96	98
Shoshone	91	91	93	101	100
Bighorn (Boysen-Bighorn)	89	91	94	101	106

TABLE MTT3
2008 WATER SUPPLY FORECASTS

RESERVOIR	JAN 1[1/]		FEB 1[1/]		MAR 1[1/]		APR 1[2/]		MAY 1[3/]		JUN 1[4/]		ACTUAL APRIL-JULY[5/]		% OF APRIL FORE-CAST REC'D
	1,000 AC-FT	% OF AVG	1,000 AC-FT	% OF AVG	1,000 AC-FT	% OF AVG	1,000 AC-FT	% OF AVG	1,000 AC-FT	% OF AVG	1,000 AC-FT	% OF AVG	1,000 AC-FT	% OF AVG	
Clark Canyon	44.6	40	85.0	75	92.0	82	90.0	80	72.0	79	47.0	74	52.9	47	59
Canyon Ferry	1,762.0	87	1,910.0	94	1,950.0	96	1,880.0	93	1,685.0	100	1,355.0	122	2,199.2	108	117
Gibson	366.0	77	418.0	88	463.0	97	441.5	92	414.5	95	318.3	119	530.7	111	120
Tiber	313.0	64	421.0	87	460.0	95	456.0	94	431.0	102	257.0	101	488.6	101	107
Sherburne	85.0	82	101.0	97	107.0	103	106.0	102	101.0	106	67.0	107	115.8	111	109
Fresno	48.0	58	70.0	84	75.0	90	51.0	84	30.0	72	29.0	149	66.8	67	131
Yellowtail	743.9	67	807.0	72	794.0	71	820.0	74	786.6	83	990.9	141	1,298.3	117	158

1/ Runoff Forecast for April-July; Fresno Reservoir is March-July.
2/ Runoff Forecast for April-July.
3/ Runoff Forecast for May-July.
4/ Runoff Forecast for June-July.
5/ Actual Runoff for April-July; Fresno Reservoir is March-July.

FLOOD BENEFITS

The Corps of Engineers evaluated the reservoir regulation data pertaining to Reclamation reservoirs within the jurisdiction of the Montana Area Office and indicated that seven reservoirs provided flood relief during water year 2008. They were: Clark Canyon on the Beaverhead River near Dillon; Canyon Ferry on the Missouri River near Helena; Lake Elwell on the Marias River near Chester; Lake Sherburne on Swiftcurrent Creek near Babb; Fresno Reservoir on the Milk River near Havre; Gibson Reservoir on the Sun River near Augusta; and Bighorn Lake on the Bighorn River near Fort Smith. Canyon Ferry Reservoir, Bighorn Lake and Lake Elwell played the most important role in preventing flood damages during the 2008 runoff season. The most notable examples of peak flows regulated by Bureau reservoirs during the spring runoff are as follows:

Reservoir	Peak Inflow (cfs)	River Discharge (cfs)	Date
Canyon Ferry	17,146	5,724	05/23/08
Lake Elwell	12,802	483	05/27/08
Lake Sherburne	1,400	36	05/25/08
Fresno Reservoir	2,008	143	06/15/08
Bighorn Lake	14,130	2,425	05/24/08

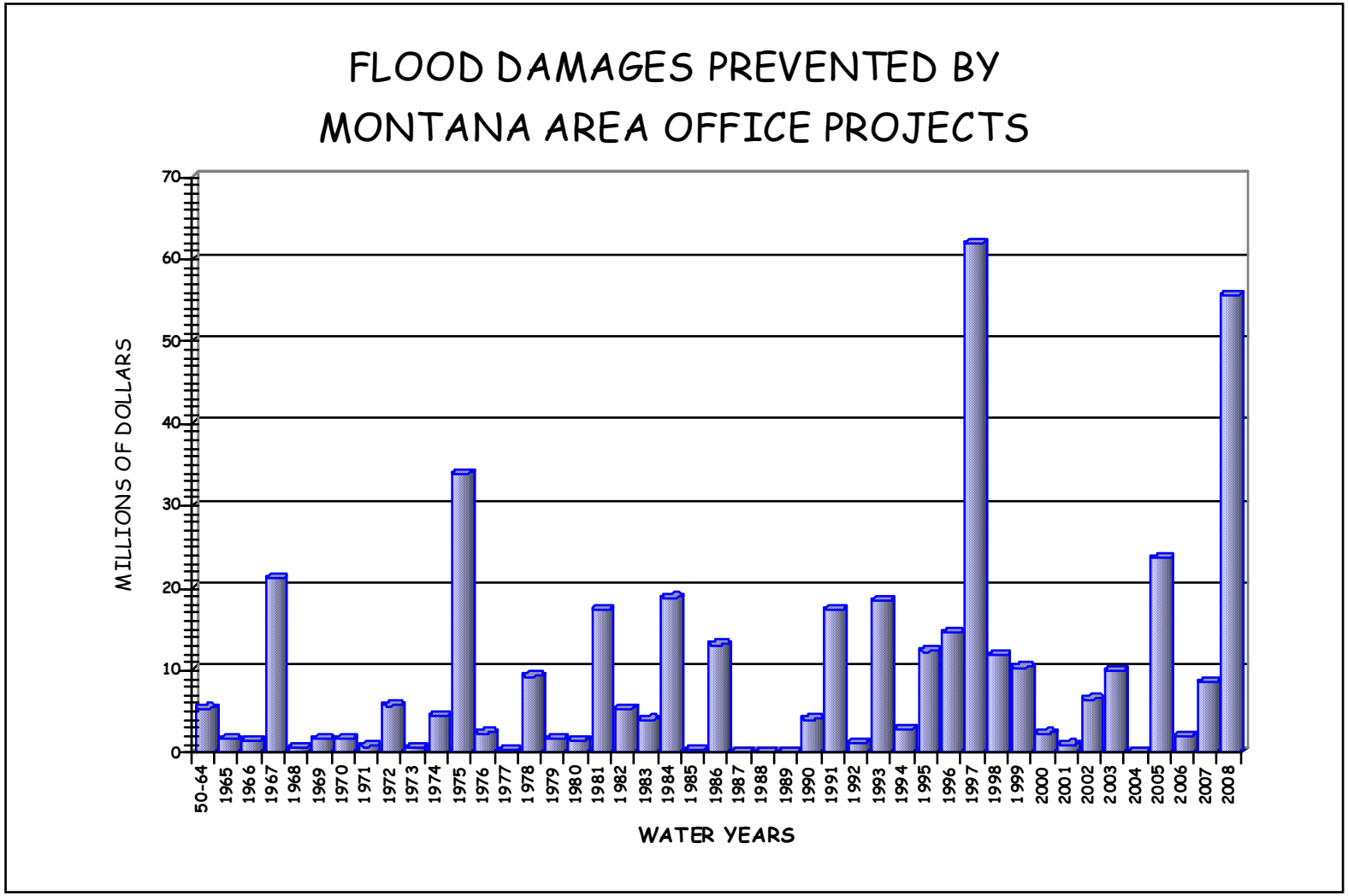
The Corps estimated these three Bureau reservoirs in Montana reduced flood damages by $55,598,600 in 2008. Some of these benefits were derived by reducing local damages and other benefits were derived by storing water which would have contributed to flooding downstream on the main stem of the Missouri River below Fort Peck Reservoir. The distribution of flood damages prevented is as listed in Table MTT4. For additional information on the operations of the reservoirs within the jurisdiction of the Montana Area Office, refer to the individual "Summary of Operations for 2008" for each reservoir in this report. Figure MTG2 shows the annual flood damages prevented by Montana Area Office reservoirs since 1950.

TABLE MTT4
FLOOD DAMAGES PREVENTED
(THOUSANDS OF DOLLARS)

Reservoir	Local	Main Stem	2008 Total	Prev. Accum.	1950-2008 Accum. Total
Clark Canyon	$ 0.0	$ 383.8	$ 383.8	$ 12,867.8	$ 13,251.6
Canyon Ferry	2,102.5	25,919.3	28,021.8	153,561.4	181,583.2
Gibson[1]	19.0	0.0	19.0	3,044.5	3,063.5
Lake Elwell	36.7	12,231.4	12,268.1	62,266.1	74,534.2
Lake Sherburne[1]	61.2	0.0	61.2	7,885.3	7,946.5
Fresno	41.3	0.0	41.3	13,085.5	13,126.8
Bighorn Lake	85.5	14,717.9	14,803.4	113,398.2	128,201.6
Total	$2,346.2	$ 6,169.5	$ 55,598.6	$366,108/8	$421,707.4

[1] No space allocated to flood control, but some flood protection provided by operation for other purposes.
[2] Now includes historical flood damages prevented by Lake Sherburne since 1950 based on estimates provided by the Corps of Engineers.

FIGURE MTG2


FLOOD DAMAGES PREVENTED BY
MONTANA AREA OFFICE PROJECTS
MILLIONS OF DOLLARS
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WATER YEARS

UNIT OPERATIONAL SUMMARIES FOR WATER YEAR 2008

Clark Canyon Reservoir

Clark Canyon Reservoir, a Pick-Sloan Missouri basin Program (P-S MBP) project, is located on the Beaverhead River approximately 20 miles upstream from Dillon, Montana. It has a total capacity of 257,152 acre-feet (255,643 acre-feet active). The reservoir is the storage facility for the East Bench Unit providing a full water supply for irrigation of 21,800 acres and a supplemental supply for about 28,000 acres. Flood control, recreation, and fish and wildlife are among the other functions served by the reservoir.

In 2000, Reclamation surveyed Clark Canyon Reservoir to develop a topographic map and compute a present storage-elevation relationship (area-capacity tables). The data were used to calculate reservoir capacity lost due to sediment accumulation since dam closure in August of 1964. The 2000 survey determined that Clark Canyon Reservoir has a storage capacity of 174,367 acre-feet and a surface area of 5,151 acres at a reservoir elevation of 5546.10. Since closure in 1964, the reservoir has accumulated a sediment volume of 4,106 acre-feet below elevation 5546.10. This volume represents a 2.3 percent loss in capacity and an average annual loss of 114.7 acre-feet. The revised area-capacity table was put into effect on October 1, 2001, reflecting the new storage levels.

Entering water year 2008 the hydrologic conditions in the Beaverhead basin remained dry, showing very few signs of improvements from the previous eight years. Valley precipitation, during August and September, was below average at 81 and 96 percent of average while the mountain precipitation varied from 76 and 152 percent of average, respectively. Although there was not an overall significant change in the streamflows above Clark Canyon Reservoir, the improved mountain precipitation during September, as well as irrigation return flows, did help to sustain the inflows as the water year came to a close. Inflow to Clark Canyon during August and September was 56 and 52 percent of average, respectively. Large irrigation demands during water year 2007 once again placed a heavy demand on storage in Clark Canyon Reservoir. Following the conclusion of the irrigation season, releases from Clark Canyon were gradually reduced during September 15-September 21 to the fall and winter flow rate of about 35 cfs, which is much below the minimum recommended fishery flow of between 100-200 cfs. Beginning in early September, storage in Clark Canyon began to steadily increase and ended water year 2007 with a content of 62,052 acre-feet at elevation 5518.49. At 50 percent of average, this was the 11th lowest level of record for this time of year for the period of 1965-2007 and was 2,350 acre-feet or 0.82 feet lower than at the end of water year 2006.

The 2008 water year began with some storm activity, resulting in valley and mountain precipitation during October being above average. The valley and mountain precipitation during October was 116 and 181 percent of average respectively. Weather conditions changed

drastically in November as the valley and mountain precipitation declined to 33 and 68 percent of average respectively.
Average conditions returned to the basin between December and February, only to go back to the drought conditions during the remainder of the year. On January 1, the Natural Resources Conservation Service (NRCS) measured snowpack in the Beaverhead River basin at 107 percent of average. This was an increase of 23 percent from the snowpack experienced on January 1, 2007. Snow fell in the Beaverhead River Basin at above average rates and by February 1, the snowpack was measured at 114 percent of average. This was a 41 percent increase above the snowpack measured on February 1, 2007. Precipitation conditions remained stable during February and on March 1 the measured snowpack in the Beaverhead basin had dropped to 110 percent of average. However, during March, mountain and valley precipitation were much below average, indicating another year of drought would likely occur. Inflow for October through March was 64,490 acre-feet, or 57 percent of normal. This was 12,198 acre-feet or 16 percent less than the inflows experienced during that period in 2007.

On April 1, the NRCS measured the mountain snowpack to be 102 percent of average. No significant precipitation events occurred in the Beaverhead valley during April. Valley and mountain precipitation were 42, and 71 percent of average, contributing to the cumulative valley precipitation decreasing to 69 percent of average by the beginning of May. The mountain snowmelt in the Beaverhead River basin normally begins in late April or early May. By May 1, the snowpack remained above normal at 112 percent of average, due to the cooler spring temperatures and delayed snowmelt in the basin.

March and April were both very dry months with valley precipitation averaging 37 and 42 percent of normal and mountain precipitation averaging 70 and 71 percent of normal, respectively. The month of May started out being fairly dry, but over the Memorial Day weekend things started to change. A large precipitation event moved through Montana and Wyoming bringing with it large amounts of rain, and snow in the higher elevations. This event boosted precipitation values in the mountains and valleys to 93, and 130 percent of normal for the month of May. Even though both the valley and mountain cumulative precipitation through the end of May was near average, the inflows to Clark Canyon totaled only 11,113 acre-feet which is 41 percent of average.

Based on the mountain snowpack, the water supply forecast prepared on April 1, indicated the April-July runoff into Clark Canyon would be 80 percent of normal, totaling approximately 90,000 acre-feet. This was an increase of 51,200 acre-feet from the April 1st forecast in 2007. Conference calls were held with the Clark Canyon Joint Board in both March and April to discuss the water supply outlook for the 2008 irrigation season. The Joint Board, which consists of three representatives from each water user entity, set initial allotments in March at 3.5 acre-feet per acre for CCWSC, and 2.7 acre-feet per acre for the EBID.

Snowmelt runoff during April through July was well below normal at only 47 percent of average. Daily inflows into Clark Canyon Reservoir averaged 168 cfs during April, 180 cfs during May, 287 cfs during June and 240 cfs during July. These resulted in respective monthly total inflows

of 9,560 acre-feet, 11,113 acre-feet, 17,062 acre-feet and 14,764 acre-feet. The total April through July inflow increased 12,641 acre-feet more than experienced in 2007.

Releases during this time averaged 29 cfs during April, 221 cfs during May, 502 cfs during June and 712 cfs during July. As a result, storage slowly increased to a peak for the year of 125,221 acre-feet at elevation 5535.94 on May 10, before irrigation demands in 2008 required storage to begin drafting. This was 76 percent of normal and 72 percent of full capacity. This was also 6,200 acre-feet or 1.38 feet lower than the peak storage which occurred in 2007. The peak inflow for the year was recorded on June 9 at 487 cfs. This was also the 10th lowest peak daily inflow for the period of 1965 through 2008. The total April-July inflow to Clark Canyon was 47 percent of average totaling 52,900 acre-feet and was the 13th lowest April-July inflow of record for the period of 1965 through 2008.

Precipitation during the summer months remained well below average in both valley and mountain areas. The mountain precipitation, which is factored into the snowmelt runoff volume, was only 79, 23 and 32 percent of average for June, July and August respectively. The valley precipitation reflected a similar, but more dismal distribution during the same months with the precipitation totaling 27, 56 and 23 percent of average respectively. During September, valley and mountain precipitation improved to 65 and 68 percent of average, respectively.

By the end of September the total cumulative valley precipitation for the year was 67 percent of average while the total cumulative mountain precipitation for the Beaverhead basin was 86 percent of average. Unfortunately, the lack of valley precipitation during July through early September produced heavy demands on storage out of Clark Canyon to meet the downstream irrigation requirements. Storage in Clark Canyon was quickly depleted until reaching a low content for the year of 57,724 acre-feet at elevation 5516.92 on September 4. As irrigation demands decreased, releases out of Clark Canyon were gradually reduced throughout September to the fall and winter rate of about 35 cfs by September 21.

The majority of the storage water released from Clark Canyon Reservoir during water year 2008 to meet the downstream irrigation demands was released during May 1 through September 21. During this time, releases reached a peak for the year of 839 cfs on July 21 to satisfy the downstream water needs. Beginning in early May, storage in Clark Canyon declined from a peak of 125,221 acre-feet at elevation 5535.94 on May 10 to 57,724 acre-feet at elevation 5516.92 on September 4, at which time inflows exceeded releases and storage began to increase. Storage in Clark Canyon Reservoir increased beginning in early-September and ended the water year at 64,488 acre-feet at elevation 5519.34. This was almost identical to what was experienced at the end of water year 2006. This was the 13th lowest end of water year storage level during the 1965 through 2008 period. Beginning about September 3 and continuing through September 21 the releases were gradually reduced to a fall and winter flow of about 35 cfs in an effort to conserve storage for the next season. This release was again much below the minimum recommended fishery flow of between 100-200 cfs.

In June, the water users in the Beaverhead River Basin met once again and agreed to increase the water allotments to full allotments of 4.0 acre-feet per acre for CCWSC and 3.5 acre-feet per acre for EBID.

EBID water users received approximately 70,492 acre-feet and CCWSC received approximately 88,892 acre-feet during water year 2008.
The court appointed river commissioner as well as the East Bench Canal ended the 2008 season on September 14. The total diversion recorded by the river commission for the "non-signer" users on the Beaverhead River was approximately 29,002 acre-feet. The total annual inflow to Clark Canyon Reservoir during 2008 was 54 percent of average, totaling 143,250 acre-feet, the 11th lowest annual inflow for the period of 1965 through 2008. By comparison, this was 5,055 acre-feet more than the total annual inflow of water year 2007. The total annual release to the Beaverhead River from Clark Canyon was 140,814 acre-feet or 55 percent of normal and was the 10th lowest annual release for the period of 1965 through 2008. This release was 269 acre-feet more than what was released during 2007.

Lima Reservoir is a private irrigation facility located upstream of Clark Canyon Reservoir on the Red Rock River, a tributary of the Beaverhead River. Lima Reservoir was unable to fill to the top of the conservation pool in water year 2008 and peaked at 66,099 acre-feet, which was 78 percent of full capacity on May 8. The drainage area above Lima Reservoir accounts for about 25 percent of the total drainage area above Clark Canyon Reservoir.

Streamflow of the Beaverhead River at Barretts peaked at 889 cfs on July 22 due to irrigation releases from storage, but the streamflow would have peaked at 659 cfs on May 25 if Clark Canyon Reservoir would not have been controlling the releases.

The Corps of Engineers determined that during 2008, Clark Canyon did not prevent any local flood damages, but there was $383,300 flood damages prevented on the main stem Missouri. Since construction of the Clark Canyon Dam in 1965, Clark Canyon Reservoir has reduced flood damages by a total of $13,251,600.

Important Events – 2008

September 28, 2007: Following the 2007 irrigation season, releases from Clark Canyon to the Beaverhead River were reduced to approximately 35 cfs to conserve storage and allow Clark Canyon Reservoir to gradually increase throughout the fall and winter.

October 1, 2007: Clark Canyon Reservoir enters water year with 62,052 acre-feet of storage at elevation 5518.49.

May 8: This marked the beginning of when releases from Clark Canyon were increased to meet downstream irrigation demands.

May 10: Clark Canyon Reservoir reached a peak storage content of 125,221 acre-feet at elevation 5535.94. This was 72 percent of full capacity and 49,146 acre-feet or 10.16 feet below the top of the joint-use pool.

June 9: Inflow to Clark Canyon reached a peak for the year at 487 cfs.

July 21: Releases from Clark Canyon Reservoir reached a peak of 839 cfs to meet downstream water demands from the Beaverhead River.

September 4: Storage in Clark Canyon Reservoir was drafted to a low for year of 57,724 acre-feet at elevation 5516.92. This was 33 percent of full capacity and 116,643 acre-feet or 29.18 feet below the top of the joint-use pool. After this time the reservoir began to refill due to the decrease in downstream irrigation demands.

September 21: East Bench Canal discontinues diversions.

September 21: Releases from Clark Canyon Dam to the Beaverhead River are reduced to the winter flow rate of approximately 35 cfs.

September 30: Clark Canyon Reservoir ends the water year with 64,488 acre-feet at elevation 5519.34.

Additional hydrologic and statistical information pertaining to the operation of Clark Canyon Reservoir during 2008 can be found in Table MTT5 and Figure MTG3.

TABLE MTT5

HYDROLOGIC DATA FOR 2008

CLARK CANYON - EAST BENCH UNIT

NEW SEDIMENT SURVEY DATA EFFECTIVE 10/1/2001

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	5470.60	1,061	1,061
TOP OF ACTIVE CONSERVATION	5535.70	124,160	123,099
TOP OF JOINT USE	5546.10	174,367	50,207
TOP OF EXCLUSIVE FLOOD CONTROL	5560.40	253,442	79,075

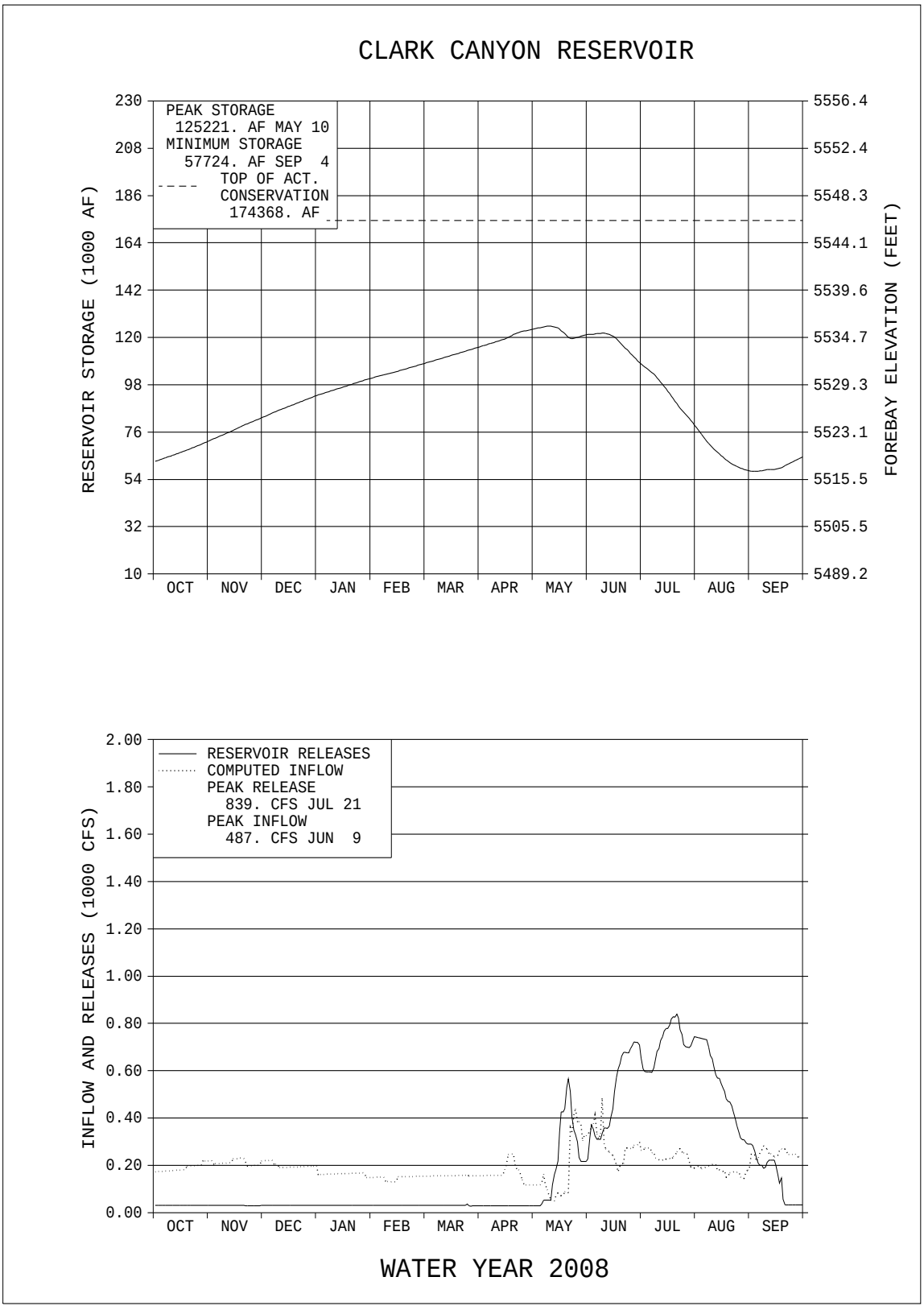
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	5518.49	62,052	OCT 01, 2007
END OF YEAR	5519.34	64,488	SEP 30, 2008
ANNUAL LOW	5516.92	57,724	SEP 04, 2008
ANNUAL HIGH	5535.94	125,221	MAY 10, 2008
HISTORIC HIGH	5564.70	283,073	JUN 25, 1984

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	143,250	OCT 07-SEP 08	140,814	OCT 07-SEP 08
DAILY PEAK (CFS)	487	JUNE 09, 2008	839	JUL 21, 2008
DAILY MINIMUM (CFS)	48	MAY 13, 2008	28	MAR 27, 2008
DAILY FLOW AT BARRETTS (CFS)			889	JUL 22, 2008
DAILY FLOW AT BARRETTS W/O CLARK CANYON RESERVOIR (CFS)			659	MAY 25, 2008
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

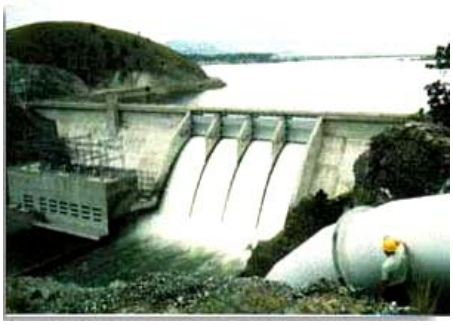
MONTH	INFLOW		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	11.6	50	1.9	13	71.8	57
NOVEMBER	12.6	57	1.8	13	82.6	62
DECEMBER	12.3	64	1.7	15	93.0	68
JANUARY	10.0	62	1.9	18	101.1	72
FEBRUARY	8.4	58	1.8	19	107.7	76
MARCH	9.6	51	1.9	19	115.4	78
APRIL	10.0	46	1.7	13	123.7	78
MAY	11.1	41	13.6	47	121.2	73
JUNE	17.1	47	29.9	75	108.4	65
JULY	14.8	53	43.8	95	79.3	53
AUGUST	11.0	57	32.3	85	57.9	45
SEPTEMBER	14.9	74	8.3	42	64.5	52
ANNUAL	143.2	54	140.8	55		
APRIL-JULY	52.9	47				

* Average for the 1965-2008 period.

FIGURE MTG3


CLARK CANYON RESERVOIR
PEAK STORAGE
125221. AF MAY 10
MINIMUM STORAGE
57724. AF SEP 4
TOP OF ACT.
CONSERVATION
174368. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
230
208
186
164
142
120
98
76
54
32
10
5556.4
5552.4
5548.3
5544.1
5539.6
5534.7
5529.3
5523.1
5515.5
5505.5
5489.2
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
839. CFS JUL 21
PEAK INFLOW
487. CFS JUN 9
INFLOW AND RELEASES (1000 CFS)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

Canyon Ferry Lake and Powerplant



Canyon Ferry Lake (P-S MBP), formed by Canyon Ferry Dam, is located on the Missouri River near Helena, Montana. It has a total capacity of 1,992,977 acre-feet. The top 3 feet were allocated to exclusive flood control in February 1966. The next 27 feet are allocated to joint conservation and flood control purposes. The joint-use space will be evacuated for flood control purposes only to the extent that refill during the spring runoff are reasonably assured. The conservation space was constructed mainly for power generation and to provide replacement storage for several new irrigation developments located on the Missouri River and its tributaries above Great Falls, Montana. To date, however, the conservation storage has been used primarily for power production. The only new areas under irrigation are 5,000 acres being irrigated on the Crow Creek Unit (P-S MBP), 13,900 acres on the Helena Valley Unit (P-S MBP), and 28,000 acres on the East Bench Unit (P-S MBP). In addition, about 5,200 acres in the Helena Valley Unit that was once irrigated by pumping from Lake Helena and from other streams are now irrigated by pumping from Canyon Ferry Reservoir. About 33,700 acres on the East Bench Unit also receives a supplemental water supply. A small amount of municipal water is also furnished to the city of Helena, Montana, through facilities for the Helena Valley Unit.

In 1997, a hydrographic and a topographic survey were conducted and a new elevation-area-capacity table and curve was developed. The 1997 survey determined that Canyon Ferry Lake has a storage capacity of 1,992,977 acre-feet and a surface area of 34,048 acres at reservoir elevation 3800. Since closure in 1953, the reservoir has accumulated a sediment volume of 59,746 acre-feet below reservoir elevation 3800. This volume represents a 2.91 percent loss in capacity and an average annual loss of 1,345.6 acre-feet. The revised area-capacity table was put into effect on October 1, 1998, reflecting the new storage levels.

From July to August of 2007, precipitation improved but remained below average. Valley precipitation was 56 percent of average while the mountain precipitation was 83 percent of average. Generous rains finally began to fall during September, contributing to the valley precipitation increasing to 109 percent of average and the mountain precipitation increasing to 121 percent of average. By year-end the total annual valley precipitation in the Missouri River Basin was 98 percent of average while the total annual mountain precipitation was only 81 percent of average. With inflows to Canyon Ferry Lake at only 39 percent of average during these months, a conservative release from Canyon Ferry to the Missouri River was maintained. As the 2007 irrigation season came to a close in late September, releases from Canyon Ferry to the Missouri River were reduced to rates that provided river flows of 3,100 cfs or higher downstream of Holter Dam. Maintaining this release allowed storage in Canyon Ferry Lake to slowly decline and enter water year 2008 with a storage content of 1,500,636 acre-feet at elevation 3784.80. This was 88 percent of average and about 25,492 acre-feet or 0.83 feet lower than at the beginning of water year 2007.

Similar to a year ago, precipitation in the Missouri River Basin above Canyon Ferry Lake was well above average during October and then dropped to well below average during November. Valley precipitation during October was 216 percent of average, while the mountain precipitation was 162 percent of average. During November the valley precipitation dropped to 58 percent of average while the mountain precipitation dropped to 65 percent of average. During December, January, and February, the precipitation in the basin returned to above normal. According to records maintained by the National Weather Service and Natural Resource Conservation Service, the valley precipitation amounts during December, January, and February were respectively 133, 149, and 138 percent of normal, respectively, while the mountain precipitation was 126, 112, and 99 percent of normal, respectively. Even though the accumulated valley and mountain precipitation during October through February was above normal, the lingering effects of the previous 7 years of drought had a significant impact on the inflows into Canyon Ferry Lake during that period. During October through February, the inflow was recorded at only 69 percent of average.

At the beginning of water year 2008 with storage 0.83 foot lower than the previous year and inflows to Canyon Ferry Lake well below normal, plans were made to maintain river flows downstream of Holter Dam no lower than 3,100 cfs to protect the downstream river fishery. This was about 1,000 cfs less than MFWP's recommended desired minimum river flow of 4,100 cfs. Maintaining releases at or above this rate allowed Canyon Ferry Lake to remain fairly stable during October through late November with a storage content near 1,500,000 acre-feet at elevation 3784.70. This was about 60,000 acre-feet or 2 feet lower than in 2007. In late November, storage began to slowly decline and on December 31, the level of Canyon Ferry Lake was recorded at elevation 3783.32 with a storage content of 1,455,877 acre-feet.

On January 1, the Natural Resources Conservation Service (NRCS) measured the mountain snowpack in the Missouri River Basin above Canyon Ferry to be 96 percent of average, about 16 percent higher than a year ago. Snowpack in the Jefferson, Madison, and Gallatin River Basins, major tributaries of the Missouri River Basin was 93, 102 and 98 percent of normal, respectively. As the winter proceeded, snow continued to accumulate at near normal rates in the mountains. According to the National Weather Service precipitation recordings, valley precipitation during January through March was 119 percent of average, while the mountain precipitation was only 96 percent of average. By April 1, mountain snowpack in the Missouri River Basin had increased to 104 percent of average. This was 38 percent greater than that experienced a year ago. Snowpack in the tributaries of the Jefferson, Madison, and Gallatin River Basins reported 100, 108, and 108 percent of average respectively, as compared to 67, 64, and 67 percent of average a year ago.

At the annual Upper Missouri River Advisory Group meeting held on April 9, several interest groups expressed concerns that a flushing flow type of release out of Canyon Ferry to the Missouri River would benefit the fishery and aquatic live in the Missouri River downstream of Canyon Ferry Dam. The water supply forecast prepared in early April, indicated the April-July runoff into Canyon Ferry Lake would be 93 percent of average, totaling 1,880,000 acre-feet.

With storage at 98 percent of average, planned operations indicated the release out of Canyon Ferry to the Missouri River could continue to be maintained at rates that would provide flows in the Missouri River downstream of Holter Dam near 3,300 cfs through April and early May. Later, these releases were gradually increased to near 14,800 cfs by June 8, allowing storage in Canyon Ferry Lake to fill to the top of the joint-use pool at elevation 3797 near the end of June.

Precipitation in the Missouri River Basin varied during April through June. Valley precipitation above Canyon Ferry Lake during April, May, and June was respectively 92, 124, and 89 percent of average, while the mountain precipitation was 81, 111, and 106 percent of average, respectively. The effects of the persistent drought kept inflow to Canyon Ferry Lake well below normal during April at only 63 percent of average. However, with the generous precipitation that was received during May, the inflows increased to 101 percent of average during May and to 126 percent of average during June. Inflows into Canyon Ferry began to increase during late April. However, it was not until early May that the snowmelt runoff actually began to flow into Canyon Ferry Lake. Inflows to Canyon Ferry gradually increased from about 3,000 cfs the middle of April to just over 5,150 cfs by early May.

On May 1, storage in Canyon Ferry Lake was recorded at 1,433,563 acre-feet at elevation 3782.57. As the inflows steadily increased and maintaining releases out of Canyon Ferry to the Missouri River at 3,300 cfs, storage in Canyon Ferry Lake steadily increased. It was not until late May when inflows into Canyon Ferry Lake began to increase dramatically, reaching a peak of 19,234 cfs on June 6. To control the rate of fill, releases from Canyon Ferry Lake were gradually increased beginning April 12. By the end of May, Canyon Ferry Lake reached a storage content of 1,692,441 acre-feet at elevation 3790.90 and was increasing about 0.20 feet per day. This was 199,447 acre-feet or 6.1 feet below the top of the joint-use pool. On June 8, a peak discharge from Canyon Ferry Lake to the Missouri River during the spring runoff was recorded at 14,793 cfs. This was 9,820 cfs greater that the peak of 4,973 cfs recorded in 2007.

Because of the cooler temperatures experienced during May and June, the normal mountain snowmelt was somewhat delayed. By the end of June, the mountain snowpack was essentially melted out. However, the inflows into Canyon Ferry Lake continued to remain high. It was not until after the first week of July that the inflow to Canyon Ferry Lake began to quickly decline. In response and better assure Canyon Ferry Lake of filling to the top of the joint-use pool, releases from Canyon Ferry Lake to the Missouri River were gradually reduced. On June 28, storage in Canyon Ferry Lake had reached the top of the joint-use pool and continued to increase until reaching a peak storage content of 1,936,784 acre-feet 1,885,225 acre-feet at elevation 3798.34 on July 6. This was about 44,896 acre-feet or 1.34 feet above the top of the joint-use pool and 51,559 acre-feet or 1.54 feet higher than the peak reported in water year 2007. Canyon Ferry storage remained in the exclusive flood pool for 36 days from June 28 through August 2.

Precipitation in the Missouri River Basin above Canyon Ferry Lake was well below average during July through August. Valley precipitation was 63 percent of average while the mountain precipitation was only 41 percent of average.

With little to no precipitation falling during these months, irrigation demands upstream of Canyon Ferry Lake continued to remain high. As a result, the inflow to Canyon Ferry dropped from 127 percent of average in July to only 65 percent of average during August. Inflows increased during September when special operations were required at Hebgen Dam. On August 31, a mechanical gate failure occurred at Hebgen Dam, resulting in extremely large uncontrolled releases out of Hebgen Lake.

These large uncontrolled releases contributed to inflows into Canyon Ferry to increase from about 1,375 cfs on August 30, to about 4,925 cfs on September 7. During August 31-September 25, the inflows into Canyon Ferry Lake averaged 4,288 cfs, totaling 221,100 acre-feet. The unusual situation at Hebgen Dam did not result in any operation changes at Canyon Ferry. However, the inflows into Canyon Ferry Lake during September did increase to 115 percent of average.

With releases out of Canyon Ferry to the Missouri River maintained at rates to provide flows downstream of Holter Dam at or above 4,100 cfs, storage in Canyon Ferry Lake slowly receded from the peak storage recorded on July 6 to a content of 1,746,007 acre-feet at elevation 3792.56 on September 3. Because the large uncontrolled releases out of Hebgen Dam increased inflows into Canyon Ferry Lake, storage in Canyon Ferry slowly increased to 1,772,005 acre-feet at elevation 3793.36 on September 21. Once repairs to the gates at Hebgen Dam were completed and normal releases out of Hebgen Dam restored, inflows into Canyon Ferry decreased and storage in Canyon Ferry once again began to slowly decline. By the end of the year, storage in Canyon Ferry Lake had declined to 1,756,385 acre-feet at elevation 3792.88. This was 103 percent of average and about 255,749 acre-feet or 8.08 feet higher than at the end of water year 2007.

The April-July runoff into Canyon Ferry was 108 percent of average, totaling 2,199,196 acre-feet. This was 50 percent or 1,108,069 acre-feet greater than the inflow experienced in 2007. The annual inflow to Canyon Ferry Lake was 92 percent of average, totaling 3,627,460 acre-feet. This was 1,050,308 acre-feet greater that the total annual inflow experienced in water-year 2007.

During 2008, Canyon Ferry powerplant generated 319,265,000 kilowatt-hours, 76 percent of the long-term average. This was 90,094 kilowatt-hours more than generated during the record low year of 2002 and 24,755,000 kilowatt-hours less than generated in 2007. The plant used 77 percent of the water released from the dam in 2008 (2,610,320 acre-feet). The remainder of the water was released to meet the irrigation needs of the Helena Valley Irrigation District (201,519 acre-feet) and spilled through the river outlet gates (19,426 acre-feet) and through the spillway gates (540,446 acre-feet).

The Corps of Engineers estimated that during 2008, Canyon Ferry prevented $2,102,500 of local flood damages and also prevented $25,919,300 in flood damages downstream on the Missouri River below Fort Peck Reservoir for a total of $28,021,800. Since construction of the Canyon Ferry Dam in 1954, Canyon Ferry Reservoir has reduced flood damages by a total of $181,583,200.

Important Events - Water Year 2008

October 1: All irrigation deliveries to the Helena Valley Unit were discontinued for the 2007 irrigation season. To continue conserving storage in Canyon Ferry, the total release was decreased to 3,100 cfs (≈ 3,100 cfs through the powerplant and 0 cfs for the Helena Valley Project).

November 26-29: Surge arresters were replaced on Unit No. 1 of the Canyon Ferry Powerplant and annual maintenance was also scheduled on the fixed wheel gate. To allow for the maintenance and continue evacuating storage from Canyon Ferry Lake as projected, turbine releases were restricted to 2-unit capacity. The turbine releases from Canyon Ferry were maintained at 3,100 cfs.

November 30-December 5: The National Weather Service forecasted a severe cold front to move into Montana. At the request of PPL-MT, the total release from Canyon Ferry to the Missouri River was increased to about 3,700 cfs to allow the river to freeze over at a higher level and reduce the potential for ice jam flooding from occurring. After the cold front moved out, turbine releases were gradually reduced to the 3,100 cfs rate that was previously scheduled.

December 11-16: The National Weather Service forecasted another severe cold front to move into Montana. At the request of PPL-MT, the total release from Canyon Ferry to the Missouri River was increased to about 3,700 cfs (2-unit capacity) to allow the river to freeze over at a higher level and reduce the potential for ice jam flooding from occurring. Approximately 5 days later, turbine releases were gradually reduced to the 3,100 cfs rate that was previously scheduled.

December 19-24: The National Weather Service forecasted another severe cold front to move into Montana. At the request of PPL-MT, the total release from Canyon Ferry to the Missouri River was increased to about 3,700 cfs (2-unit capacity) to allow the river to freeze over at a higher level and reduce the potential for ice jam flooding from occurring. Approximately 5 days later, turbine releases were gradually reduced to the 3,100 cfs rate that was previously scheduled.

January 18-21: The National Weather Service forecasted another severe cold front to move into Montana. At the request of PPL-MT, the total release from Canyon Ferry to the Missouri River was increased to about 4,600 cfs to allow the river to freeze over at a higher level and reduce the potential for ice jam flooding from occurring. Approximately 3 days later, turbine releases were gradually reduced to the 3,100 cfs rate that was previously scheduled.

January 26-31: The National Weather Service forecasted another severe cold front to move into Montana. At the request of PPL-MT, the total release from Canyon Ferry to the Missouri River was increased to about 3,600 cfs to allow the river to freeze over at a higher level and reduce the potential for ice jam flooding from occurring. Approximately 5 days later, turbine releases were gradually reduced to the 3,100 cfs rate that was previously scheduled.

February 12: Annual inspection was scheduled on the penstock to Unit No. 3 of the powerplant. To allow for the inspection and continue evacuating storage from Canyon Ferry Lake as projected, the turbine releases from Canyon Ferry were restricted to 2-unit capacity and maintained at 3,100 cfs.

February 19-March 20: Triennial maintenance was scheduled on Unit No. 1 of the powerplant. To allow for the maintenance and continue evacuating storage from Canyon Ferry Lake as projected, turbine releases from Canyon Ferry were restricted to 2-unit capacity and maintained at 3,100 cfs.

April 1-2: Irrigation deliveries to Helena Valley Unit were initiated on April 1 and on April 2; the first irrigation deliveries for the 2008 irrigation season began and were adjusted periodically throughout the irrigation season to meet the irrigation demands.

April 9: Reclamation attended and participated in the Upper Missouri River Advisory Group meeting held in the Director's Conference Room at Montana Fish, Wildlife, and Parks Building in Helena, Montana. Tim Felchle, Chief of Reservoir and River Operations, presented the water supply outlook for the upper Missouri River Basin and the proposed operations for Canyon Ferry for 2008.

April 29: Helena Valley Irrigation District increased irrigation deliveries. In response, total release from Canyon Ferry was increased to 3,490 cfs (≈ 3,100 cfs through the powerplant and 390 cfs for the Helena Valley Project).

May 12: Helena Valley Irrigation District increased irrigation deliveries. Also, the May 1 water supply forecast indicated a need to increase releases to the Missouri River to control the rate of fill of storage in Canyon Ferry. In response, total release from Canyon Ferry was increased to 4,330 cfs (≈ 3,850 cfs through the powerplant and 480 cfs for the Helena Valley Project).

May 20-22: Helena Valley Irrigation District increased irrigation deliveries. Inflows into Canyon Ferry averaged nearly 7,000 cfs and the May 1 water supply forecast indicated a need to increase releases to the Missouri River to control the rate of fill of storage in Canyon Ferry. In response, total diversions to Helena Valley Reservoir were gradually increased and the total release from Canyon Ferry was gradually increased to 6,065 cfs (≈ 5,375 cfs through the powerplant and 690 cfs for the Helena Valley Project).

May 26-29: Recent rains accompanying the high elevation snowmelt have produced substantial increases in inflows into Canyon Ferry averaging nearly 16,000 cfs. Based on the May 1 water supply forecast, total release from Canyon Ferry was increased to control the rate of fill of storage in Canyon Ferry. In response, the total release from Canyon Ferry was gradually increased to 11,000 cfs (≈ 5,800 cfs through the powerplant, 4,510 cfs through the spillway gates, and 690 cfs for the Helena Valley Project).

May 30: Helena Valley Irrigation District decreased irrigation deliveries. Inflows into Canyon Ferry continue to average nearly 16,000 cfs. In response, to control the rate of fill of storage in Canyon Ferry Lake, the total release from Canyon Ferry was maintained at 11,000 cfs (≈ 5,570 cfs through the powerplant, 4,830 cfs through the spillway gates, and 600 cfs for the Helena Valley Project).

June 2-4: More recent rains accompanying the high elevation snowmelt have caused inflows into Canyon Ferry to remain high at over 16,000 cfs. Based on the May 1 water supply forecast, total release from Canyon Ferry was increased to control the rate of fill of storage in Canyon Ferry. In response, the total release from Canyon Ferry was gradually increased to 15,000 cfs (≈ 5,560 cfs through the powerplant, 8,880 cfs through the spillway gates, and 560 cfs for the Helena Valley Project).

June 11: With inflows into Canyon Ferry slowly declining, total release from Canyon Ferry to the Missouri River were reduced to begin providing relief to the already high flowing Missouri River downstream of Holter Dam. In response, the total release from Canyon Ferry was decreased to 13,975 cfs (≈ 5,400 cfs through the powerplant, 8,000 cfs through the spillway gates, and 575 cfs for the Helena Valley Project).

June 13: With inflows into Canyon Ferry slowly declining, total release from Canyon Ferry to the Missouri River were reduced to begin providing relief to the already high flowing Missouri River downstream of Holter Dam. In response, the total release from Canyon Ferry was decreased to 12,975 cfs (≈ 5,400 cfs through the powerplant, 7,000 cfs through the spillway gates, and 575 cfs for the Helena Valley Project).

June 18-19: With inflows into Canyon Ferry slowly declining, total release from Canyon Ferry to the Missouri River were reduced to begin providing relief to the already high flowing Missouri River downstream of Holter Dam and better assure storage in Canyon Ferry Lake to reach the top of the joint-use pool. In response, the total release from Canyon Ferry was gradually decreased to 10,000 cfs (≈ 5,350 cfs through the powerplant, 4,070 cfs through the spillway gates, and 580 cfs for the Helena Valley Project).

June 25: Helena Valley Irrigation District increased irrigation deliveries. Inflows into Canyon Ferry continue to average nearly 17,000 cfs. In response, to control the rate of fill of storage in Canyon Ferry Lake, the total release from Canyon Ferry was increased to 11,500 cfs (≈ 5,230 cfs through the powerplant, 5,580 cfs through the spillway gates, and 690 cfs for the Helena Valley Project).

July 2: Inflows into Canyon Ferry continue to remain high at nearly 15,000 cfs. In response, to control the rate of fill of storage in Canyon Ferry, the total release from Canyon Ferry was increased to 12,500 cfs (≈ 5,050 cfs through the powerplant, 6,740 cfs through the spillway gates, and 710 cfs for the Helena Valley Project).

July 7-18: Inflows into Canyon Ferry are declining considerably each day. In response, to control the rate at which storage in the exclusive flood pool is evacuated, the total release from Canyon Ferry was gradually decreased to 4,365 cfs (≈ 3,650 cfs through the powerplant, 0 cfs through the spillway gates, and 715 cfs for the Helena Valley Project).

July 28-31: To assist PPL-MT with construction work required on a boat ramp in Hauser Lake, total release from Canyon Ferry was decreased to 3,965 cfs (≈ 3,250 cfs through the powerplant and 715 cfs for the Helena Valley Project). After completion of the work, the total release from Canyon Ferry was increased to 4,365 cfs (≈ 3,650 cfs through the powerplant and 715 cfs for the Helena Valley Project).

August 26: Inflows into Canyon Ferry are considerably less than forecasted. In response, to conserve storage in Canyon Ferry, the total release from Canyon Ferry was decreased to 3,960 cfs (≈ 3,270 cfs through the powerplant, and 690 cfs for the Helena Valley Project).

August 31-September 26: A mechanical gate failure occurred at Hebgen Dam that resulted in very large uncontrolled releases out of Hebgen Lake to the Madison River over approximately 26 days. This increased the inflows into Canyon Ferry Lake considerably from about 1,375 cfs on August 30 to about 4,925 cfs on September 7. During August 31-September 25, the inflows into Canyon Ferry Lake averaged 4,288 cfs, totaling 221,100 acre-feet. No operation changes were required at Canyon Ferry; however, storage in Canyon Ferry Lake did increase about 0.80 feet or nearly 26,000 acre-feet during this time.

September 5-9: As the 2008 irrigation season was winding down, Helena Valley Irrigation District decreased irrigation deliveries. In response, to conserve storage in Canyon Ferry, the total release from Canyon Ferry was decreased to 3,870 cfs (≈ 3,350 cfs through the powerplant, and 520 cfs for the Helena Valley Project).

September 16: Due to large growths of algae in the Missouri River, PPL-MT reported flows below Holter Dam were lower than anticipated. To adjust for the variation of flows the total release from Canyon Ferry was increased to 4,040 cfs (≈ 3,650 cfs through the powerplant, and 390 cfs for the Helena Valley Project).

September 30: All irrigation deliveries to the Helena Valley Unit were discontinued for the 2008 irrigation season. To continue conserving storage in Canyon Ferry, total release was decreased to 3,700 cfs (≈ 3,700 cfs through the powerplant and 0 cfs for the Helena Valley Project) a rate that would maintain river flows downstream of Holter Dam at or above 4,100 cfs, the desired minimum flow that sustains a healthy trout fishery in the Missouri River.

Additional statistical information of Canyon Ferry Reservoir and its operations during 2008 can be found on Table MTT6 and Figure MTG4.

TABLE MTT6
HYDROLOGIC DATA FOR 2008
CANYON FERRY RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	3728.00	396,031	396,031
TOP OF ACTIVE CONSERVATION	3770.00	1,097,599	701,568
TOP OF JOINT USE	3797.00	1,891,888	794,289
TOP OF EXCLUSIVE FLOOD CONTROL	3800.00	1,992,977	101,089

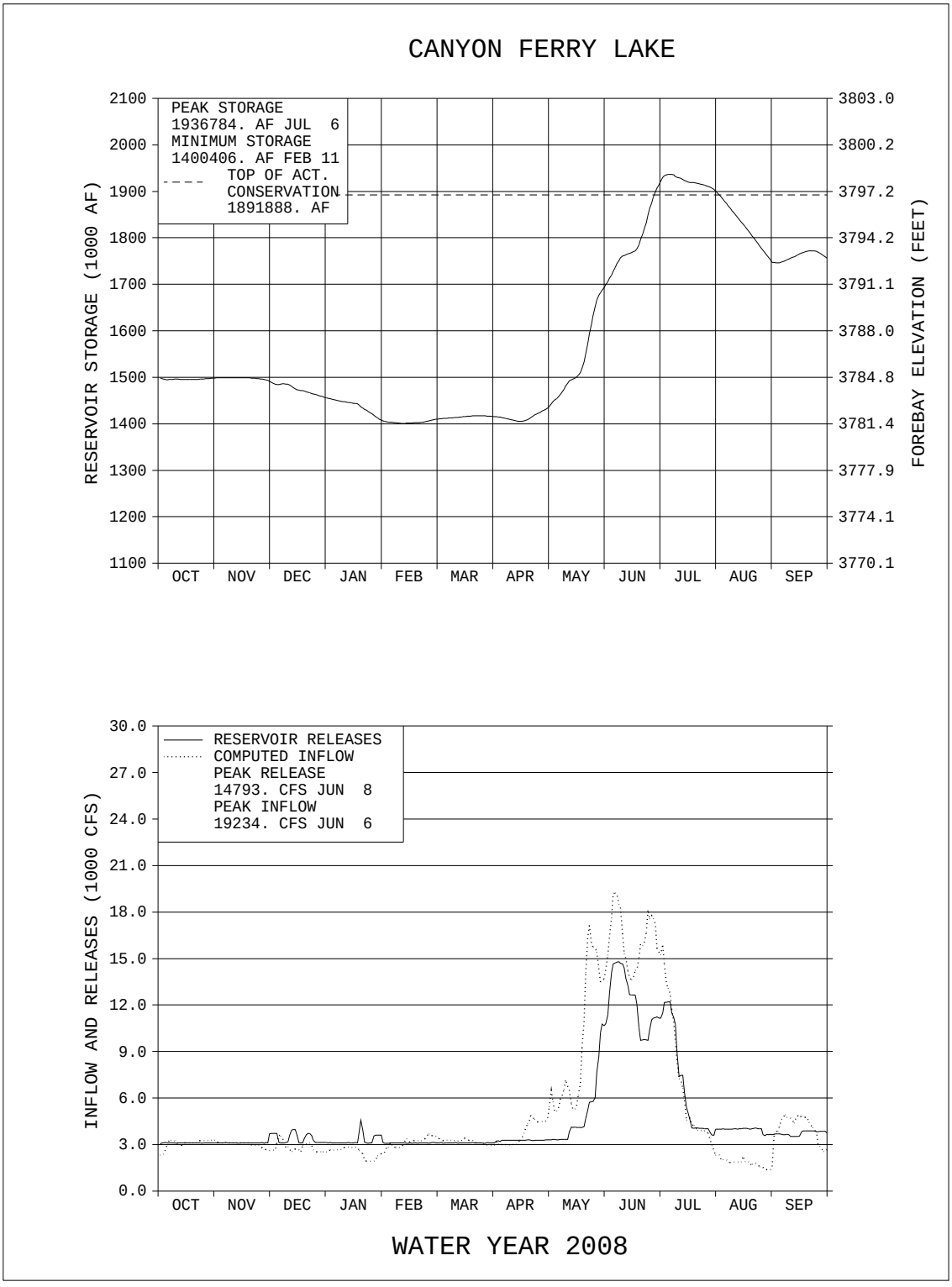
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	3784.80	1,500,636	OCT 01, 2007
END OF YEAR	3792.88	1,756,385	SEP 30, 2008
ANNUAL LOW	3781.44	1,400,406	FEB 11, 2008
ANNUAL HIGH	3798.34	1,936,784	JUL 06, 2008
HISTORIC HIGH	3800.00	2,050,900	JUN 23, 1964

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	3,627,460	OCT 07-SEP 08	3,271,361	OCT 07-SEP 08
DAILY PEAK (CFS)	19,234	JUN 06, 2008	14,793	JUN 08, 2008
DAILY MINIMUM (CFS)	1,351	AUG 29, 2008	3,026	OCT 01, 2007
PEAK SPILL (CFS)			9,078	JUN 08, 2008
TOTAL SPILL (AF)			540,446	05/28-07/10/08

MONTH	INFLOW		OUTFLOW*				CONTENT	
	KAF	% OF AVG	PUMPED TO HELENA VALLEY (KAF)	% OF AVG	RIVER KAF	% OF AVG	KAF	% OF AVG
OCTOBER	188.8	66	0.1	11	190.9	73	1,498.5	87
NOVEMBER	179.1	60	0.0	---	186.1	69	1,491.5	85
DECEMBER	172.9	71	0.0	---	208.5	71	1,455.9	87
JANUARY	152.5	69	0.0	---	202.1	68	1,406.2	89
FEBRUARY	182.0	82	0.0	---	178.5	67	1,409.7	93
MARCH	197.4	73	0.0	---	191.1	65	1,415.9	98
APRIL	220.5	63	8.5	151	194.3	64	1,433.6	98
MAY	581.0	101	15.7	122	306.4	85	1,692.4	104
JUNE	967.1	126	17.9	116	727.3	153	1,914.3	101
JULY	430.6	127	22.5	133	422.1	119	1,900.2	104
AUGUST	111.2	65	21.8	139	242.3	96	1,747.3	101
SEPTEMBER	244.7	115	13.8	175	221.8	96	1,756.4	103
ANNUAL	3,627.5	92	100.4	132	3,271.4	89		
APRIL-JULY	2,199.2	108						

* Average for the 1955-2008 period.

TABLE MTG4
HYDROLOGIC DATA FOR 2008
CANYON FERRY RESERVOIR



Helena Valley Reservoir

Helena Valley Reservoir is a regulating offstream reservoir for Helena Valley Unit (P-S MBP), located west of Canyon Ferry. It has a total capacity of 10,451 acre-feet, which is used for irrigation and for furnishing a supplemental municipal supply to the city of Helena, Montana. Helena Valley Reservoir receives its entire water supply by pumping from Canyon Ferry Reservoir. When fully developed, Helena Valley Unit will irrigate about 14,100 acres of full-service land plus 3,500 acres of supplemental-service lands. Present development is about 13,867 full-service acres, including 5,200 acres previously irrigated by pumping from Lake Helena or from other streams.

At the beginning of the year, storage in Helena Valley Reservoir was 7,480 acre-feet at an elevation of 3813.65 feet. Helena Valley Reservoir reached a low for the year of 5,885 acre-feet at an elevation of 3809.32 feet on April 1, 2008. With new operating criteria in place, goals were to fill Helena Valley Reservoir by May 1 and maintain it nearly full through June. In response, diversions to the Helena Valley Unit from Canyon Ferry Reservoir were started on April 2. Storage in Helena Valley Reservoir then steadily increased to a peak for the year of 10,342 acre-feet at an elevation of 3819.86 feet on May 5, 2008. By the end of water year 2008, Helena Valley reservoir ended with a storage content of 7,419 acre-feet at elevation 3813.50. During 2008, 100,350 acre-feet of water was pumped to Helena Valley from Canyon Ferry Reservoir. Helena Valley Irrigation District released 79,392 acre-feet for irrigation. All irrigation deliveries were discontinued for the 2008 season on September 30.

The reservoir provided an adequate water supply to satisfy all irrigation requirements for the Helena Valley Unit in 2008 and supplement the City of Helena's municipal water supply.

Statistical information pertaining to Helena Valley Reservoir is shown on Table MTT7 below.

TABLE MTT7
HYDROLOGIC DATA FOR 2008

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
Top of Inactive Storage	3805.00	4,554	4,554
Top of Active Conservation Storage	3820.07	10,451	5,897
STORAGE ELEVATION DATA	**ELEVATION (FEET)**	**STORAGE (AF)**	**DATE**
Beginning of Year	3813.65	7,480	10/01/07
End of Year	3813.50	7,419	09/30/08
Annual Low	3809.32	5,885	04/01/08
Annual High	3819.86	10,342	05/05/08
Historic High	3820.60	10,738	6/02/75
INFLOW-OUTFLOW DATA			**ANNUAL**
Pumped from Canyon Ferry to Helena Valley Unit			100,350 AC-FT
Inflow to Helena Valley Reservoir			80,888 AC-FT
Released from reservoir for irrigation			79,392 AC-FT
Delivered to the City of Helena for municipal use			1,549 AC-FT

MONTH	RESERVOIR FOREBAY ELEVATION (FEET)	RESERVOIR STORAGE CONTENT (KAF)	PUMPED TO HELENA VALLEY (KAF)
OCTOBER	3812.82	7.1	0.1
NOVEMBER	3812.12	6.9	0
DECEMBER	3811.36	6.6	0
JANUARY	3810.67	6.3	0
FEBRUARY	3810.02	6.1	0
MARCH	3809.34	5.9	0
APRIL	3819.27	10.0	8.5
MAY	3819.76	10.3	15.7
JUNE	3818.16	9.5	17.9
JULY	3814.81	8.0	22.5
AUGUST	3813.59	7.5	21.8
SEPTEMBER	3813.50	7.4	13.8
ANNUAL			100.3

Sun River Project

Storage for the Sun River Project is provided by Gibson, Willow Creek, and Pishkun Reservoirs, which are all single-purpose irrigation structures. The project serves 95,000 acres on the Greenfields and Fort Shaw Irrigation Districts. A diversion dam is located on the Sun River about 3 miles below Gibson Reservoir to allow flows to be diverted down the Pishkun Supply Canal to Pishkun Reservoir, or down the Willow Creek Feeder Canal to Willow Creek Reservoir. Releases are made from Pishkun Reservoir to supply the canals of the Greenfields Irrigation District. Releases from Willow Creek Reservoir re-enter the Sun River where they can be diverted at the Fort Shaw Diversion Dam to supply the canals of the Fort Shaw Irrigation District.

Gibson Reservoir is located on the Sun River above Augusta, Montana, and has a total capacity of 96,477 acre-feet. In 1996, a hydrographic and topographic survey was conducted to measure the reservoir volume lost due to sediment accumulations that occurred in the drainage basin since the major forest fires that occurred in 1988. As a result of the survey, a new elevation-area-capacity table and curve was developed.

The 1996 survey determined that Gibson Reservoir has a storage capacity of 96,477 acre-feet and a surface area of 1,296 acres at reservoir elevation 4724. Since closure in 1929, the reservoir has accumulated a sediment volume of 8,383 acre-feet below reservoir elevation 4724. This volume represents a 7.99 percent loss in capacity and an average annual loss of 125.7 acre-feet. The 1996 survey also showed the average annual rate of sediment deposition since 1973 was 113.1 acre-feet per year and that most of the sediment contribution came after the 1988 fires. The revised area-capacity table was developed and put into effect on October 1, 1997, reflecting the new storage levels.

The spillway crest is at elevation 4712.0 (81,255 acre-feet). Depending on the runoff conditions and reservoir levels, the spillway gates remain open during the spring until the inflows and remaining snow cover indicate that the runoff is receding. Once it is apparent that the runoff has peaked and begun to recede, the spillway gates are progressively closed to allow the reservoir to fill to the top of the conservation pool at elevation 4724.0 (96,477 acre-feet).

The above average conditions in 2007 provided some relief to the water users but the cumulative effects of below average water supply in the Sun River basin were reflected in the Gibson Reservoir inflows heading into water year 2008. The August through September inflow to Gibson Reservoir was 50 percent of average, totaling 22,897 acre-feet at the end of water year 2007. With the inflows averaging 168 cfs and releases averaging 152 cfs during September, storage in Gibson Reservoir increased slowly and entered water year 2008 with a storage content of 6,233 acre-feet at elevation 4612.77. This was 22 percent of average and only 6.5 percent of full capacity. This was also 90,244 acre-feet or 111.23 feet below the top of the conservation pool and was 4,312 acre-feet or 10.79 feet less than at the beginning of water year 2007.

At the conclusion of the 2007 irrigation season, fall and winter releases from Gibson Reservoir to the Sun River were reduced in mid-September and maintained between 55-70 cfs with the expectation that with normal snowpack they could be increased later. In November the reservoir gradually filled, and by the end of November storage had increased to approximately 14,375 acre-feet. With storage and snowpack well below average releases were maintained to allow the reservoir to continue filling. Storage in Gibson Reservoir continued to increase and by the end of December storage reached 17,030 acre-feet at elevation 4636.72.

Precipitation in the Sun River basin varied from much above average to much below average during water year 2008. Cumulative precipitation for October through December was near average for mountain areas in the Sun River basin, but was below average in the valley. By January 1, the Natural Resources Conservation Service (NRCS) measured the mountain snowpack in the Sun River Basin at 84 percent of average, which was a 9 percent decrease from a year ago. During January, precipitation was near average in both the mountain and valley areas helping snowpack to increase to 100 percent of average by February 1. During February precipitation was below average in the valley, but snowpack in the mountains accumulated at above average rates. By March 1 snowpack had improved to 114 percent of average. March precipitation was below average in both the mountain and valley areas. The cumulative precipitation through the end of March was 99 and 75 percent of average for the mountain and valley areas, respectively.

On April 1, the NRCS measured the snowpack at 105 percent of average. In 2008 the snowpack in the Sun River basin reached its peak accumulation in early April and was 108 percent of the average peak. Snowmelt runoff began entering Gibson Reservoir in mid-April. Releases to the Pishkun Reservoir were initiated on April 23 and Gibson Reservoir storage drafted until May 2 when inflows increased above releases. On May 1, storage in Gibson Reservoir drafted to 21,913 acre-feet at elevation 4645.44, 74,564 acre-feet or 78.56 feet below the top of the conservation pool. The combination of warmer temperatures, and spring rain showers produced a peak inflow for the year of 6,883 cfs on May 25.

During April, precipitation in both the valley and mountain areas was below average but during May precipitation was above average. Precipitation conditions in June were again below normal in the valley, but near average in the mountains.

Valley and mountain precipitation during June was 85 and 105 percent of average, respectively. The above average snowpack and the above average spring precipitation produced an above average runoff season. The inflows during April, May and June were 41, 120, and 111 percent of average, respectively.

In early may, with the large snowpack still in the mountains, releases were increased gradually to control the rate of fill. As Gibson Reservoir began filling, releases during late April were increased to move water to Pishkun. During late May and June the spillway was utilized to pass some of the flow in a controlled fashion. On June 23, Gibson Reservoir reached peak storage content for the year of 96,477 acre-feet at elevation 4724, which is the top of the active conservation pool, and remained within a 1 foot of full pool elevation until July 13.

The peak discharge to the Sun River over the Sun River Diversion Dam was recorded on May 26 at 6,549 cfs, while the peak discharge from Gibson Reservoir was also recorded on May 26 at 6,291 cfs. The snowmelt runoff peaked in May, and then peaked a second time in late June and then quickly dropped off. Late June precipitation was the primary cause of the large peak inflows to the reservoir in late June, but by June 30 the inflow was on the declined again indicating that the snowmelt runoff was complete. The cool temperatures and delayed snowmelt runoff resulted in inflows to Gibson Reservoir during July being 131 percent of average. The actual April-July inflow totaled 530,713 acre-feet, approximately 111 percent of average and 233,811 acre-feet or 79 percent more than the previous year.

Weather conditions remained fairly mild in July when precipitations in both the valley and mountain areas were near average at 94 and 83 percent of average, respectively. The mild conditions continued through August, resulting in the cumulative water year precipitation through August for valley and mountain areas totaling 91 and 114 percent of average, respectively. Concluding the water year conditions improved slightly during September when valley and mountain precipitation were 123 and 92 percent of average, respectively. The August-September inflow to Gibson Reservoir totaled 47,360 acre-feet, 104 percent of average. During September the average inflow was approximately 320 cfs, while releases to the Sun River in the latter part of the month were reduced to approximately 120 cfs allowing storage in Gibson Reservoir to gradually increase. Gibson Reservoir ended the water year with a content of 21,980 acre-feet of storage at elevation 4645.56 on September 30. This was 79 percent of average and 23 percent of normal full capacity or 74,497 acre-feet or 78.44 feet below the top of the conservation pool. This was 15,747 acre-feet or 32.79 feet more than at the end of water year 2007.

Total annual inflow for water year 2008 was 102 percent of average, totaling 627,573 acre-feet. This was 210,479 acre-feet or 50 percent more than the inflow experienced during water year 2007.

Diversions to the Pishkun Supply Canal were started on March 27 for Willow Creek and April 22 for Pishkun Reservoir. During late March and early April storage was moved from Gibson Reservoir to refill Pishkun Reservoir.

The total net inflow to Pishkun Reservoir during water year 2008 was 278,907 acre-feet, 122 percent of average. Spring diversions to Willow Creek Reservoir were discontinued on June 17. Pishkun Reservoir reached its spring runoff peak elevation on May 17. This allowed storage in Willow Creek to increase until May 23, when the reservoir reached peak content. Diversions to Willow Creek Reservoir were discontinued in mid June as the natural flows in the river were enough to meet irrigation demands, and the storage was near full capacity. The net inflow for the water year to Willow Creek Reservoir was 19,615 acre-feet, 134 percent of average.

Greenfields Irrigation District discontinued water delivery on October 30. Supplemental water contracts served by Greenfields were satisfied while Gibson Reservoir releases were in excess of senior irrigation demands. Based on average diversions to Pishkun Reservoir and supplemental water delivered, Greenfields delivered full allotments to all of its water users in 2008 at 2.0 acre-feet/acre. The total diversion for Fort Shaw Irrigation District was above average during 2008. The total water diverted during April 14 through October 17 was approximately 51,983 acre-feet, which is 124 percent of average.

Even though there is no space allocated to flood control in Gibson Reservoir, the Corps of Engineers still estimates flood damages prevented by Gibson Reservoir. During 2008, the Corps estimated Gibson Reservoir prevented $19,000 in local flood damages, but did not prevent any flood protection on the Missouri River below Fort Peck Reservoir. Since 1950 Gibson Reservoir has prevented $3,063,500 in flood damages.

Pishkun Reservoir , near Augusta, Montana, is an off-stream reservoir supplied by a feeder canal which diverts water from the Sun River below Gibson Reservoir. The reservoir serves the 81,000-acre Greenfields Division. The total capacity of the reservoir is 46,670 acre-feet at elevation 4370.0.

All canal diversions from the Sun River to Pishkun Reservoir during the 2007 irrigation season were discontinued on August 17, 2007. Reservoir content in Pishkun at the beginning of water year 2008 was 16,008 acre-feet at elevation 4342.00. This was 49 percent of average and 34 percent of normal full capacity and at the same level as it was at the start of the 2007 water year.

Storage during the fall and winter of 2008 was held at the bottom of the active conservation pool. Diversion to refill the reservoir began in late March and by the end of May storage had reached the top of active conservation pool. Once irrigation releases began, storage fluctuated based on meeting irrigation demands. Due to the precipitation in late May, demands decreased allowing storage to increase to a spring peak content of 46,831 acre-feet at elevation 4370.09 on May 30.

Irrigation releases from Pishkun Reservoir were started on May 10 with a maximum release of 1,704 cfs recorded on July 1. The maximum inflow was 1,403 cfs on July 25, 2008. All diversions from the Sun River to Pishkun Reservoir were discontinued on October 3, 2008. All irrigation releases from Pishkun Reservoir were discontinued on October 1, 2008, which is much later than in 2007. Approximately 258,486 acre-feet of water, 110 percent of average, was released from Pishkun Reservoir during May 10 through October 1 to help meet the irrigation demands on the Sun River Project. By the end of the water year, the reservoir storage was 36,428 acre-feet at elevation 4362.86. This was 111 percent of average and 78 percent of full capacity. This is 20.86 feet or 20,420 acre-feet more than in 2007.

Additional hydrologic and statistical data pertaining to Pishkun Reservoir can be found in Table MTT8-B and Figure MTG6.

Willow Creek Rese rvoir obtains its water supply from Willow Creek and the Sun River via the Willow Creek Feeder Canal. The total reservoir capacity is 32,300 acre-feet at elevation 4142.0 feet. Releases from Willow Creek Reservoir enter the Sun River and can be diverted for irrigation at the Fort Shaw Diversion Dam, the Floweree Canal of the Broken O Ranch, and other downstream senior water users.

All diversions from the Sun River to Willow Creek during the 2007 irrigation season were discontinued on January 22, 2008. Reservoir content in Willow Creek at the beginning of water year 2008 was 14,218 acre-feet at elevation 4127.97. This was 81 percent of average and 45 percent of full capacity and 7,817 acre-feet or 6.93 feet less than at the beginning of water year 2007.

Storage in Willow Creek Reservoir increased gradually throughout the winter. Diversions from the Sun River to Willow Creek Reservoir during 2008 were initiated on March 29 at a rate of approximately 25 cfs. The diversions began to reach Willow Creek Reservoir on March 31 and storage increased through April and May to a peak storage content for the year of 31,760 acre-feet at elevation 4141.94 on May 23. This storage level was 118 percent of average and was at 99.8 percent of full capacity. Due to the large runoff diversions to Willow Creek were continued until June 25. The peak inflow during this time period was 170 cfs.

To help meet irrigation demands within the Sun River Irrigation Projects a release of 45 cfs was initiated from Willow Creek Reservoir on May 24 and discontinued on June 24th. Releases remained shut off for the remainder of the irrigation season as the natural river flows were enough to meet all irrigation demands. Approximately 2,884 acre-feet of storage was released from Willow Creek Reservoir during May 24 through June 24 to help meet the irrigation demands in 2008. As a result, storage was maintained at near full pool through the irrigation season. No fall diversions were needed to refill Willow Creek Reservoir this year.

Willow Creek Reservoir ended the water year with a storage content of 27,745 acre-feet at elevation 4139.13. This was 159 percent of average and 87 percent of normal full capacity. This was also 13,527 acre-feet or 11.16 feet higher than at the end of water year 2007.

Additional hydrologic and statistical data pertaining to Willow Creek Reservoir can be found in Table MTT8-C and Figure MTG7.

Important Events – 2008

January 22: Diversions to Willow Creek Feeder Canal were discontinued for the winter.

March 27: Diversions to Willow Creek and Pishkun Reservoirs were initiated.

May 23: Willow Creek Reservoir reaches peak for year at elevation 4141.94.

May 23: Inflows into Willow Creek Reservoir peak at approximately 170 cfs.

May 25: Inflows into Gibson Reservoir peak at approximately 6,883 cfs.

June 22: Gibson Reservoir reaches peak for year at elevation 4723.99.

June 24: Diversions to Willow Creek Reservoir were discontinued.

July 25: Inflows into Pishkun Reservoir peak at approximately 1,403 cfs.

August 15: Pishkun Reservoir reaches peak for year at elevation 4370.21.

October 1: Greenfields Irrigation District discontinued water delivery from Pishkun Reservoir.

October 3: Diversions to Pishkun Reservoir discontinued for the year.

October 30: Releases from Pishkun Reservoir were discontinued for the season.

TABLE MTT8-A
HYDROLOGIC DATA FOR 2008
GIBSON RESERVOIR (SUN RIVER PROJECT)

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4557.50	0	0
TOP OF ACTIVE CONSERVATION	4724.00	96,477	96,477

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4612.77	6,233	OCT 01, 2007
END OF YEAR	4645.56	21,980	SEP 30, 2008
ANNUAL LOW	4612.77	6,223	OCT 01, 2007
ANNUAL HIGH	4723.99	96,464	JUN 22, 2008
HISTORIC HIGH	4732.23	116,400	JUN 08, 1964

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	627,573	OCT 07-SEP 08	611,826	OCT 07-SEP 08
DAILY PEAK (CFS)	6,883	MAY 25, 2008	6,291	MAY 26, 2008
DAILY MINIMUM (CFS)	77	JAN 19, 2008	37	JAN 21, 2008

MONTH	INFLOW		OUTFLOW*				CONTENT	
	KAF	% OF AVG	TOTAL CANAL KAF	% OF AVG	RIVER KAF	% OF AVG	KAF	% OF AVG
OCTOBER	9.8	52	2.2	68	4.5	45	11.0	37
NOVEMBER	9.0	53	2.2	176	3.7	34	14.4	42
DECEMBER	8.7	55	2.2	1398	3.8	34	17.0	45
JANUARY	7.9	57	1.3	4865	3.4	35	20.4	49
FEBRUARY	6.0	49	0	---	3.7	46	23.3	52
MARCH	8.2	56	0.5	58	6.0	62	26.7	56
APRIL	16.5	41	13.6	156	12.8	58	21.9	41
MAY	203.8	120	54.7	139	102.8	105	83.9	98
JUNE	220.0	111	44.3	78	185.5	140	96.3	108
JULY	90.3	131	84.2	117	48.3	182	64.7	111
AUGUST	27.5	104	53.6	134	13.1	99	27.5	83
SEPTEMBER	19.8	104	19.9	175	6.6	65	22.0	79
ANNUAL	627.6	102	278.6	119	394.3	109		
APRIL-JULY	530.7	111						

* Average for the 1931-2008 period.

FIGURE MTG5

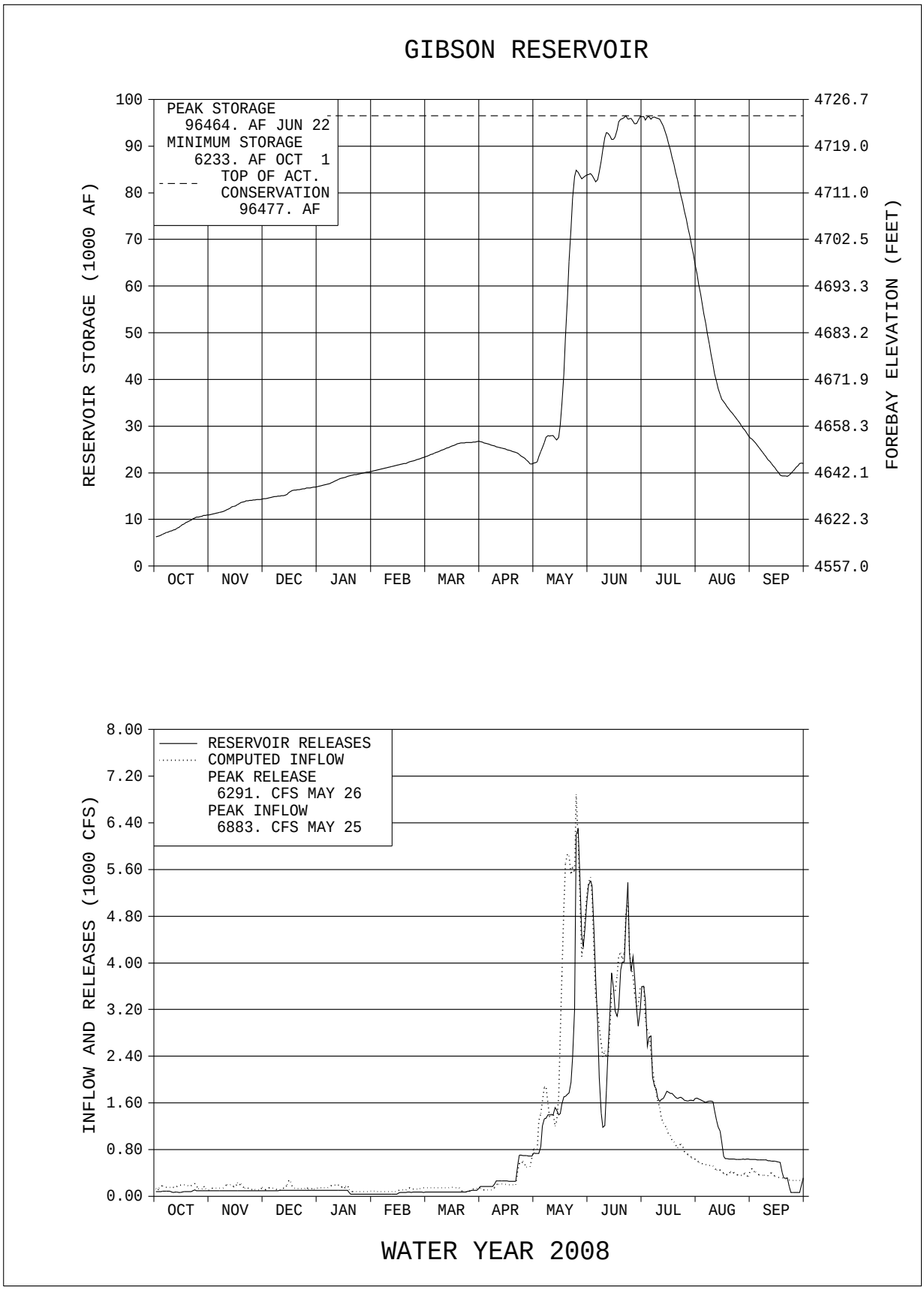

GIBSON RESERVOIR
PEAK STORAGE
96464. AF JUN 22
MINIMUM STORAGE
6233. AF OCT 1
TOP OF ACT.
CONSERVATION
96477. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
100
90
80
70
60
50
40
30
20
10
0
4726.7
4719.0
4711.0
4702.5
4693.3
4683.2
4671.9
4658.3
4642.1
4622.3
4557.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
6291. CFS MAY 26
PEAK INFLOW
6883. CFS MAY 25
INFLOW AND RELEASES (1000 CFS)
8.00
7.20
6.40
5.60
4.80
4.00
3.20
2.40
1.60
0.80
0.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

TABLE MTT8-B

HYDROLOGIC DATA FOR 2008

PISHKUN RESERVOIR (SUN RIVER PROJECT)

NEW SEDIMENT SURVEY DATA EFFECTIVE 10/01/2005

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4342.00	16,008	16,008
TOP OF ACTIVE CONSERVATION	4370.00	46,694	30,686

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4342.00	16,008	OCT 01, 2007
END OF YEAR	4362.86	36,428	SEP 30, 2008
ANNUAL LOW	4342.00	16,008	OCT 01, 2007
ANNUAL HIGH	4370.21	47,015	AUG 15, 2008
HISTORIC HIGH	4371.40	48,950	JUL 04, 1953

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	278,907	OCT 07-SEP 08	258,487	OCT 07-SEP 08
DAILY PEAK (CFS)	1,403	JUL 25, 2008	1,704	JUL 01, 2008
DAILY MINIMUM (CFS)	0	*	0	*

* During nonirrigation season

MONTH	INFLOW*		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	0.0	---	0	---	16.0	47
NOVEMBER	0.0	---	0	---	16.0	46
DECEMBER	0.0	---	0	---	16.0	47
JANUARY	0.0	---	0	---	16.0	47
FEBRUARY	0.0	---	0	---	16.2	47
MARCH	0.0	---	0	---	16.0	47
APRIL	12.5	178	0	---	28.5	70
MAY	51.4	141	33.0	108	46.8	102
JUNE	49.8	86	57.2	93	39.4	93
JULY	82.8	119	83.2	112	39.0	105
AUGUST	56.4	136	53.9	125	41.6	118
SEPTEMBER	26.1	209	31.2	206	36.4	111
ANNUAL	278.9	122	258.5	114		
APRIL-JULY	196.4	115				

* Average for the 1947-2008 period.

FIGURE MTG6

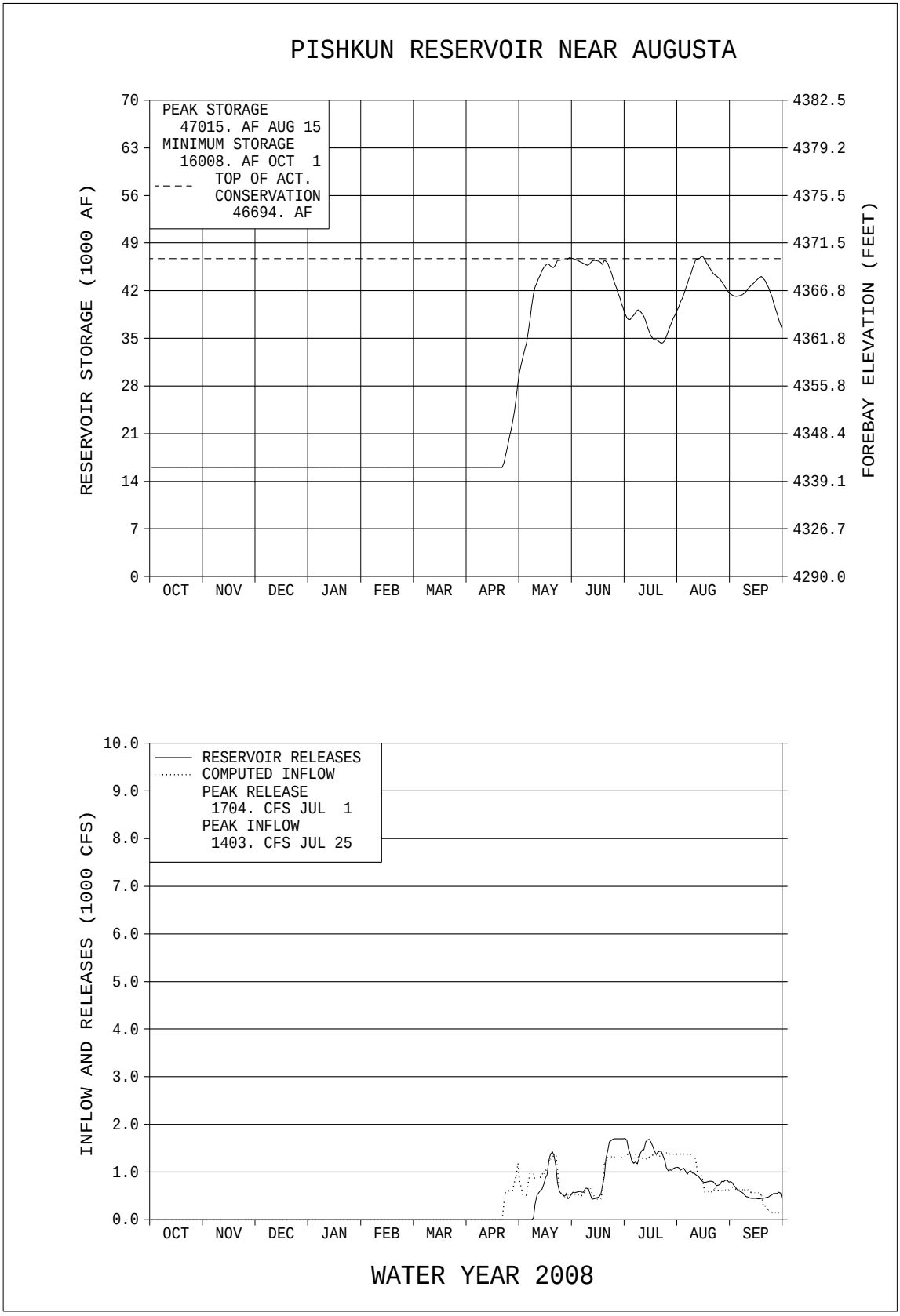

PISHKUN RESERVOIR NEAR AUGUSTA
PEAK STORAGE
47015. AF AUG 15
MINIMUM STORAGE
16008. AF OCT 1
TOP OF ACT.
CONSERVATION
46694. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
70
63
56
49
42
35
28
21
14
7
0
4382.5
4379.2
4375.5
4371.5
4366.8
4361.8
4355.8
4348.4
4339.1
4326.7
4290.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
1704. CFS JUL 1
PEAK INFLOW
1403. CFS JUL 25
INFLOW AND RELEASES (1000 CFS)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

TABLE MTT8-C
HYDROLOGIC DATA FOR 2008
WILLOW CREEK RESERVOIR (SUN RIVER PROJECT)
NEW SEDIMENT SURVEY DATA EFFECTIVE 10/01/2005

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4085.28	1	1
TOP OF ACTIVE CONSERVATION	4142.00	31,848	31,847

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4127.97	14,218	OCT 01, 2007
END OF YEAR	4139.13	27,745	SEP 30, 2008
ANNUAL LOW	4127.97	14,218	OCT 01, 2007
ANNUAL HIGH	4141.94	31,760	MAY 23, 2008
HISTORIC HIGH	4144.00	35,300	JUN 22, 1975

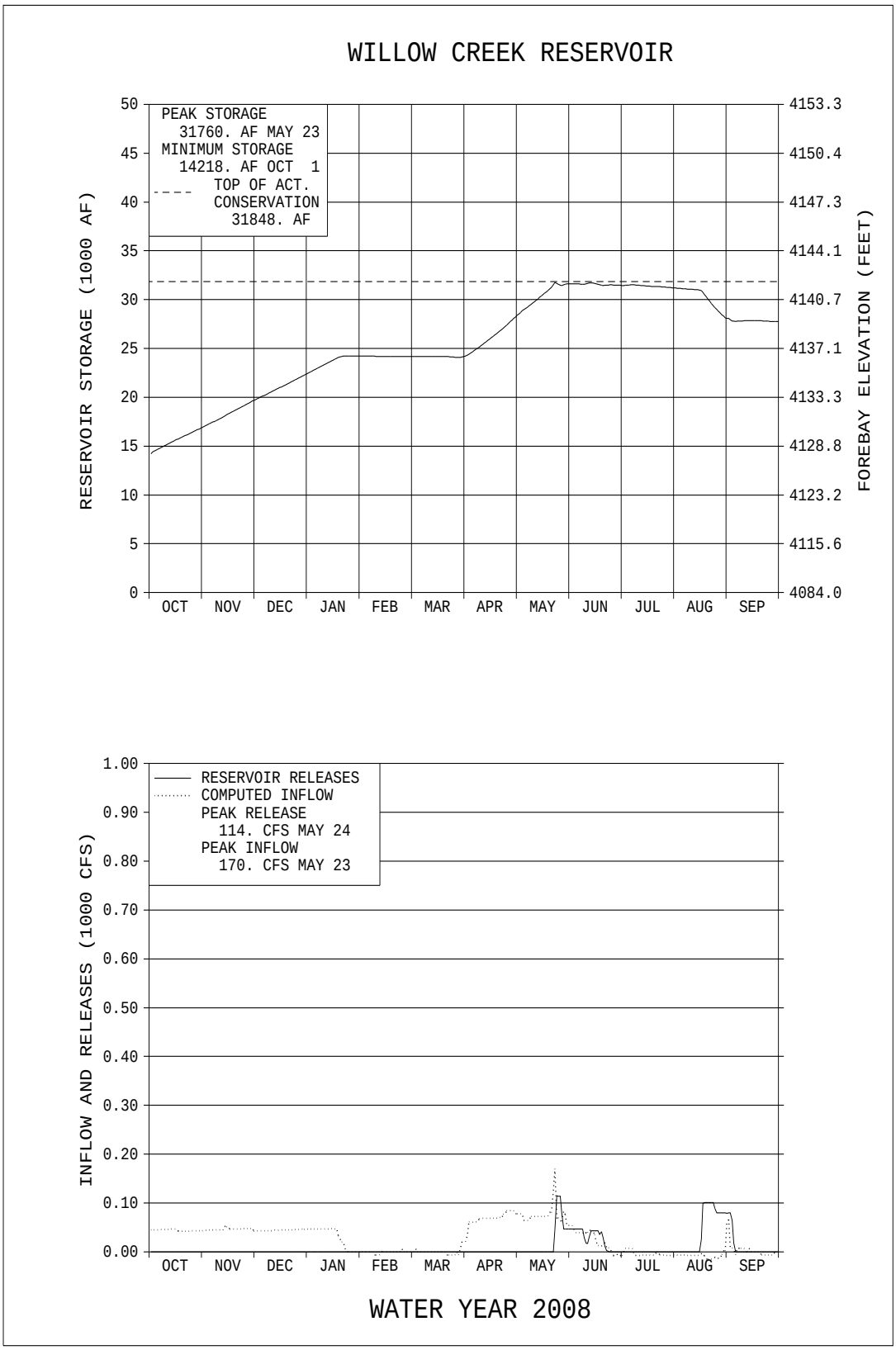
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	19,615	OCT 07-SEP 08	6,088	OCT 07-SEP 08
DAILY PEAK (CFS)	170	MAY 23, 2008	114	MAY 24, 2008
DAILY MINIMUM (CFS)	0	*	0	*

* During nonirrigation season

MONTH	INFLOW*		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	2.7	323	0	---	16.9	89
NOVEMBER	2.8	363	0	---	19.7	100
DECEMBER	2.7	609	0	---	22.4	113
JANUARY	1.8	496	0	---	24.2	120
FEBRUARY	0.0	---	0	---	24.2	117
MARCH	0.0	2	0	---	24.2	111
APRIL	4.0	197	0	---	28.2	114
MAY	4.7	114	1.3	140	31.6	114
JUNE	1.4	37	1.6	51	31.5	106
JULY	-0.3	---	---	---	31.2	133
AUGUST	-0.4	---	2.7	74	28.1	152
SEPTEMBER	0.1	28	0.5	68	27.7	159
ANNUAL	19.6	134	6.1	43		
APRIL-JULY	9.9	94				

* Average for the 1952-2008 period.

FIGURE MTG7


WILLOW CREEK RESERVOIR
PEAK STORAGE
31760. AF MAY 23
MINIMUM STORAGE
14218. AF OCT 1
TOP OF ACT.
CONSERVATION
31848. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
0
5
10
15
20
25
30
35
40
45
50
4084.0
4115.6
4123.2
4128.8
4133.3
4137.1
4140.7
4144.1
4147.3
4150.4
4153.3
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
114. CFS MAY 24
PEAK INFLOW
170. CFS MAY 23
INFLOW AND RELEASES (1000 CFS)
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

Lake Elwell (Tiber Dam)

Lake Elwell (Tiber Dam) (P-S M.B.P.) is located on the Marias River near Chester, Montana. It was built to provide an adequate water supply for 127,000 acres in the Lower Marias Unit and for flood control. The crest section of Tiber Dam spillway began settling in 1956, following initial filling of the reservoir. Restrictions were placed on reservoir operating levels in the late 1950s to safeguard the structure until repairs could be made. The settling continued despite attempts to halt it. The rate of settlement was alarming following the flood of 1964 and the heavy runoff of 1965. This settlement was attributed to a weakness of the underlying shale formation in which small lenses of gypsum were slowly being dissolved as water passed through the shale. Measures to protect the structure were approved by Congress, and construction was initiated in 1967. This work, completed in 1970, consisted of modifying the canal outlet works for use as an auxiliary outlet works and closing the entrance channel of the spillway by a temporary earthfill cofferdam. To accommodate these changed conditions, the reservoir operating criteria was further revised and the active capacity was eliminated. Work on modification of the spillway to restore active conservation capacity started in 1976. This work, completed in October 1981, consisted of replacing the upstream section of the spillway and raising the dam 5 feet. Since that time, all restrictions on operating levels were lifted and normal operations were restored at Lake Elwell.

Because the irrigation distribution works have not yet been constructed, the reservoir is operated primarily for flood control and for increased fishery and recreation benefits. However, the reservoir provides irrigation water to several individual operators by water service contracts and provides about 1,500 acre-feet to the Tiber County Water District for municipal, industrial, rural domestic, and livestock use. The city of Chester, Montana, receives a small amount of water from the reservoir annually for municipal use. Approximately 3,000 acres are irrigated by contract from Lake Elwell storage.

In 2002, Reclamation surveyed Lake Elwell to develop a topographic map and compute a present storage-elevation relationship (area-capacity tables). The data were used to calculate reservoir capacity lost due to sediment accumulation since dam closure in October of 1957. The 2002 survey determined that Lake Elwell has a storage capacity of 925,649 acre-feet and a surface area of 18,275 acres at a reservoir elevation of 2993.00. Since closure in 1957, the reservoir has accumulated a sediment volume of 42,179 acre-feet below elevation 2993.00. This volume represents a 4.4 percent change in total capacity at this elevation. The revised area-capacity table was put into effect on October 1, 2005, reflecting the new storage levels.

In September of 2003, construction of a Federal Energy Regulatory Commission (FERC) permitted powerplant began. The river outlet works underwent extensive modification to incorporate the addition of a 7.5 MW powerplant, privately owned by Tiber Montana, LLC.

A bifurcation pipe was installed in the river outlet works tunnel at the downstream end to divert flow from the existing 72-inch outlet pipe through a bifurcation and 96-inch butterfly valve to the powerplant. Construction of the powerplant was completed and brought on-line in June 2004.

From July to August of 2007, precipitation in the Marias River Basin above Lake Elwell improved but remained well below normal. Valley precipitation was recorded at 41 percent of average while the mountain precipitation was 37 percent of average. Generous rains began to fall during September causing valley precipitation to increase significantly to 215 percent of average and mountain precipitation increased to 97 percent of average. By year end the total annual valley precipitation in the Marias River Basin was 85 percent of average while the total annual mountain precipitation was 81 percent of average. Inflow into Lake Elwell during July-September totaled 3,609 acre-feet which was only 4 percent of normal and the third lowest inflow ever recorded during this time. With inflows to Lake Elwell being near record low and to conserve storage in Lake Elwell, releases from Lake Elwell to the Marias River were decreased to 350 cfs on September 17, 2007. As a result, Lake Elwell slowly declined and entered water year 2008 with a storage content of 691,869 acre-feet at an elevation of 2977.91 feet. This was 88 percent of normal and 77,332 acre-feet or 5.56 feet lower than reported at the beginning of water year 2007.

During October, both valley and mountain precipitation in the Marias River Basin above Lake Elwell was above average but dropped to below average during November. Valley precipitation during October was 128 percent of average while the mountain precipitation was 114 percent of average. During November the valley precipitation dropped to 67 percent of average while the mountain precipitation dropped to 65 percent of average. Valley precipitation remained below average during December and January but returned to above average during February. Mountain precipitation during December through February ranged from near average to above average. The valley precipitation amounts during December, January, and February were 47, 87, and 123 percent of average, respectively, while the mountain precipitation was 127, 94, and 133 percent of average respectively.

At the beginning of water year 2008, with storage 5.56 feet lower that the previous year and inflows to Lake Elwell well below normal, releases from Lake Elwell to the Marias River were decreased to 320 cfs on October 4. This was about 180 cfs less than Montana Fish, Wildlife & Parks (MFWP's) recommended desired minimum river flow of 500 cfs. Maintaining releases at this rate allowed Lake Elwell to slowly decline and by December 31, the level of Lake Elwell was recorded at elevation 2975.62 with a storage content of 662,398 acre-feet.

During the winter of 2007-2008, mountain snowpack in the Marias Basin above Lake Elwell began accumulating at lower than normal rates. As the winter progressed, snow fell in the mountains at above normal rates. On December 1, the Natural Resources Conservation Service (NRCS) measured the mountain snowpack in the Marias River Basin above Lake Elwell to be only 50 percent of average. Inflow into Lake Elwell during October through December totaled 31,525 acre-feet and was 56 percent of normal. On January 1, the NRCS reported the mountain snowpack in the Marias River Basin above Lake Elwell had improved but was still only 81 percent of average.

The January 1 water supply forecast, based on mountain snowpack, indicated the April-July runoff into Lake Elwell would be 313,000 acre-feet, which was 64 percent of normal. On February 15, the NRCS reported the mountain snowpack in the Marias River Basin above Lake Elwell had improved to 115 percent of average.

On April 1, the NRCS reported the mountain snowpack in the Marias River Basin above Lake Elwell was 104 percent of average. The water supply forecast prepared on April 1 indicated the April-July runoff into Lake Elwell was expected to be 94 percent of average, totaling 456,000 acre-feet. With storage at 96 percent of average, projected operations indicated the release out of Lake Elwell to the Marias River could be increased and still allow Lake Elwell to fill to the top of the joint-use pool at elevation 2993 near the end of June. Storage in Lake Elwell slowly drafted to a low content for the year of 641,200 acre-feet at elevation 2973.92 on April 16.

Precipitation in the Marias River Basin varied from much below average to much above average during March through June. Valley precipitation above Lake Elwell during March, April, May and June was 59, 80, 197, and 107 percent of average, respectively, while the mountain precipitation was 71, 65, 273, and 144 percent of average, respectively. Temperatures during April were well below average. This kept the high elevation snow in the mountains longer and produced a later runoff season than was experienced in previous years.

Snowpack accumulation remained fairly steady and on May 1, the NRCS reported the mountain snowpack in the Marias River Basin above Lake Elwell was 115 percent of average. With storage at 92 percent of average, the May 1 water supply forecast indicated May-July runoff into Lake Elwell would be 431,000 acre-feet, which was 125 percent of average. In an effort to continue to conserve storage and still meet the increased irrigation demands downstream of Lake Elwell, releases to the Marias River were increased to 400 cfs on May 5. It was not until mid-May that the snowmelt runoff actually began to flow into Lake Elwell. Inflows to Lake Elwell gradually increased from about 250 cfs at the middle of April to the peak for the year of 12,802 cfs on May 27. To control the rate of fill in Lake Elwell, releases to the Marias River were increased until reaching a peak for the year of 3,967 cfs on June 8. With most of the high elevation snow above Lake Elwell melted out, inflow to Lake Elwell began to quickly recede. In response and to better assure Lake Elwell of filling to the top of the joint-use pool, releases from Lake Elwell to the Marias River were gradually reduced to 1,000 cfs by June 11. On June 26, storage in Lake Elwell entered the exclusive flood pool. Streamflows upstream of Lake Elwell continued to remain high. The June inflow to Lake Elwell totaled 195,400 acre-feet which was near normal at 102 percent of average and was 143,525 acre-feet more than experienced in 2007. Storage in Lake Elwell continued to increase until reaching a peak for the year of 952,027 acre-feet at elevation 2994.43 on July 8. This was 26,378 acre-feet and 1.43 feet above the top of the joint-use pool. To control the runoff and evacuate storage from the exclusive flood pool, releases were increased to 1,600 cfs on July 9. Actual April-July runoff into Lake Elwell totaled 488,621 acre-feet and was 195,409 acre-feet more than in 2007.

Precipitation in the Marias River Basin above Lake Elwell was below normal during July and August. Valley precipitation was recorded at 79 and 83 percent of average, respectively, while mountain precipitation was 84 and 78 percent of average, respectively.

Inflow to Lake Elwell during July through August totaled 71,143 acre-feet which was 70,075 acre-feet more than experienced in 2007. To conserve storage in Lake Elwell, releases from Lake Elwell to the Marias River were decreased to 670 cfs on August 26. The total annual runoff into Lake Elwell during 2008 was 582,987 acre-feet, 87 percent of normal and 248,228 acre-feet more than experienced in 2007.

By the end of the year, normal operations of Lake Elwell drafted storage to 835,102 acre-feet at an elevation of 2987.78 feet. This was 107 percent of normal and 9.87 feet higher than reported on September 30, 2007.

The Corps of Engineers determined that during 2008, Lake Elwell prevented $36,700 in local flood damages and $12,231,400 in flood damages downstream on the Missouri River below Fort Peck Reservoir. Since closure of Tiber Dam in 1954, Lake Elwell has reduced flood damages by a total of $74,534,200.00.

Important Events – 2008

October 4, 2007: Inflow into Lake Elwell during September totaled 2.5 acre-feet and was the eighth lowest on record. In an effort to conserve storage, releases from Lake Elwell to the Marias River were decreased to 320 cfs.

December 1, 2007: NRCS reported snowpack conditions in the watershed above Lake Elwell were 50 percent of normal.

January 1, 2008: NRCS reported snowpack conditions in the watershed above Lake Elwell had improved to about 81 percent of normal. The January water supply forecast indicates the April-July runoff into Lake Elwell would be 313,000 acre-feet which is 64 percent of normal.

February 1, 2008: NRCS reported snowpack conditions in the water shed above Lake Elwell had improved to about 98 percent of normal. The February water supply forecast indicates the April-July runoff into Lake Elwell would be 421,000 acre-feet which was 87 percent of average.

February 15, 2008: NRCS reported snowpack in the Marias River Basin upstream of Lake Elwell had improved to about 115 percent of average.

March 1, 2008: NRCS reported snowpack in the Marias River Basin upstream of Lake Elwell is107 percent of average. The March water supply forecast indicates the April-July runoff into Lake Elwell would be 460,000 acre-feet which is 95 percent of normal.

April 1, 2008: NRCS reported snowpack conditions in the watershed above Lake Elwell were 104 percent of normal. Water supply forecast indicated the April-July runoff into Lake Elwell would be 456,000 acre-feet or 94 percent of normal.

April 10, 2008: Personnel from the Reservoir and River Operations Branch met with the Marias Management Committee to discuss the projected water supply for the Marias River Basin and proposed operations of Lake Elwell.

April 16, 2008: Storage in Lake Elwell reaches the minimum elevation for the year of 2973.92.

May 1, 2008: NRCS reported snowpack conditions in the watershed above Lake Elwell were 114 percent of average. The May 1 water supply forecast indicates the May-July runoff into Lake Elwell would be 431,000 acre-feet which is 124 percent of normal.

May 5, 2008: Snowpack in the Marias River Basin upstream of Lake Elwell is 117 percent of average. In an effort to continue conserving storage and still meet the increased irrigation demands downstream of Lake Elwell, releases to the Marias River were increased to 400 cfs.

May 27-28, 2008: Recent rains accompanied with high elevation snowmelt produced substantial increases in streamflows into Lake Elwell. Inflow into Lake Elwell peaks for the year at 12,802 cfs on May 27. Based on the May 1 water supply forecast, releases to the Marias River were increased to 670 cfs.

June 2-7, 2008: Recent rains have caused inflow into Lake Elwell to remain high. Storage in Lake Elwell is 105 percent of normal and inflows are averaging near 5,250 cfs. To control the rate of fill and provide adequate space to store the snowmelt runoff, releases to the Marias River were increased to 4,000 cfs.

June 9-11, 2008: Streamflows upstream of Lake Elwell are receding. Streamflow forecasts indicate inflow to Lake Elwell will continue to steadily decline over the next several days. To control the runoff and ensure storage in Lake Elwell fills to the top of the joint use pool, releases were reduced to 1,000 cfs.

June 26, 2008: Storage in Lake Elwell enters the exclusive flood pool.

July 7-9, 2008: Streamflows upstream of Lake Elwell continue to remain high. To control the runoff and evacuate storage from the exclusive flood pool, releases were increased to 1,600 cfs.

July 15, 2008: Inflows into Lake Elwell continue to slowly decline. To control the rate at which storage is evacuated from the exclusive pool, releases were decreased to 1,300 cfs.

July 27, 2008: All storage is evacuated from the exclusive flood pool.

August 5, 2008: Inflows into Lake Elwell continue to slowly decline. To control the rate at which storage is evacuated, releases to the Marias River were reduced to 1,100 cfs.

August 25-26, 2008: Inflows into Lake Elwell are occurring less than forecast. To control the rate at which storage is evacuated from Lake Elwell, releases to the Marias River were reduced to 670 cfs.

September 24, 2008: To allow Tiber Montana to conduct an efficiency test of their turbine unit, releases from Lake Elwell were decreased from 670 cfs to 500 cfs and held for 20 minutes; then increased another 50 cfs every 20 minutes until returning to the current rate of 670 cfs.

Additional hydrologic and statistical information pertaining to the operation of Lake Elwell during 2008 can be found in Table MTT9 and Figure MTG8.

TABLE MTT9

HYDROLOGIC DATA FOR 2008

LAKE ELWELL (TIBER DAM)

NEW SEDIMENT SURVEY DATA EFFECTIVE 10/01/2005

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	2966.40	554,330	554,330
TOP OF ACTIVE CONSERVATION	2976.00	667,213	112,883
TOP OF JOINT USE	2993.00	925,649	258,436
TOP OF EXCLUSIVE FLOOD CONTROL	3012.50	1,328,723	403,074

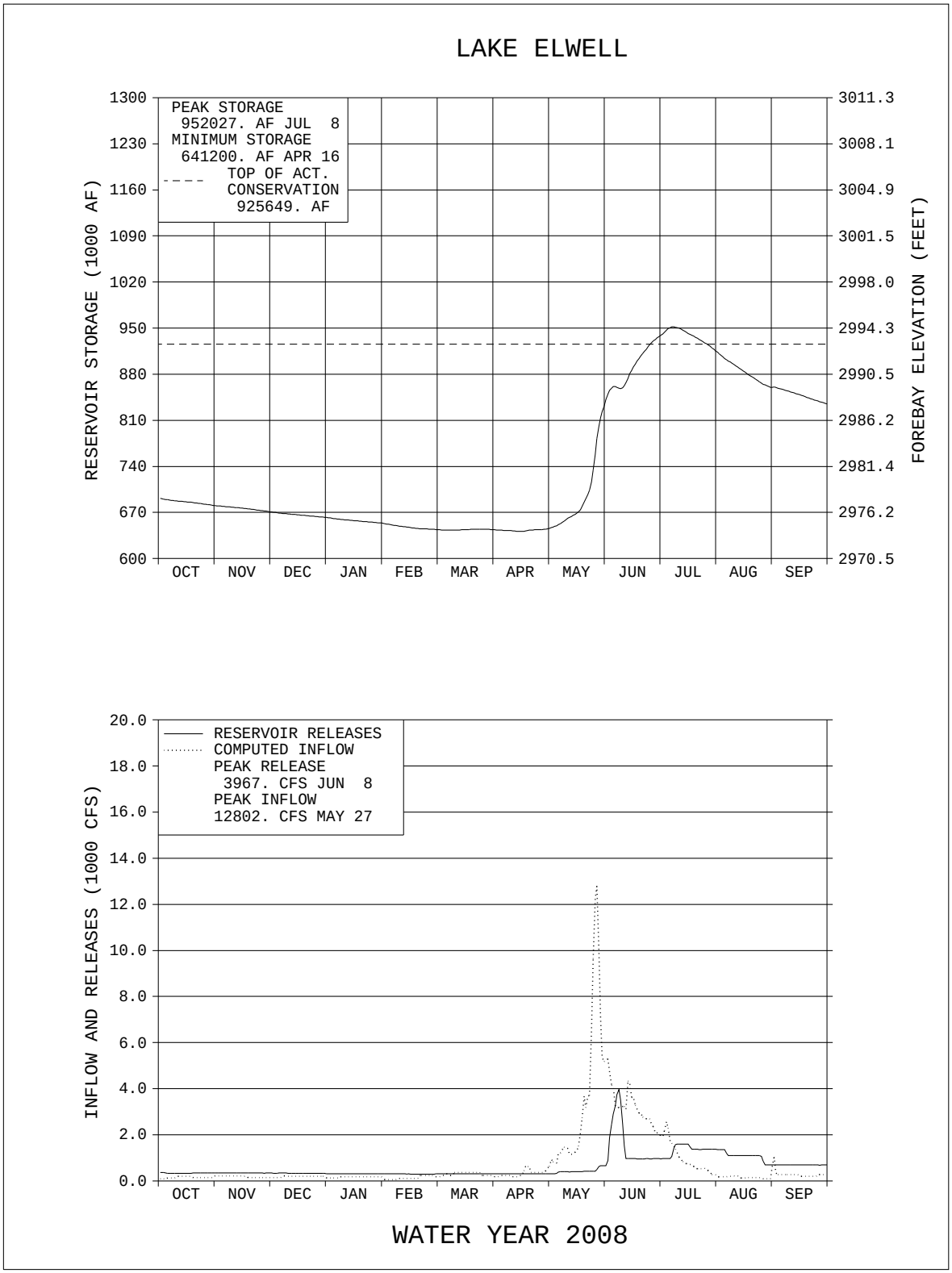
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2977.91	691,869	OCT 01, 2007
END OF YEAR	2987.78	835,102	SEP 30, 2008
ANNUAL LOW	2973.92	641,200	APR 16, 2008
ANNUAL HIGH	2994.43	952,027	JUL 08, 2008
HISTORIC HIGH	3005.59	1,214,417	JUL 12, 1965

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	582,987	OCT 07-SEP08	439,755	OCT 07-SEP 08
DAILY PEAK (CFS)	12,802	MAY 27, 2008	3,967	JUN 08, 2008
DAILY MINIMUM (CFS)	49	FEB 03, 2008	296	FEB 28, 2008
PEAK SPILL (CFS)			3,300	JUN 08, 2008
TOTAL SPILL (AF)			114,681	6/02-8/26/2008

MONTH	INFLOW		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	9.2	41	20.5	46	680.5	91
NOVEMBER	10.7	49	20.1	57	671.2	92
DECEMBER	11.6	62	20.3	74	662.4	94
JANUARY	10.2	63	19.0	74	653.6	96
FEBRUARY	7.7	36	17.2	68	644.2	97
MARCH	18.5	37	18.6	53	644.0	96
APRIL	19.1	30	18.1	41	645.0	92
MAY	213.1	127	26.1	39	832.0	104
JUNE	195.4	102	90.2	93	937.2	101
JULY	61.1	98	82.6	109	915.6	101
AUGUST	10.1	52	65.8	112	859.9	102
SEPTEMBER	16.3	102	41.2	81	835.1	107
ANNUAL	583.0	87	439.8	75		
APRIL-JULY	488.6	111				

* Average for the 1957-2008 period.

FIGURE MTG8


LAKE ELWELL
PEAK STORAGE
952027. AF JUL 8
MINIMUM STORAGE
641200. AF APR 16
TOP OF ACT.
CONSERVATION
925649. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
1300
1230
1160
1090
1020
950
880
810
740
670
600
3011.3
3008.1
3004.9
3001.5
2998.0
2994.3
2990.5
2986.2
2981.4
2976.2
2970.5
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
3967. CFS JUN 8
PEAK INFLOW
12802. CFS MAY 27
INFLOW AND RELEASES (1000 CFS)
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

Milk River Project

The 117,000-acre Milk River Project, located in north-central Montana, is served by Sherburne, Fresno, and Nelson Reservoirs. Sherburne and Nelson Reservoirs are single-purpose irrigation structures. Fresno Reservoir has joint-use flood control space, provides a municipal water supply to several municipalities on or near the project, and serves as the primary irrigation storage structure for the Milk River Project. Approximately 101,500 acres are presently served by irrigation districts, 9,500 acres are served by private facilities; and between 5,000 and 6,000 acres are served supplemental water by the Ft. Belknap Indian Irrigation Project.

Lake Sherburne is located in Glacier National Park on Swiftcurrent Creek, a tributary of the St. Mary River in the Hudson Bay Drainage Basin. Lake Sherburne has a total capacity of 66,147 acre-feet at elevation 4788.0. The use of boundary waters of the St. Mary and Milk Rivers are divided between Canada and the United States by the 1909 Boundary Waters Treaty. The United States utilizes its entitlement to St. Mary River water by regulating flows through storage in Lake Sherburne and diverting St. Mary River flows through the St. Mary Canal to the Milk River basin. The river outlet works have a capacity of 2,100 cfs at elevation 4788.0 feet. The maximum combined discharge of the spillway and river outlet works is 4,000 cfs at a maximum water surface elevation of 4810.0 feet.

In 2002, Reclamation surveyed Lake Sherburne to develop a topographic map and compute a present storage-elevation relationship (area-capacity tables). The data were used to calculate reservoir capacity lost due to sediment accumulation since dam closure in 1919. The 2002 survey determined that Lake Sherburne has a storage capacity of 66,147 acre-feet and a surface area of 1,719 acres at a reservoir elevation of 4788.00. Since Lake Sherburne closure in 1919, the measured total volume change at reservoir elevation 4788.00 was estimated to be 343 acre-feet between the 1948 and 2002 surveys and 1,707 acre-feet between the 1983 and 2002 surveys. Due to the upstream lakes, the loss due to sediment deposition in Lake Sherburne should be minimal so it is assumed the volume differences between the surveys are due to the different survey methods and the differences in the vertical datum. The revised area-capacity table was put into effect on October 1, 2005, reflecting the new storage levels.

Water year 2007 provided below average valley precipitation and near average precipitation in the mountain areas of the St. Mary River basin. The latter part of the water year produced extremely dry conditions in both the mountain and valley areas, with September valley precipitation being the only exception. Valley areas for August and September were 24 and 180 percent of average respectively, while mountain areas were 25 and 79 percent of average respectively. Due to these dry conditions inflow to Lake Sherburne was 2,700 acre-feet, only 42 percent of average during September.

Although the inflow was much below average, the storage in Lake Sherburne did increase slightly to 7,025 acre-feet, 84 percent of average and 11 percent of normal full capacity, at elevation 4737.97 by the beginning of water year 2008. Both releases from Lake Sherburne and diversions to the St. Mary Canal were discontinued on September 4, 2007 until spring of 2008.

The new water year began with near average precipitation in October in both valley and mountain areas. Conditions reversed dramatically in November with both valley and mountain areas receiving much below average precipitation. Cumulative valley precipitation from October to the end of December was 80 percent of average. During the same period cumulative mountain precipitation was 86 percent of average. Inflows during October through December varied from near to below average; the inflows were 107, 73, and 91 percent of average, respectively. This resulted in storage at the end of December of 21,103 acre-feet, 121 percent of average.

On January 1, the Natural Resources Conservation Service (NRCS) reported that mountain snowpack in the St. Mary basin was 79 percent of normal. With the below normal snowpack the prospect of continued drought in the St. Mary and Milk River basin was once again relayed to the water users. Precipitation in the valley was near average and in the mountains was above average during January which resulted in the February 1 snowpack for the St. Mary basin improving to 97 percent of average. Improved storm patterns continued during February with above normal precipitation. By March 1 snowpack for the St. Mary basin was reported at 110 percent of average. Total inflow during January through March was approximately 5,000 acre-feet, 65 percent of average.

Generally, diversions into the St. Mary Canal in the spring begin as soon as weather permits, which in mild years can be as early as March. In 2008, the below average storage in Fresno and Nelson Reservoirs indicated that irrigation water would possibly be needed very early in the season; therefore diversions to the St. Mary Canal were initiated on March 19. Releases from Lake Sherburne followed the canal diversion on March 24; however on March 26 both releases from Lake Sherburne as well as diversion to the canal were discontinued due to excess seepage from one of the new joints on the Halls Coulee Siphon. Once this problem was remedied, releases from Lake Sherburne were once again initiated on April 2 followed by canal diversions initiated on April 4.

The recorded valley and mountain precipitation during March was below average; however snowpack accumulated at near average rates. The resulting April 1 mountain snow water content was 109 percent of average. The snow pack peaked on April 26, slightly later than normal at 114 percent of average or 4 inches of snow water equivalent more than normal. The April 1 water supply forecast for April through July runoff indicated that the runoff would be 106,000 acre-feet, 102 percent of normal

Once releases were started, storage decreased until May 15 when the cool spring conditions gave way to warm weather and streamflows started increasing. This signaled the beginning of the snowmelt runoff season for 2008. Diversion to the St. Mary Canal averaged 371 cfs during April and 564 cfs during May.

Releases from Lake Sherburne were adjusted during April and late May to maintain diversion rates for the St. Mary Canal and satisfy Treaty obligations to Canada. Releases were then reduced to between 30-45 cfs on May 23 in order to minimize excess United States water flowing into Canada. In addition, diversions into the St. Mary Canal were maintained at or above 600 cfs to also utilize the US portion of the natural St. Mary flow. Once Fresno was at full capacity and making spillway releases, canal diversions were decreased slightly, while Lake Sherburne releases were kept at reduced rates. By June 17, releases from Lake Sherburne were increased to control the rate of rise of the reservoir. Flows in excess of the US storage and diversion capacity were delivered to Canada and continued for several weeks through the end of July. Overall valley and mountain precipitation for April were both below average; conversely, precipitation in both areas was above average during May. Cooler temperatures during these months allowed the snowpack to continue to accumulate and therefore extend the runoff season.

The snowmelt runoff was essentially melted out by mid-July, which is the normal timeframe and the first instance in several years that the snowpack was not melted out during June. Lake Sherburne storage peaked on July 2 at 66,611 acre-feet, at elevation 4788.27, which was 464 acre-feet and 0.27 feet above the top of normal full capacity. The peak inflow for the year was 1,502 cfs which occurred on May 19. The actual April through July runoff was 111 percent of average, totaling 115,800 acre-feet.

Precipitation during June continued to be at or above average for both valley and mountain areas of the basin. When summer arrived, precipitation decreased to below normal rates with the exception of some late August storms that helped increase the cumulative water year precipitation totals. The cumulative precipitation through the end of August for valley and mountain areas was 108 and 98 percent of average, respectively. Inflows during June, July and August were 107, 109 and 108 percent of average, respectively. Inflow for the water year totaled 151,150 acre-feet, 105 percent of average. This was 10,828 acre-feet or 8 percent more than the inflow experienced during water year 2007. Storage on September 30, 2008, was 35,092 acre-feet, 421 percent of normal.

According to preliminary data, diversions from the St. Mary River to the Milk River totaled 191,600 acre-feet, 127 percent of the long-term average. The long-term average annual diversion is 150,500 acre-feet and the 1972-2002 average is 168,900 acre-feet. The largest diversion previously recorded was 277,500 acre-feet during 1989. Canal diversions as well as releases from Lake Sherburne were discontinued for water year 2008 on September 12.

During the 2008 irrigation season, there were three conference calls held with the International Joint Commission Field Representatives to discuss accumulated deficits by the US and Alberta on the St. Mary and Milk Rivers, respectively. During the first call held on July 9, it was agreed upon to reduce the accumulated US 1921 Letter of Intent (LOI) deficit on the St. Mary to 1200 cfs-days based on the maximum theoretical consumptive use on the Milk River by Alberta. The next call was on August 18 when it was agreed to again reduce the US deficit on the St. Mary to 552 cfs-days to allow Alberta to finish the irrigation season.

The final call was on September 22 and the 1921 LOI deficit was once again reduced, thus balancing both the St. Mary and Milk River flows for the season. In addition, during this call it was decided to allow the US deficit accumulated during August-September to be refunded with St. Mary River flows through the end of 2008. Agreement was reached for two reasons, first due to construction on Lake Sherburne outlet conduits the US would be unable to make any deficit repayment releases prior to the end of the accounting year and second the deficit was created only after a significant gage height correction was discovered at the International Boundary gaging station.

The Corps of Engineers estimates that during 2008, Lake Sherburne prevented $61,200 in local flood damages but did not contribute to the prevention of flood damages downstream on the Missouri River below Fort Peck Reservoir. In 2008, the Corps of Engineers estimated the historical local flood damages prevented by Lake Sherburne, since 1950, is equal to approximately $7,946,500.

Additional hydrologic and statistical information pertaining to the operation of Sherburne Reservoir during 2008 can be found in Table MTT10-A and Figure MTG9.

Fresno Res ervoir is located above all project lands on the Milk River near Havre, Montana. A sediment re-survey done during 1999 and finalized during 2000 determined the normal full pool capacity was 92,880 acre-feet, a loss of 10,517 acre-feet from the previous capacity. The new revised elevation-area-capacity data was used beginning in water year 2001. The top 32,534 acre-feet is used jointly for flood control and conservation and is not filled until the start of the spring runoff. Fresno stores the natural flow of the Milk River along with water diverted into the Milk River from the St. Mary River and Lake Sherburne. Stored water is used principally for irrigation, but Havre and Chinook, Montana, have contracted for a minimum flow in the river of 25 cfs during the winter to maintain suitable water for municipal use. The city of Harlem and the Hill County Water District have also contracted for municipal use.

During water year 2007 there was some relief to the drought conditions in the Milk River basin. Cumulative precipitation was 103 percent of normal at the end of September. Inflow into Fresno Reservoir during September was 8,600 acre-feet, 33 percent of average. Consequently, with irrigation demands exceeding inflows during September Fresno Reservoir drafted to a storage content of 40,352 acre-feet, 101 percent of normal and 44 percent of full capacity to begin water year 2008. On September 13 releases for irrigation for the Milk River Project users were discontinued, but storage for the Ft. Belknap Indian Irrigation Project (FBIIP) was still needed, therefore Fresno Reservoir releases were maintained at approximately 65 cfs to satisfy the FBIIP demand. Releases from Fresno were reduced to winter levels of between 35-45 cfs on September 28 near the end of water year 2007.

Precipitation during the start of water year 2008 remained near average; however as the fall progressed precipitation was much below average. The accumulated precipitation from October through December was only 59 percent of normal. Reservoir inflows were much below average from October until December, which resulted in storage decreasing by the end of December. The end of December storage was 34,221 acre-feet, 92 percent of average and 37 percent of normal full capacity.

By January 1, the NRCS reported the snowpack in the Milk River basin was 18 percent of average, coinciding with the much below average fall precipitation. These same precipitation trends continued during January with a monthly total of only 37 percent of average. This resulted in a snowpack on February 1 measuring 76 percent of average thus producing a March through July runoff forecast for Fresno Reservoir of 70,000 acre-feet, 84 percent of average.

Storage at the end of February was 29,075 acre-feet, 82 percent of average. In the Milk River basin the spring runoff season generally occurs from March through June. Therefore, the peak snowpack and most reliable water supply runoff forecast for the Milk River basin is generally at the beginning of March. During 2008, the precipitation in February was above average, consequently the snowpack in the Milk River basin increased at above average rates. On March 1 the snowpack was reported at 114 percent of average. This was a similar snowpack and precipitation pattern as the 2007 water year, which produced only 57 percent of average natural inflows. The March 1 water supply forecast indicated that 75,000 acre-feet of runoff could be expected, which was 90 percent of normal. Based upon this forecast, Fresno Reservoir was expected to fill to the top of the conservation pool. Also in March, Reclamation and the Milk River irrigation districts began to discuss water supply, but no allotments were set.

When the runoff below Fresno Reservoir began in late March, diversions to Nelson Reservoir were initiated. Diversion into Dodson South Canal began on March 28. Approximately 3,900 acre-feet of Fresno releases and natural runoff below Fresno Dam were delivered to Nelson Reservoir during March 28 though May 10. This time period was before releases were adjusted from Fresno Reservoir for significant irrigation demands. Inflows to Nelson were maintained minimal until cool weather and good precipitation allowed Fresno to fill; thus allowing release to be increased to transfer water to Nelson Reservoir.

The initial meeting with the Milk River Joint Board of Control (MRJBC) regarding water supply was on April 15. Potential irrigation allotments were discussed and the initial allotment was set at 1.5 acre-feet per acre. Then on June 17, there was a meeting with MRJBC to reassess allotments. Based on storage conditions the MRJBC elected to increase the irrigation allotment to 2.0 acre-feet per acre. Then on September 16 the allotment was again increased to 2.25 acre-feet per acre because two districts had already exceeded the set allotment. At this meeting it was decided that this would be the final allotment for the season. By May 1, cumulative valley precipitation was only 53 percent of normal. The below average precipitation in March and April resulted in much below average natural inflow in to Fresno Reservoir.

The natural inflow during these months allowed storage to reach an apparent peak in mid-May. However during May and June, precipitation patterns improved and thus provided more natural flow to the Milk River in addition to the St. Mary Canal diversion. Therefore Fresno Reservoir storage once again began to increase until it reached normal full pool on June 18 and remained at or above this storage content until July 13, nearly 25 days. During much of this time spillway releases from Fresno Reservoir were being utilized to fill Nelson Reservoir and position the reservoir storage well for the summer irrigation demands. The storage in Fresno peaked at 97,371 acre-feet at elevation 2575.90 or 0.90 feet above the spillway crest on June 26.

The average releases for June and July were 473 cfs and 929 cfs, which were 59 and 102 percent of average, respectively. Releases from Fresno Reservoir peaked at 1,028 cfs on July 18. The actual March through July inflow for Fresno Reservoir, excluding St. Mary canal water, was approximately 66,800 acre-feet, 67 percent of average based on the USGS computation for natural flow at the Milk River at Eastern Crossing gaging station. Inflow to Fresno Reservoir peaked during this time at 2,042 cfs, on May 27.

The cumulative precipitation through the end of June was 103 percent of average, however as the summer continued the precipitation patterns diminished. July and August valley precipitation were 66 and 84 percent of average, respectively. Total inflow for the year was 235,328 acre-feet, 87 percent of average. This was 16,628 acre-feet or 8 percent more than the inflow experienced during water year 2007. Diversions from the St. Mary River basin to the Milk River basin accounted for about 75 percent of the inflow to Fresno Reservoir during 2008. Storage on September 30, 2008 was 57,590 acre-feet, 144 percent of average and 62 percent of normal full capacity.

The Corps of Engineers estimated that during 2008, Fresno Reservoir prevented $41,300 in local flood damages but did not contribute to the prevention of flood damages downstream on the Missouri River below Fort Peck Reservoir. Since 1950 Fresno Dam and reservoir has reduced flood damages by a total of $13,126,800.

Additional hydrologic and statistical information pertaining to the operation of Fresno Reservoir during 2008 can be found in Table MTT10-B and Figure MTG10.

Nelson Reservoir, located near Malta, Montana, is an off-stream reservoir which receives its water supply from the Milk River by diversion through the Dodson South Canal. Nelson Reservoir is the only source of supply for the lower portion of the Malta Irrigation District. Nelson Reservoir can also serve the Glasgow Irrigation District when water is not available from Fresno Reservoir. In 1999 a sediment re-survey was performed and then finalized during 2000-01. Since Nelson Reservoir operation began in 1916, the measured total volume loss due to sedimentation was 446 acre-feet.

The new revised elevation-area capacity data was implemented at the beginning of water year 2002. Nelson Reservoir now has a total capacity of 78,950 acre-feet and an active capacity of 60,810 acre-feet.

At the end of water year 2007 releases from Fresno Reservoir to satisfy the FBIIP irrigation demand were made during September. This allowed diversions to Nelson to continue until the end of September. Therefore storage increased during September and Nelson Reservoir began the 2008 water year with a storage content of 53,097 acre-feet, at elevation 2214.95, 94 percent of average and 67 percent of normal full capacity. Storage slowly increased until October 20 when diversions were discontinued. This resulted in storage decreasing through the winter until early March.

Diversions to Nelson Reservoir began in late March. The total inflow prior to irrigation season, March 28 through May 11, was approximately 3,900 acre-feet. Irrigation releases from Nelson Reservoir began on April 27 through the Nelson South Canal and continued though September 15. Since much of the demand from Malta Irrigation District is for early irrigation, releases are generally discontinued in mid-June for harvest. This was the case once again when releases from Nelson South Canal were discontinued from June 14-29.

From late March, storage steadily increased until late April when irrigation release began. Storage was then drafted until late May when spillway releases were made from Fresno thus providing more water for diversion to Nelson. Storage then increased until early July when irrigation demand significantly increased storage in Nelson Reservoir peaked for the summer at 6,491 acre-feet at elevation 2217.53 on July 7, which was approximately 16,500 acre-feet or 4 ft below normal full pool.

Piping plovers were observed during 2008 nesting on the shores of Nelson Reservoir. The nest was discovered on Wednesday June 18. As Nelson Reservoir was filling, storage was increasing. To prevent the nest from being inundated, the Fish and Wildlife Service attempted to move the nest. On June 23 the nest was empty; it is believed that gulls may have discovered the nest.

Inflows to Nelson Reservoir during June through July totaled approximately 25,400 acre-feet. Releases to the Milk River were made for use by Glasgow Irrigation District during July through September. The total storage released for Glasgow was approximately 8,800 acre-feet. In September irrigation releases were discontinued and inflows to the reservoir increased thus allowing some storage to be recovered through the end of the water year. Water that was diverted into Nelson Reservoir during August through October totaled approximately 25,684 acre-feet. Total net inflow to Nelson Reservoir during water year 2008 was 51,504 acre-feet. Storage on September 30, 2007 was 63,445 acre-feet at elevation 2217.78, 112 percent of average and 80 percent of normal full capacity.

Additional hydrologic and statistical information pertaining to the operation of Nelson Reservoir during 2008 can be found in Table MTT10-C and Figure MTG11.

Important Events - 2008

March 1: Milk River runoff forecast indicates 90 percent of normal runoff.

March 20: St. Mary Canal begins to divert.

March 24: Releases begin from Lake Sherburne.

March 27: Releases and diversions are discontinued due to excess leakage on new Halls Coulee joint.

March 21: Releases from Fresno Reservoir were increased to transfer water to Nelson Reservoir and satisfy early irrigation demand.

April 1: Lake Sherburne runoff forecast indicates 102 percent of normal runoff.

April 15: MRJBC sets the irrigation allotment to 1.5 acre-feet per acre.

April 27: Irrigation releases are initiated from Nelson Reservoir.

May 19: Inflow to Fresno Reservoir peaked at 1,502 cfs.

May 27: Inflow to Lake Sherburne peaked at 2,042 cfs.

June 17: The MRJBC increases the irrigation allotment to 2.0 acre-feet per acre and designates that as the final allotment for season.

June 26: Fresno Reservoir storage peaks for the year at 97,371 acre-feet at elevation 2575.90, 0.90 feet above normal full pool.

July 2: Lake Sherburne storage peaks for the year at 66,611 acre-feet, at elevation 4788.27, which is 0.27 feet above normal full pool.

July 7: Nelson Reservoir storage peaks for the summer at 62,491 acre-feet at elevation 2217.53, 4.0 feet below normal full pool.

July 9: A conference call was held with the IJC Field Representatives to discuss St. Mary and Milk River deficit repayments. It was concluded that the US deficit would be reduced to the maximum theoretical consumption (and therefore deficit) that Alberta could accumulate on the Milk River. This was approximately 1,200 cfs-days.

August 18: A conference call was held with the IJC Field Representatives to discuss St. Mary and Milk River deficit repayments. It was concluded that the US deficit would be reduced to the maximum theoretical consumption (and therefore deficit) that Alberta could accumulate on the Milk River. This was approximately 552 cfs-days.

September 12: Lake Sherburne releases and St. Mary Canal diversions are discontinued.

September 15: Releases from Nelson Reservoir are discontinued.

September 16: Water allotment was increased to 2.25 acre-feet per acre.

September 22: A conference call was held with the IJC Field Representatives to discuss St. Mary and Milk River deficit repayments. It was concluded that the US deficit would be reduced to zero in order to balance the St. Mary and Milk Rivers according to the 1921 Letter of Intent.

September 30: Releases from Fresno Reservoir are set at approximately 40 cfs for the duration of the winter.

TABLE MTT10-A

HYDROLOGIC DATA FOR 2008

SHERBURNE RESERVOIR (MILK RIVER PROJECT)

NEW SEDIMENT SURVEY DATA EFFECTIVE 10/01/2005

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4729.30	1,899	1,899
TOP OF ACTIVE CONSERVATION	4788.00	66,147	64,248

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4737.97	7,025	OCT 01, 2007
END OF YEAR	4767.05	35,092	SEP 30, 2008
ANNUAL LOW	4735.68	5,468	MAY 15, 2008
ANNUAL HIGH	4788.27	66,611	JUL 02, 2008
HISTORIC HIGH	4788.30	68,371	JUN 30, 1986

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	151,150	OCT 07-SEP 08	122,993	OCT 07-SEP 08
DAILY PEAK (CFS)	1,502	MAY 19, 2008	834	JUL 03, 2008
DAILY MINIMUM (CFS)	0	MAR 25, 2008	0	*

* During nonirrigation season

MONTH	INFLOW		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	6.5	107	0.0	---	13.6	144
NOVEMBER	4.1	73	0.0	---	17.6	130
DECEMBER	3.5	91	0.0	---	21.1	121
JANUARY	2.0	70	0.0	---	23.1	114
FEBRUARY	1.9	80	0.0	---	25.0	111
MARCH	1.2	39	0.4	8	25.8	115
APRIL	4.3	48	21.6	150	8.4	45
MAY	43.9	136	19.6	99	32.7	112
JUNE	44.6	107	11.2	60	66.1	125
JULY	23.0	109	27.3	109	61.8	129
AUGUST	10.2	108	33.6	103	38.4	163
SEPTEMBER	6.0	94	9.2	42	35.2	421
ANNUAL	151.2	105	122.9	86		
APRIL-JULY	115.8	111				

* Average for the 1955-2008 period.

FIGURE MTG9

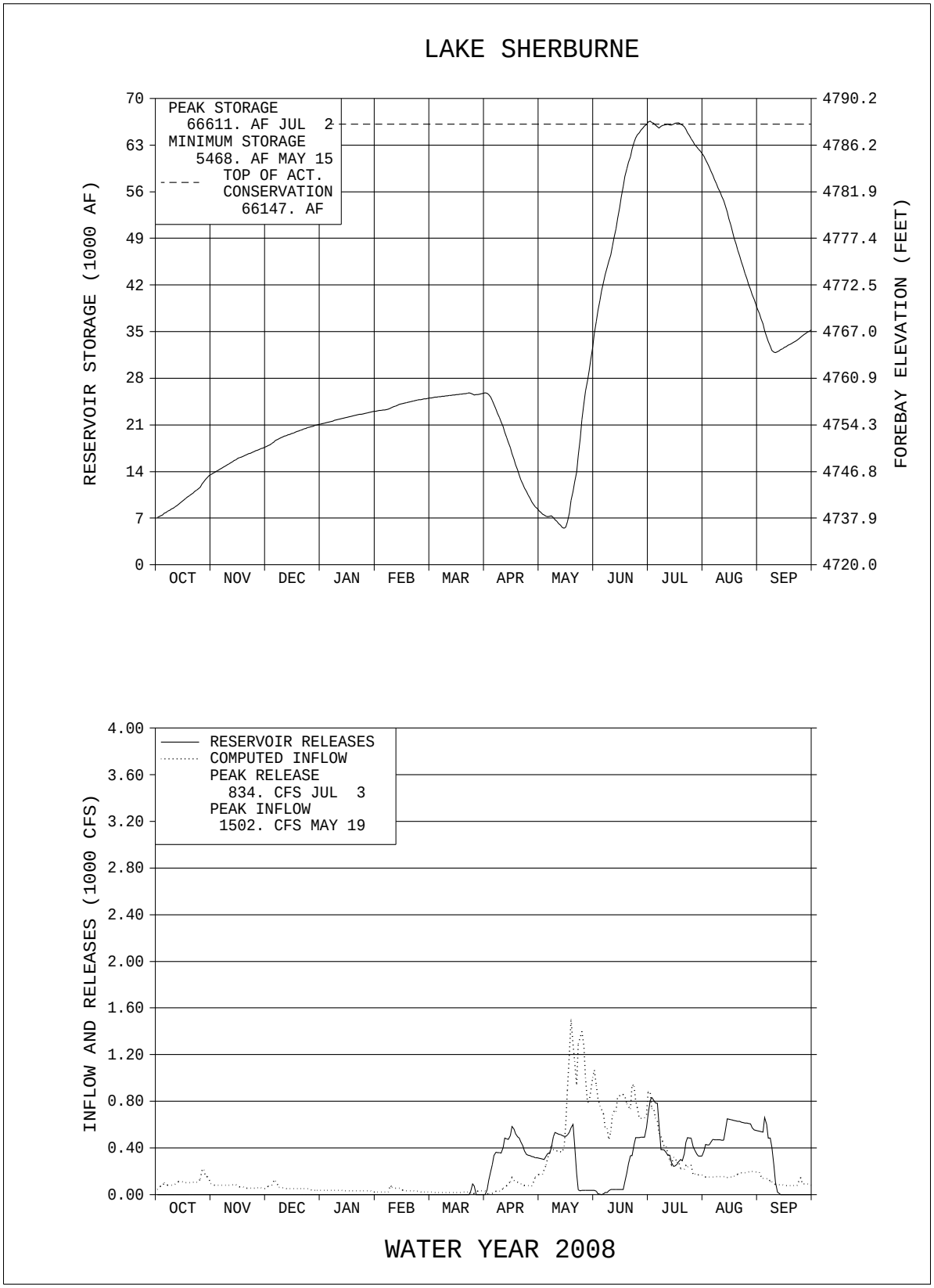

LAKE SHERBURNE
PEAK STORAGE
66611. AF JUL 2
MINIMUM STORAGE
5468. AF MAY 15
TOP OF ACT.
CONSERVATION
66147. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
70
63
56
49
42
35
28
21
14
7
0
4790.2
4786.2
4781.9
4777.4
4772.5
4767.0
4760.9
4754.3
4746.8
4737.9
4720.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
834. CFS JUL 3
PEAK INFLOW
1502. CFS MAY 19
INFLOW AND RELEASES (1000 CFS)
4.00
3.60
3.20
2.80
2.40
2.00
1.60
1.20
0.80
0.40
0.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

TABLE MTT10-B

HYDROLOGIC DATA FOR 2008

FRESNO RESERVOIR (MILK RIVER PROJECT)

NEW SEDIMENT SURVEY DATA EFFECTIVE 10/1/2000

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	2530.00	448	448
TOP OF ACTIVE CONSERVATION	2567.00	60,346	59,898
TOP OF JOINT USE	2575.00	92,880	32,534

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2559.61	40,352	OCT 01, 2007
END OF YEAR	2566.13	57,590	SEP 30, 2008
ANNUAL LOW	2553.99	28,412	MAR 09, 2008
ANNUAL HIGH	2575.90	97,371	JUN 26, 2008
HISTORIC HIGH	2579.35	154,023	APR 03, 1952

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	235,328	OCT 07-SEP 08	218,090	OCT 07-SEP 08
DAILY PEAK (CFS)	2,042	MAY 27, 2008	1,028	JUL 18, 2008
DAILY MINIMUM (CFS)	0	*	39	MAR 09, 2008

* During nonirrigation season

MONTH	INFLOW		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	1.2	16	2.7	36	38.9	99
NOVEMBER	0.5	23	2.5	81	36.8	95
DECEMBER	-0.1	---	2.5	97	34.2	92
JANUARY	-0.3	---	2.5	98	31.4	88
FEBRUARY	0.1	3	2.4	100	29.1	82
MARCH	5.2	17	3.5	53	30.8	59
APRIL	22.0	55	9.0	44	43.8	62
MAY	54.9	125	37.9	79	60.8	93
JUNE	64.4	141	28.1	59	97.1	157
JULY	34.9	99	57.0	102	75.0	169
AUGUST	29.5	90	54.3	120	50.2	134
SEPTEMBER	23.1	88	15.7	71	57.6	144
ANNUAL	235.3	88	218.1	83		
APRIL-JULY	176.2	182				

* Average for the 1949-2008 period.

FIGURE MTG10

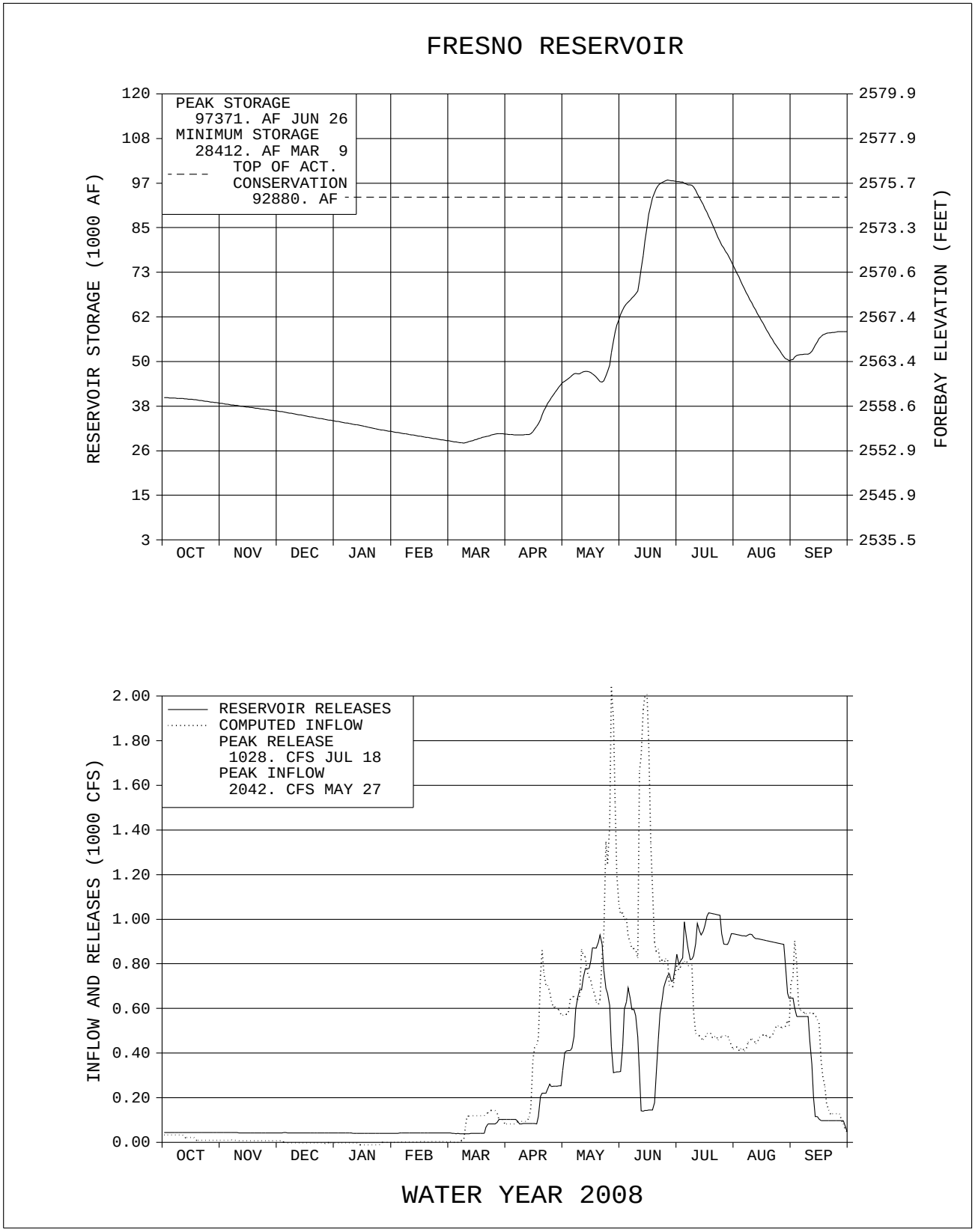


TABLE MTT10-C

HYDROLOGIC DATA FOR 2008

NELSON RESERVOIR (MILK RIVER PROJECT)

NEW SEDIMENT SURVEY DATA EFFECTIVE 10/1/2001

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	2200.00	18,140	18,140
TOP OF ACTIVE CONSERVATION	2221.60	78,950	60,810

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2214.95	53,097	OCT 01, 2007
END OF YEAR	2217.78	63,445	SEP 30, 2008
ANNUAL LOW	2212.46	44,974	MAY 24, 2008
ANNUAL HIGH	2217.78	63,445	SEP 30, 2008
HISTORIC HIGH	2221.68	79,297	JUN 01, 2007

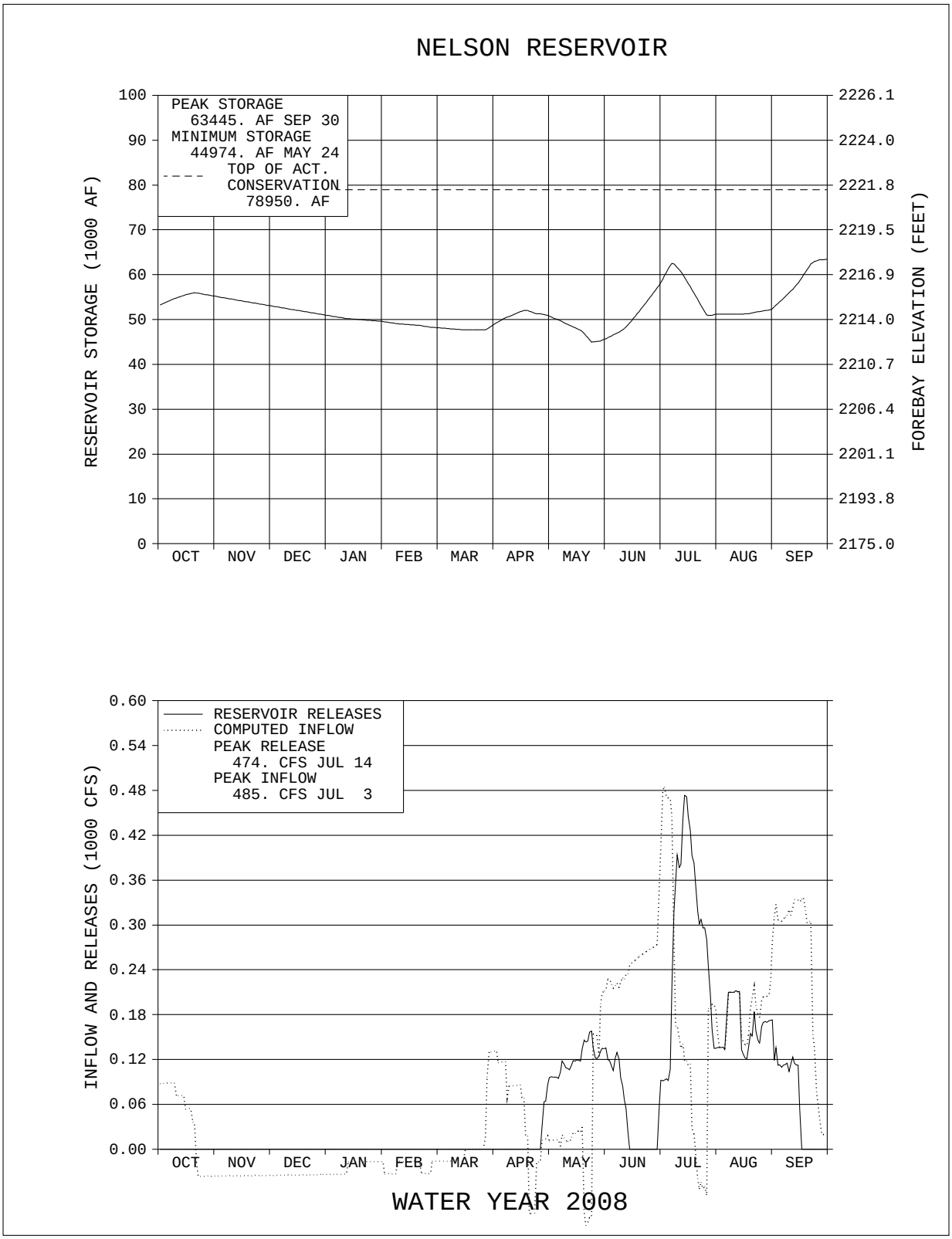
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	51,505	OCT 07-SEP 08	41,151	OCT 07-SEP 08
DAILY PEAK (CFS)	485	JUL 03, 2008	474	JUL 14, 2008
DAILY MINIMUM (CFS)	0	*	0	*

* During nonirrigation season

MONTH	INFLOW*		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	2.1	54	0.0	---	55.2	93
NOVEMBER	-2.1	---	0.0	---	53.1	91
DECEMBER	-2.1	---	0.0	---	51.0	90
JANUARY	-1.4	---	0.0	---	49.6	90
FEBRUARY	-1.4	---	0.0	---	48.2	89
MARCH	0.5	36	0.0	---	48.7	90
APRIL	2.7	37	0.5	86	50.9	84
MAY	2.0	30	7.4	98	45.6	75
JUNE	14.7	189	2.7	37	57.7	97
JULY	10.7	220	17.2	166	51.2	93
AUGUST	11.4	162	10.1	127	52.4	97
SEPTEMBER	14.3	234	3.3	93	63.4	112
ANNUAL	51.5	127	41.2	104		
APRIL-JULY	30.2	113				

* Average for the 1947-2008 period.

FIGURE MTG11



Bighorn Lake and Yellowtail Powerplant

Bighorn Lake (P-S, MBP) is located on the Bighorn River about 45 miles southwest of Hardin, Montana. It has a total capacity of 1,328,360 acre-feet. The dam and reservoir were built for power generation, irrigation, flood control, fish and wildlife and recreation. The nameplate capacity of Yellowtail Powerplant is 250,000 kilowatts. Provisions have been made for gravity diversions from the reservoir to the proposed Hardin Unit which contains 42,600 acres of irrigable lands needing a full water supply and 950 acres to receive a supplemental supply. Stored water can also be used to irrigate additional lands along the Yellowstone River. Reclamation has negotiated an industrial water service contract with Pennsylvania Power & Light, MT (PPL-MT), formerly known as Montana Power Company (MPC) for 6,000 acre-feet. All other industrial water service contracts with different entities expired as of May 1982, and none were renewed. Bull Lake, Boysen and Buffalo Bill Reservoirs are three major tributary reservoirs located in Wyoming upstream of Bighorn Lake. Because these reservoirs are operated and managed by the Wyoming Area Office (WYAO), all reservoir and river operations in the Bighorn River Basin are closely coordinated between the Montana Area Office (MTAO) and WYAO.

In 1982, a hydrographic and a topographic survey was conducted and a new elevation-area-capacity table and curve was developed. The 1982 survey determined that Bighorn Lake has a storage capacity of 1,328,360 acre-feet and a surface area of 17,279 acres at reservoir elevation 3657.0 (the top of the spillway gates). Since closure in 1965, the reservoir has accumulated a sediment volume of 53,950 acre-feet below reservoir elevation 3657. This volume represents a 3.9 percent loss in capacity and an average annual loss of 3,224 acre-feet from November 1965 through July 1982. Sediment was deposited at the annual rate of 0.314 acre-feet per square mile during that period. The revised area-capacity table was put into effect on August 1, 1986, reflecting the new storage levels.

In 2007, the irrigation demands in the Bighorn River Basin were unseasonably high during the summer and fall. These contributed to the runoff into Bighorn Lake remaining well below average. Inflows to Bighorn Lake were only 28 percent of average during July, 54 percent of average during August, and 60 percent of average during September. The July-September inflow was the 6th lowest of record since construction of the dam, with the September inflow being recorded as the 3rd lowest of record. Releases to the Bighorn River were maintained near 1,750 cfs throughout the summer and into the fall. By the end of water year 2007, storage in Bighorn Lake had slowly declined to 956,743 acre-feet at elevation 3629.71. This was 94 percent of average and 113,286 acre-feet or 10.29 feet below the top of the joint-use pool. This was also 194,956 acre-feet or 26.64 feet higher than the level experienced at the end of water year 2006.

Water year 2008 started out good with precipitation in the Bighorn Basin upstream of Bighorn Lake being well above average during October. However, by November climatic conditions quickly changed. Valley precipitation was 206 percent of average and dropped to only 38 percent of average in November while the mountain precipitation was 186 percent of average in October, dropping to only 57 percent of average in November. The generous precipitation received during October, caused inflows to increase from 60 percent of average during September 2007 to 76 percent of average during October. Maintaining releases to the Bighorn River at 1,750 cfs during October allowed storage to slowly increase to 992,011 acre-feet at elevation 3633.23 by October 30.

With storage in Bighorn Lake at the beginning of water year 2008 at 94 percent of average or 89 percent full, the operation plans prepared in early October, indicated the fall and winter releases to the Bighorn River could be maintained at 1,900 cfs and still reasonably assure storage in Bighorn Lake of reaching a target elevation near 3608-3610 by the end of March or early April. On November 5, the releases to the Bighorn River were increased to 1,900 cfs and maintained near this rate into early May.

At the end of water year 2007, storages in Boysen and Buffalo Bill Reservoirs located on the Wind and Shoshone Rivers were drafted to 64 and 96 percent of average, respectively, to meet irrigation demands. As compared to a year ago, with year-end reservoir levels much worse at Boysen and Buffalo Bill Reservoirs, the WYAO established the minimum winter releases out of these reservoirs at flow rates of 400 and 150 cfs.

The precipitation in the Bighorn Basin was somewhat variable during December through March. Valley precipitation varied from 154 percent of average during December but then dropped to only 70 percent of average during January through March. The mountain precipitation was a bit different averaging about 108 percent of normal during this same period.

Snow accumulated in the higher elevations at near or slightly below normal rates during October through February. It was about the middle of November, when snowfall was light and snowpack conditions actually declined to about 80-85 percent of average in December. After that time, snowfall returned to more normal conditions and on January 1, the Natural Resources Conservation Service (NRCS) measured mountain snowpack in the Bighorn Basin at about 89 percent of average. The Wind and Shoshone River Basins, major tributaries of the Bighorn River, were both measured at 84 and 91 percent of average, respectively. By February 1, snowpack in the Wind River Basin had improved to 89 percent of average while the Shoshone River Basin essentially remained the same at 91 percent of average. By march, the snowpack in Bighorn River Basin above Bighorn Lake had increased from 91 percent of average on February 1 to 94 percent of average by March 1.

Even though the valley precipitation in the Bighorn Basin was only 68 percent of average during March, the mountain precipitation had improved to 121 percent of average. By April 1, the snowpack in the Wind and Shoshone River Basins improved to 96 and 101 percent of average respectively. The same was true for the Bighorn River Basin above Bighorn Lake with it also being reported at 101 percent of average on April 1.

Normally mountain snowpack in the Bighorn Basin reaches a peak accumulation about April 15; however, during water year 2008, the snowpack reached a peak snow water content of around 15.53 inches on May 3. After that time, the snowmelt runoff began and the streamflows began to slowly increase. Temperatures remained cool during the first half of May, delaying the normal snowmelt runoff for about 1-2 weeks later than normal. It was not until another late spring storm system moved across southern Montana and northern Wyoming producing, heavy amounts of snow in the higher elevations and rain in the valleys. Valley precipitation increased from 41 percent of average during April to over 207 percent of average during May. The mountain precipitation increased from 64 percent of average to 181 percent of average during May.

On May 1, Bighorn Lake recorded a storage content of 795,776 acre-feet at elevation 3608.81. This was 4.66 feet less than on April 1 and 18,072 acre-feet or 2.75 feet less than a year ago. Cooler temperatures in early May delayed the normal snowmelt runoff into Bighorn Lake and thus, storage in Bighorn Lake continued to decline about 0.10-0.15 feet per day. To slow the evacuation rate of drawdown in storage, the decision was made to gradually reduce releases to the Bighorn River to 1,500 cfs on May 6-7 and maintain them at this rate until such time that storage in Bighorn Lake would begin to increase as a result of the high elevation snowmelt.

Immediately following the late spring storm about the middle of May, temperatures also began to warm up causing a dramatic increase in streamflows to Bighorn Lake. Inflows to Bighorn Lake increased from about 2,450 cfs on May 18 to a peak for the year of 14,130 cfs on May 24. By now, the high elevation snowmelt was well underway. Inflows to Bighorn Lake averaged 9,260 cfs during May 18 through July 10 as compared to the long-term historic average of 6,440 cfs. During this time, inflows into Bighorn Lake varied, rising to over 11,160 cfs on June 5, dropping to about 8,530 cfs on June 11 before increasing a third time to 12,765 cfs on June 19. Because of the high inflows, storage in Bighorn Lake rose quickly. Beginning on May 8, storage rose from the minimum for the year of 787,987 acre-feet at elevation 3607.54 to the peak for the year of 1,102,648 acre-feet at elevation 3642.50 on July 13. To control the rate of fill of storage in Bighorn Lake, releases to the Bighorn River were gradually increased from 1,500 cfs beginning May 23 to the peak for the year of 9,967 cfs on June 18. This release combined with the diversions to the Bighorn Canal, resulted in a total release of 9,824 cfs. The total peak release for the year was recorded on June 19 at 10,011 cfs when diversions to the Bighorn Canal were increased to meet the irrigation demands

By July 10, the high elevation snowmelt was essentially over, inflows into Bighorn Lake slowly and steadily declined to less than 8,000 cfs and by the end of July had dropped to 2,000 cfs.

Because the normal snowmelt runoff was significantly delayed during water year 2008, the inflows to Bighorn Lake increased substantially from only 50 percent of average in April to 118 percent of average in May. During June the inflows increased further to 144 percent of average before dropping to 114 percent of average during July. The April-July inflows were 117 percent of average, totaling 1,298,319 acre-feet. This was about 684,418 acre-feet more than experienced in water year 2007 and was recorded as the 16th highest April-July inflow of record, as compared to the April-July inflow a year ago being the 9th lowest of record.

Precipitation during August was well below normal. Valley precipitation during August was 55 percent of average while the mountain precipitation was only 35 percent of average. By September, the precipitation had improved when a large storm system moved into the Bighorn Basin. The valley precipitation was recorded at 117 percent of average while the mountain precipitation was recorded at 101 percent of average. In response, the inflows during August and September improved to 81 and 107 percent of average, respectively. The daily inflows averaged about 2,100 cfs during August and 3,100 cfs during September.

With releases to the Bighorn River maintained at 2,500 cfs throughout the summer, storage in Bighorn Lake slowly declined to 1,044,159 acre-feet at elevation 3637.89 by the end of August. After this time, Bighorn Lake slowly refilled during September and ended the water year with a storage content of 1,067,768 acre-feet at elevation 3639.82. This was 105 percent of average and only 2,261 acre-feet or 0.18 feet below the top of the joint-use pool. This was also 111,025 acre-feet or 10.11 feet higher than the level experienced at the end of water year 2007 and the second highest level ever recorded for this time of year since construction of Bighorn Lake in 1967.

The annual runoff into Bighorn Lake totaled 2,133,227 acre-feet. This was 91 percent of average and 37 percent or 769,032 acre-feet more than the total runoff experienced during water year 2007. The total amount of water released to the Bighorn River during 2008 was 1,974,041 acre-feet or 87 percent of average. This was about 37 percent or 834,217 acre-feet more than was experienced in 2007.

With conservative measures implemented early in the year, it was possible to provide good opportunities for lake recreation on Bighorn Lake, protect the lake fishery interests, and provide limited habitat for the renowned trout fishery downstream of Yellowtail Afterbay Dam. Throughout the fall, winter, and early spring, releases to the Bighorn River were increased and maintained at 1,900 cfs, about 600 cfs lower than the desired minimum flow required to support a healthy river fishery. By maintaining these conservative releases, storage was able to recover favorably. With the increased storage levels and improved mountain snowpack conditions in 2008, it was possible to increase the river releases to higher than 2,500 cfs during late May and maintain them at or above this rate throughout the remainder of the year. The good water levels of Bighorn Lake during 2008 also allowed for full service recreation at all marinas around Bighorn Lake during the recreation season from Memorial Day Weekend through Labor Day Weekend.

Total generation produced at Yellowtail Powerplant during 2008 was 698,307,000 kilowatt-hours, 81 percent of the long term average since construction of the powerplant in 1967. This was 384,580 kilowatt-hours more than generated during the record low year of 2003 and 332,898 kilowatt-hours more than generated in 2007. Approximately 98 percent of all the water released from Yellowtail Dam during 2008 was released through the powerplant. The remainder of the water was released through the spillway gates during the spring snowmelt runoff season to control the rate of fill of storage in Bighorn Lake.

The Corps of Engineers estimated that during 2008, Bighorn Lake prevented $85,500 in local flood damages and also prevented $14,717,900 in flood damages downstream on the Missouri River below Fort Peck Reservoir for a total of $14,803,400. Since construction of Yellowtail Dam in 1965, Bighorn Lake has reduced flood damages by a total of $128,201,600.

Important Events - Water Year 2008

October 1-2: With the 2007 irrigation season essentially over, the BIA requested all diversions to the Bighorn Canal be gradually discontinued by October 2. Turbine releases were gradually reduced to maintain a total release of 1,750 cfs (1,750 cfs to the Bighorn River and 0 cfs to the Bighorn Canal).

October 4: Streamflow measurements indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,750 cfs.

October 18: Power generation indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,750 cfs.

October 20: Power generation indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,750 cfs.

October 31: Power generation indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,750 cfs.

November 5: In accordance with the operation plan that was prepared in October, turbine releases to the Bighorn River were increased to 1,900 cfs.

November 13-14: The Afterbay level was maintained no higher than elevation 3187.50 feet to allow for annual maintenance of the government camp sewage lagoon.

January 7: Power generation indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,900 cfs.

January 11: Power generation indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,900 cfs.

January 15: Power generation indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,900 cfs.

February 8: Streamflow measurements indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,900 cfs.

March 13: Wyoming Game & Fish hosted the annual Bighorn Interagency Coordination Meeting at the National Park Service Visitor Center in Lovell, Wyoming to discuss the operations of Bighorn Lake and Bighorn River.

Dan Jewell, Area Manager of the Montana Area Office and Tim Felchle, Chief of Reservoir and River Operations, presented the water supply outlook and the proposed operations of Bighorn Lake and Bighorn River for the spring and summer 2008 irrigation season.

March 21: Power generation indicated actual flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river releases at 1,900 cfs.
April 14-25: A 12-day maintenance outage was scheduled on the Afterbay Dam sluice gates. During this outage, the level of the Afterbay was maintained no lower than elevation 3182 to allow for the required river discharge to be released through the Afterbay spillway gates.

April 23-25: The BIA requested irrigation diversions to the Bighorn Canal be initiated and gradually increased to 200 cfs. In response, the total release was increased to 2,100 cfs (1,900 cfs to the Bighorn River and 200 cfs to the Bighorn Canal).

April 28: The BIA requested an increase in diversions to the Bighorn Canal. In response, the total release was increased to 2,200 cfs (1,900 cfs to the Bighorn River and 300 cfs to the Bighorn Canal).

April 29: The BIA requested a decrease in diversions to the Bighorn Canal. In response, the total release was increased to 2,150 cfs (1,900 cfs to the Bighorn River and 250 cfs to the Bighorn Canal).

May 1: The BIA requested an increase in diversions to the Bighorn Canal. In response, the total release was increased to 2,200 cfs (1,900 cfs to the Bighorn River and 300 cfs to the Bighorn Canal).

May 6-7: Inflows to Bighorn Lake remained well below average. To slow the evacuation rate of storage in Bighorn Lake and conserve storage, the total release was gradually decreased to 1,800 cfs (1,500 cfs to the Bighorn River and 300 cfs to the Bighorn Canal).

May 7: The level of the tailwater was maintained no higher than elevation 3179 during 1300-1600 hour to allow for inspection of Yellowtail Dam's spillway tunnel.

May 20: The BIA requested an increase in diversions to the Bighorn Canal. In response, the total release was increased to 1,900 cfs (1,500 cfs to the Bighorn River and 400 cfs to the Bighorn Canal).

May 22: Due to recent precipitation, the BIA requested a decrease in diversions to the Bighorn Canal. In response, the total release was decreased to 1,825 cfs (1,500 cfs to the Bighorn River and 325 cfs to the Bighorn Canal).

May 23-26: Due to recent precipitation accompanying high elevation snowmelt, runoff into Bighorn Lake increased substantially. To control the rate of fill of storage in Bighorn Lake, the total release was gradually increased to 4,825 cfs (4,500 cfs to the Bighorn River and 325 cfs to the Bighorn Canal).

May 27: Due to recent precipitation, the BIA requested a decrease in diversions to the Bighorn Canal. In response, the total release was increased to 4,750 cfs (4,500 cfs to the Bighorn River and 250 cfs to the Bighorn Canal).

May 28-29: Due to recent precipitation accompanied by increased releases out of Boysen and Buffalo Bill Reservoirs, inflows into Bighorn Lake is forecast to equal near 10,000 cfs. To control the rate of fill of storage in Bighorn Lake, the total release was gradually increased to 5,750 cfs (5,500 cfs to the Bighorn River and 250 cfs to the Bighorn Canal).

June 4-5: Increased releases out of Boysen and Buffalo Bill Reservoirs combined with high mountain snowmelt produced high inflows into Bighorn Lake, causing storage to increase about a foot per day. In addition, the recent precipitation also reduced the irrigation demands. To control the rate of fill, total release from Bighorn Lake was gradually increased to 6,700 cfs (6,500 cfs to the Bighorn River and 200 cfs to the Bighorn Canal).

June 10: Inflows into Bighorn Lake increased to over 8,800 cfs causing storage in Bighorn Lake to quickly increase. To control the rate of fill, total release from Bighorn Lake was increased to 7,400 cfs (7,200 cfs to the Bighorn River and 200 cfs to the Bighorn Canal).

June 12: Inflows into Bighorn Lake continue to remain well above average. To control the rate of fill, total release from Bighorn Lake was increased to 8,900 cfs (8,700 cfs to the Bighorn River and 200 cfs to the Bighorn Canal). Of this amount, approximately 7,500 cfs was released through the powerplant turbines while approximately 1,400 cfs was released through the spillway gates.

June 17: Inflows into Bighorn Lake continue to remain well above average. Due to much warmer weather, irrigation demands also increased. To control the rate of fill and meet the higher irrigation demands, the total release from Bighorn Lake was increased to 10,000 cfs (9,700 cfs to the Bighorn River and 300 cfs to the Bighorn Canal). Of this amount, approximately 8,000 cfs was released through the powerplant turbines while approximately 2,000 cfs was released through the spillway gates.

June 19: The BIA requested an increase in diversions to the Bighorn Canal. In response, the total release was increased to 10,000 cfs (9,600 cfs to the Bighorn River and 400 cfs to the Bighorn Canal). Of this amount, approximately 8,000 cfs was released through the powerplant turbines while approximately 2,000 cfs was released through the spillway gates.

June 23-24: Releases out of Boysen Dam have been reduced considerably to better assure the reservoir of filling to the top of the joint-use pool. In response and in an effort to minimize or eliminate releasing any excess water past the powerplant turbines, all spills were discontinued, resulting in a total release of 8,090 cfs (7,640 cfs to the Bighorn River and 450 cfs to the Bighorn Canal).

June 26-27: As reductions in releases out of Boysen and Buffalo Bill Reservoirs continue, inflows into Bighorn Lake continue to slowly decline. To control the rate of fill in Bighorn Lake, the total release out of Bighorn Lake was gradually reduced to 7,100 cfs (6,650 cfs to the Bighorn River and 450 cfs to the Bighorn Canal).

June 30: Inflows to Bighorn Lake continue to decline. To control the rate of fill in Bighorn Lake, the total release out of Bighorn Lake was reduced to 6,600 cfs (6,150 cfs to the Bighorn River and 450 cfs to the Bighorn Canal).

July 10: The BIA chemically treated the heavy algae growth in the Bighorn Canal. To assist them with the chemical treatment of the Bighorn Canal and control the rate of fill of storage in Bighorn Lake, the total release was maintained at 6,600 cfs (6,325 cfs to the Bighorn River and 275 cfs to the Bighorn Canal).

July 14-17: Inflows to Bighorn Lake continue to quickly decline as reductions in releases out of Boysen and Buffalo Bill Reservoirs continue. In addition, warmer, drier weather produced higher irrigation demands. To control the rate of fill in Bighorn Lake and still meet the higher irrigation demands, the total release out of Bighorn Lake was gradually reduced to 3,975 cfs (3,500 cfs to the Bighorn River and 475 cfs to the Bighorn Canal).

July 17: Streamflow measurements indicated actual flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain river releases at 3,475 cfs (3,000 cfs to the Bighorn River and 475 cfs to the Bighorn Canal).

July 21: The BIA requested a decrease in diversions to the Bighorn Canal. In response, the total release was maintained at 3,475 cfs (3,050 cfs to the Bighorn River and 425 cfs to the Bighorn Canal).

July 28: Power generation indicated actual flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain total release at 3,425 cfs (3,000 cfs to the Bighorn River and 425 cfs to the Bighorn Canal).

July 29-31: As reductions in releases out of Boysen and Buffalo Bill Reservoirs continue, inflows into Bighorn Lake continue to slowly decline. To slow the evacuation rate of storage in Bighorn Lake, the total release out of Bighorn Lake was gradually reduced to 2,950 cfs (2,500 cfs to the Bighorn River and 450 cfs to the Bighorn Canal).

August 6: Power generation indicated actual flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain total release at 2,950 cfs (2,500 cfs to the Bighorn River and 450 cfs to the Bighorn Canal).

August 19: Power generation indicated actual flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain total release at 2,895 cfs (2,500 cfs to the Bighorn River and 395 cfs to the Bighorn Canal).

August 20: The BIA reported a breach in the Bighorn Canal and requested immediate gradual reductions in diversions to the canal. In response, the total release was maintained 2,895 cfs (2,700 cfs to the Bighorn River and 195 cfs to the Bighorn Canal).

August 21: The BIA reported repairs to the Bighorn Canal have been completed and requested immediate gradual increases in diversions to the canal. In response, the total release was maintained 2,895 cfs (2,600 cfs to the Bighorn River and 295 cfs to the Bighorn Canal).

August 25-28: The BIA chemically treated the heavy algae growth in the Bighorn Canal. To assist them with the chemical treatment of the Bighorn Canal and control the evacuation rate of storage in Bighorn Lake, the total release was maintained at 2,895 cfs (2,700 cfs to the Bighorn River and 195 cfs to the Bighorn Canal).

August 27: Power generation indicated actual flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain total release at 2,695 cfs (2,500 cfs to the Bighorn River and 195 cfs to the Bighorn Canal).

August 28: The BIA requested an increase in diversions to the Bighorn Canal. In response, the total release was increased to 2,925 cfs (2,500 cfs to the Bighorn River and 425 cfs to the Bighorn Canal).

September 2: Due to recent precipitation, the BIA requested a decrease in diversions to the Bighorn Canal. In response, the total release was decreased to 2,875 cfs (2,500 cfs to the Bighorn River and 375 cfs to the Bighorn Canal).

September 4: Due to recent precipitation, the BIA requested a decrease in diversions to the Bighorn Canal. In response, the total release was maintained at 2,875 cfs (2,550 cfs to the Bighorn River and 325 cfs to the Bighorn Canal).

September 8: Due to recent precipitation, the BIA requested a decrease in diversions to the Bighorn Canal. In response, the total release was maintained at 2,875 cfs (2,600 cfs to the Bighorn River and 275 cfs to the Bighorn Canal).

September 11: Power generation indicated actual flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain total release at 2,720 cfs (2,500 cfs to the Bighorn River and 220 cfs to the Bighorn Canal).

September 17-18: With the 2008 irrigation season essentially over, the BIA requested all diversions to the Bighorn Canal be gradually discontinued for the year. In response, the total release was gradually reduced to 2,720 cfs (2,720 cfs to the Bighorn River and 0 cfs to the Bighorn Canal).

October 9: Reclamation hosted the annual Bighorn Basin Water Supply Meeting at the Montana State University-Billings to discuss operations of Bighorn Lake and Bighorn River.

Dan Jewell, Area Manager of the Montana Area Office and Tim Felchle, Chief of Reservoir and River Operations, presented the water supply outlook and the proposed operations of Bighorn Lake and Bighorn River for the fall and winter season of 2008-2009.

Additional hydrologic and statistical information pertaining to the operations of Bighorn Lake during 2008 can be found on Table MTT11 and MTG12.

For more detailed information on the operations of Boysen and Buffalo Bill Reservoirs during 2008, refer to the narratives for Boysen Reservoir and Powerplant and Shoshone Project under the responsibility of the Wyoming Area Office.

TABLE MTT11
HYDROLOGIC DATA FOR 2008
BIGHORN LAKE (YELLOWTAIL DAM)

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	3547.00	493,584	493,584
TOP OF ACTIVE CONSERVATION	3614.00	829,687	336,103
TOP OF JOINT USE	3640.00	1,070,029	240,342
TOP OF EXCLUSIVE FLOOD CONTROL	3657.00	1,328,360	258,331

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	3629.71	956,743	OCT 01, 2007
END OF YEAR	3639.82	1,067,768	SEP 30, 2008
ANNUAL LOW	3607.54	787,987	MAY 08, 2008
ANNUAL HIGH	3642.50	1,102,648	JUL 13, 2008
HISTORIC HIGH	3656.43	1,365,198	JUL 06, 1967

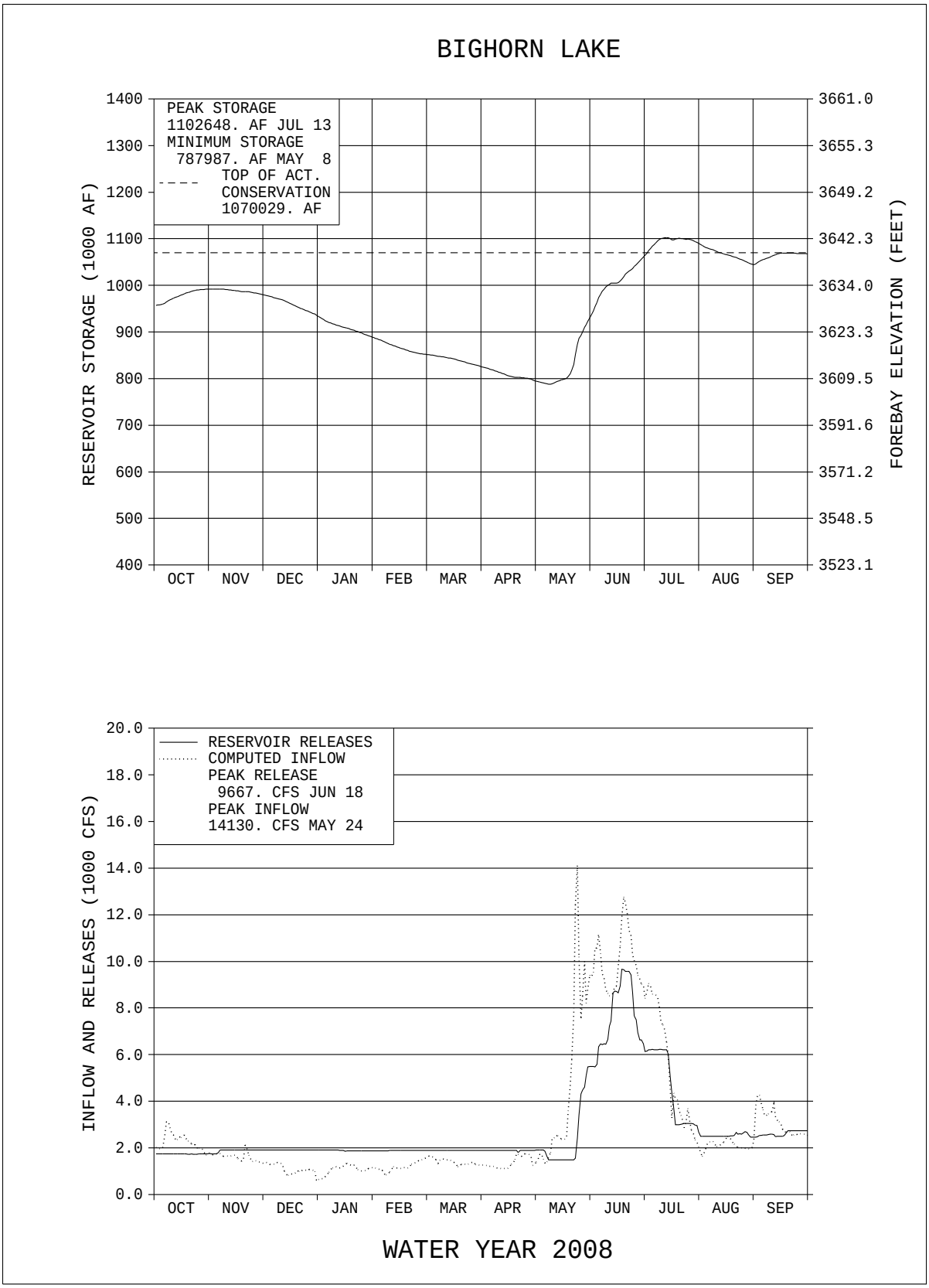
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW*	DATE
ANNUAL TOTAL (AF)	2,133,227	OCT 07-SEP 08	1,974,041	OCT 07-SEP 08
DAILY PEAK (CFS)	14,130	MAY 24, 2008	9,667	JUN 18, 2008
DAILY MINIMUM (CFS)	613	DEC 30, 2007	1,489	MAY 08, 2008
PEAK SPILL (CFS)			1,990	JUN19,2008
TOTAL SPILL (AF)			37.9	06/12-24/2008

*Discharge to the Bighorn River

MONTH	INFLOW		OUTFLOW*				CONTENT	
	KAF	% OF AVG	CANAL KAF	% OF AVG	RIVER KAF	% OF AVG	KAF	% OF AVG
OCTOBER	138.1	76	0.4	10	107.2	63	991.9	98
NOVEMBER	95.8	63	0.0	---	118.9	63	980.1	100
DECEMBER	66.3	48	0.0	---	117.2	64	933.5	101
JANUARY	66.3	50	0.0	---	115.9	64	888.3	102
FEBRUARY	68.0	50	0.0	---	108.3	66	852.0	101
MARCH	86.1	51	0.0	---	116.2	63	826.0	99
APRIL	80.9	50	2.9	474	112.3	63	795.8	97
MAY	291.6	118	18.5	166	143.2	78	930.3	106
JUNE	595.1	144	17.8	83	450.2	172	1,061.2	103
JULY	330.7	114	25.7	93	280.7	103	1,090.1	105
AUGUST	129.6	81	24.2	91	155.3	91	1,044.2	103
SEPTEMBER	184.6	107	10.5	55	155.5	103	1,067.8	105
ANNUAL	2,133.2	91	101.1	92	1,974.0	87		
APRIL-JULY	1,298.3	109						

* Average for the 1967-2008 period.

FIGURE MTG12



CLIMATE SUMMARY

Water year 2008 began with Wyoming entering the ninth consecutive year that at least half the state was considered to be in a moderate to severe hydrologic drought. However, as the year progressed, a return to more normal climatic conditions brought some welcomed relief to the drought plagued Bighorn Basin. For the most part, winter and spring temperatures were below average and precipitation was above average, which resulted in an above average mountain snowpack that melted out slowly. The snowpack in the Shoshone basin was generally better than that in the Wind River basin through the winter but both basins received fairly regular snowfall. Conditions over the entire Bighorn basin improved greatly during the last half of May as a strong spring storm stalled over central and northern Wyoming. Cool temperatures in June further delayed the snowmelt runoff and high elevation snow remained above average well into July.

October temperatures were about two degrees above average with well above average precipitation. An early fall storm moved into Wyoming on October 5th, with much of the Bighorn basin receiving between ½" and 1" of rain. In the higher elevations, the snowpack began to accumulate as 6" to 8" of snow fell. A slow moving storm that passed through Wyoming beginning on October 19th brought additional rainfall and as cold Canadian air moved in the rain turned to snow. On November 1st the snowpack in the Boysen drainage was 80 percent of average while the snowpack above Buffalo Bill Reservoir was significantly better at 127 percent of average. November was warm and dry as temperatures averaged about four degrees above average. Precipitation was below average throughout the basin, with the Shoshone drainage receiving 80 percent of average and the Wind River basin only 30 percent of average. There were no noteworthy storms during November and by December 1st the snowpack had fallen to 62 percent of average in the Boysen watershed and 89 percent of average in the Buffalo Bill watershed. On December 7th and 8th, a fairly powerful winter storm moved through southwest and central Wyoming with the largest accumulations occurring in the Lander foothills and the east slopes of the Wind River Mountains. Over a foot of snow was reported at sites in the mountains and Lander received about a foot of snow. Drier conditions returned to the basin until December 23rd when a Pacific storm system entered the state and once again, the Wind River Mountains around Lander reported the highest accumulations. Unsettled weather remained in the state for the rest of December as another strong Pacific system brought periods of heavy snow to the western mountains on December 29th and 30th. The southern end of the Wind River Mountains received over a foot of snow while the mountains above Buffalo Bill Reservoir reported slightly less accumulation. Temperatures in the Shoshone basin were about two degrees below normal with the Wind River basin about six degrees colder than average during December. The path of December storms had a significant affect on the snowpack in the Boysen watershed as it increased 20 percent during the month to 82 percent of average on January 1. In the Shoshone drainage, the snowpack was 93 percent of average at the beginning of January, a four percent increase from the 1st of December. The third powerful Pacific storm to follow the same track through Wyoming since just before Christmas entered the state on January 5th. Again, the southern Wind River Mountains benefited most from the storm with 18" of snow reported at the Deer Park Snotel. Little precipitation fell over the basin through the middle of the month but moist air returned on January 19th as a winter storm combined with an Arctic cold front to bring snow to west and central Wyoming. As the storm moved out and skies cleared, the Arctic air remained and the coldest temperatures of the winter were reported on January 22nd.

Temperatures in the -20 to -30 degree range were common throughout the basin and temperatures approaching -40 degrees were reported inside Yellowstone National Park. For the month, temperatures were about two degrees below average in the Shoshone basin and five degrees below average in the Wind River watershed. The last storm of the month moved into western Wyoming on January 28th, with the northern half of the basin receiving the most precipitation. Snowfall during January was just enough to maintain the snowpack in the Shoshone basin at 93 percent of average while the Boysen watershed increased to 88 percent of average on February 1.

During February, the major moisture producing storms occurred on February 1st, 13th, and 24th. Each of these storms added less than one foot of snow at most locations and the snowpack changed very little over the month, when compared to average. Temperatures across the Bighorn basin were also very close to average during February. On March 1st, the snowpack in the mountains above Boysen and Buffalo Bill Reservoirs was 90 and 94 percent of average, respectively. Precipitation during March was below average at the low elevation weather stations in the Wind River basin but the mountains above Boysen received fairly good snowfall through the month, beginning with a storm on March 2nd. Storms on the 14th and 29th also contributed to the improving snowpack, especially in the Wind River Mountains. In the Shoshone basin, snow accumulated in the mountains at an above average rate and precipitation at the lower elevations was above average as well. Temperatures across the Bighorn basin were about two degrees colder than normal during March. By the 1st of April, the snowpack in the Buffalo Bill watershed had increased to 102 percent of average, which was an eight percent gain for the month. The Boysen drainage had a similar increase during March and the snowpack stood at 97 percent of average at the beginning of April. Precipitation at Weather Service stations was well below average during April in both the Buffalo Bill and Boysen watersheds but the mountains received near average snowfall. When compared to average, the Shoshone drainage lost two percent to 100 percent of average and the snowpack in the Boysen drainage fell three percent to 94 percent of average. Temperatures in April were about three degrees below average.

Unsettled weather ushered in the month of May as a major snowstorm on the 1st and 2nd brought significant snowfall to the area with the greatest accumulation in the Wind River basin. Frequent storms passed through the state with a couple sunny days between fronts. On May 12th, the storm track shifted north, bringing snow to the mountains above Buffalo Bill Reservoir. The final moisture producing system in May brought rain and snow to central and northern Wyoming beginning on May 22nd. The irrigated areas below Boysen received the brunt of the storm, with rainfall totals in excess of two inches, with amounts of over one inch reported over the entire Bighorn Basin. The system remained stationary over Wyoming for the next six days, soaking the valleys and bringing additional snow to the mountains. Storm totals of over four inches were reported at weather stations throughout the Bighorn Basin and the weather station at Lander recorded 4.64 inches from the storm, which brought the total precipitation at Lander to 6.13 inches for the month. This was 258 percent of average and the highest precipitation for May since records began in 1891. At the end of the month, the entire Basin was saturated and the mountain snowpack had increased to 134 percent of average in the Buffalo Bill watershed and 136 percent of average above Boysen at a time when it would normally be melting.

Below average temperatures held the snow in the mountains during the first part of June and another powerful storm on June 11th and 12th brought additional moisture to both the Wind and Shoshone drainages. The Evening Star and Blackwater Snotel sites in the Shoshone drainage received 15 and 14 inches of snow, respectively, while Togwotee Pass in the Boysen watershed reported 13 inches of new snow. Following the storm, the snowpack in the Shoshone basin stood at 226 percent of average and the watershed above Boysen was 196 percent of average. Precipitation for June was above average in the Shoshone basin but the Boysen watershed received less than average rainfall during the month, with temperatures that were about two degrees below average in both drainages.

Inflow to Buffalo Bill Reservoir from snowmelt runoff began to increase during the first few days of May and peaked at 7,929 cfs on May 21st before colder temperatures slowed the snow melt. Following the mid-June storm, more seasonal temperatures returned and runoff increased again, with the maximum inflow of 10,826 cfs occurring on June 24th. Boysen inflow began to increase around the middle of May and reached a peak of 8,320 cfs on May 23rd, partly from snowmelt runoff and partly from rainfall. A second, smaller peak of 6,095 cfs from snowmelt occurred on June 28th. Precipitation during the remainder of the water year was below normal in both the Shoshone and Wind River basins. Temperatures were above average in July and August, but September was cooler than normal.

The 2008 mountain snow water content for the drainage basins in Wyoming is shown on Table WYT1. The 2008 water supply forecasts are shown on Table WYT2 and the 2008 precipitation in inches and the percent of average is shown on Table WYT3.

TABLE WYT1

2008 MOUNTAIN SNOW WATER CONTENT [1]

AS A PERCENT OF THE 1971-2000 AVERAGE

DRAINAGE BASIN	JAN [1]		FEB [1]		MAR [1]		APR [1]		MAY [1]	
	INCHES	%	INCHES	%	INCHES	%	INCHES	%	INCHES	%
BULL LAKE	3.35	60	5.78	79	7.67	85	9.88	88	8.82	85
BOYSEN	5.35	82	8.23	88	10.37	90	13.63	97	13.23	94
BUFFALO BILL	8.14	93	11.41	93	14.30	94	18.69	102	19.51	100

[1] A composite of the following Natural Resources Conservation Service SNOTEL sites was used to determine snow water content and percent of average for the basins:

Bull Lake.....Cold Springs, Elkhart Park, Hobbs Park, and St. Lawrence Alt;

Boysen.....Burroughs Creek, Cold Springs, Deer Park, Hobbs Park, Little Warm, St. Lawrence Alt, South Pass, Togwotee Pass, and Townsend Creek;

Buffalo Bill.....Blackwater, Evening Star, Kirwin, Marquette, Sylvan Lake, Sylvan Road, and Younts Peak

TABLE WYT2

2008 WATER SUPPLY FORECASTS OF APRIL - JULY SNOWMELT RUNOFF

	JAN [1]		FEB [1]		MAR [1]		APR [1]		MAY [1]		JUN [1]		ACTUAL	APR-JULY	% OF APRIL
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG	FORECAST RECEIVED
BULL LAKE	115	82	120	86	120	86	130	93	130	93	140	100	134.7	96	104
BOYSEN	350	63	400	72	400	72	500	91	500	91	710	129	522.1	95	104
BUFFALO BILL	600	93	600	93	600	93	680	106	720	112	875	136	955.3	148	140

Averages are based on the 1978-2007 period

TABLE WYT3
PRECIPITATION IN INCHES AND PERCENT OF AVERAGE

BASIN	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%	IN.	%
VALLEY PRECIPITATION [1]																								
BUFFALO BILL																								
MONTHLY PRECIP AND % OF AVERAGE	2.20	207	0.90	80	1.90	181	1.65	149	1.35	152	1.90	180	0.41	31	3.87	187	2.48	125	0.60	40	0.36	28	0.78	60
YEAR-TO-DATE PRECIP AND % OF AVERAGE	2.20	207	3.10	142	5.00	154	6.65	153	8.00	153	9.90	157	10.31	135	14.18	146	16.66	143	17.26	131	17.62	122	18.40	117
BOYSEN																								
MONTHLY PRECIP AND % OF AVERAGE	1.21	157	0.15	30	0.86	294	0.17	62	0.31	90	0.20	35	0.45	39	4.46	246	0.67	58	0.18	20	0.50	80	0.74	75
YEAR-TO-DATE PRECIP AND % OF AVERAGE	1.21	157	1.36	106	2.22	141	2.39	130	2.70	124	2.90	105	3.35	85	7.81	136	8.48	123	8.66	112	9.16	109	9.90	106
BULL LAKE																								
MONTHLY PRECIP AND % OF AVERAGE	1.42	222	0.22	51	0.60	266	0.17	84	0.25	89	0.18	41	0.25	23	3.39	188	0.69	59	0.13	13	0.48	67	0.71	67
YEAR-TO-DATE PRECIP AND % OF AVERAGE	1.42	222	1.64	152	2.24	171	2.41	159	2.66	148	2.84	127	3.09	93	6.48	126	7.17	114	7.30	101	7.78	98	8.49	94
MOUNTAIN PRECIPITATION [2]																								
BUFFALO BILL																								
MONTHLY PRECIP AND % OF AVERAGE	5.20	217	2.80	76	3.40	110	3.00	100	3.00	120	4.10	146	2.30	68	5.90	155	3.80	127	0.30	14	0.50	31	2.00	91
YEAR-TO-DATE PRECIP AND % OF AVERAGE	5.20	217	8.00	131	11.40	124	14.40	118	17.40	118	21.50	123	23.80	114	29.70	120	33.50	121	33.80	113	34.30	109	36.30	108
BOYSEN																								
MONTHLY PRECIP AND % OF AVERAGE	3.50	167	1.70	57	2.90	116	2.60	104	2.40	109	3.30	114	1.80	51	5.20	153	2.10	88	0.40	24	0.80	57	1.60	80
YEAR-TO-DATE PRECIP AND % OF AVERAGE	3.50	167	5.20	102	8.10	107	10.70	106	13.10	107	16.40	108	18.20	97	23.40	106	25.50	104	25.90	99	26.70	97	28.30	96
BULL LAKE																								
MONTHLY PRECIP AND % OF AVERAGE	2.40	120	0.80	36	2.20	129	1.90	119	1.80	113	2.30	96	1.50	47	5.00	147	1.60	70	0.40	27	0.90	64	1.50	79
YEAR-TO-DATE PRECIP AND % OF AVERAGE	2.40	120	3.20	76	5.40	92	7.30	97	9.10	100	11.40	99	12.90	88	17.90	99	19.50	96	19.90	91	20.80	89	22.30	88

[1] A composite of the following National Weather Service stations was used to determine monthly valley precipitation and percent of average for the drainage basins:
Bull Lake.....Burris, Diversion Dam, and Dubois;
Boysen.....Boysen Dam, Burris, Diversion Dam, Dubois, Lander, and Riverton;
Buffalo Bill.....Buffalo Bill Dam, Lake Yellowstone, and Tower Falls

[2] A composite of the following Natural Resources Conservation Service SNOTEL sites was used to determine monthly mountain precipitation and percent of average for the drainage basins:
Bull Lake.....Cold Springs, Elkhart Park, Hobbs Park, and St. Lawrence Alt;
Boysen.....Burroughs Creek, Cold Springs, Deer Park, Hobbs Park, Little Warm, St. Lawrence Alt, South Pass, Togwotee Pass, and Townsend Creek;
Buffalo Bill.....Blackwater, Evening Star, Kirwin, Marquette, Sylvan Lake, Sylvan Road, and Younts Peak

Averages for Valley Precipitation are based on the 1978-2007 period
Averages for Mountain Precipitation are based on the 1971-2000 period

FLOOD BENEFITS

Flood Damage Prevented in the Wind/Bighorn and Shoshone River Systems[1]					
Reservoir	**Local**	**Main Stem**	**2008 Total**	**Previous Accumulation[3]**	**1950 - 2008 Accumulation Total**
Bull Lake[2]	$ 0	$ 0	$ 0	$ 2,690,700	$ 2,690,700
Boysen	$ 234,600	$ 8,527,100	$ 8,761,700	$88,326,000	$97,087,700
Buffalo Bill[2]	$ 1,250,000	$ 0	$ 1,250,000	$10,989,700	$12,239,700

1/ This data is received from the Army Corps of Engineers Omaha District Office and is revised every October. The period of assessment is 1950 through 2008.
2/ No space is allocated to flood control, but some flood protection is provided by operation for other purposes.
3/ Adjusted in 2006 by 0.1 to 0.5 to account for previous rounding of cumulative total to nearest1.0.

Riverton Unit

The Riverton Project was reauthorized as the Riverton Unit Pick-Sloan Missouri Basin Program (P-S MBP) on September 25, 1970. Major facilities of this unit are Bull Lake Reservoir, Wind River Diversion Dam, Wyoming Canal, Pilot Butte Powerplant, Pilot Butte Reservoir, and Pilot Butte Canal. The major facilities provide water for irrigation of about 76,000 acres on the Midvale Irrigation District (Midvale). The water supply comes partly from the natural flow of the Wind River and partly from water stored in Bull Lake and Pilot Butte Reservoirs.

Bull Lake Reservoir is located on Bull Lake Creek, a tributary of the Wind River near Crowheart, Wyoming. Bull Lake has an active capacity of 151,737 acre-feet (AF), and is above all unit land. It is the principal storage facility for the unit and is operated by Midvale under contract with Reclamation. A small amount of incidental flood control benefit is provided by normal operation for other purposes. Bull Lake also provides a water resource for enhancing fish, wildlife, and recreation.

Bull Lake held 47,673 AF of water at the start of water year 2008, which was 62 percent of the normal end of September content and 31 percent of capacity. Irrigation diversions into the Wyoming Canal ended in September and releases from Bull Lake were reduced at that time to conserve the remaining storage in Bull Lake.

During water year 2007, Midvale entered into an agreement with Reclamation that allowed the storage of Boysen water in Bull Lake by exchange. Because of this agreement, Bull Lake ended the water year at a higher content. Once the irrigation season ended, the Boysen water in Bull Lake was transferred back to Boysen at a rate of approximately 20 cfs to provide a winter flow in Bull Lake Creek. Inflow during October, November, and December exceeded the release and the content of Bull Lake began to increase as soon as irrigation releases ended. By the end of December, storage in Bull Lake had increased to 56,457 AF, which was 73 percent of average. On January 1, snowpack in the basin above Bull Lake was 60 percent of average. Water supply forecasts of the April-July snowmelt runoff were prepared each month, beginning in January and continuing through June. The January forecast indicated the April-July snowmelt runoff would be approximately 115,000 AF, which was 82 percent of average. Precipitation in the mountains above Bull Lake was above average during January and the snowpack increased to 79 percent of average on February 1st. The February 1 April-July snowmelt runoff forecast was increased to 120,000 AF. Inflow during January, February, and March basically matched outflow and at the end of March the reservoir held 57,566 AF. The snowpack gradually rose through the period to 88 percent of average on April 1st and the snowmelt runoff forecast prepared for April was increased by 10,000 AF to 130,000 AF.

Midvale began irrigation deliveries on April 21st utilizing water released from Bull Lake and the available natural flow in the Wind River. Releases from Bull Lake were increased as early season irrigation water was needed to supplement diversions from the Wind River prior to the start of runoff. April precipitation was well below average on the irrigated lands of the district and precipitation in the mountains above Bull Lake was only 47 percent of average. Cool temperatures in the high country held the snow at a time when it would normally be melting and the snowpack only dropped three percent over the month when compared to average.

With little runoff above Bull Lake, the early season irrigation demand on the reservoir drew the lake down to 53,552 AF at the end of April. On May 1st the snowpack in the Bull Lake drainage was 85 percent of average and the May 1 forecast remained at 130,000 AF, 93 percent of average. A storm in early May brought snow to the watershed and was the beginning of a stormy month. Runoff began to reach the Wind River and Bull Lake Creek around the middle of May and the release from Bull Lake was reduced on May 19th to fill the reservoir as irrigation demands were met with natural flow from the Wind River. On May 21st a major weather system stalled over Wyoming and brought rain and snow to the Bull Lake drainage for the next week. Bull Lake inflow slowed with the cold and snow in the mountains but with the reduced outflow the reservoir storage increased to 64,145 AF on May 31st. Precipitation in the Bull Lake drainage was 188 percent of average during May and the weather station at Diversion Dam received over four inches of rain during the month. It was the wettest May of record in Lander and Riverton reported the second highest precipitation of record. By the 1st of June, the snowpack above Bull Lake had increased to 109 percent of average. As the storm moved out of the area, warmer weather returned and runoff increased until another late season brought considerable precipitation on June 11th. Following this storm, the runoff resumed and inflow to Bull Lake peaked at 1,613 cfs on June 27th with the Wind River above Bull Lake Creek rising to 4,934 cfs on June 25th. Storage in Bull Lake continued to increase as flows in the Wind River were sufficient to meet the irrigation demands well into the summer. The reservoir reached its peak for the year on July 25th at 150,634 AF at elevation 5804.42 ft. This was only .58 feet and 1,825 AF below the top of the active conservation pool of the reservoir. Inflow to Bull Lake was 93 percent of average during June and the flow of the Wind River above Bull Lake Creek was 105 percent of average. July inflows were above average as Bull Lake inflow was 110 percent of normal and the flow of the Wind River above Bull Lake Creek was 125 percent of average. As flows in the Wind River dropped off during August, Bull Lake storage water was utilized to satisfy the irrigation demand and releases in excess of 1,000 cfs were required for a period in August. By the end of August, storage in Bull Lake was reduced to 109,511 AF. September inflows were below average and storage in Bull Lake continued to decline through the end of the irrigation season. Irrigation on the Riverton Unit ended on October 1st and Bull Lake storage at the end of water year 2008 was 84,533 AF of water at elevation 5781.25 feet on September 30th. Actual April-July inflows totaled 134,711 AF, 96 percent of average. Total inflow to Bull Lake for the water year was 179,034 AF, which was also 96 percent of average. The flow of the Wind River above the mouth of Bull Lake Creek was estimated to be 102 percent of average, totaling 409,279 AF during the April-July period. The total diversion into the Wyoming Canal for the April-September period was 371,210 AF, 110 percent of average.

Additional hydrologic and statistical information pertaining to Bull Lake operations during 2008 can be found in Table WYT4 and Figure WYG1.

Pilot Butte Reservoir, an off-stream reservoir near Kinnear, Wyoming, receives its water supply from the Wind River through the Wyoming Canal. Pilot Butte Reservoir has a total capacity of 33,721 AF. Of this amount, 3,803 AF is allocated for inactive and dead storage and 29,918 AF for active conservation storage. Pilot Butte Dam and the Wyoming Canal which supplies the reservoir are operated by Midvale under contract with Reclamation.

Pilot Butte Reservoir began water year 2008 with a total storage content of approximately 9,263 AF at elevation 5429.96 feet.

Releases from Pilot Canal for the 2007 irrigation season ended on September 16, 2007. Midvale began diverting water into the Wyoming Canal on October 1, 2007, in order to refill Pilot Butte. Diversions continued until October 24th, when Pilot Butte reached 28,110 AF at 5453.52 feet. Once diversions into Pilot Butte were discontinued, the reservoir level began to slowly fall through the winter due to evaporation.

By the end of March, evaporation had reduced the content of the reservoir to 27,293 AF. Diversion into Wyoming Canal was resumed in early April to continue filling Pilot Butte and flush the canal, with irrigation deliveries beginning on April 21st. Storage in Pilot Butte was utilized immediately as early season irrigation demands were greater than the available natural flow in the Wind River. Once the runoff began, there was more than enough natural flow available to satisfy irrigation demands while keeping Pilot Butte essentially full well into July. As demand in August exceeded the natural flow available to Midvale, Pilot Butte storage was used to help meet the demand on Pilot Canal through the remainder of the irrigation season. Storage in Pilot Butte on September 30th was 11,565 AF at 5429.54 feet. Irrigation deliveries on the Riverton Unit ended on October 1, 2008.

Total generation at the Pilot Butte Powerplant in water year 2008 was 2,015,000 kilowatt-hours (kWh). During water year 2008, 22,900 AF or 14 percent of the water that entered the reservoir was used to generate power at Pilot Butte Powerplant.

Additional hydrologic and statistical information pertaining to Pilot Butte Reservoir during 2008 can be found in Table WYT5 and Figure WYG2.

TABLE WYT4
HYDROLOGIC DATA FOR WATER YEAR 2008
BULL LAKE RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	5739.00	722	722
TOP OF ACTIVE CONSERVATION	5805.00	152,459	151,737
STORAGE-ELEVATION DATA	**ELEVATION (FEET)**	**STORAGE (AF)**	**DATE**
BEGINNING OF YEAR	5765.42	47,673	OCT 01, 2007
END OF YEAR	5781.25	84,533	SEP 30, 2008
ANNUAL LOW	5763.87	44,455	MAY 17, 2008
HISTORIC LOW*	5743.03	6,228	MAR 31, 1950
ANNUAL HIGH	5804.42	150,634	JUL 25, 2008
HISTORIC HIGH	5805.70	154,677	AUG 10, 1965

* Prior to 1952 daily records are not available. End of month data was used to determine the historic low.

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	179,034	OCT 07-SEP 08	141,960	OCT 07-SEP 08
DAILY PEAK (cfs)	1,705	MAY 22, 2008	1,155	AUG 21, 2008
DAILY MINIMUM (cfs)	5	APR 28, 2008	22	DEC 01, 2008
PEAK SPILLWAY FLOW (cfs)			0	
TOTAL SPILLWAY FLOW (AF)			0	

	INFLOW		OUTFLOW		CONTENT	
MONTH	KAF	% of Avg*	KAF	% of Avg*	KAF	% of Avg*
OCTOBER	7.7	146	2.1	32	53.3	70
NOVEMBER	4.2	140	2.2	91	55.3	72
DECEMBER	2.5	100	1.3	66	56.5	73
JANUARY	2.0	91	1.3	70	57.1	74
FEBRUARY	1.8	110	1.2	78	57.7	75
MARCH	1.2	69	1.3	74	57.6	74
APRIL	1.4	37	5.4	149	53.6	69
MAY	25.4	89	14.6	98	64.1	71
JUNE	57.0	93	4.1	16	117.0	92
JULY	51.0	110	20.2	44	147.8	116
AUGUST	16.2	76	54.5	118	109.5	107
SEPTEMBER	8.7	93	33.7	95	84.5	111
ANNUAL	179.0	96	142.0	76		

APRIL - JULY INFLOW (AF)	
ACTUAL	AVERAGE
134,711	139,700

* Average for the 1978-2007 period

FIGURE WYG1

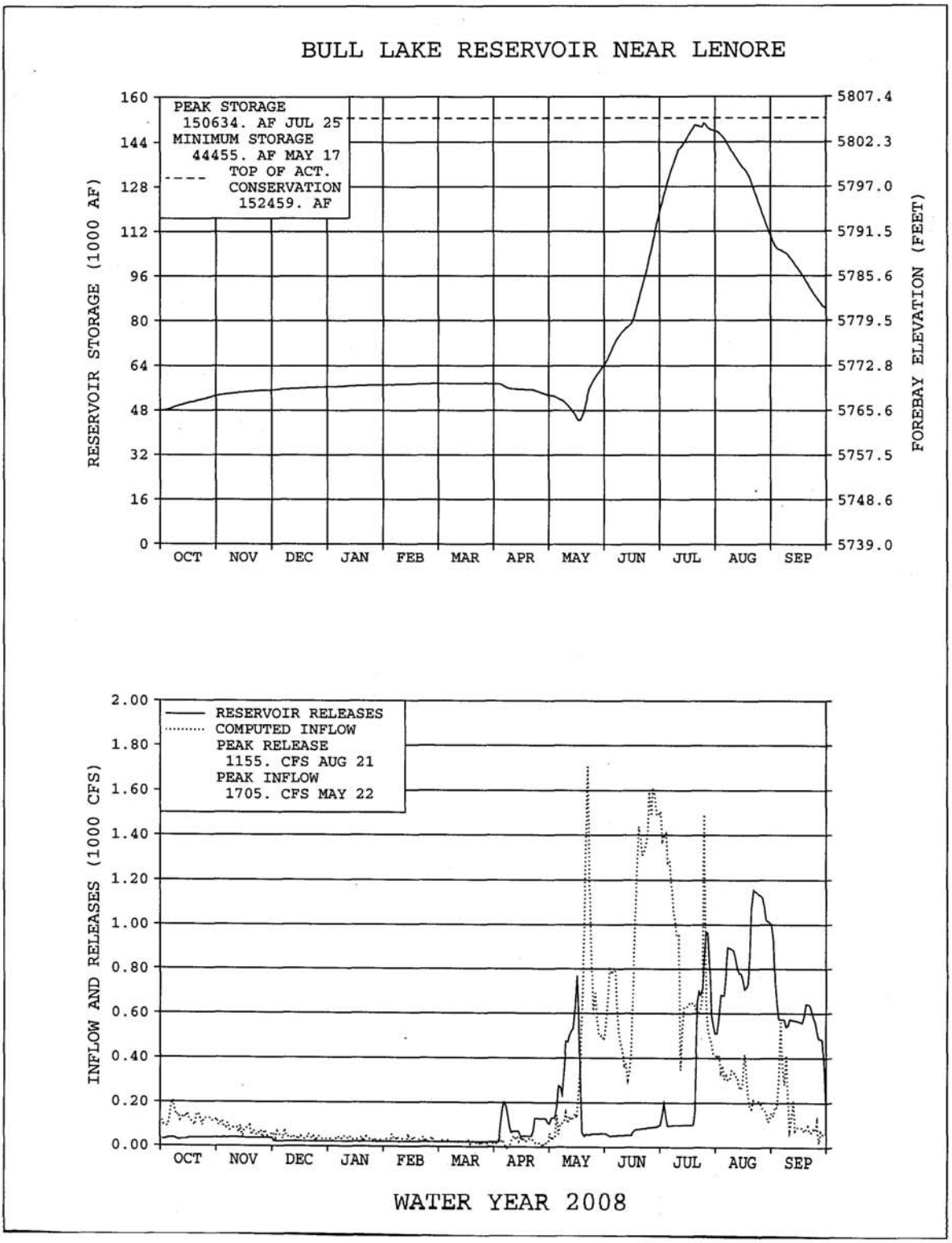

BULL LAKE RESERVOIR NEAR LENORE
PEAK STORAGE
150634. AF JUL 25
MINIMUM STORAGE
44455. AF MAY 17
TOP OF ACT. CONSERVATION
152459. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
160
144
128
112
96
80
64
48
32
16
0
5807.4
5802.3
5797.0
5791.5
5785.6
5779.5
5772.8
5765.6
5757.5
5748.6
5739.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
1155. CFS AUG 21
PEAK INFLOW
1705. CFS MAY 22
INFLOW AND RELEASES (1000 CFS)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

TABLE WYT5
HYDROLOGIC DATA FOR WATER YEAR 2008
PILOT BUTTE RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	5410.00	3,803	3,803
TOP OF ACTIVE CONSERVATION	5460.00	33,721	29,918

STORAGE-ELEVATION DATA	ELEVATION (FEET)	STORAGE (AF)	DATE
BEGINNING OF YEAR	5424.96	9,263	OCT 01, 2007
END OF YEAR	5429.54	11,565	SEP 30, 2008
ANNUAL LOW	5424.95	9,258	OCT 02, 2007
HISTORIC LOW	5409.80	3,748	DEC 01, 2006
ANNUAL HIGH	5458.19	32,108	JUL 09, 2008
HISTORIC HIGH	5460.60	37,465	APR 20, 1988

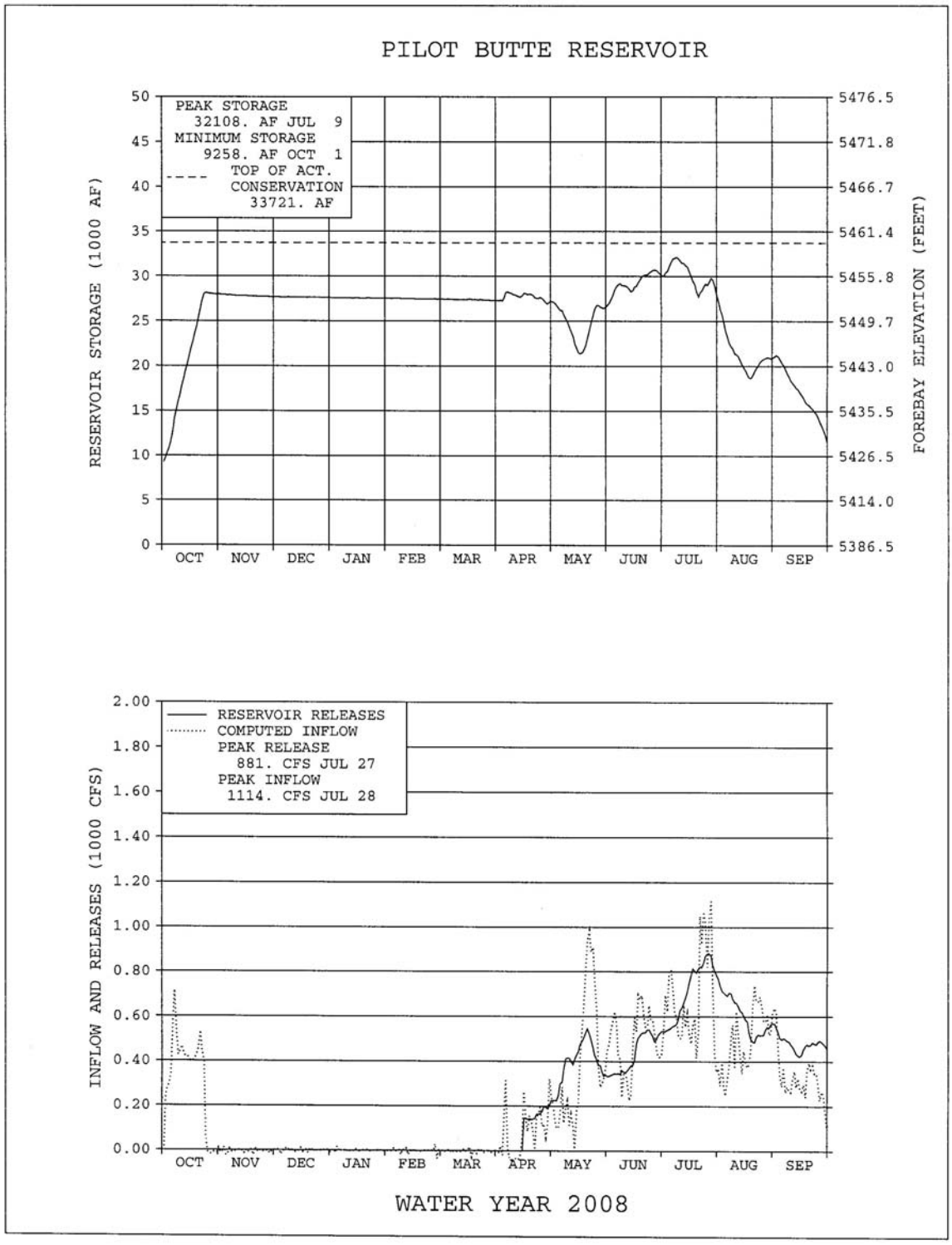
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	166,007	OCT 07-SEP 08	163,705	OCT 07-SEP 08
DAILY PEAK (cfs)	1,114	JUL 28, 2008	881	JUL 27, 2008
DAILY MINIMUM (cfs)	0	WINTER MONTHS	0	WINTER MONTHS
PEAK SPILLWAY FLOW (cfs)			0	
TOTAL SPILLWAY FLOW (AF)			0	

	INFLOW*		OUTFLOW		CONTENT	
MONTH	KAF	% of Avg**	KAF	% of Avg**	KAF	% of Avg**
OCTOBER	18.7	199	0.0	N/A	28.0	110
NOVEMBER	-0.3	N/A	0.0	N/A	27.6	104
DECEMBER	-0.1	N/A	0.0	N/A	27.6	104
JANUARY	-0.1	N/A	0.0	N/A	27.5	103
FEBRUARY	-0.1	N/A	0.0	N/A	27.4	103
MARCH	-0.1	N/A	0.0	N/A	27.3	95
APRIL	4.7	62	4.9	85	27.1	89
MAY	23.3	100	23.9	90	26.5	97
JUNE	29.3	77	25.6	71	30.2	102
JULY	41.4	98	43.6	94	28.0	110
AUGUST	30.1	92	37.2	102	20.9	96
SEPTEMBER	19.2	83	28.5	107	11.6	63
ANNUAL	166.0	92	163.7	91		

* Negative values are the result of calculated inflow based on reservoir release and change in reservoir content.

** Average for the 1978-2007 period.

FIGURE WYG2


PILOT BUTTE RESERVOIR
PEAK STORAGE
32108. AF JUL 9
MINIMUM STORAGE
9258. AF OCT 1
TOP OF ACT.
CONSERVATION
33721. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
50
45
40
35
30
25
20
15
10
5
0
5476.5
5471.8
5466.7
5461.4
5455.8
5449.7
5443.0
5435.5
5426.5
5414.0
5386.5
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
881. CFS JUL 27
PEAK INFLOW
1114. CFS JUL 28
INFLOW AND RELEASES (1000 CFS)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

Boysen Reservoir and Powerplant

Boysen Reservoir (P-S MBP) is located on the Wind River above Thermopolis, Wyoming. The dam and reservoir were built for flood control, power generation, irrigation, recreation, and fish and wildlife. Boysen Reservoir has a total capacity of 892,226 AF. Of this amount, 219,181 AF is allocated for inactive and dead storage, 522,413 AF for active conservation storage, and 150,632 AF for exclusive flood control storage. Of the amount allocated for active conservation, 144,229 AF is specifically allocated for joint-use flood control storage. All of the joint-use space is located between elevation 4717.00 feet and elevation 4725.00 feet, which is the top of the spillway gates when closed. The exclusive flood control space is located between elevation 4725.00 feet and elevation 4732.20 feet. When the reservoir rises above elevation 4724.50 feet, the spillway gates must be partially opened to maintain ½ foot of the gates above the water to prevent over-topping of the gates. When all flood control space is filled, releases cannot be controlled to less than 14,000 cfs.

Irrigation water is provided from the reservoir for several units, both upstream and downstream of Boysen Dam. Water is furnished downstream to about 7,500 acres in the Hanover-Bluff Unit (P-S MBP) and 3,400 acres on the Lucerne Canal in the Owl Creek Unit (P-S MBP). Supplemental water is also furnished to other irrigation districts and to a number of individual water users below the Dam. The Bighorn Canal Irrigation District and Hanover Irrigation District receive water under long term contracts with Reclamation. Depending on availability, water is also provided to Bluff Irrigation District, Kirby Ditch Company, Lower Hanover Canal Association, Bighorn Canal Irrigation District, and Hanover Irrigation District utilizing temporary water service contracts.

Water year 2008 began with 389,685 AF of water stored in Boysen Reservoir, which was 64 percent of the 30 year average. The corresponding reservoir elevation of 4701.87 feet was 23.13 feet below the top of the joint use pool. The winter release was set on October 1, 2007, when irrigation demands fell below the planned fall and winter release of 400 cfs. Precipitation during the October through December period in the Boysen watershed was above the thirty year average while reservoir inflow was below average during each of those months. With releases held at 400 cfs, the reservoir level rose 2.50 feet to 4704.37 feet at the end of December, increasing the reservoir storage to 419,523 AF. Snowpack in the Boysen watershed began to accumulate in early October, but November was warm and dry and much of the early gains were lost. Conditions improved during December as a series of winter storms moved through the watershed, getting the snowpack back on track.

Forecasts of April-July snowmelt runoff were prepared at the beginning of each month beginning in January and continuing through June. On January 1st the snowpack in the mountains above Boysen was 82 percent of average and the forecast indicated approximately 350,000 AF of water, 63 percent of average, would enter Boysen Reservoir during the April-July snowmelt runoff period. Precipitation during January was above average while temperatures were well below normal. The snowpack increased about six percent during the month to 88 percent of average on February 1st. With the snowpack increasing at an above average rate, the February 1 snowmelt runoff forecast was increased to 400,000 AF.

Reservoir inflow during January and February continued to be below average, but with releases held at 400 cfs the reservoir level slowly rose.

At the end of February, Boysen Reservoir held 430,607 AF of water at elevation 4705.27 feet. February precipitation and temperature in the Wind River basin were both near normal and the snowpack changed very little during the month when compared to average. With none of the forecast indicators exhibiting much change, the March 1 forecast of April-July snowmelt runoff remained at 400,000 AF. Based on the March forecast, Boysen Reservoir was projected to fall about eight feet short of filling. Reservoir inflow during the entire winter was about 80 percent of average and the trend continued during March. Precipitation was well below average in the Wind River valley but the mountains received 114 percent of average precipitation through the month and the snowpack saw an increase of seven percent to 97 percent of average on April 1. At the end of March, Boysen reservoir held 447,660 AF of water at elevation 4706.62 feet.

The improving snow conditions in the basin warranted an increase in the forecast prepared on April 1. The expected April-July snowmelt runoff was increased to 500,000 AF, which was 91 percent of average. April precipitation was well below average in the Wind River basin and temperatures were about three degrees below normal. Releases were maintained at 400 cfs until April 16th when the Wyoming State Engineer's Office in Riverton requested an increase to satisfy downstream needs for irrigation water. When the increase above the winter release was made, Boysen storage use accounting was initiated and releases were limited to the amount needed to meet the demands of downstream contractors, with changes coordinated by the Wyoming State Engineer's Office in Riverton. By the end of April the Boysen release was 785 cfs and with April inflow averaging about 480 cfs the reservoir level dropped 0.15 feet over the month to elevation 4706.47 feet. The snowpack on May 1st was 94 percent of average, a three percent loss from the previous month, and the May forecast of April-July snowmelt runoff remained at 500,000 AF. The snowpack began to melt out in early May but the reservoir level continued to fall as much of the inflow was diverted to meet irrigation demands upstream of Boysen. Things changed for the better on May 21st as a strong spring storm stalled over Wyoming, bringing rain and snow to the Bighorn basin for the next six days.

The snowpack, which had been losing ground to average, began to increase again and inflows rose from the rainfall and rain melting snow. Storm totals in excess of three inches were fairly common throughout the area and Lander recorded the wettest May since record keeping began in 1892, receiving 6.13 inches of precipitation during the month. Riverton received 4.60 inches of rain in May, making it the second wettest May since 1908 when recordkeeping began in Riverton. Irrigation demand decreased as a result of the rainfall while the inflow to Boysen increased rapidly, peaking on May 23rd at 8,320 cfs. On May 27th Boysen storage use accounting was discontinued as the release from the Dam was increased above irrigation demand to control the rate of fill of the reservoir. At the end of May, Boysen Reservoir held 513,065 AF of water at elevation 4711.45 feet, with releases from the Dam set at 2,000 cfs. Inflow during May was 102 percent of average, the first month of above average inflow since January of 2006.

On June 1st the snowpack above Boysen was 136 percent of average and cool temperatures early in the month held the snow up in the mountains. In anticipation of the expected runoff, releases were increased above powerplant capacity on June 9th and the spillway gates were opened from June 11th to June 19th

A late spring storm on June 11th and 12th brought even more snow to the high country and the runoff was slowed by the cool weather. Once runoff got under way, inflows in excess of 5,000 cfs continued from June 19th to July 2nd, with a daily peak of 6,095 cfs on June 28th while the maximum release from the Dam of 3,021 cfs occurred on June 18th.

After the spillway gates were closed, the releases were reduced and the reservoir was allowed to fill to a maximum content of 681,555 AF on July 14th at elevation 4721.84 feet. Inflow during July was slightly below average and releases averaged 1,375 cfs. Moss in the river became a serious problem for irrigators during July and the Hanover Irrigation District requested a flushing flow to reduce the amount of moss in the river channel. On July 17th, 2008, releases from the Dam were increased from approximately 1,300 cfs to 5,000 cfs over an eight hour period. The 5,000 cfs release was maintained for twelve hours and then gradually reduced back to 1,300 cfs. At the end of July Boysen Reservoir content was at 101 percent of average at 662,630 AF. Inflow fell to 63 percent of average during August while September inflow was 80 percent of average. Releases from the Dam were decreased through the summer as demands declined. On September 11th the irrigation demand fell below the planned winter release of 700 cfs so the release from the Dam was set at the planned winter release of 700 cfs.

Actual inflow for the April-July period totaled 522,110 AF, which was 95 percent of average. Total inflow to Boysen during water year 2008 was 806,927 AF, 86 percent of average. The reservoir ended the water year at 4718.88 feet with a content of 628,830 AF. This was 104 percent of the average end of September content and seventeen feet higher than at the end of September of 2007. During water year 2008, Boysen Powerplant generated 40,805,000 kWh of electricity, about 60 percent of average and 1,823,000 kWh more than was generated in 2007. Of the 567,782 AF of water released from Boysen in water year 2008, 547,581 AF was discharged through the powerplant and 20,201 AF bypassed the powerplant.

Important Events - 2008

October 1, 2007: Irrigation demand fell below the planned winter release of 400 cfs, ending storage use accounting for the year.

March 17, 2008: Boysen Reservoir spring water information meeting was held in Worland to discuss the water supply and proposed operation of Boysen Reservoir in 2008.

April 16, 2008: Release greater than the 400 cfs winter release was required to meet irrigation demands and Boysen Reservoir storage water use accounting was initiated.

May 27, 2008: Release greater than irrigation demand was initiated in anticipation of snowmelt runoff and Boysen Reservoir storage water use accounting was discontinued.

June 11 – June 19, 2008: Releases through the spillway were made to control the reservoir level.

July 17 – July 18, 2008: Releases were increased to 5,000 cfs for twelve hours to provide a flow to flush moss from the river channel.

September 11, 2008: Release was set at 700 cfs as irrigation demand fell below the planned winter release of 700 cfs.

Additional hydrologic and statistical information pertaining to the operation of Boysen Reservoir can be found in Table WYT6 and Figure WYG3.

TABLE WYT6
HYDROLOGIC DATA FOR WATER YEAR 2008
BOYSEN RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4685.00	219,181	219,181
TOP OF ACTIVE CONSERVATION	4717.00	597,365	378,184
TOP OF JOINT USE	4725.00	741,594	144,229
TOP OF EXCLUSIVE FLOOD CONTROL	4732.20	892,226	150,632

STORAGE-ELEVATION DATA	ELEVATION (FEET)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4701.87	389,685	OCT 01, 2007
END OF YEAR	4718.88	628,830	SEP 30, 2008
ANNUAL LOW	4701.87	389,685	OCT 01, 2007
HISTORIC LOW ELEVATION *	4684.18		MAR 18, 1956
HISTORIC LOW CONTENT *		235,737	SEP 24, 2002
ANNUAL HIGH	4721.84	681,555	JUL 14, 2008
HISTORIC HIGH	4730.83	922,406	JUL 06, 1967

* Because storage space in a reservoir is lost as sediment is trapped behind the dam, reservoirs are resurveyed periodically to determine actual capacity. Based on the 1994 resurvey of Boysen Reservoir, the historic low content of 235,737 AF occurred at an elevation that was 2.69 feet higher than the historic low elevation.

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	806,927	OCT 07-SEP 08	567,782*	OCT 07-SEP 08
DAILY PEAK (cfs)	8,320	MAY 23, 2008	3,021	JUN 18, 2008
DAILY MINIMUM (cfs)	76	APR 10, 2008	389	DEC 20, 2007
PEAK SPILLWAY FLOW (cfs)				
TOTAL SPILLWAY FLOW (AF)				

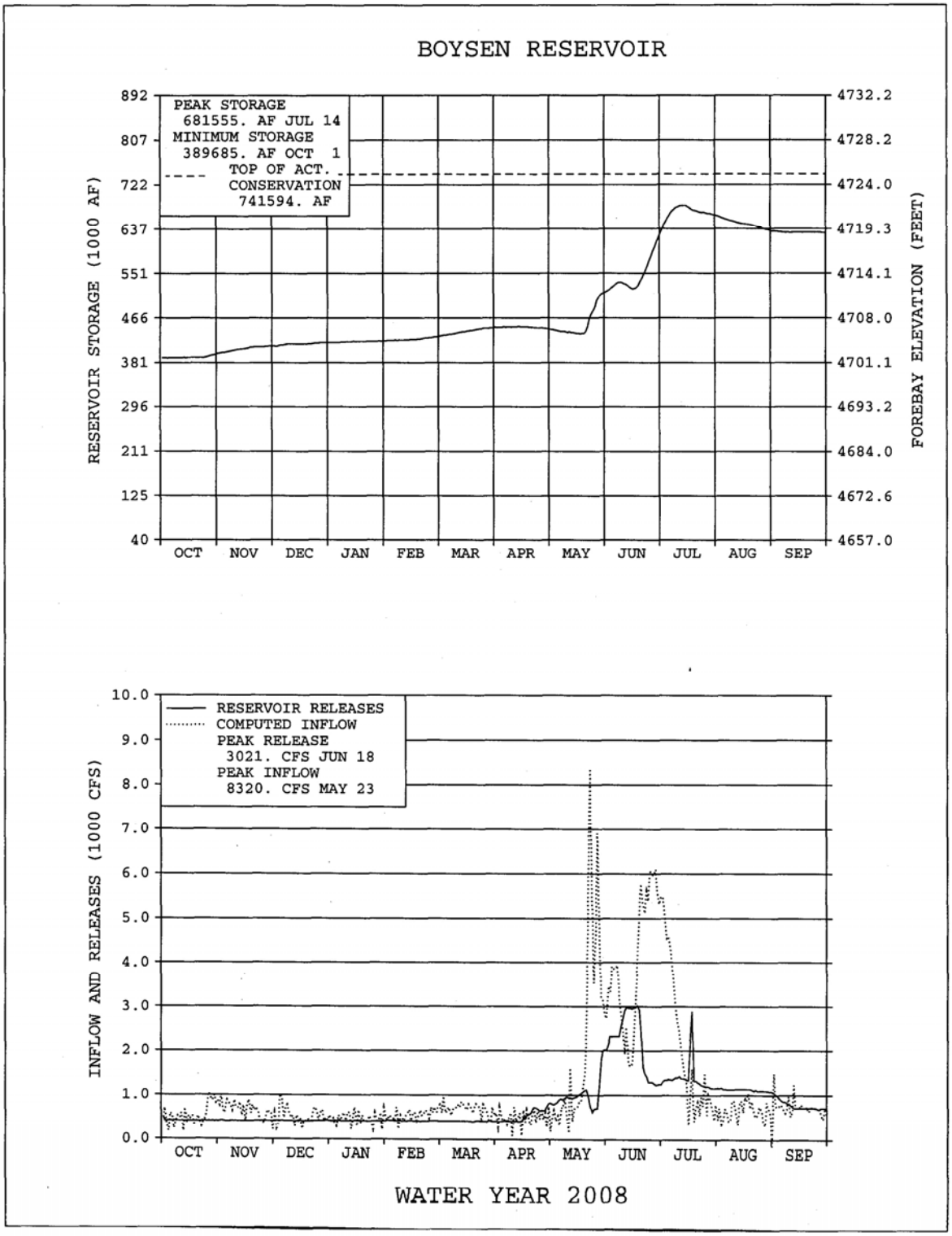
* Of the 567,782 AF of water released from Boysen Reservoir, 20,201 AF bypassed the powerplant.

	INFLOW		OUTFLOW		CONTENT	
MONTH	KAF	% of Avg*	KAF	% of Avg*	KAF	% of Avg*
OCTOBER	33.0	55	24.8	39	397.9	66
NOVEMBER	38.6	79	23.9	43	412.6	70
DECEMBER	31.7	83	24.7	44	419.5	73
JANUARY	27.9	76	24.7	47	422.7	76
FEBRUARY	31.2	83	23.3	48	430.6	79
MARCH	41.7	79	24.6	40	447.7	83
APRIL	28.7	60	30.6	45	445.7	86
MAY	128.8	102	61.5	66	513.1	93
JUNE	237.6	97	130.5	96	620.1	94
JULY	127.0	95	84.5	60	662.6	101
AUGUST	37.6	63	69.0	76	631.2	101
SEPTEMBER	43.3	80	45.7	63	628.8	104

APRIL - JULY INFLOW (AF)	
ACTUAL	AVERAGE
522,110	552,200

* Average for the 1978-2007 period

FIGURE WYG3


BOYSEN RESERVOIR
PEAK STORAGE
681555. AF JUL 14
MINIMUM STORAGE
389685. AF OCT 1
TOP OF ACT.
CONSERVATION
741594. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
892
807
722
637
551
466
381
296
211
125
40
4732.2
4728.2
4724.0
4719.3
4714.1
4708.0
4701.1
4693.2
4684.0
4672.6
4657.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
3021. CFS JUN 18
PEAK INFLOW
8320. CFS MAY 23
INFLOW AND RELEASES (1000 CFS)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

Anchor Reservoir

Anchor Reservoir (P-S MBP) is located on the South Fork of Owl Creek, a tributary of the Bighorn River near Thermopolis, Wyoming. It has a total storage capacity of 17,228 AF, of which 17,160 AF is active storage. It was constructed to furnish a supplemental irrigation supply for the Owl Creek Unit (P-S MBP). The dam was completed in November 1960. However, several major sinkholes developed in the lower portion of the reservoir after it began to fill, and corrective work to plug the sinkholes has not been successful. Two dikes, in service since 1979, partition off the portions of the reservoir with high seepage losses. The top of the dikes are at elevation 6415.00 feet, however, when the reservoir rises above elevation 6412.80 feet, water flows through a notch in one of the dikes into the sinkhole area. The reservoir is operated not to exceed elevation 6412.80 feet. Operation and maintenance of Anchor Dam is performed by contract with Owl Creek Irrigation District. Reclamation requires notification from the irrigation district any time the reservoir level is expected to exceed elevation 6400.00 feet. Operation above 6400.00 feet will be directed by Wyoming Area Office (WYAO) staff to avoid overtopping of the dikes.

Storage in Anchor Reservoir at the beginning of water year 2008 was 254 AF at elevation 6355.00 feet. The reservoir level increased slightly in October, reaching 283 AF by the end of the month. The reservoir level fluctuated through the winter but by the end of March, held the same amount of water as was in the reservoir at the end of October, 283 AF at elevation 6356.00 feet. Inflows did not begin to increase until late April and at the end of May, Anchor held 425 AF of water. Inflow during June was above average and the reservoir reached its maximum content for the year of 4,654 AF on July 5th. July and August inflow was also above average but releases to help meet irrigation demands exceeded the inflow and the reservoir level fell to 343 AF at the end of August. The reservoir remained at a fairly constant level during September and held 346 AF at elevation 6358.04 feet on September 30th. The maximum daily inflow for the year of 181 cfs occurred on June 24th and the maximum release of 111 cfs was on July 26th.

Hydrologic and statistical data pertaining to Anchor Reservoir operations during 2008 can be found in Table WYT7 and Figure WYG4. The negative inflows displayed in Figure WYG4 are the result of calculated inflow based on reservoir release and change in reservoir content. During some periods, evaporation and seepage from the reservoir could exceed inflow.

TABLE WYT7
HYDROLOGIC DATA FOR WATER YEAR 2008
ANCHOR RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	6343.75	68	68
TOP OF ACTIVE CONSERVATION*	6441.00	17,228	17,160

* District operation has been restricted to elevation 6400.00 feet or less to prevent damage to the dikes and to minimize the chance of creating new sinkholes. Operations above elevation 6400.00 feet are directed by Reclamation.

STORAGE-ELEVATION DATA	ELEVATION (FEET)	STORAGE (AF)	DATE
BEGINNING OF YEAR	6355.00	254	OCT 01,2007
END OF YEAR	6358.04	346	SEP 30, 2008
ANNUAL LOW	6355.00	254	OCT 01, 2007
HISTORIC LOW			
ANNUAL HIGH	6401.03	4,654	JUL 05, 2008
HISTORIC HIGH	6418.52	9,252	JUL 03, 1967

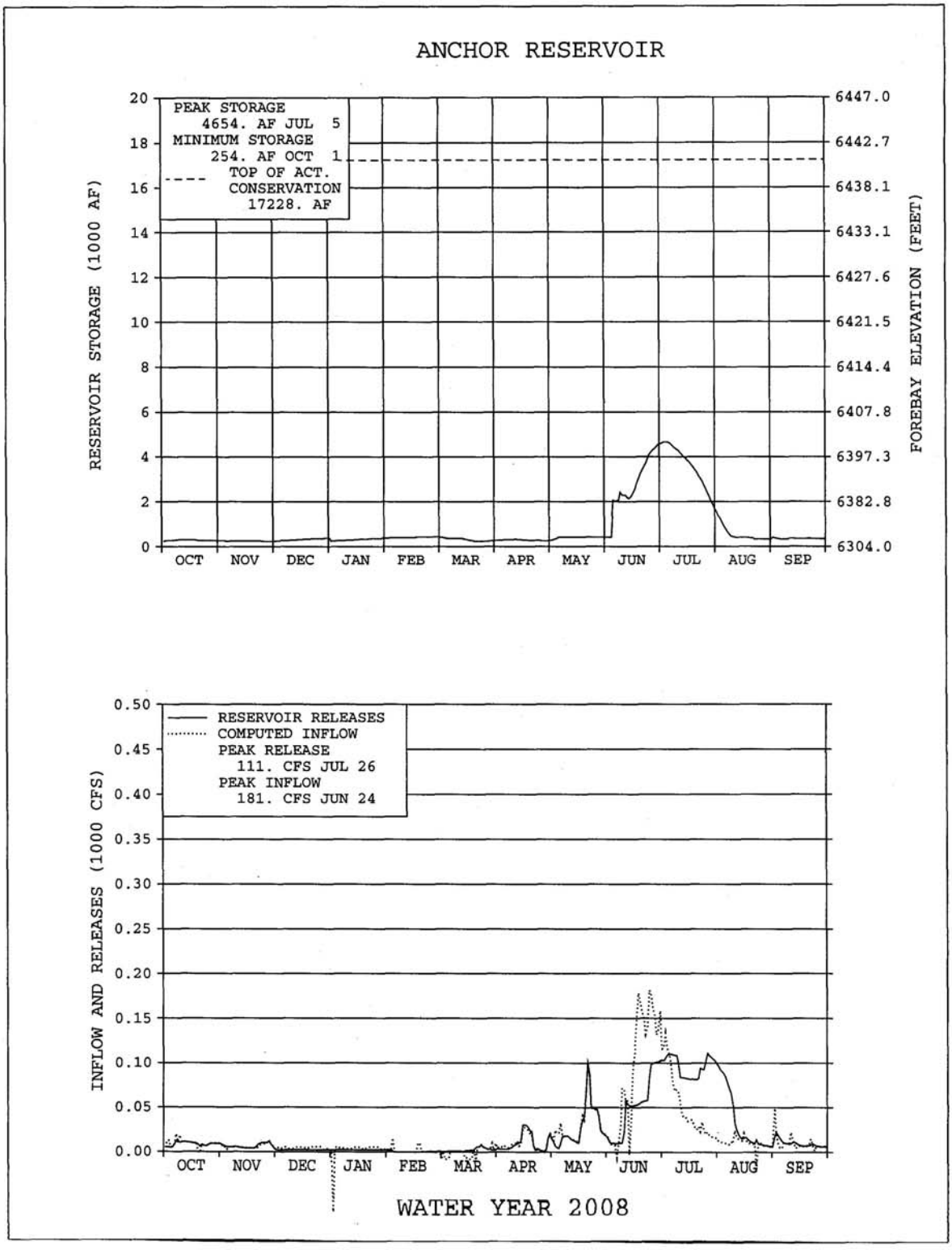
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW*	DATE
ANNUAL TOTAL (AF)	15,198	OCT 07-SEP 08	15,105	OCT 07-SEP 08
DAILY PEAK (cfs)	181	JUN 24, 2008	111	JUL 26, 2008
DAILY MINIMUM (cfs)	0	WINTER MONTHS	0	WINTER MONTHS
PEAK SPILLWAY FLOW (cfs)			0	
TOTAL SPILLWAY FLOW (AF)			0	

* Outflow is water released from the Dam to Owl Creek. When the reservoir level rises above approximately 6412.80 feet, water flows through a notch in one of the dikes into the sinkhole area. This water is neither measured nor accounted for. In 2007, no water flowed over the notch in the dike.

	INFLOW		OUTFLOW*		CONTENT	
MONTH	KAF	% of Avg*	KAF	% of Avg*	KAF	% of Avg*
OCTOBER	0.5	90	0.5	80	0.3	106
NOVEMBER	0.3	110	0.4	103	0.3	116
DECEMBER	0.3	136	0.1	63	0.4	185
JANUARY	0.1	160	0.1	135	0.4	197
FEBRUARY	0.1	71	0.0	0	0.5	199
MARCH	0.0	0	0.1	66	0.3	90
APRIL	0.6	87	0.6	125	0.3	53
MAY	1.9	45	1.7	55	0.4	27
JUNE	7.1	109	3.0	60	4.5	148
JULY	3.1	154	5.9	191	1.7	88
AUGUST	0.6	261	2.0	128	0.3	56
SEPTEMBER	0.6	99	0.6	67	0.3	107
ANNUAL	15.2	96	15.1	96		

* Average is for the 1991-2007 period. This period was used because of the availability of data at Anchor Res.

FIGURE WYG4


ANCHOR RESERVOIR
PEAK STORAGE
4654. AF JUL 5
MINIMUM STORAGE
254. AF OCT 1
TOP OF ACT.
CONSERVATION
17228. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
20
18
16
14
12
10
8
6
4
2
0
6447.0
6442.7
6438.1
6433.1
6427.6
6421.5
6414.4
6407.8
6397.3
6382.8
6304.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
111. CFS JUL 26
PEAK INFLOW
181. CFS JUN 24
INFLOW AND RELEASES (1000 CFS)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2008

Shoshone Project & Buffalo Bill Unit

The primary features of the original Shoshone Project included Buffalo Bill Dam and Reservoir, Shoshone and Heart Mountain Powerplants, and the canal and lateral systems for the Willwood, Frannie, Garland, and Heart Mountain Divisions. In 1982, The Buffalo Bill Dam and Reservoir Modifications, Shoshone Project, Wyoming, was authorized as the Buffalo Bill Unit (P-S MBP). The principal modifications to Buffalo Bill Dam included raising the height of the Dam by 25 feet, reconstructing the Shoshone Powerplant, construction of the Buffalo Bill Powerplant, construction of the Spirit Mountain Energy Dissipation Structure, pressurizing a portion of the Shoshone Canyon Conduit, enlarging and gating the spillway, constructing a visitor's center, and constructing the North Fork, South Fork, and Diamond Creek Dikes. The North and South Fork dust abatement dikes were designed to impound water in areas of the enlarged reservoir that would be dry during periods when the reservoir elevation is low, thereby reducing the dust producing area of the reservoir. The Diamond Creek protective dike prevents the enlarged reservoir from inundating Irma Flats.

Controlled releases are made from Buffalo Bill Reservoir at four points: (1) Shoshone Canyon Conduit, (2) Shoshone Powerplant, (3) the gated spillway, and (4) two river outlets (jetflow valve and 4X5 high pressure gates). Water for the Willwood, Frannie, and Garland Divisions of the Shoshone Project is diverted from the Shoshone River below Buffalo Bill Reservoir. The Heart Mountain Division is irrigated by water released at the dam through a high-level outlet to the Shoshone Canyon Conduit and Heart Mountain Canal. Irrigation releases for the project land along the Shoshone River are made through the Shoshone Powerplant, the river outlets, or through the Shoshone Canyon Conduit and Buffalo Bill or Heart Mountain Powerplants. Project works presently serve about 93,000 acres in the four divisions.

The Heart Mountain Pow erplant, Shoshone Project, with a nameplate capability of 6,000 kilowatts (kW) and maximum discharge capacity of 360 cfs, is located at the end of the Shoshone Canyon Conduit, which obtains its water from a high-level outlet, elevation 5233.00 feet, at Buffalo Bill Dam. The powerplant is located 3.5 miles below the dam and discharges into the Shoshone River. During the summer months, the water released through the powerplant is used to satisfy a portion of the irrigation demand of lands diverting directly from the river.

The Shoshone Powerplant, reconstructed as part of the Buffalo Bill Unit (P-S MBP), is located on the left bank of the Shoshone River at the toe of Buffalo Bill Dam and releases water directly into the Shoshone River. After 56 years of continuous use, the Shoshone Powerplant became obsolete because of safety problems beyond economical repair. On March 21, 1980, the original plant was taken out of service. In 1992 one of the three generating units was replaced with a new unit having a nameplate capability of 3,000 kW. In accordance with the Buffalo Bill Reservoir Enlargement Winter Release Operation Agreement, a flow of at least 100 cfs is released to the Shoshone River at the base of the dam at all times. This is normally achieved by the use of the Shoshone Powerplant. A maximum release of approximately 200 cfs can be made through the Shoshone Powerplant.

The Buffalo Bill Powerplant, Buffalo Bill Unit (P-S MBP), with a nameplate capability of 18,000 kW, is located about one mile downstream of Buffalo Bill Dam on the right bank of the Shoshone River. Water for generation at this powerplant is supplied through a portion of the Shoshone Canyon Conduit, which was pressurized as part of the Buffalo Bill modification. The maximum discharge capacity of the three units at the Buffalo Bill Powerplant is 930 cfs. The powerplant first generated power on July 15, 1992.

Spirit Mountain Powerplant, Buffalo Bill Unit (P-S MBP), with a nameplate capability of 4,500 kW and discharge capacity of 560 cfs, is a newly constructed energy dissipator powerplant located about one mile downstream of Buffalo Bill Dam on the right side of the Shoshone River. Water released through the Shoshone Canyon Conduit for Heart Mountain Canal or Heart Mountain Powerplant must be routed through the Spirit Mountain Powerplant or through associated sleeve valves to dissipate energy in the transition from the pressurized portion of the Shoshone Canyon Conduit to the free flow portion of the conduit. The discharge from the powerplant must be carried away from the plant by use of the free-flow conduit and operation of the powerplant depends on the availability of the conduit to carry discharged water.

Buffalo Bill Dam and Reservoir, located on the Shoshone River above Cody, Wyoming, is a multipurpose facility that provides water for domestic, irrigation, municipal, fish and wildlife, power, and recreational use. It also provides a small amount of incidental flood control, although no storage space is specifically reserved for this purpose. The total storage capacity of the reservoir is 646,565 AF at elevation 5393.50 feet, the top of the active conservation pool.

Storage in Buffalo Bill Reservoir at the beginning of water year 2008 was 417,846 AF of water at elevation 5362.74 feet. The reservoir level continued to slowly fall during the first half of October as releases for irrigation continued to exceed inflow. By October 17th releases to the Shoshone River for irrigation were no longer required and the release to the Shoshone River was reduced to 150 cfs in accordance with the Buffalo Bill Reservoir Enlargement Winter Release Operation Agreement. Irrigation deliveries to the Heart Mountain Canal were discontinued on October 15th. Once releases to the canal and river for irrigation ended, the reservoir began to recover and at the end of October there were 424,403 AF of water in storage at elevation 5363.72 feet. Inflows during the October through December period were 127 percent of average and by the end of December storage in the reservoir had increased to 443,390 AF. Precipitation was also above average during the period and the snowpack in the Buffalo Bill watershed stood at 93 percent of average on January 1st.

Forecasts of the April-July snowmelt runoff are made each month beginning in January and continuing through June for Buffalo Bill Reservoir. Conditions on January 1st indicated that 600,000 AF of runoff could be expected to flow into Buffalo Bill Reservoir during the April through July period, which was 93 percent of the 30 year average. While January inflow to Buffalo Bill was below average, it did exceed the release and at the end of the month storage in the reservoir stood at 447,300 AF of water. Precipitation in the mountains of the Buffalo Bill watershed was right at average during January and above average during February.

The snowpack remained almost constant through the period and was 94 percent of average on March 1st. With conditions changing very little, the forecasts prepared on February 1st and March 1st remained at 600,000 AF. March precipitation was well above average, especially at lower elevations, and the snowpack improved to102 percent of average on April 1st. March inflow was only 64 percent of average but the reservoir storage continued to slowly increase to 455,220 AF of water at elevation 5368.29 feet on March 31. The snowmelt runoff forecast prepared on April 1st reflected the improving snowpack, as it was increased to 680,000 AF.

As irrigation season approached, control of the release from the Dam was turned over to the Shoshone Irrigation District for irrigation on April 14th and delivery to Heart Mountain canal began on April 15th. Releases from the Dam and into Heart Mountain Canal were increased as necessary to meet irrigation needs as precipitation was well below average during the first three weeks of April. Precipitation in the mountains was 68 percent of average but the snowpack only fell two percent during April to 100 percent of average on May 1st and the May 1 forecast of April-July snowmelt runoff was increased by 40,000AF to 720,000 AF. Reservoir inflow began to increase during the last few days of April and on May 7th Reclamation resumed control of releases from the reservoir and began increasing the release to the Shoshone River in order to control the level of the reservoir. Inflow during May peaked at 7,929 cfs on the 21st, just as a major weather system brought rain and snow to the Buffalo Bill watershed. During the period from May 21st through the 27th, weather stations below Buffalo Bill received over three inches of rain and the snowpack above the reservoir increased from 95 to 130 percent of average. May precipitation in the lower elevations of the watershed was 187 percent of average with the mountains receiving 155 percent of average. At the end of May the content of Buffalo Bill was 477,316 AF at elevation 5371.31 feet and the snowpack was 134 percent of average.

The late May addition to the snowpack boosted the June 1 forecast of April-July snowmelt runoff to 875,000 AF, 136 percent of normal. Releases from the Dam were increased in expectation of the higher runoff and on June 13th a spillway release was initiated. River releases in excess of 4,000 cfs were made every day of June except the 1st and about half the month saw releases to the river of over 5,000 cfs. Below average temperatures during the first half of June held the snow in the mountains, delaying the runoff. As more seasonal temperatures returned to Wyoming during the last week of June, inflows responded and the last week of the month saw flows above 10,000 cfs enter the reservoir, bringing the reservoir up over a foot each day. Inflow peaked at 10,826 cfs on June 24th and the total inflow for the month of 426,837 AF was 148 percent of average. Provisional data from the U S Geological Survey shows that the inflow on the North Fork of the Shoshone River peaked at 8,340 cfs on June 24th and the peak on the South Fork of 3,360 cfs occurred on June 27th. By the end of June, storage in the reservoir had increased to 578,615 AF at 5384.91 feet. Runoff continued in earnest during July with inflow for the month totaling 320,402 AF, which was 206 percent of average. Releases were gradually reduced as inflows declined and the spillway gates were closed on July 14th. The reservoir continued to rise until July 27th, reaching a maximum content of 630,533 AF. The corresponding reservoir elevation of 5391.52 feet was 1.98 feet below the top of the active conservation pool. Inflow during August and September continued to be above average at 130 and 110 percent of average, respectively. Releases exceeded inflow from July 28th through the end of September and the reservoir level fell about nineteen feet over the two month period. At the end of the water year Buffalo Bill Reservoir held 484,411 AF of water at elevation 5372.30 feet.

The end of September content was 111 percent of the 1993-2007 average for the enlarged reservoir. The total inflow to Buffalo Bill during the April through July runoff period was 955,346 AF, which was 148 percent of average. The total water year inflow of 1,160,302 AF was 141 percent of average.

Total energy generated at all powerplants that directly receive water out of Buffalo Bill Reservoir totaled 122,007,000 kWh in 2008. Of this total amount, Heart Mountain Powerplant generated 16,582,000 kWh, Buffalo Bill Powerplant generated 70,254,000 kWh, Shoshone Powerplant generated 20,703,000 kWh and Spirit Mountain Powerplant generated 14,468,000 kWh. The powerplants used 622,246 AF of water to generate this amount of energy, or 57 percent of the total water released from Buffalo Bill Reservoir during water year 2008. About 21 percent, or 227,895 AF of the total water released from Buffalo Bill Reservoir, was released to the Heart Mountain Canal for irrigation purposes.

Important Events - 2008

October 15, 2007: Irrigation diversions to the Heart Mountain Canal were discontinued for the 2007 irrigation season.

October 17, 2007: Irrigation releases to the Shoshone River were discontinued for the 2007 irrigation season, control of releases was returned to the Bureau of Reclamation, and a river release of 150 cfs was established for the winter.

March 18, 2008: Buffalo Bill Reservoir Public Information meeting was held in Powell to discuss water year 2007 operation and expected 2008 operation.

April 14, 2008: Releases from Buffalo Bill Reservoir were increased to meet downstream irrigation demand.

April 15, 2008: Irrigation releases to the Heart Mountain Canal were initiated for the 2008 irrigation season.

June 13, 2008 – July 14, 2008: Releases were made through the Buffalo Bill spillway to control the reservoir level.

July 27, 2008: Buffalo Bill Reservoir reached a maximum elevation for the water year of 5391.52 feet.

Additional hydrologic and statistical information pertaining to the operations of Buffalo Bill Reservoir during water year 2008 can be found in Table WYT8 and Figure WYG5.

TABLE WYT8
HYDROLOGIC DATA FOR WATER YEAR 2008
BUFFALO BILL RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	5259.60	41,748	41,748
TOP OF ACTIVE CONSERVATION	5393.50	646,565	604,817
STORAGE-ELEVATION DATA	**ELEVATION (FEET)**	**STORAGE (AF)**	**DATE**
BEGINNING OF YEAR	5362.74	417,846	OCT 01,2007
END OF YEAR	5372.30	484,411	SEP 30, 2008
ANNUAL LOW	5360.73	404,769	OCT 16, 2007
HISTORIC LOW*		19,080	JAN 31, 1941
ANNUAL HIGH	5391.52	630,533	JUL 27, 2008
HISTORIC HIGH	5393.51	646,647	JUL 30, 1996

* Prior to 1952 daily records are not available. End of month data was used to determine the historic low.

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW*	DATE
ANNUAL TOTAL (AF)	1,160,302	OCT 07-SEP 08	1,093,737	OCT 07-SEP 08
DAILY PEAK (cfs)	10,826	JUN 24, 2008	6,129	JUL 07, 2008
DAILY MINIMUM (cfs)	11	OCT 03, 2007	199	NOV 29, 2007
PEAK SPILLWAY FLOW (cfs)				
TOTAL SPILLWAY FLOW (AF)				

*Daily peak and minimum are releases to the river

	INFLOW		OUTFLOW		CONTENT	
MONTH	KAF	% of Avg*	KAF	% of Avg*	KAF	% of Avg*
OCTOBER	39.8	164	33.2	96	424.4	103
NOVEMBER	22.8	110	9.0	50	438.2	105
DECEMBER	14.7	93	9.5	53	443.4	107
JANUARY	13.5	91	9.5	56	447.3	108
FEBRUARY	13.9	106	9.0	55	452.2	110
MARCH	12.5	64	9.5	45	455.2	112
APRIL	21.3	51	38.2	71	438.3	114
MAY	186.8	118	147.8	137	477.3	109
JUNE	426.8	148	325.5	196	578.6	102
JULY	320.4	206	270.2	156	628.8	112
AUGUST	58.8	130	128.4	116	559.2	113
SEPTEMBER	29.1	110	103.9	132	484.4	111
ANNUAL	1,160.3	141	1,093.7	134		

APRIL - JULY INFLOW (AF)	
ACTUAL	AVERAGE
955,346	644,100

* Average for inflow and outflow is the 1978-2007 period. Because of the enlargement of Buffalo Bill Reservoir in 1992, the period of record on which average content is based is 1993-2007.

FIGURE WYG5

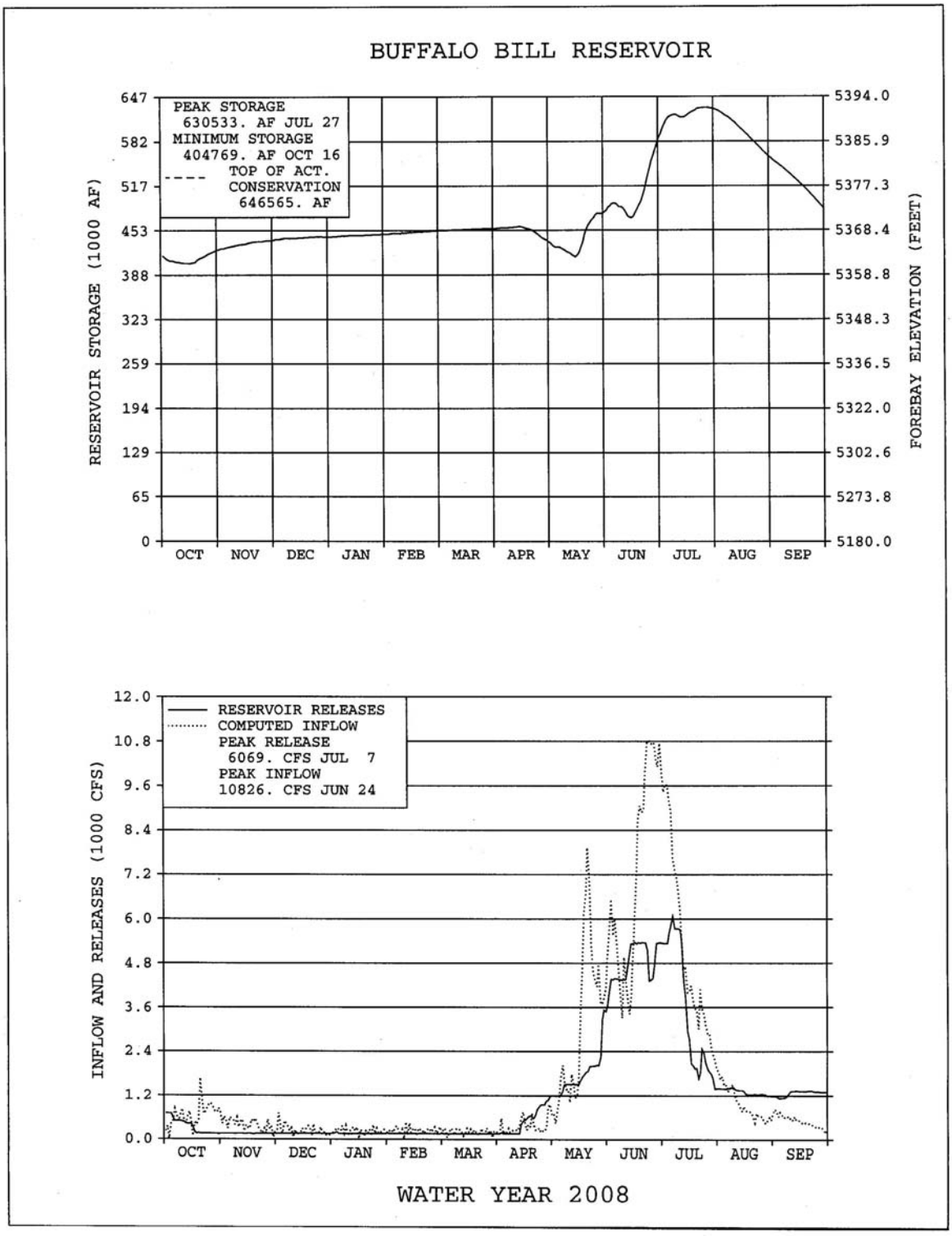

BUFFALO BILL RESERVOIR
PEAK STORAGE
630533. AF JUL 27
MINIMUM STORAGE
404769. AF OCT 16
TOP OF ACT.
CONSERVATION
646565. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
647
582
517
453
388
323
259
194
129
65
0
5394.0
5385.9
5377.3
5368.4
5358.8
5348.3
5336.5
5322.0
5302.6
5273.8
5180.0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
6069. CFS JUL 7
PEAK INFLOW
10826. CFS JUN 24
INFLOW AND RELEASES (1000 CFS)
12.0
10.8
9.6
8.4
7.2
6.0
4.8
3.6
2.4
1.2
0.0
WATER YEAR 2008

Table WYT9

WATER YEAR 2008 ACTUAL OUTAGES FOR WYOMING POWERPLANTS

Facilities	Description of Work	Outage Dates
BOYSEN		
Unit 1	K1A Maintenance	10/15/07 - 10/19/07
Unit 1	Annual Maintenance	11/02/07 - 12/16/07
Unit 2	K1A Maintenance	10/15/07 - 10/19/07
Unit 2	Annual Maintenance	10/22/07 - 11/02/07
Unit 2	Cooling Water Leak	08/04/08 - 08/11/08
PILOT BUTTE		
Unit 1	Annual Maintenance	01/07/08 - 01/28/08
Unit 1	Inspect/Repair Bus Connections	02/19/08 - 03/12/08
Unit 1	Repair Bus Connections	06/18/08 - 07/15/08
Unit 2	Annual Maintenance	01/07/08 - 01/28/08
Unit 2	Inspect/Repair Bus Connections	02/19/08 - 03/12/08
Unit 2	Inspect/Repair Stator Windings	04/08/08 - 06/03/08
Unit 2	Repair Bus Connections	06/18/08 - 07/15/08
BUFFALO BILL		
Buffalo Bill Powerplant		
Unit 1	Annual Maintenance	12/03/07 - 12/13/07
Unit 1	BBP-418 Maintenance	01/22/08 - 01/26/08
Unit 2	Annual Maintenance	01/22/08 - 01/31/08
Unit 3	Annual Maintenance	02/11/08 - 03/11/08
Shoshone Powerplant		
Unit 3	Annual Maint / BBP-518 Maint	12/26/07 - 01/10/08

Heart Mountain Powerplant		
Unit 1	KZ1A Maintenance	10/22/07 - 10/25/07
Unit 1	Annual Maintenance	03/10/08 - 03/20/08
Spirit Mountain Powerplant		
Unit 1	Annual Maintenance	10/22/07 - 11/21/07
Unit 1	BBP-418 Maintenance	01/22/08 - 01/26/08
Unit 1	Exciter Problems	05/01/08 - 05/05/08
Unit 1	Governor Failure	08/22/08 - 08/25/08

SUMMARY OF RESERVOIR OPERATIONS FOR BENEFIT OF FISH AND WILDLIFE, ENVIRONMENT AND RECREATION

Bull Lake Reservoir

During water year 2007, Midvale and Reclamation entered into an agreement whereby Reclamation could store Boysen water in Bull Lake under any combination of four conditions set forth in the agreement. The Boysen water stored in Bull Lake allows Bull Lake to be maintained at a higher content and also provides a flow of 20 to 25 cfs in Bull Lake Creek below the dam as the Boysen water is released from Bull Lake through the winter months. On October 1, 2007, when Midvale began transferring the Boysen water held in Bull Lake back to Boysen, Bull Lake Reservoir held 47,673 AF of water. Of the 47,673 AF held in Bull Lake, 19,811 AF was Boysen water in Bull Lake. Inflow to Bull Lake was slightly greater than the release and the reservoir slowly rose through the winter. Inflow from snowmelt runoff was delayed until May and during the April-July period the inflow to Bull Lake was 96 percent of average. The reservoir reached a maximum elevation for the year of 5804.42 feet on July 25th, which was 39 feet higher than the minimum elevation for the year of 5765.42 feet that occurred at on October 1st. At the end of water year 2008, the content of Bull Lake was 84,533 AF. At the beginning of water year 2009, there was 10,970 AF of Boysen storage water in Bull Lake. This water will be transferred back to Boysen during the winter months of water year 2009 to provide a winter flow in Bull Lake Creek.

Boysen Reservoir

Boysen Reservoir storage at the beginning of water year 2008 was 64 percent of average and 53 percent of capacity. Following the 2007 irrigation season, the release from Boysen Dam was set at approximately 400 cfs and was maintained at that rate until irrigation demands required increased flows. The month of April is normally when many species of fish spawn in the upper few feet of the reservoir. To insure a successful spawn, it is important to limit the amount of drawdown on the reservoir during April. April inflow almost matched the outflow during the month and the reservoir level remained fairly stable, with the reservoir level on April 30 only 0.15 feet lower than it was on March 31. The reservoir level fell another 0.67 feet during May before it began to fill and ended the month 4.98 feet higher than at the end of April. The reservoir level was at 4707.91 feet going into the Memorial Day weekend, which was 1.53 feet lower than at the beginning of the holiday weekend in 2007. During the summer of water year 2008, moss growth in the river channel below Boysen posed a considerable problem for irrigators. A flushing flow to move the moss from the system was requested by the Hanover Irrigation District and on July 17th. The flush was successful in relieving the moss problem for the irrigators.

Buffalo Bill Reservoir

Following the 2007 irrigation season the release from Buffalo Bill Reservoir was set at approximately 150 cfs, based on winter release criteria contained in the Buffalo Bill Reservoir Enlargement Winter Release Operation Agreement.
A winter release of 100 cfs, 150 cfs, 200 cfs, or 350 cfs will be provided below Buffalo Bill Powerplant based on the total inflow to Buffalo Bill Reservoir during the previous water year and the amount of storage in the reservoir and in the State account on September 30th. A release of 100 cfs will be maintained in the river below the dam at all times.

Reclamation continues to support the WGF Reservoir Research Branch in its efforts to assess fish population and species distribution in the enlarged reservoir through the use of hydro-acoustic technology and by providing WGF river access and an aluminum tube for planting fish in the Shoshone River off the deck of Buffalo Bill Powerplant.

At Buffalo Bill Reservoir, as the reservoir is drawn down, the lake bed is exposed to wind erosion which creates dust in the reservoir area and in the Town of Cody, Wyoming. As a part of the enlargement of Buffalo Bill Reservoir, dust abatement dikes were built on the upper ends of the North and South Fork arms of the reservoir to hold water in areas that would become dry as the reservoir level decreased, thus reducing the area of dry lake bed. During the periods from October 1, 2007, through May 25, 2008, the water surface elevation of Buffalo Bill Reservoir was below the top of the North Fork Dike (elevation 5370.00 feet). The maximum elevation of the pool behind the South Fork Dike of 5393.58 feet occurred on July 8, 2008, and the minimum elevation of 5389.02 feet occurred on April 15, 2008. At the maximum elevation, the pool behind the South Fork Dike covered 202 surface acres. On October 16, 2007, when the water surface elevation of Buffalo Bill Reservoir was at its low for the year of 5360.73 feet, the water surface elevation of the pool behind the North Fork Dike was approximately the same as the main reservoir and the water surface elevation of the pool behind the South Fork Dike was 5393.00 feet. At the minimum reported elevation of Buffalo Bill Reservoir, 196 more acres of land would have been exposed without the ability to store water behind the South Fork Dike.

The number of stoplogs at the outlet control structure on the South Fork Dike has been set to maintain the static water level of the pond behind the dike at approximately 5391.00 feet at the end of the water year. The increased elevation provides a larger impoundment behind the dike, benefiting waterfowl as well as the fishery.

The Diamond Creek Dike was constructed to prevent Diamond Creek and the Irma Flats area from being inundated by the enlarged reservoir. Inflows from the Diamond Creek drainage enter Diamond Creek Reservoir which lies at the base of the dike. This water is then pumped into Buffalo Bill Reservoir in order to maintain the elevation of Diamond Creek Reservoir between a maximum of 5340.40 feet and a minimum of 5339.50 feet with the normal water surface elevation being 5340.00 feet. In water year 2008, 9,728 AF of water was pumped from Diamond Creek Reservoir into Buffalo Bill Reservoir.

Reservoir levels during all of water year 2008 were adequate for recreational activities on Buffalo Bill Reservoir.

WEATHER SUMMARY FOR NORTH AND SOUTH DAKOTA

October precipitation was very much below normal at Dickinson and Heart Butte reservoirs, much above normal at Jamestown reservoir, and below normal at the remaining reservoirs.

November precipitation was very much below normal at Dickinson, Heart Butte and Jamestown reservoirs and much below to below normal at the remaining reservoirs.

December precipitation was very much below normal at Dickinson and Heart Butte reservoirs, much below to below normal at Deerfield, Shadehill, and Jamestown reservoirs, and normal to much above normal at the remaining reservoirs.

January precipitation was very much below normal at Dickinson, Heart Butte, and Jamestown reservoirs, much below normal at Deerfield and Shadehill reservoirs and near normal to slightly above normal at the remaining reservoirs.

February precipitation was very much below normal at Dickinson and Jamestown reservoirs, much below normal at Angostura and Heart Butte reservoirs, below normal at Deerfield and Keyhole reservoirs, and normal to above normal at the remaining reservoirs.

March precipitation was very much below normal at Dickinson and Jamestown reservoirs, much below normal at Heart Butte reservoir, and below normal at the remaining reservoirs.

April precipitation was very much below normal at Dickinson reservoir, much below normal at Heart Butte and Jamestown reservoirs, and below normal at the remaining reservoirs.

May precipitation was very much below normal at Jamestown reservoir, below normal at Dickinson and Heart Butte reservoirs, and above to much above normal at the remaining reservoirs.

June precipitation was below normal at Deerfield, Angostura, and Dickinson reservoirs, very much above normal at Jamestown reservoir and above to much above normal at the remaining reservoirs.

July precipitation was much below normal at Heart Butte reservoir, below normal at Dickinson reservoir, above normal at Angostura, Deerfield, and Jamestown reservoirs and near normal at the remaining reservoirs.

August precipitation was much below normal at Jamestown reservoir, above normal at Shadehill and Deerfield reservoirs and below normal at the remaining reservoirs.

September precipitation was very much below normal at Dickinson reservoir, below normal at Deerfield, much above normal at Jamestown reservoir and near normal at the remaining reservoirs.

Total annual precipitation for Reclamation facilities in North Dakota, South Dakota, and Northeastern Wyoming are shown on Table DKT1.

TABLE DKT1
Total Annual Precipitation for Reclamation Reservoirs
in North Dakota, South Dakota, and Northeastern Wyoming in Inches

Reservoir	2008 Total	Average Total	Percent
Angostura 1/	60.61	67.25	90
Belle Fourche 2/	95.20	72.16	132
Deerfield	17.37	21.36	81
Keyhole 3/	42.32	35.02	121
Pactola	25.12	20.96	120
Shadehill 4/	35.40	32.61	109
Dickinson	8.21	16.35	50
Heart Butte	11.24	15.75	71
Jamestown	18.52	18.49	100

1/ Angostura Reservoir's annual precipitation includes data from Oelrichs, SD, Hot Springs, SD, Newcastle, WY, and Red Bird, WY climate stations.

2/ Belle Fourche Reservoir's annual precipitation includes data from Newell, SD, Spearfish, SD, and Sundance, WY climate stations.

3/ Keyhole Reservoir's annual precipitation includes data from Gillette and Sundance, WY climate stations.

4/ Shadehill Reservoir's annual precipitation includes data from Camp Crook and Lemmon, SD climate stations.

Table DKT2 displays the changes in storage content between September 30, 2007, and September 30, 2008, at reservoirs in North and South Dakota and eastern Wyoming.

TABLE DKT2
Comparison of End-of-Month Storage Content for Reservoirs in North Dakota, South Dakota, and Northeastern Wyoming in Acre-Feet

Reservoir	Storage September 30, 2007	Storage September 30, 2008	Change in Storage
Angostura	48,933	69,361	20,428
Belle Fourche	47,203	98,330	51,127
Deerfield	12,483	14,510	2,027
Keyhole	58,803	87,601	28,798
Pactola	28,478	50,103	21,625
Shadehill	69,637	78,853	9,216
Dickinson	5,733	3,043	-2,690
Heart Butte	52,910	41,949	-10,961
Jamestown	29,217	29,073	-144

FLOOD BENEFITS FOR RESERVOIRS IN NORTH AND SOUTH DAKOTA AND NORTHEASTERN WYOMING

Several Bureau of Reclamation reservoirs in northeastern Wyoming, South Dakota, and North Dakota provided flood relief during Water Year (WY) 2008 They are: Heart Butte on the Heart River near Glen Ullin, North Dakota; Shadehill on the Grand River near Shadehill, South Dakota; Angostura on the Cheyenne River near Hot Springs, South Dakota; Pactola on Rapid Creek near Rapid City, South Dakota; Keyhole on the Belle Fourche River near Moorcroft, Wyoming; and Jamestown on the James River near Jamestown, North Dakota.

The information on the distribution of flood damages prevented is provided by the Corps of Engineers. The distributions of flood damages prevented for each reservoir are as follows:

FLOOD DAMAGE PREVENTED IN 2008
ACCUMULATED TOTAL 1950-2008

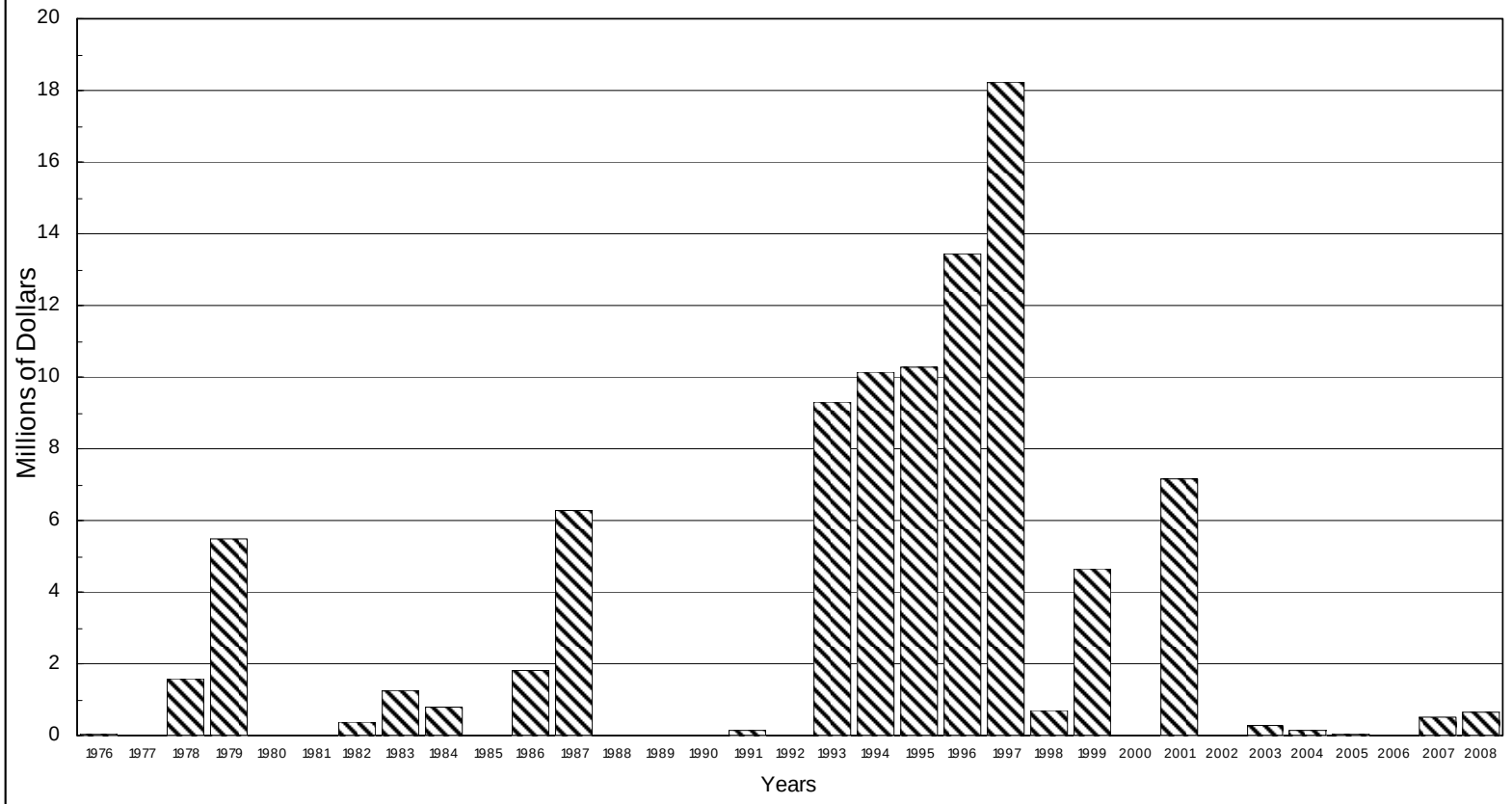
	Local	Main-Stem	2008 Total	Previous Accumulations	1950-2008 Accum Totals
Heart Butte	$0	$0	$0	$13,450,300	$13,450,300
Shadehill	$0	$239,000	$239,000	$9,178,200	$9,417,200
Angostura	$1,500	$0	$1,500	$21,100	$22,600
Pactola	$14,500	$169,800	$184,300	$3,187,600	$3,371,900
Keyhole	$26,800	$188,700	$215,500	$3,929,600	$4,145,100
Jamestown	$0	$0	$0	$86,807,300	$86,807,300
Total	$42,800	$597,500	$640,300	$116,574,100	$117,214,400

Flood damages prevented by Dakotas Area Office reservoirs between Garrison and Gavins Point Dams are shown on Figure DKG1

FIGURE DKG1

FLOOD DAMAGES PREVENTED

By Dakota Area Projects Between Garrison and Gavins Point Dams



UNIT OPERATIONAL SUMMARIES FOR WATER YEAR 2008
DICKINSON RESERVOIR

BACKGROUND

Dickinson Dam and Edward Arthur Patterson Lake (Dickinson Reservoir) is located on the Heart River near Dickinson, North Dakota. The reservoir has a dead capacity of 356 acre-feet, an inactive capacity of 100 acre-feet and an active conservation capacity of 8,156 acre-feet (for a total storage capacity of 8,612 acre-feet at the top of conservation elevation 2420.00). Reservoir water is utilized for irrigating approximately 230 acres along the Heart River downstream of the dam and for municipal use by the Dickinson Parks and Recreation District.

WATER YEAR 2008 OPERATIONS SUMMARY

Dickinson Reservoir started WY 2008 at elevation 2417.25 and storage of 5,733 acre-feet, which is 2.75 feet, and 2,879 acre-feet below the top of the conservation pool (elevation 2420.00 and storage 8,612 ac-ft). Dickinson Reservoir peaked at elevation 2417.25 on October 1st with 5,733 acre-feet of storage. Water was released from September 28th to October 15th 2007 through the river bypass valve to lower the reservoir elevation to facilitate coating of the Bascule gate in the fall of 2007. The reservoir elevation on September 30, 2008 was 2413.60 with storage of 3,043 acre-feet, which is 6.40 feet, and 5,569 acre-feet below the top of conservation pool.

The maximum discharge of 53 cfs occurred on October 1st and 2nd. Reservoir net inflows for water year 2008 totaled -995 acre-feet, 0 percent of average. Precipitation for the water year totaled 8.21 inches, which is 50 percent of average.

Irrigation releases began on August 7th and continued until September 2nd.

An Emergency Management/Security orientation was conducted on October 2nd, 2008.

A Comprehensive Facility Review was done on June 12th by David Nelson from the Great Plains Regional Office.

MONTHLY STATISTICS FOR WY 2008

Record and near record monthly inflows in 57 years of record keeping were recorded in the following months: October had its 9th highest inflow, November has its 2nd lowest inflow, December had its 6th lowest inflow, January had its 6th lowest inflow, February had its 3rd lowest inflow, March had its 3rd lowest inflow, April had its 4th lowest inflow, May had its 12th lowest inflow, June had its 9th lowest inflow, and July had its 13th lowest inflow.

Record and near record monthly end of month (EOM) content in 57 years of record keeping were recorded in the following months: March had its 9th lowest EOM, April had its 5th lowest EOM, May had its 4th lowest EOM, June had its 3rd lowest EOM, July had its 2nd lowest EOM, August had its 3rd lowest EOM, and September had its 4th lowest EOM.

Additional statistical information on Dickinson Reservoir and its operations during 2008 can be found on Table DKT3 and Figure DKG2.

TABLE DKT3
HYDROLOGIC DATA FOR 2008
DICKINSON RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE	2,405.00	456	456
TOP OF ACTIVE CONSERVATION	2,420.00	8,612	8,156
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL			

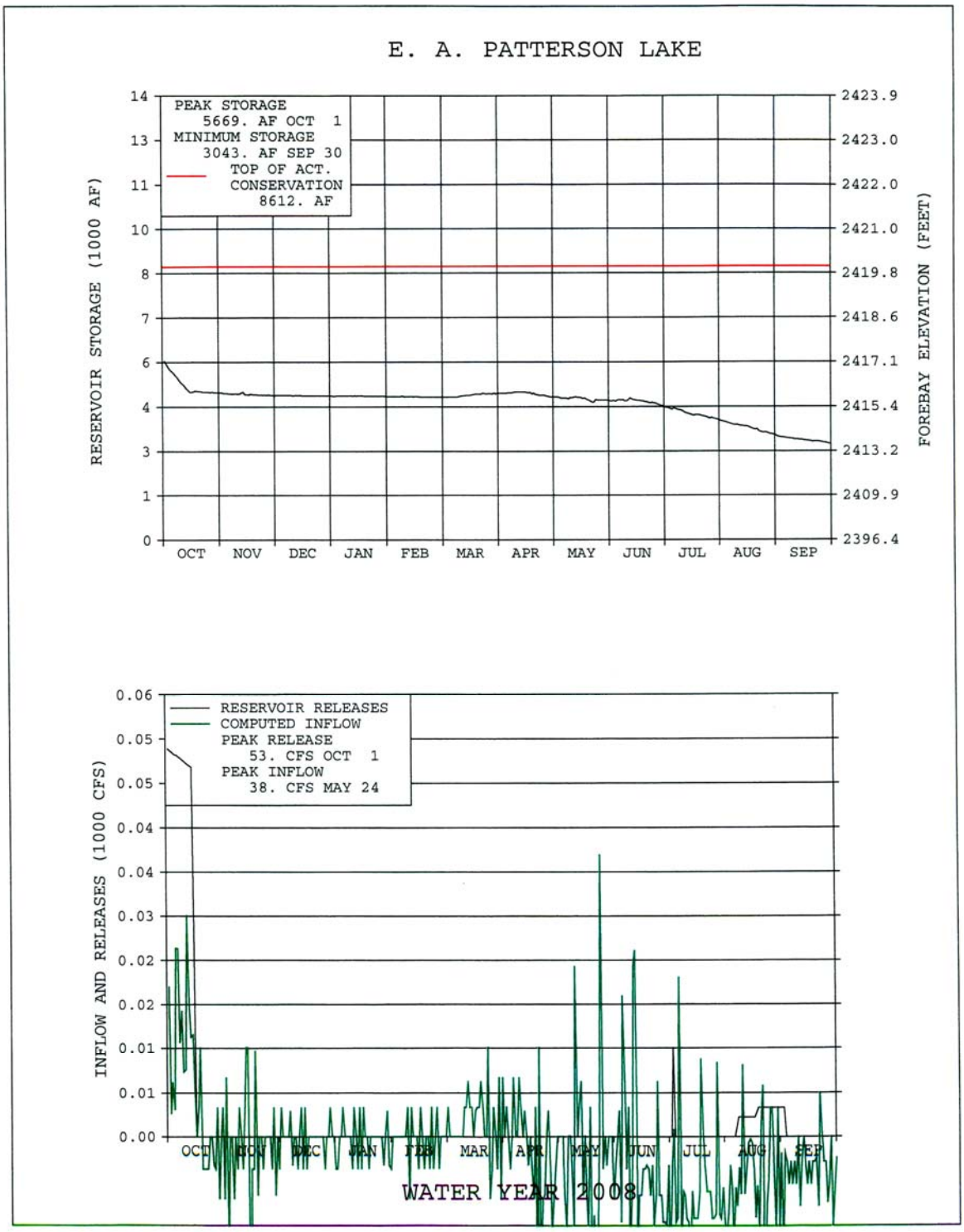
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2,417.25	5,733	OCT 01, 2007
END OF YEAR	2,413.60	3,043	SEP 30, 2008
ANNUAL LOW	2,413.60	3,043	SEP 30, 2008
ANNUAL HIGH	2,417.25	5,733	OCT 01, 2007
HISTORIC HIGH	2,422.19	**9,348	MAR 21, 1997

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	-995	OCT 07-SEP 08	1683	OCT 07-SEP 08
DAILY PEAK (CFS)	38	MAY 24, 2008	53	OCT 01,2007
DAILY MINIMUM (CFS)	0	*	0	*

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	396	153	1481	426	4,648	84
NOVEMBER	-86	NA	0	NA	4,562	83
DECEMBER	-8	NA	0	NA	4,554	83
JANUARY	-23	NA	0	NA	4,531	83
FEBRUARY	-16	NA	0	NA	4,515	77
MARCH	117	2	0	NA	4,632	68
APRIL	-109	NA	0	NA	4,523	65
MAY	-115	NA	0	NA	4,400	63
JUNE	-160	NA	0	NA	4,236	61
JULY	-422	NA	24	2	3,790	58
AUGUST	-319	NA	163	23	3,308	55
SEPTEMBER	-249	NA	16	5	3,043	53
ANNUAL	-994	0	1683	9		
APRIL-JULY	0	0				

* Frequently observed during fall and winter months
** Due to new area-capacity table, the capacity that corresponds to the new historic high elevation is less than a previous historic high capacity amount (11,520 AF @ Elevation 2421.08 on June 9, 1982)

DKG2


E. A. PATTERSON LAKE
PEAK STORAGE
5669. AF OCT 1
MINIMUM STORAGE
3043. AF SEP 30
TOP OF ACT.
CONSERVATION
8612. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
14
13
11
10
8
7
6
4
3
1
0
2423.9
2423.0
2422.0
2421.0
2419.8
2418.6
2417.1
2415.4
2413.2
2409.9
2396.4
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
53. CFS OCT 1
PEAK INFLOW
38. CFS MAY 24
INFLOW AND RELEASES (1000 CFS)
0.06
0.05
0.05
0.04
0.04
0.03
0.02
0.02
0.01
0.01
0.00
WATER YEAR 2008

HEART BUTTE RESERVOIR

BACKGROUND

Heart Butte Dam and Lake Tschida (Heart Butte Reservoir) is located on the Heart River near Glen Ullin, North Dakota. The reservoir has a dead storage capacity of 5,227 acre-feet, an active conservation capacity of 61,915 acre-feet (for a total storage capacity of 67,142 acre-feet at the top of active conservation elevation 2064.50), and an exclusive flood control space of 147,027 acre-feet. Flood control storage is located above the crest of an ungated glory-hole spillway. Heart Butte Reservoir is primarily used for flood control and the authorized irrigation of up to 13,100 acres of which about 7,320 acres are now being irrigated.

WATER YEAR 2008 OPERATIONS SUMMARY

Heart Butte Reservoir started WY 2008 at elevation 2059.91 and storage of 52,910 acre-feet, which is 4.59 feet, and 14,232 acre-feet below the top of conservation pool (elevation 2064.50 and storage 67,142 ac-ft). Heart Butte Reservoir peaked at elevation 2060.52 on May 14th with 54,697 acre-feet of storage. The reservoir elevation on September 30, 2008 was 2055.84 with storage of 41,949 acre-feet, which is 8.66 feet and 25,193 acre-feet below the top of conservation pool.

The maximum discharge of 126 cfs occurred on July 17th. Reservoir net inflows for water year 2008 totaled 857 acre-feet, 1 percent of average. Precipitation for the water year totaled 11.24 inches, which is 71 percent of average.

Irrigation releases began on May 20th and continued until September 5th.

An Emergency Management/Security orientation was conducted on October 2, 2008.

A Comprehensive Facility Review was done on June 11th by David Nelson from the Great Plains Regional Office.

MONTHLY STATISTICS FOR WY 2008

Record and near record monthly inflows in 59 years of record keeping were recorded in the following months: November had its 4th lowest inflow, December had its 13th lowest inflow, February had its 13th lowest inflow, March had its 3rd lowest inflow, April had its 3rd lowest inflow, May had its 5th lowest inflow, June had its 11th lowest inflow, July had its 6th lowest inflow, and August had its 3rd lowest inflow.

Record and near record monthly end of month (EOM) content in 59 years of record keeping were recorded in the following months: October had its 11th lowest EOM, November had its 12th lowest EOM, December had its 12th lowest EOM, January had its 13th lowest EOM, February had its 13th lowest EOM, March had its 9th lowest EOM, April had its 6th lowest EOM, May had its 4th lowest EOM, June had its 5th lowest EOM, July had its 5th lowest EOM, August had its 4th lowest EOM, and September had its 4th lowest EOM.

Additional statistical information on Heart Butte Reservoir and its operations during 2008 can be found on Table DKT4 and Figure DKG3.

TABLE DKT4
HYDROLOGIC DATA FOR 2008
HEART BUTTE RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	2,030.00	5,227	5,227
TOP OF ACTIVE CONSERVATION	2,064.50	67,142	61,915
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL	2,094.50	214,169	147,027

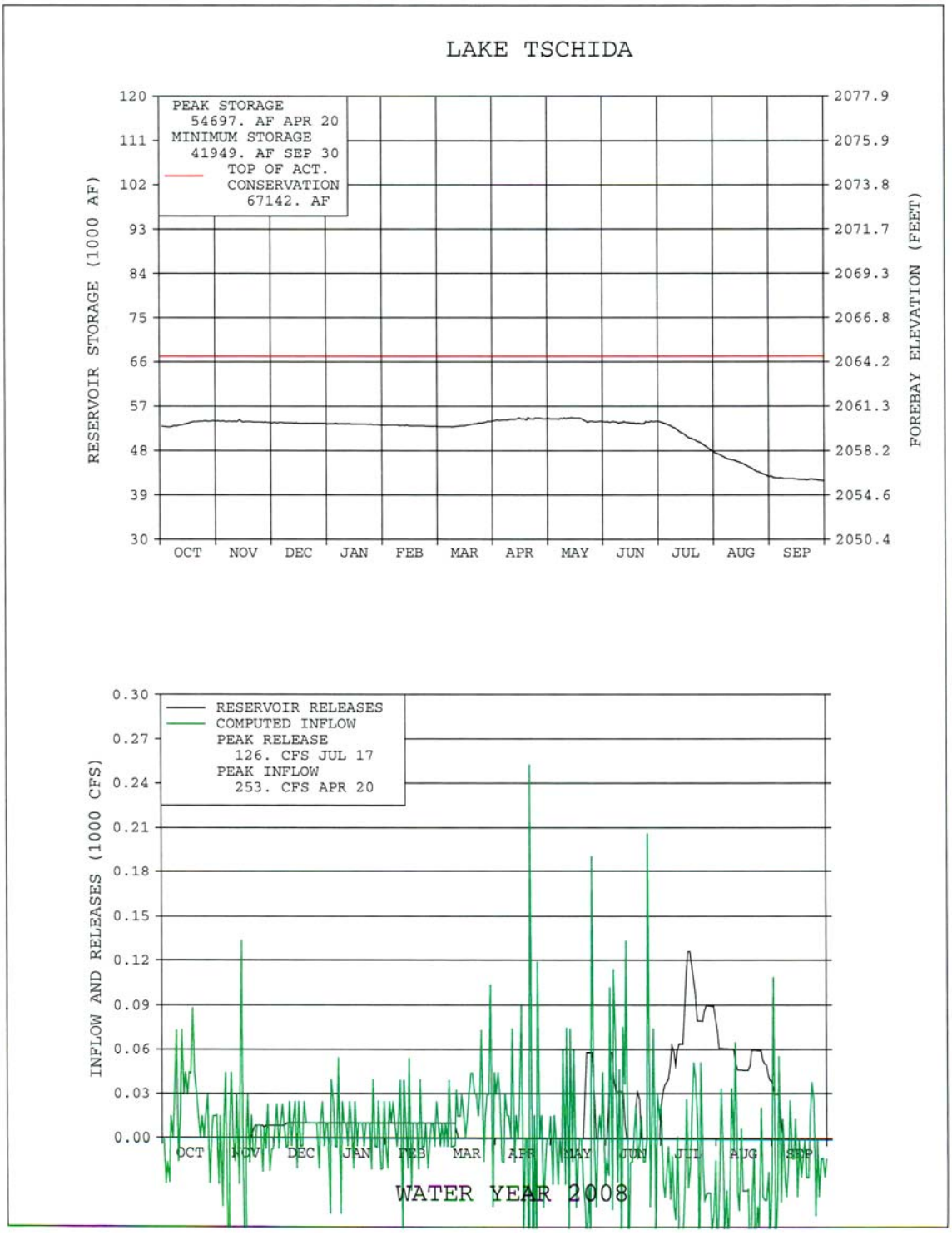
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2,059.91	52,910	OCT 01, 2007
END OF YEAR	2,055.84	41,949	SEP 30, 2008
ANNUAL LOW	2,055.84	41,949	SEP 30, 2008
ANNUAL HIGH	2,060.52	54,697	MAY 14, 2008
HISTORIC HIGH	2,086.23	173,203	APR 09, 1952

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	857	OCT 07-SEP 08	11,735	OCT 07-SEP 08
DAILY PEAK (CFS)	253	APR 20, 2008	126	JUL 16, 2008
DAILY MINIMUM (CFS)	0	*	0	*

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	1,051	107	0	NA	53,961	92
NOVEMBER	-165	NA	187	13	53,609	92
DECEMBER	352	44	585	45	53,376	92
JANUARY	401	45	605	53	53,172	93
FEBRUARY	304	9	566	30	52,910	89
MARCH	1,205	4	183	1	53,932	77
APRIL	529	2	0	NA	54,461	77
MAY	-6	NA	582	5	53,873	78
JUNE	944	9	832	10	53,902	77
JULY	-1,411	NA	4,636	58	47,855	72
AUGUST	-1,829	NA	3,302	65	42,724	68
SEPTEMBER	-518	NA	257	10	41,949	70
ANNUAL	857	1	11,735	14		
APRIL-JULY	56	0				

* Frequently observed during fall and winter months

DKG3
HEART BUTTE RESERVOIR



JAMESTOWN RESERVOIR

BACKGROUND

Jamestown Reservoir is located on the James River above Jamestown, North Dakota. The reservoir has a dead capacity of 822 acre-feet, an active conservation capacity of 24,535 acre-feet (for a total top of active conservation capacity of 25,357 acre-feet at elevation 1428.00), a joint-use capacity of 6,153 acre-feet, and an exclusive flood control space of 189,468 acre-feet. The exclusive flood control storage is below the crest of an ungated glory-hole spillway, and flood control releases are controlled by the gated outlets. The joint-use space is available for flood control at the beginning of spring runoff and is used for conservation purposes during the summer months.

WATER YEAR 2008 OPERATIONS SUMMARY

Jamestown Reservoir stared WY 2008 at elevation 1429.95 and storage of 29,217 acre-feet, which is 1.95 feet, and 3,860 acre-feet above the top of the conservation pool (elevation 1428.00 and storage 25,357 ac-ft). Jamestown Reservoir peaked at elevation 1431.51 on June 18th with 32,705 acre-feet of storage. The reservoir elevation on September 30, 2008 was 1429.88 with storage of 29,073 acre-feet, which is 1.88 feet, and 3,716 acre-feet above the top of active conservation pool.

The maximum discharge of 84 cfs occurred on June 27th. Reservoir net inflows for water year 2008 totaled 8,605 acre-feet, 20 percent of average. Precipitation for the water year totaled 18.52 inches at 100 percent of average.

Irrigation releases began on June 17th and continued until September 9th.

An Emergency Management/Security orientation was conducted on September 29, 2008.

A Comprehensive Facility Review was done on June 10th by David Nelson from the Great Plains Regional Office.

MONTHLY STATISTICS FOR WY 2008

Record and near record monthly inflows in 55 years of record keeping were recorded in the following months: October had its 8th highest inflow, January had its 13th lowest inflow, March had its 16th lowest inflow, April had its 12th lowest inflow, May had its 15th lowest inflow, and June had its 18th highest inflow.

Record and near record monthly end of month (EOM) content in 55 years of record keeping were recorded in the following months: September had its 17th highest EOM, April had its 18th lowest EOM, and May had its 17th lowest EOM. Additional statistical information on Jamestown Reservoir and its operations during 2008 can be found on Table DKT5 and Figure DKG4.
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TABLE DKT5
HYDROLOGIC DATA FOR 2008
JAMESTOWN RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	1,400.00	822	822
TOP OF ACTIVE CONSERVATION	1,428.00	25,357	24,535
TOP OF JOINT USE	1,431.00	31,510	6,153
TOP OF EXCLUSIVE FLOOD CONTROL	1,454.00	220,978	189,468

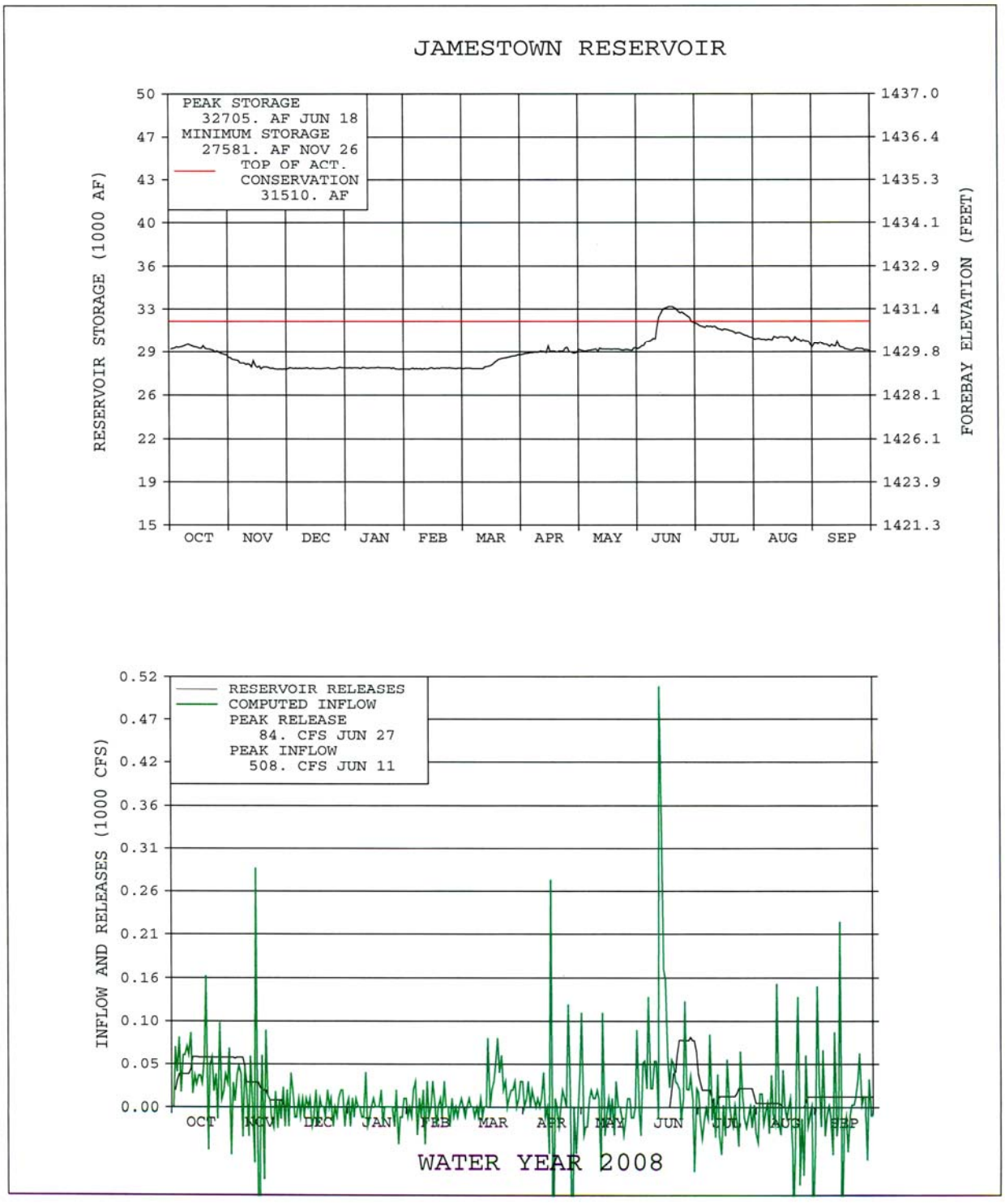
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	1,429.95	29,217	OCT 01, 2007
END OF YEAR	1,429.88	29,073	SEP 30, 2008
ANNUAL LOW	1,429.15	27,581	NOV 26, 2007
ANNUAL HIGH	1,431.51	32,705	JUN 18, 2008
HISTORIC HIGH	1,445.91	126,067	MAY 05, 1997

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	8,605	OCT 07-SEP 08	8,748	OCT 07-SEP 08
DAILY PEAK (CFS)	508	JUN 11, 2008	84	JUN 27, 2008
DAILY MINIMUM (CFS)	0	*	0	*

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	2,568	292	3,223	150	28,562	114
NOVEMBER	565	82	1,546	163	27,581	112
DECEMBER	143	46	0	NA	27,724	112
JANUARY	-123	NA	0	NA	27,601	112
FEBRUARY	82	36	0	NA	27,683	111
MARCH	1,104	18	0	NA	28,787	95
APRIL	184	1	0	NA	28,971	71
MAY	348	5	0	NA	29,319	79
JUNE	3,988	136	1,906	27	31,400	94
JULY	-232	NA	1,039	21	30,129	96
AUGUST	-435	NA	265	6	29,429	100
SEPTEMBER	413	41	768	20	29,073	109
ANNUAL	8,605	20	8,748	21		
APRIL-JULY	4,288	14				

* Frequently observed during fall and winter months

DKG4
JAMESTOWN RESERVOIR



DEERFIELD RESERVOIR

BACKGROUND

Deerfield Reservoir is located on Castle Creek, a tributary of Rapid Creek above Rapid City. Deerfield Reservoir (Rapid Valley Project) and Pactola Reservoir (Rapid Valley Unit, P-S MBP), furnish a supplemental irrigation supply to about 8,900 acres in the Rapid Valley Water Conservancy District and furnish replacement water for a portion of the water used from Rapid Creek by Rapid City. The majority of prior rights to the flows of Rapid Creek during the irrigation season are held by individuals and ditch companies in the Rapid Valley Water Conservancy District.

In 1985, Deerfield Dam was modified to accommodate a larger flood as determined from the results of the Probable Maximum Flood analysis. These modifications consisted of raising the crest of the dam 38 feet, excavating an unlined auxiliary spillway, removing and filling in the old spillway, and extending the existing emergency gate passageway to the new control house at the higher crest elevation. The reservoir has a total capacity of 15,655 acre-feet with an additional 26,655 acre-feet of surcharge capacity.

During the winter of 1995-96 the hollow jet valves were removed to allow the installation of the jet flow valves as part of the outlet works modification contract. The work was done to improve fish habitat in 1.5 miles of the creek immediately downstream of the dam. The stream improvement project was a cooperative effort accomplished by the City of Rapid City, Rapid Valley Water Conservancy District, Black Hills Fly Fishers, Bureau of Reclamation, US Forest Service, and SD Game Fish and Parks. The project modified the outlet works of Deerfield Dam by installing Jet Flow Gates to allow greater minimum winter releases than the 6-in bypass is capable of providing.

WY 2008 OPERATIONS SUMMARY

Deerfield Reservoir started WY 2008 at elevation 5900.02 and storage of 12,483 acre feet, which is 7.98 feet and 3,172 acre-feet below the top of the conservation pool. Inflows for WY 2008 totaled 7,131 acre-feet (75% of the average). The peak reservoir elevation for WY 2008 was 5905.35 and storage of 14,563 acre-feet and occurred on September 12, 2008. The minimum elevation for WY 2008 was 5898.14 acre-feet and storage of 11,792 acre-feet and occurred on March 25th, 2008. WY 2008 ended at elevation 5905.22 and storage of 14,510 acre-feet, which is 2.78 feet and 1,145 acre-feet below the top of the conservation pool. Precipitation for the water year was 81% of average.

Rapid Valley Water Conservancy District did not order any water from Deerfield for the 2008 irrigation season.

An Emergency Management/Security Orientation was held February 7, 2008.

The Annual Facility Review was done on July 16, 2008 by personnel from the Rapid City Field Office.

Specification No. 60-C0514, Coatings Repair of Deerfield Dam was completed in June of 2008. The 39 inch penstock pipe received a new exterior coating and approximately 150 square feet of coating was replaced on the interior. The contract was done by Hartman-Walsh Painting Company of St. Louis Missouri for the amount of $198,562.00.

MONTHLY STATISTICS FOR WY 2008

October EOM elevation, at Deerfield Reservoir, was above average. October inflow was 5th lowest in 55 years of record. Release is 8cfs. Deerfield finished the month 8.4 feet from full.

November EOM elevation, at Deerfield Reservoir, was above average. November inflow was 5th lowest in 55 years of record. Release is 8cfs. Deerfield finished the month 8.9 feet from full.

December EOM elevation, at Deerfield Reservoir, was below average. December inflow was much below average. Release is 7cfs. Deerfield finished the month 9.1 feet from full.
January EOM elevation, at Deerfield Reservoir, was below average. January inflow was much below average. Release is 7cfs. Deerfield finished the month 9.5 feet from full.

February EOM elevation, at Deerfield Reservoir, was below average. February inflow was 4th lowest in 55 years of record. Release is 7cfs. Deerfield finished the month 9.7 feet from full.

March EOM elevation, at Deerfield Reservoir, was below average. March inflow was lowest March inflow if 55 years of record. Release is 7cfs. Deerfield finished the month 9.8 feet from full.

April EOM elevation, at Deerfield Reservoir, and April inflow were much below average. Release is 7cfs. Deerfield finished the month 9.1 feet from full.

May EOM elevation, at Deerfield Reservoir, and May inflow were below average. Release is 7cfs. Deerfield finished the month 7.0 feet from full.

June EOM elevation, at Deerfield Reservoir, and June inflow were below average. Release is 6cfs. Deerfield finished the month 5.4 feet from full.

July EOM elevation, at Deerfield Reservoir, was above average. July inflow was much above average. Release is 6cfs. Deerfield finished the month 3.1 feet from full.

August EOM elevation, at Deerfield Reservoir, was above average. August inflow was below average. Release is 8cfs. Deerfield finished the month 2.8 feet from full.

September EOM elevation, at Deerfield Reservoir, was much above average. September inflow was below average. Release is 8cfs. Deerfield finished the month 2.8 feet from full.

Additional statistical information on Deerfield Reservoir and its operations during 2008 can be found on Table DKT6 and Figure DKG5.

TABLE DKT6
HYDROLOGIC DATA FOR 2008
DEERFIELD RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	5,839.00	151	151
TOP OF ACTIVE CONSERVATION	5,908.00	15,654	15,503
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL			

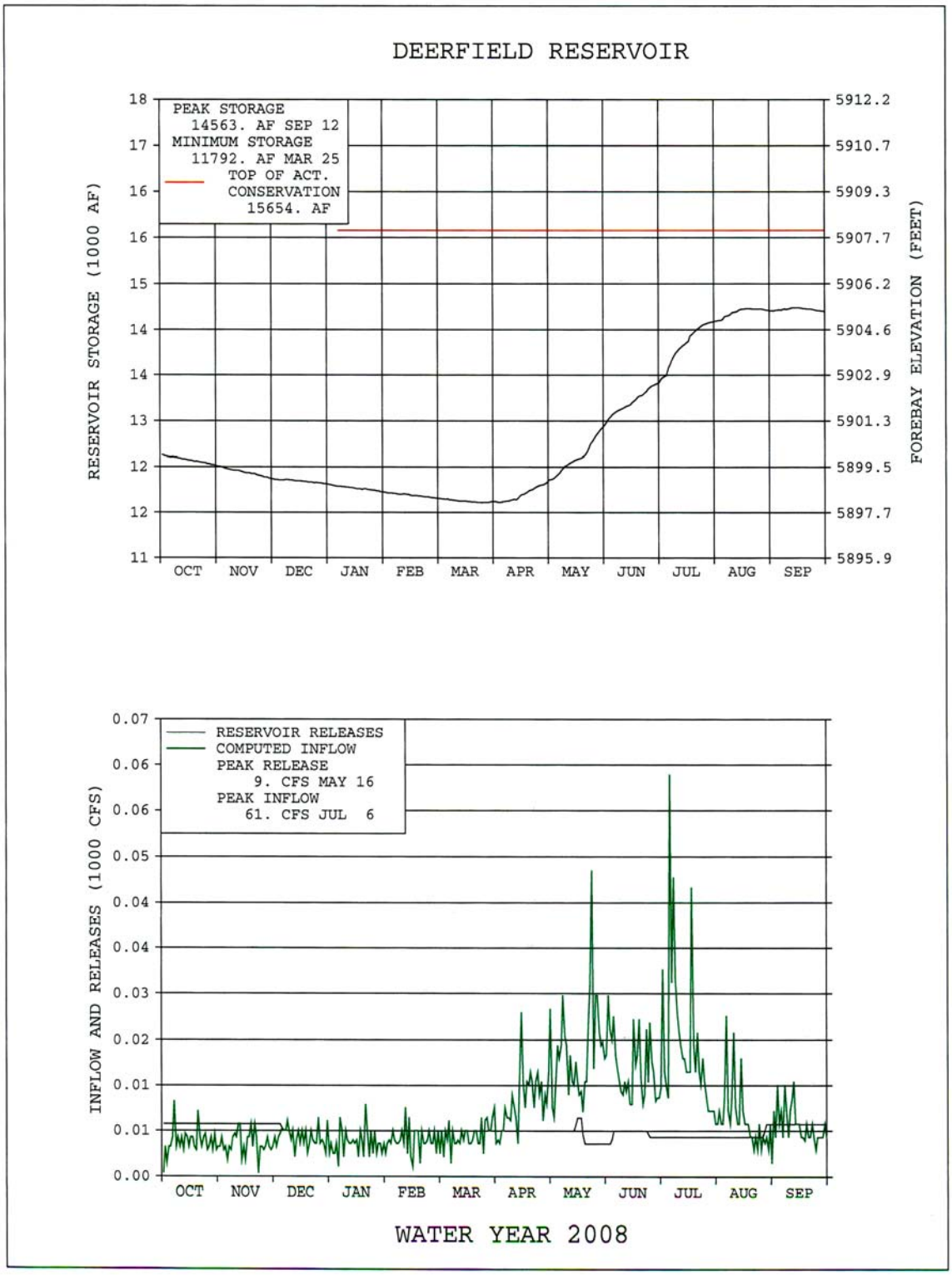
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	5,900.02	12,486	OCT 01, 2007
END OF YEAR	5,905.22	14,510	SEP 30, 2008
ANNUAL LOW	5,898.14	11,792	MAR 25, 2008
ANNUAL HIGH	5,905.35	14,563	SEP 12, 2008
HISTORIC HIGH	5,909.05	16,157	FEB 25, 1985

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	7,131	OCT 07-SEP 08	5,104	OCT 07-SEP08
DAILY PEAK (CFS)	61	JUL 06, 2008	9	MAY 16,2008
DAILY MINIMUM (CFS)	0	*	5	MAY 20,2008

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	321	50	492	66	12,312	100
NOVEMBER	295	51	476	139	12,131	97
DECEMBER	362	59	439	147	12,054	94
JANUARY	313	51	430	144	11,937	91
FEBRUARY	323	57	403	130	11,857	88
MARCH	383	45	430	74	11,810	86
APRIL	683	59	417	41	12,076	87
MAY	1,182	90	395	31	12,863	92
JUNE	1,005	86	389	33	13,479	97
JULY	1,254	152	369	34	14,364	106
AUGUST	537	81	387	30	14,514	111
SEPTEMBER	472	79	476	40	14,510	117
ANNUAL	7,131	75	5,104	54		
APRIL-JULY	4,124	92				

* Frequently observed during fall and winter months

DKG5
DEERFIELD RESERVOIR



PACTOLA RESERVOIR

BACKGROUND

Pactola Reservoir, Rapid Valley Unit (P-S MBP), located on Rapid Creek above Rapid City, South Dakota, acts in conjunction with Deerfield Reservoir, Rapid Valley Project, to furnish a supplemental irrigation supply to about 8,900 acres in the Rapid Valley Water Conservancy District, replacement water for Rapid City, and a supply of domestic water for private water systems both above and below the city. The reservoir is also operated to provide flood control. It has a conservation capacity of 55,972 acre-feet (54,955 acre-feet active) and 43,057 acre-feet of exclusive flood control space. The flood control space is all below the ungated spillway crest, and releases in this pool are controlled by the river outlet works. Rapid City has contracts for Pactola and Deerfield Reservoir water. The Rapid Valley Sanitation District and C&J Sanders Water Company also have contracts for water service from Pactola Reservoir. Operation of the two reservoirs is integrated to maintain as much water as possible in the upstream facility, Deerfield Reservoir, and at the same time maintain a uniform outflow from Deerfield to maximize fishery benefits in the stream between the reservoirs. Since no inflow forecasts are available, the reservoir is normally operated as full as possible. Two Snotel (North Rapid Creek and Blind Park) sites were installed in the Pactola and Deerfield drainage basin in May of 1990.

As part of the Safety Examination of Existing Structures (Safety of Dams) Program, a study was made in the early 1980's to determine the adequacy of Pactola Dam, Spillway, and Reservoir to safely pass the new Inflow Design Flood (IDF) determined on the basis of present day hydrologic technology. The studies showed that the facility was not able to safely handle the new IDF. Modification work was completed in 1987 and provided sufficient surcharge storage and spillway capacity to pass the IDF. Modification work consisted of raising the crest of the dam 15 feet, widening the existing rock-cut spillway chute and stilling basin from 240 feet to 425 feet, relocating Highway 385 to the new dam crest, extending the existing gate access shaft to the higher crest elevation, and reconstructing a new two-level gate control house at the higher crest elevation.

WY 2008 OPERATIONS SUMMARY

Pactola Reservoir started WY 2008 at elevation 4540.22 and storage of 28,478 acre-feet, which is 39.98 feet and 32,296 acre-feet below the top of the conservation pool. Inflows for WY 2008 totaled 36,245 acre-feet (105% of average). The peak reservoir elevation for WY 2008 was 4573.08 and storage of 50,103 acre-feet and occurred on September 30, 2008. The minimum elevation for WY 2008 was 4539.25-feet and storage of 27,952 acre-feet and occurred on January 3, 2008. WY 2008 ended at elevation 4573.08 and storage of 50,103 acre-feet, which is 7.12 feet and 5,869 acre-feet below the top of the conservation pool. Precipitation for the water year was 120% of average.

The City of Rapid City did not order any water from Pactola to meet needs over and above natural flow releases required to meet prior rights in Rapid Creek during the summer of 2008.

The operation of Pactola Reservoir provided minimal local and mainstream flood relief during WY 2008. The flood plain through Rapid City is designed to pass 6,500 cfs without major property damage, but some areas of the bicycle path near Canyon Lake will inundate at 350 to 400 cfs. Spring releases from Pactola Dam peaked at 54 cfs on July 17. An Emergency Management/Security Orientation was held February 7, 2008. The Annual Facility Review was done on July16th, 2008 by personnel from the Rapid City Field Office.

A new long term storage contract was signed on July 31, 2007 between Reclamation and the city of Rapid City. The contract provides storage space of 49,000 acre-feet for the city and 6,000 acre-feet was retained by Reclamation.

The 10 inch wedge valve used as the regulating valve on the 10 inch bypass pipe at Pactola was replaced. The old valve was leaking due to damage which occurs during normal operation due to the head pressures at Pactola.

MONTHLY STATISTICS FOR WY 2008

October EOM elevation, at Pactola Reservoir, was below average. October inflow was 5th lowest in 52 years of record. Release is 15 cfs. Pactola ended the month 40.5 feet from full.

November EOM elevation and November inflow, at Pactola Reservoir, were much below average. Release is 15 cfs. Pactola ended the month 40.8 feet from full.

December EOM elevation, at Pactola Reservoir, was much below average. December inflow was below average. Release is 15 cfs. Pactola ended the month 40.9 feet from full.

January EOM elevation, at Pactola Reservoir, was much below average. January inflow was below average. Release is 15 cfs. Pactola ended the month 40.9 feet from full.

February EOM elevation, at Pactola Reservoir, was much below average. February inflow was below average. Release is 15 cfs. Pactola ended the month 40.8 feet from full.

March EOM elevation, at Pactola Reservoir, was much below average. March inflow was much below average. Release is 15 cfs. Pactola ended the month 40.2 feet from full.

April EOM elevation, at Pactola Reservoir, was much below average. April inflow was much below average. Release is 15 cfs. Pactola ended the month 38.2 feet from full.

May EOM elevation, at Pactola Reservoir, was much below average. May inflow was above average. Release is 15 cfs. Pactola ended the month 27.6 feet from full.

June EOM elevation, at Pactola Reservoir, was below average. June inflow was above average. Release is 21 cfs. Pactola ended the month 17.0 feet from full.

July EOM elevation, at Pactola Reservoir, was above average. July inflow was 5th highest in 56 years of record. Release is 37 cfs. Pactola ended the month 8.2 feet from full.

August EOM elevation, at Pactola Reservoir, was above average. August inflow was above average. Release is 42 cfs. Pactola ended the month 7.6 feet from full.

September EOM elevation, at Pactola Reservoir, was above average. September inflow was below average. Release is 21 cfs. Pactola ended the month 7.1 feet from full.

Additional statistical information on Pactola Reservoir and its operations during 2008 can be found on Table DKT7 and Figure DKG6.

TABLE DKT7
HYDROLOGIC DATA FOR 2008
PACTOLA RESERVOIR

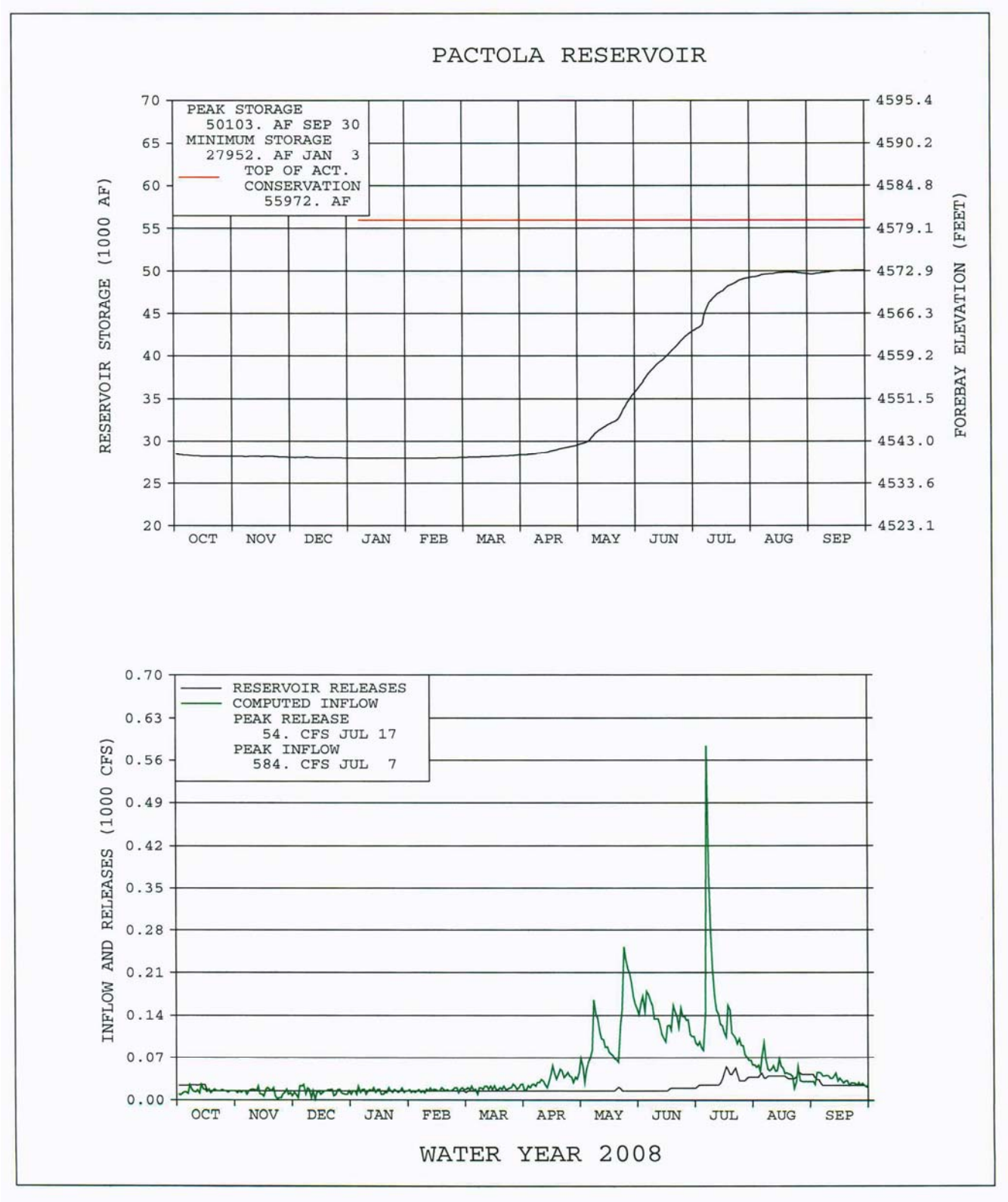
RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4,456.10	1,017	1,017
TOP OF ACTIVE CONSERVATION	4,580.20	55,972	54,955
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL	4,621.50	99,029	43,057

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4,540.22	28,478	OCT 01, 2007
END OF YEAR	4,573.08	50,103	SEP 30, 2008
ANNUAL LOW	4,539.25	27,952	JAN 03, 2008
ANNUAL HIGH	4,573.08	50,103	SEP 30, 2008
HISTORIC HIGH	4,585.87	61,105	MAY 19, 1965

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	36,245	OCT 07-SEP 08	14,620	OCT 07-SEP 08
DAILY PEAK (CFS)	584	JUL 07, 2008	54	JUL 17, 2008
DAILY MINIMUM (CFS)	1	NOV22, 2007	12	MAR 01, 2008

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	922	46	1,215	75	28,185	64
NOVEMBER	768	52	893	67	28,060	64
DECEMBER	825	66	922	67	27,963	64
JANUARY	927	71	922	71	27,968	64
FEBRUARY	939	71	863	73	28,044	63
MARCH	1,231	52	917	54	28,358	63
APRIL	2,014	49	893	33	29,479	64
MAY	7,194	113	950	18	35,723	76
JUNE	8,075	123	1,028	18	42,770	89
JULY	8,518	235	2,052	40	49,236	106
AUGUST	2,889	109	2,438	61	49,687	112
SEPTEMBER	1,943	89	1,527	59	50,103	114
ANNUAL	36,245	105	14,620	43		
APRIL-JULY	25,801	125				

DKG6
PACTOLA RESERVOIR



ANGOSTURA RESERVOIR

BACKGROUND

Angostura Reservoir (P-S MBP), located on the Cheyenne River above Hot Springs, South Dakota, was built to service about 12,200 acres in the Angostura Unit (P-S MBP) and for power generation. It has a total capacity of 123,048 acre-feet with an additional surcharge capacity of 57,308 acre-feet. Its principle use is for irrigation of the Angostura Unit, which diverts its water from a high-level outlet at the dam. In the early years, water surplus to irrigation needs was released to the river through a small power plant with a nameplate capacity of 1,200 kilowatts. Because of the low runoff, and because actual irrigation diversions were higher than previously anticipated, it was concluded that continued operation of the power plant was economically infeasible. Except for a few operations of less than 24 hours each, the plant was last operated in February 1959. In 1966, the plant was officially closed and the equipment was declared surplus in March 1968. Disposal of this equipment was completed in 1971. Releases for irrigation are made through the canal outlet works into the Angostura Main Canal having a design capacity of 290 cfs. Releases to the Cheyenne River are only made when the reservoir is assured of filling.

WY 2008 OPERATIONS SUMMARY

Angostura Reservoir started WY 2008 at elevation 3165.80 and storage of 48,933 acre-feet, which is 21.40 feet and 74,115 acre-feet below the top of the conservation pool. Inflows for WY 2008 totaled 51,023 acre-feet (66% of the average). Peak inflows occurred in May, totaling 23,194 acre-feet for the month. The peak reservoir elevation for WY 2008 was 3178.29 and storage of 86,439 acre-feet and occurred on June 12, 2008. The minimum elevation for WY 2008 was 3165.76-feet and storage of 48,833 acre-feet and occurred on October 6, 2007. WY 2008 ended at elevation 3173.18 and storage of 69,361 acre-feet, which is 14.02 feet and 53,687 acre-feet below the top of the conservation pool. Precipitation for the water year was 90% of average.

The Angostura Irrigation District started the season with an allotment of 45%. Rains the end of May and early June allowed the District to increase water allocations to 100% of their full allotment of project water. Releases for irrigation began May 19 and reached a peak of 221 cfs on July 21. The irrigation release was terminated on September 16, with 69,361 acre-feet in total storage and 27,156 acre-feet in active storage. Total irrigation releases were 30,387 acre-feet.

Reclamation's Sedimentation and River Hydraulics Group of the Technical Service Center in Denver conducted a sedimentation survey of Angostura Reservoir in 2004 and provided a survey report and new Area and Capacity Tables in August of 2005. The last survey was done in 1979. Angostura Reservoir accumulated 7,716 acre-feet of sediment since the last survey. Since construction in 1949, Angostura has accumulated 36,867 acre-feet of sediment. The sedimentation rate from 1949 through 2004 has averaged 670 acre-feet per year. The new Area and Capacity Tables were used, beginning, in WY 2006 and all 2006 numbers reflect the change in capacity. An Emergency Management/Security Orientation was held February 26, 2008.

The Annual Facility Review was done on September 18, 2008 by personnel from the Rapid City Field Office.

In 2008 Woid Number 6B952 was put in place with Denver Technical Service Center for assistance in putting together the design for Angostura Dam – Repair of Left and Right Spillway Walls. RAX funding was used and the design is complete to repair the left and right spillway walls. The primary effort will be to rehabilitate and replace the drains behind the spillway walls. The Provo Area Office Construction Group will do the work under force account in FY09. The RAX budget for FY09 is $300,000.

The Angostura Irrigation District contracted with Red Canyon Construction to stockpile materials on the west side of Angostura Dam. This contract was to build a road to allow access to the west side of the dam and stockpile materials to be used for the repair work planned for the left spillway wall in FY09. The cost to complete the work was $79,205.

Red Canyon Construction stockpiled 200 tons of free draining material on the east side of Angostura Dam. This contract was with Reclamation and the material will be used for repair work planned for the east stilling basin wall. The cost to complete the work was $3,600.

A manhole at station 16+00 of the toe drain at Angostura Dam was installed to provide access to enable a CCTV inspection of the majority of the embankment toe drain. The Angostura District contracted with Red Canyon Construction of Hot Springs, SD. The contract was completed in October of 2008 for the amount of $9,760.00 which paid for locating the toe drain and installation of a 15 foot by 48 inch manhole. Total cost of the project was approximately $15,000.

MONTHLY STATISTICS FOR WATER YEAR 2008

October end-of-month (EOM) elevation, at Angostura Reservoir, was 5th lowest in 56 years of record. October inflow was below average. Angostura ended the month 21.1 feet from full.

November end-of-month (EOM) elevation, at Angostura Reservoir, was 4th lowest in 56 years of record. November inflow was much below average. Angostura ended the month 20.9 feet from full.

December end-of-month (EOM) elevation, at Angostura Reservoir, was 4th lowest in 56 years of record. December inflow was below average. Angostura ended the month 20.3 feet from full.

January end-of-month (EOM) elevation, at Angostura Reservoir, was 4th lowest in 56 years of record. January inflow was much below average. Angostura ended the month 19.8 feet from full.

February end-of-month (EOM) elevation, at Angostura Reservoir, was 4th lowest in 56 years of record. February inflow was much below average. Angostura ended the month 19.2 feet from full.

March end-of-month (EOM) elevation, at Angostura Reservoir, was 4th lowest in 56 years of record. March inflow was much below average. Angostura ended the month 17.8 feet from full.

April end-of-month (EOM) elevation, at Angostura Reservoir, was 4th lowest in 56 years of record. April inflow was much below average. Angostura ended the month 17.3 feet from full.

May end-of-month (EOM) elevation, at Angostura Reservoir, was much below average. May inflow was much above average. Began filling canal on May 20th. Angostura ended the month 10.5 feet from full.

June end-of-month (EOM) elevation and June inflow, at Angostura Reservoir, were below average. Angostura ended the month 9.4 feet from full.

July end-of-month (EOM) elevation and July inflow, at Angostura Reservoir, were below average. Angostura ended the month 10.6 feet from full.

August end-of-month (EOM) elevation and August inflow, at Angostura Reservoir, were below average. Angostura ended the month 12.9 feet from full.

September end-of-month (EOM) elevation and September inflow, at Angostura Reservoir, were below average. Irrigation releases turned off on Sept 16. Annual Facility Inspection done Sept 18. Angostura ended the month 14.0 feet from full.

Additional statistical information on Angostura Reservoir and its operations during 2008 can be found on Table DKT8 and Figure DKG7.

TABLE DKT8
HYDROLOGIC DATA FOR 2008
ANGOSTURA RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	3,163.00	42,205	42,205
TOP OF ACTIVE CONSERVATION	3,187.20	123,048	80,843
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL			

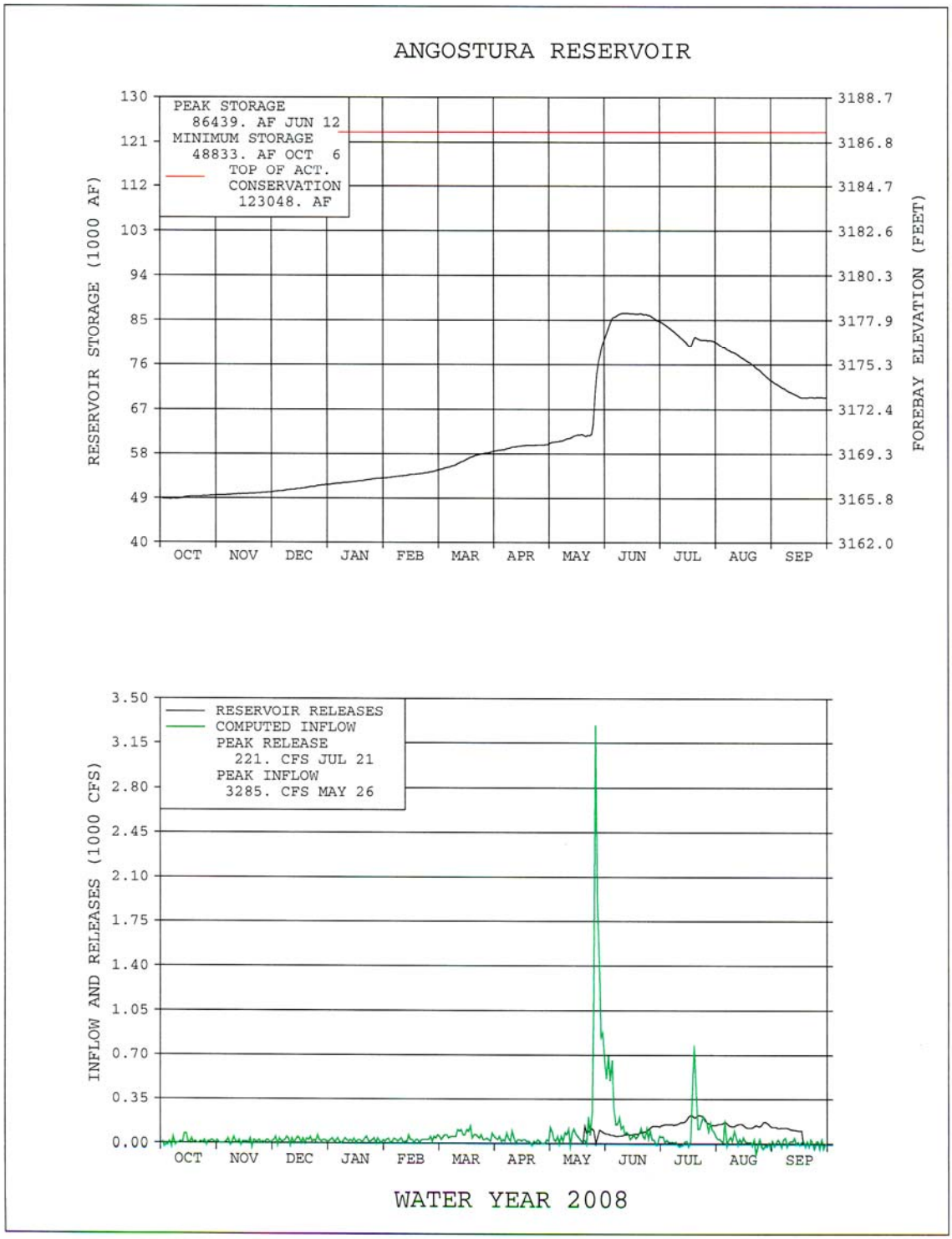
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	3,165.80	48,933	OCT 01, 2007
END OF YEAR	3,173.18	69,361	SEP 30, 2008
ANNUAL LOW	3,165.76	48,833	OCT 6, 2007
ANNUAL HIGH	3,178.29	86,439	JUN 12, 2008
HISTORIC HIGH	3,189.37	**152,228	MAY 20, 1978

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	51,023	OCT 07-SEP 08	30,455	OCT 07-SEP 08
DAILY PEAK (CFS)	3,285	MAY26, 2008	221	JUL 21, 2008
DAILY MINIMUM (CFS)	0	*	0	*

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	673	42	19	2	49,587	61
NOVEMBER	648	29	16	1	50,219	61
DECEMBER	1,553	87	17	3	51,755	62
JANUARY	1,341	65	16	3	53,080	62
FEBRUARY	1,557	36	0	0	54,637	62
MARCH	3,841	35	0	0	58,478	61
APRIL	1,385	18	0	0	59,863	61
MAY	23,194	135	2,092	16	80,965	78
JUNE	8,970	47	5,108	27	84,823	82
JULY	6,471	92	10,612	67	80,586	85
AUGUST	1,080	35	8,886	69	72,740	86
SEPTEMBER	310	29	3,689	67	69,361	86
ANNUAL	51,023	65	30,455	39		
APRIL-JULY	40,020	78				

* Frequently observed during fall and winter months
** Due to new area-capacity table, the capacity that corresponds to the new historic high elevation is less than a previous high capacity amount (169,020 AF @ Elevation 3189.0 on June 18, 1962)

DKG7
ANGOSTURA RESERVOIR



KEYHOLE RESERVOIR

BACKGROUND

Keyhole Reservoir (P-S MBP) located on the Belle Fourche River below Moorcroft, Wyoming, has a conservation capacity of 188,671 acre-feet (182,079 acre-feet active) and 140,463 acre-feet of exclusive flood control space. It was constructed to furnish a supplemental irrigation supply to 57,000 acres in the Belle Fourche Project and for flood control. Keyhole Reservoir is subject to the Belle Fourche River Compact, and the inflows and storage in the reservoir are allocated 10 percent to Wyoming users and 90 percent to South Dakota users, subject to prior rights. On January 3, 1963, the Belle Fourche Irrigation District executed a long-term contract for the use of 7.7 percent of active storage space in the reservoir. This space will be used to store water belonging to the irrigation district under its prior water right along with the District's pro rata share of storable inflows to Keyhole Reservoir. On January 1, 1985, the Crook County Irrigation District's contract for 18,080 acre-feet of space in Keyhole Reservoir became effective. The allocated space is used by each organization to store its pro rata share of inflows to Keyhole Reservoir. The flood control space at Keyhole Reservoir is all located above an ungated spillway. The spillway capacity is 11,000 cfs at maximum water surface elevation. The downstream safe channel capacity is 3,000 cfs. Formulas for forecasting inflows have not been developed. Research by the Soil Conservation Service during water years 1992 through 1994 show that inflow forecasting to Keyhole Reservoir is not reliable since there is no consistent snow pack and precipitation is highly cyclical. No further efforts to develop forecast models are planned.

WY 2008 OPERATIONS SUMMARY

Keyhole Reservoir started WY 2008 at elevation 4078.28 and storage of 58,803 acre-feet, which is 21.04 feet and 129,868 acre-feet below the top of the conservation pool. Inflows for WY 2008 totaled 28,798 acre-feet (180% of the average). Peak inflows occurred in May, totaling 19,553 acre-feet for the month. The peak reservoir elevation for WY 2008 was 4085.83 and storage of 91,850 acre-feet and occurred on July 22, 2008. The minimum elevation for WY 2008 was 4078.02 feet and storage of 57,848 acre-feet and occurred on November19, 2007. WY 2008 ended at elevation 4084.99 and storage of 87,601 acre-feet, which is 14.31 feet and 101,070 acre-feet below the top of the conservation pool. Precipitation for the water year was 121% of average.

There were no irrigation releases for WY 2008.

Reclamation's Sedimentation and River Hydraulics Group of the Technical Service Center in Denver conducted a sedimentation survey of Keyhole Reservoir in 2003 and provided a survey report and new area and capacity tables in July of 2005. The last survey was done in 1978. Keyhole Reservoir accumulated 5,082 acre-feet of sediment since the last survey. Since construction in 1952, Keyhole has accumulated 12,495 acre-feet of sediment. The sedimentation rate from 1952 through 2003 has averaged 240 acre-feet per year. The new area and capacity tables were used, beginning, in WY 2006.

An Emergency Management/Security Orientation was held February 21, 2008. An Annual Facility Review (AFR) was conducted July 17, 2008 by personnel from the Rapid City Field Office.

Recommendation 2004-2-A, grade and gravel the crest of Keyhole Dam was completed in September of 2008. Contractor Ron Anderson Construction, Inc of Sioux Falls, South Dakota bid $24,300 to place 700 ton of 1-inch surface course material on the crest of the dam. The contract was modified to add an additional 205 ton for the price of $4,860. Total cost of the contract was $29,160 dollars and the completion date of the work was September 26, 2008.

A retrieval system was installed in the control house of Keyhole Dam to be used to remove injured personnel from the gate chamber. A fall protection cable system was installed on the ladder which provides access from the control house to the gate chamber.

MONTHLY STATISTICS FOR WATER YEAR 2008

October EOM elevation, at Keyhole Reservoir, was below average. October inflow was below average. Keyhole finished the month 21.2 feet from full.

November EOM elevation, at Keyhole Reservoir, was below average. November inflow was below average. Keyhole finished the month 21.3 feet from full.

December EOM elevation, at Keyhole Reservoir, was below average. December inflow was above average. Keyhole finished the month 21.2 feet from full.

January EOM elevation, at Keyhole Reservoir, was below average. January inflow was below average. Keyhole finished the month 21.1 feet from full.

February EOM elevation and February inflow, at Keyhole Reservoir, were below average. Keyhole finished the month 21.0 feet from full.

March EOM elevation and March inflow, at Keyhole Reservoir, were below average. Keyhole finished the month 19.6 feet from full.

April EOM elevation and April inflow, at Keyhole Reservoir, were below average. Keyhole finished the month 19.5 feet from full.

May EOM elevation, at Keyhole Reservoir, was above average. May inflow was the 4th highest in 56 years of record. Keyhole finished the month 15.0 feet from full.

June EOM elevation and June inflow, at Keyhole Reservoir, were above average. Keyhole finished the month 13.6 feet from full.

July EOM elevation, at Keyhole Reservoir, was above average. July inflow was below average. Keyhole finished the month 13.6 feet from full.

August EOM elevation, at Keyhole Reservoir, was above average.
August inflow was below average. Keyhole finished the month 14.2 feet from full.

September EOM elevation, at Keyhole Reservoir, was above average. September inflow was below average. Keyhole finished the month 14.3 feet from full.

Additional statistical information on Keyhole Reservoir and its operations during 2008 can be found on Table DKT9 and Figure DKG8.

TABLE DKT9
HYDROLOGIC DATA FOR 2008
KEYHOLE RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4,051.00	6,592	6,592
TOP OF ACTIVE CONSERVATION	4,099.30	188,671	182,079
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL	4,111.50	329,134	140,463

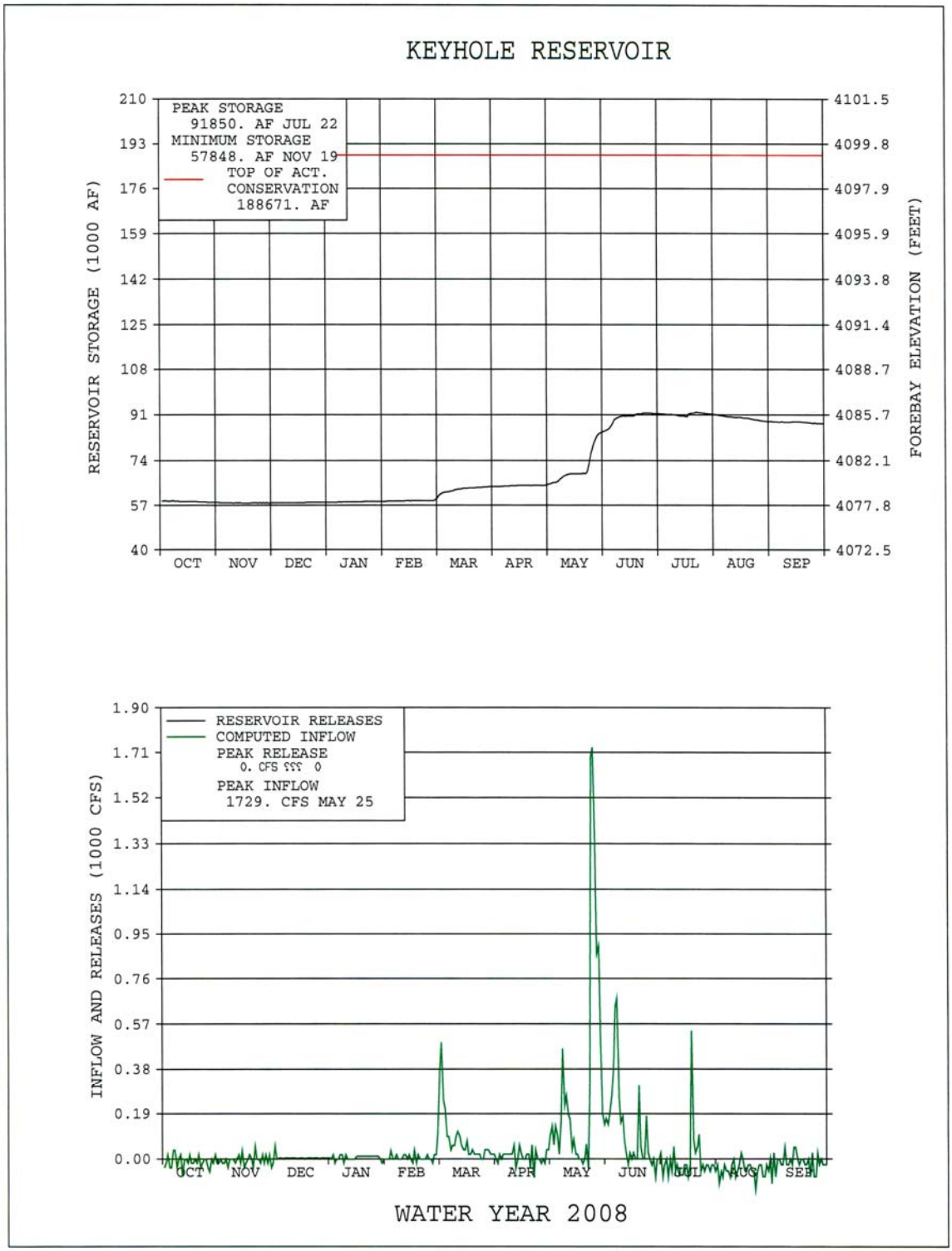
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4,078.28	58,803	OCT 01, 2007
END OF YEAR	4,084.99	87,601	SEP 30, 2008
ANNUAL LOW	4,078.02	57,848	NOV 19, 2007
ANNUAL HIGH	4,085.83	91,850	JUL 22, 2008
HISTORIC HIGH	4,100.38	210,222	MAY 21, 1978

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	28,798	OCT 07-SEP 08	0	OCT 07-SEP 08
DAILY PEAK (CFS)	1,729	MAY 25, 2008	0	
DAILY MINIMUM (CFS)	0	*	0	*

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	-699	NA	0	NA	58,104	93
NOVEMBER	-256	NA	0	NA	57,848	94
DECEMBER	330	275	0	NA	58,178	94
JANUARY	330	76	0	NA	58,508	94
FEBRUARY	554	20	0	NA	59,062	91
MARCH	5,023	75	0	NA	64,085	90
APRIL	549	22	0	NA	64,634	93
MAY	19,553	407	0	NA	84,187	115
JUNE	7,250	202	0	NA	91,437	121
JULY	-258	NA	0	NA	91,179	129
AUGUST	-2,833	NA	0	NA	88,346	135
SEPTEMBER	-745	NA	0	NA	87,601	139
ANNUAL	28,798	180	0	NA		
APRIL-JULY	27,094	268				

* Frequently observed during fall and winter months

DKG8
KEYHOLE RESERVOIR



SHADEHILL RESERVOIR

BACKGROUND

Shadehill Reservoir, a feature of the Shadehill Unit (P-S MBP), is located on the Grand River near Shadehill, South Dakota, and was constructed for irrigation of 9,700 acres, and for flood control, recreation, and fish and wildlife purposes. The reservoir has a dead and conservation capacity totaling 120,172 acre-feet with an additional exclusive flood control capacity of 230,004 acre-feet and a surcharge capacity of 119,560 acre-feet. Flood control space is all located above the crest of an un-gated glory-hole spillway. Because of the questionable quality of water, it was decided to postpone construction of distribution works for irrigation.

After further study, it was concluded that water from Shadehill Reservoir can be used for sustained irrigation if certain limitations of soils, leaching water, soil amendments, and drainage are met. A definite plan report covering 6,700 acres which meets these limitations has been completed, approved by the Commissioner, and released for distribution. On December 17, 1963, landowners within the area voted 24 to 21 against formation of an irrigation district. Further action on development of the area was deferred until the attitude of the landowners was more favorable. Pending more extensive irrigation development, an additional 51,500 acre-feet of space between elevations 2260 and 2272 was allocated to flood control. Allocations and evacuation of this space was made possible by modification of the outlet works in 1969 to permit a discharge of 600 cfs to the river. In June of 1975, the West River Conservancy Sub-District was formed combining all but one of the old individual contracts for water supply from the reservoir into one. Acreage contracted for by the District was 5,000 acres; however, only 3,064 acres were developed. On March 18, 1986, the contract between Reclamation and the West River Conservancy Sub-District was assigned to the Shadehill Water User District, an organization, which succeeded the Sub-District under South Dakota law. This contract has expired and presently conservation releases are meeting irrigation demands. Should irrigation releases be required a temporary water service contract will need to be executed with the Shadehill Water User District.

Because certain release criteria reduced the effectiveness of flood control operations in the zone between elevation 2260 and 2272, and because the Corps of Engineers has constructed Bowman Haley Reservoir upstream from Shadehill Reservoir with 53,800 acre-feet of flood control space, the Corps requested that the interim flood control agreement be terminated and that responsibility for the operations of Shadehill Reservoir when the pool is between elevations 2260 and 2272 revert to Reclamation. By a revised field working agreement dated May 15, 1972, it was agreed that the space between elevation 2260 and 2272 (51,500 acre-feet) be reallocated to conservation use. However, space below elevation 2272 will continue to be evacuated before the start of the spring runoff, but to a lesser extent than in the past.

WY 2008 OPERATIONS SUMMARY

Shadehill Reservoir started WY 2008 at elevation 2259.92 and storage of 69,637 acre-feet, which is 12.08 feet and 50,535 acre-feet below the top of the conservation pool. Inflows for WY 2008 totaled 14,586 acre-feet (22% of the average). Peak inflows occurred in May, totaling 11,696 acre-feet for the month. The peak reservoir elevation for WY 2008 was 2263.60 and storage of 82,782 acre-feet and occurred on June 27, 2008. The minimum elevation for WY 2008 was 2257.30 feet and storage of 61,397 acre-feet and occurred on March 5, 2008. WY 2008 ended at elevation 2262.56 and storage of 78,853 acre-feet, which is 9.44 feet and 41,319 acre-feet below the top of the conservation pool. Precipitation for the water year was 109% of average.

All project irrigation demands were met from river maintenance releases. There were no storage releases for irrigation needed during water year 2008.

An Emergency Management Functional exercise was conducted on April 3, 2008.

An Annual Facility Review (AFR) was conducted July 9, 2008 by personnel from the Rapid City Field Office.

MONTHLY STATISTICS FOR WATER YEAR 2008

October EOM elevation, at Shadehill Reservoir, was 3rd lowest in 56 years of record. October inflow was much below average. Controlled release is 18 cfs. Shadehill finished the month 12.7 feet below top of conservation.

November EOM elevation and November inflow, at Shadehill Reservoir, were the 2nd lowest in 56 years of record. Controlled release is 18 cfs. Shadehill finished the month 13.3 feet below top of conservation.

December EOM elevation, at Shadehill Reservoir, was the 2nd lowest in 56 years of record. Inflow was below average. Controlled release is 16 cfs. Shadehill finished the month 13.8 feet below top of conservation.

January EOM elevation, at Shadehill Reservoir, was the lowest in 56 years of record. January inflow was much below average. Controlled release is 16 cfs. Shadehill finished the month 14.2 feet below top of conservation.

February EOM elevation, at Shadehill Reservoir, was the 2nd lowest in 56 years of record. (The February, 1952 EOM elevation was lower, but at the time, the reservoir was still filling.) February inflow was much below average. Controlled release is 16 cfs. Shadehill finished the month 14.7 feet below top of conservation.

March EOM elevation, at Shadehill Reservoir, was the 2nd lowest in 56 years of record. (The March, 1952 EOM elevation was lower, but at that time, the reservoir was still filling.) March inflow was much below average. Controlled release is 16 cfs. Shadehill finished the month 14.3 feet below top of conservation.

April EOM elevation, at Shadehill Reservoir, was the 2nd lowest in 56 years of record. (The April, 1952 EOM elevation was lower, but at that time, the reservoir was still filling.) April inflow was much below average. Controlled release lowered to 10 cfs. Emergency Functional exercise done on April 3rd. Shadehill onsite damtender training done on April 28th. Shadehill finished the month 14.2 feet below top of conservation.

May EOM elevation, at Shadehill Reservoir, was the 3rd lowest in 56 years of record. May inflow was above average. Controlled release at 12 cfs. Shadehill finished the month 10.8 feet below top of conservation.

June EOM elevation, at Shadehill Reservoir, was the 5th lowest in 56 years of record. June inflow was above average. Controlled release at 13 cfs. Shadehill finished the month 8.5 feet below top of conservation.

July EOM elevation, at Shadehill Reservoir, was much below average. July inflow was below average. Controlled release at 13 cfs. Shadehill finished the month 8.8 feet below top of conservation.

August EOM elevation, at Shadehill Reservoir, was much below average. August inflow was below average. Controlled release at 13 cfs. Shadehill finished the month 9.0 feet below top of conservation.

September EOM elevation, at Shadehill Reservoir, was much below average. September inflow was below average. Controlled release at 13 cfs. Shadehill finished the month 9.4 feet below top of conservation.

Additional statistical information on Shadehill Reservoir and its operations during 2008 can be found on Table DKT10 and Figure DKG9.

TABLE DKT10
HYDROLOGIC DATA FOR 2008
SHADEHILL RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	2,250.80	43,869	43,869
TOP OF ACTIVE CONSERVATION	2,272.00	120,172	76,303
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL	2,302.00	350,176	230,004

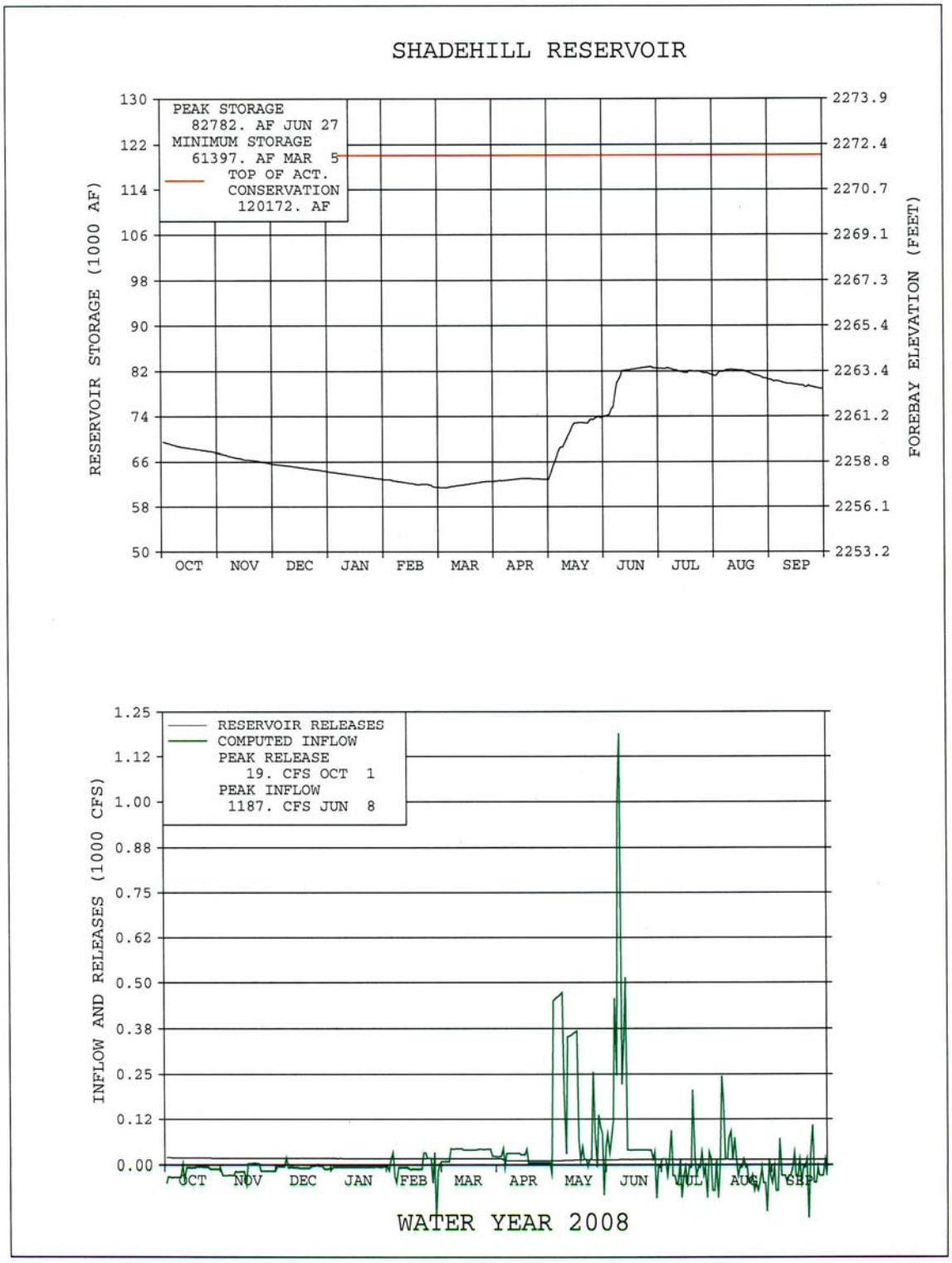
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2,259.92	69,637	OCT 01, 2007
END OF YEAR	2,262.56	78,853	SEP 30, 2008
ANNUAL LOW	2,257.30	61,397	MAR 5, 2008
ANNUAL HIGH	2,263.60	82,782	JUN 27, 2008
HISTORIC HIGH	2,297.90	318,438	APR 10, 1952

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	19,860	OCT 07-SEP 08	10,644	OCT 07-SEP 08
DAILY PEAK (CFS)	1,187	JUN 08, 2008	19	OCT 01, 2007
DAILY MINIMUM (CFS)	0	*	10	APR 7, 2008

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	-978	NA	1,104	35	67,555	71
NOVEMBER	-914	NA	1,030	40	65,611	71
DECEMBER	-357	NA	1,036	43	64,218	70
JANUARY	-367	NA	1,001	43	62,850	73
FEBRUARY	-450	NA	913	44	61,487	68
MARCH	2,022	10	963	12	62,546	61
APRIL	981	5	646	4	62,881	59
MAY	11,696	111	712	8	73,865	69
JUNE	9,436	109	789	10	82,512	76
JULY	-277	NA	832	16	81,403	76
AUGUST	-39	NA	832	20	80,532	79
SEPTEMBER	-894	NA	785	22	78,853	80
ANNUAL	19,860	30	10,644	16		
APRIL-JULY	21,836	54				

* Frequently observed during fall and winter months

DKG9
SHADEHILL RESERVOIR



BELLE FOURCHE RESERVOIR

BACKGROUND

Belle Fourche Reservoir, located near Belle Fourche, South Dakota, is formed by Belle Fourche Dam on Owl Creek, a tributary of the Belle Fourche River. It has a total capacity of 172,873 acre-feet (169,790 acre-feet active). The reservoir is filled by diverting water from the Belle Fourche River through the Inlet Canal, which has a capacity of 1,300 cfs. The reservoir is used for irrigation of 57,000 acres in the Belle Fourche Project, which also receives a supplemental supply from Keyhole Reservoir. From November 1965 through May 1977, the active capacity of the reservoir was temporarily limited to 160,300 acre-feet at elevation 2981.8 feet until the damaged spillway was replaced.

When the Belle Fourche Reservoir storage right is satisfied by the reservoir filling, the South Dakota Department of Environment and Natural Resources provide guidelines for complying with water rights on the Belle Fourche River. The District is required to continue to bypass 5 cfs for domestic use prior to diverting the Johnson Lateral water right for up to 40 cfs. If flows into the diversion dam are greater than 45 cfs, the District is required to bypass up to 60 cfs for downstream irrigation rights. Any flows in excess of these amounts can be diverted into the reservoir and stored. If all of these rights are not needed, the District can divert flows into the reservoir.

WATER YEAR 2008 OPERATIONS SUMMARY

Belle Fourche Reservoir started WY 2008 at elevation 2953.65 and storage of 47,203 acre-feet, which is 21.35 feet and 111,467 acre-feet below the top of the conservation pool. Inflows for WY 2008 totaled 150,577 acre-feet, which was 130 % of the average. Peak inflows occurred in May, totaling 63,279 acre-feet for the month, which was 424 % of average. The peak reservoir elevation for WY 2008 was 2975.92 and storage of 180,387 acre-feet and occurred on June 7, 2008. The minimum elevation for WY 2008 was 2953.53 feet and storage of 46,767 acre-feet and occurred on October 12, 2007. WY 2008 ended at elevation 2964.31 and storage of 98,330 acre-feet, which is 10.69 feet and 74,543 acre-feet below the top of the conservation pool. Precipitation for the water year was 132% of average.

Water users were allocated 18 inches of water, a full allocation, for the 2008 irrigation season.

The Inlet Canal remained open all winter. The North Canal was turned on on June 5, 2008 and the South Canal on June 1. North Canal was shut off on September 29 and South Canal on September 22. Irrigation releases for the 2008 season were North Canal 58,282 acre-feet, South Canal 41,083 acre-feet, and Inlet Canal-Johnson Lateral 3,272 acre-feet for a total of 102,637 acre-feet.

An Emergency Management/Security Orientation was held January 30, 2008.

The annual settlement survey was completed. This survey is done approximately one month after the peak elevation for the year has occurred in the reservoir. Inclinometer readings were taken quarterly as required by the periodic monitoring schedule.

An Annual Facility Review (AFR) was conducted September 18, 2008 by personnel from the Rapid City Field Office.

Reclamation's Sedimentation and River Hydraulics Group (of the Technical Service Center in Denver) conducted a sedimentation survey of Belle Fourche Reservoir in 2006 and provided a survey report and new area and capacity tables in April, 2007. The last survey was done in 1949. Belle Fourche Reservoir accumulated 19,204 acre-feet since the 1949 survey and 36,364 acre-feet since the original survey in 1910. The sedimentation rate from 1910 through 2006 averages 375 acre-feet per year. The new area and capacity tables will be used beginning in WY 2008.

Contract No. 07CC603610, Road Improvements, Suzie Peak Road was completed on May 1, 2008. The contract completed construction of approximately 4 miles of road on the west side of Belle Fourche Reservoir. The contract was done by Pedersen Excavating, Inc., Spearfish, SD for the amount of $433,616.75.

A fall protection cable system was installed in the North and South Canal control houses at Belle Fourche Dam. The cable systems were installed on the ladders used to access the gate chambers.

Canal lining was installed by the Belle Fourche Irrigation District on Inlet Canal from station 190+00 to station 212+00. This was the second phase of lining installation on Inlet Canal and was completed in late October of 2008. The lining material was purchased with 2025 dollars. In the fall of 2007 the first phase of lining was installed just upstream of the Bean bridge. The reach installed in 2007 was 2000 feet in length and provided a water savings estimated at 2000 acre-feet per year. The 2200 feet installed in 2008 provided an estimated savings of 2,200 acre-feet per year.

MONTHLY STATISTICS FOR WATER YEAR 2008

October EOM elevation, at Belle Fourche Reservoir, was above average. October inflow was below average. Belle Fourche ended the month 20.1 feet from full.

November EOM elevation, at Belle Fourche Reservoir, was above average. November inflow was below average. Belle Fourche ended the month 18.1 feet from full.

December EOM elevation, at Belle Fourche Reservoir, was above average. December inflow was below average. Belle Fourche ended the month 16.1 feet from full.

January EOM elevation, at Belle Fourche Reservoir, was slightly below average. January inflow was below average. Belle Fourche ended the month 14.5 feet from full.

February EOM elevation and February inflow, at Belle Fourche Reservoir, were below average. Belle Fourche ended the month 12.9 feet from full.

March EOM elevation and March inflow, at Belle Fourche Reservoir, were below average. Belle Fourche ended the month 10.6 feet from full.

April EOM elevation and April inflow, at Belle Fourche Reservoir, were below average. Belle Fourche onsite damtender training done on April 29th. Belle Fourche ended the month 8.9 feet from full.

May EOM elevation at, Belle Fourche Reservoir, was much above average. May inflow was 2nd highest in 56 years of record. Belle Fourche ended the month 0.1 feet from full.

June EOM elevation at, Belle Fourche Reservoir, was the 5th highest in 56 years of record. June inflow was above average. Belle Fourche ended the month 0.1 feet from full.

July EOM elevation at, Belle Fourche Reservoir, was the 3rdh highest in 56 years of record. July inflow was above average. Belle Fourche ended the month 2.6 feet from full.

August EOM elevation at, Belle Fourche Reservoir, was much above average. August inflow was below average. Belle Fourche ended the month 7.3 feet from full.

September EOM elevation at, Belle Fourche Reservoir, was much above average. Inlet Canal turned off on Sept 1 for lining installation. South Canal shut off on Sept 16, North Canal on Sept 29. Belle Fourche ended the month 10.7 feet from full.

Additional statistical information on Belle Fourche Reservoir and its operations during 2008 can be found on Table DKT11 and Figure DKG10.

TABLE DKT11
HYDROLOGIC DATA FOR 2008
BELLE FOURCHE RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	2,927.00	3,083	3,083
TOP OF ACTIVE CONSERVATION	2,975.00	172,873	169,790
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL			

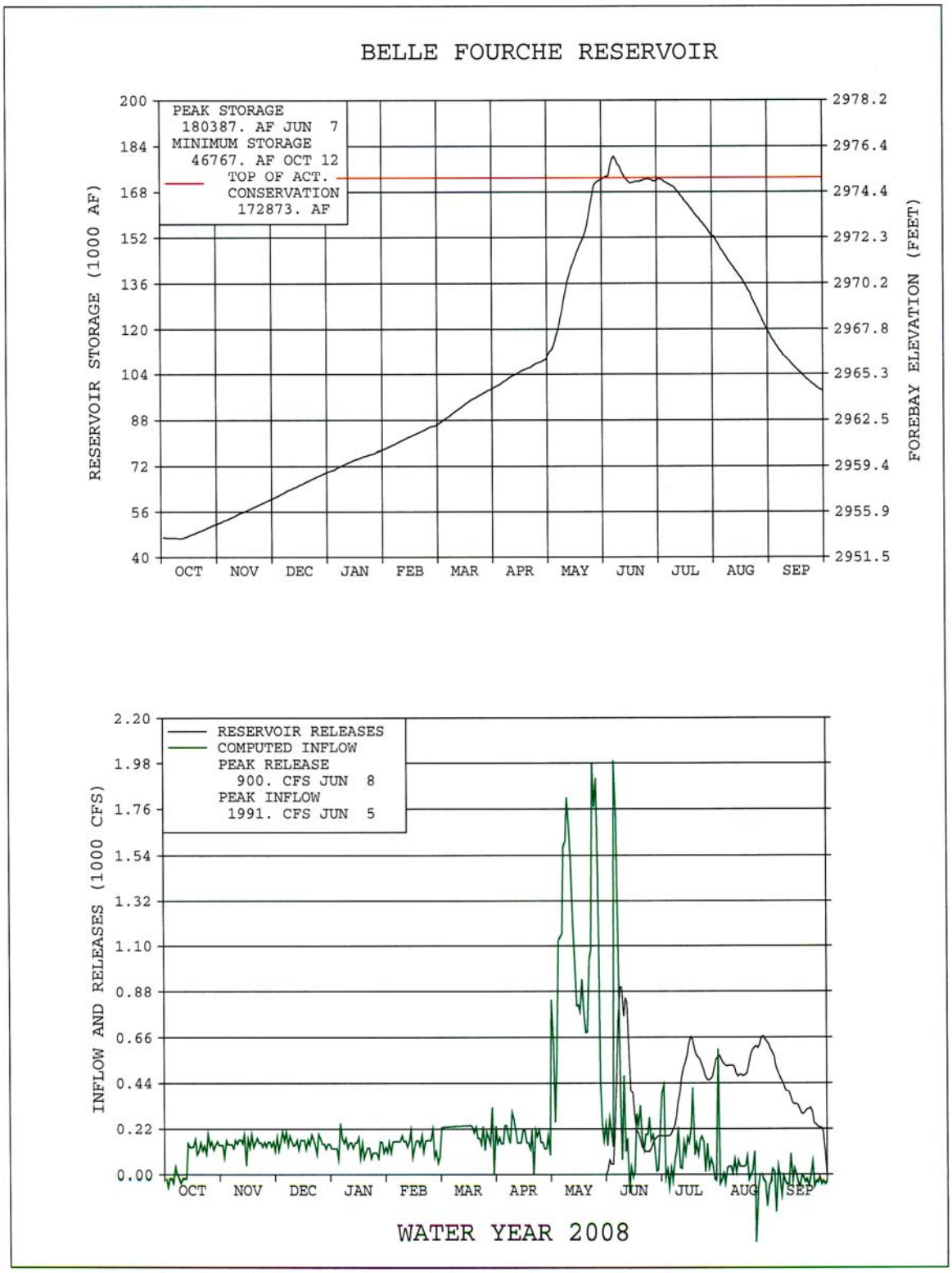
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2,953.65	47,203	OCT 01, 2007
END OF YEAR	2,964.31	98,330	SEP 30, 2008
ANNUAL LOW	2,953.53	46,767	OCT 12, 2007
ANNUAL HIGH	2,975.92	180,387	JUN 07, 2008
HISTORIC HIGH	2,975.92	180,387	JUN 07, 2008

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	150,577	OCT 07-SEP 08	99,449	OCT 07-SEP 08
DAILY PEAK (CFS)	1,991	JUN 05, 2008	900	JUN 08, 2008
DAILY MINIMUM (CFS)	0	*	0	*

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	4,677	45	0	NA	51,879	105
NOVEMBER	8,545	87	0	NA	60,424	102
DECEMBER	9,398	100	0	NA	69,822	101
JANUARY	7,886	83	0	NA	77,708	98
FEBRUARY	8,329	81	0	NA	86,037	96
MARCH	12,871	79	0	NA	98,908	93
APRIL	10,204	73	0	NA	109,112	91
MAY	63,279	424	0	NA	172,391	135
JUNE	18,565	158	19,126	116	171,8301	139
JULY	7,081	204	26,495	71	52,416	173
AUGUST	977	55	34,329	96	119,064	228
SEPTEMBER	-1,235	NA	19,499	115	98,330	242
ANNUAL	150,577	130	99,449	87		
APRIL-JULY	99,129	230				

* Frequently observed during fall and winter months

DKG10
BELLE FOURCHE RESERVOIR



CORPS OF ENGINEERS MAIN STEM RESERVOIRS

The Missouri River main stem reservoir system consists of six reservoirs located on the Missouri River in Montana, North Dakota, South Dakota, and Nebraska. This reservoir system serves flood control, irrigation, navigation, power, municipal and industrial water supply, water quality control, fish and wildlife, and recreation. Based on information from the Corps' 2008 AOP, the capacity and storage allocations of the main stem system were updated to current values and are shown in downstream order as follows:

Reservoir Storage Allocation (1,000 Acre-Feet)

Dam	Permanent	Carryover Multiple Use	Annual Flood Control and Multiple Use	Exclusive Flood Control	Total Storage
Fort Peck	4,073	10,667	2,838	922	18,500
Garrison	4,980	13,130	4,222	1,489	23,821
Oahe	5,373	13,461	3,201	1,102	23,137
Big Bend	1,621	0	117	60	1,798
Fort Randall	1,517	1,607	1,309	985	5,418
Gavins Point	307	0	86	57	450
Totals	17,871	38,865	11,773	4,615	73,124

Each main stem facility serves a powerplant. The number of generating units and total nameplate capabilities are shown below:

Powerplant	Units	Capacity (Kilowatts)
Fort Peck	5	185,250
Garrison	5	583,300
Oahe	7	786,030
Big Bend	8	494,320
Fort Randall	8	320,000
Gavins Point	3	132,300
Totals	36	2,501,200

Main stem system releases are regulated to support the multiple use purposes of the reservoirs. The navigation season on the Missouri River below the dams normally is from late March to late November. Generally, releases from the system for navigation are higher during late summer and fall lowering the system storage. During that time, much of the system's hydropower is generated from the lower most projects. During closure of the navigation season, higher releases are made and more power is generated from the upstream Fort Peck and Garrison Reservoirs. This offsets the reduced release and generation from the downstream projects during winter closure of the river for navigation. The desired annual target system storage level is 57.0 million acre-feet on the first of March.

The regulation of Missouri River flows by the main stem storage provided benefits to nine water resource-related functions, including flood control, irrigation, navigation, power, municipal and industrial water supply, water quality control, fish and wildlife, and recreation. Table CET1 presents the regulation benefit for most of those functions as recorded in 2007-2008, 2006-2007, and the average. Benefits are defined as the tons of produce shipped, dollars of damages prevented, kilowatt hours of electricity produced, and reservoir elevation and river stages maintained. For the shipping information, estimates also were provided this year which included the sand, gravel, and waterway material shipped.

TABLE CET1
Main Stem Reservoir Water Regulation
Comparison with Past Regulations

Use of Regulated Water	Period of Use or Season	Totals	Totals	Long-Term
Navigation*	Apr. - Dec.[4]	0.35 million tons (2008)	0.36 million tons (2007)	1.93 million tons[1]
Flood Damages Prevented	Oct. – Sept.	$2,877 million (2008)	$366 million (2007)	$21.6 billion[2]
Energy	Aug. - Jul.	4.7 billion KWH (Aug. 07-July 08)	5.5 billion KWH (Aug. 06-July 07)	9.5 billion KWH[3]

* Excludes sand, gravel, and waterway material (2008 estimated and 2007 preliminary)
2008 – 7.05 million tons sand, gravel, and waterway material
Total Tonnage including sand, gravel, and waterway material
7.40 million tons (2008)
7.14 million tons (2007)
7.10 million tons (42-year long-term average through 2008)

The main stem reservoirs also provide supplemental water for irrigation and municipal uses and improves water quality in the river system.

[1]Average for 42 years 1967-2008 with the peak shipments in 1977 (3.34 million tons)
[2]Total damages prevented (1937-2008)
[3]Average Annual 1968-2008
[4]End of navigation season shortened 44 days in 2007 and 30 days in 2008

A detailed description of the main stem system operations during 2008 is presented in annual operating reports prepared by and available for distribution from the U.S. Missouri River Basin Water Management Division, U.S. Army Corps of Engineers, Northwestern Division, Omaha, Nebraska.

ENERGY GENERATION

There are 14 Federal powerplants located in the Upper Missouri River Basin that are currently operating. Eight of the powerplants are operated and maintained by Reclamation and have a total capacity of 348,100 kilowatts. The other six have a total capacity of 2,501,200 kilowatts and are operated and maintained by the Corps. The Corps' powerplants are located on the main stem of the Missouri River. Generation from the 14 powerplants is marketed by the Department of Energy. Total generation in the combined system in WY 2008 was 5958.299 million kilowatt hours, 102.951 million kilowatt hours more than in WY 2007. A summary of the past 10 years of energy generation within the Upper Missouri River Basin is shown below.

USBR and COE Energy Generation
Million KiloWatt Hours

Year	USBR	COE	TOTAL
2008	1182.399	4775.900	5958.299
2007	794.348	5061.000	5855.348
2006	1088.603	6199.964	7288.567
2005	953.992	5553.800	6507.792
2004	688.367	7046.084	7734.451
2003	757.118	7783.378	8540.496
2002	708.594	7271.994	7980.588
2001	905.528	6521.944	7427.472
2000	1240.802	10363.931	11604.733
1999	2017.536	11073.228	13090.764

A comparison of 2007 and 2008 generation and other data from Missouri Basin Region powerplants is shown on Table CET2. Tables CET3, 4, and 5 shows the monthly generation, power releases, and total downstream releases, respectively, for all Federal plants in the Missouri Basin Region. The annual energy generation for each of the last several years for all Reclamation, Corps, and combined plants is shown graphically on Figures CEG1, 3, and 5, respectively, Monthly generation for each month during the past several years is shown graphically on Figures CEG2, 4, and 6.

For a more detailed account of powerplants operation at Reclamation facilities during the year, refer to the 2008 operation summaries. Information on the Corps' powerplants operations can be obtained from the annual operating reports prepared by and available for distribution from the Reservoir Control Center, U.S. Army Corps of Engineers, Omaha, Nebraska.

TABLE CET2

ANNUAL ENERGY PRODUCTION DATA
WATER YEAR 2008

BUREAU PLANTS	INSTALLED CAPACITY (KW)	MILLION KILOWATT-HOURS GENERATED 2007	MILLION KILOWATT-HOURS GENERATED 2008	WATER USED FOR GENERATION IN 2008 1,000 AF	PERCENT OF TOTAL RELEASE	KW-HOURS PER AF	RIVER RELEASE 1,000 AF	TOTAL RELEASE 1,000 AF
Canyon Ferry	50,000	294.510	319.265	2,610.320	77.42	122.31	3,271.361	3,371.711
Pilot Butte[1]	1,600	3.204	2.015	22.900	13.79	87.99	166.008	166.008
Boysen	15,000	38.982	40.805	547.581	96.44	74.52	567.783	567.783
Buffalo Bill Reservoir Units								
Shoshone	3,000	20.317	20.703	118.218	10.81	175.13	See below for	total.
Buffalo Bill	18,000	41.356	70.254	276.062	25.24	254.49	See below for	total.
Heart Mountain	6,000	14.170	16.582	78.438	7.17	211.40	See below for	total.
Spirit Mountain [2]	4,500	16.400	14.468	149.528	13.67	96.76	See below for	total.
Total for Buffalo Bill Reservoir[3]	31,500	92.243	122.007	622.246	56.89	196.08	862.622	1,093.737
Yellowtail	250,000	365.409	698.307	1,984.311	98.13	351.91	1,974.041	2,022.202
Subtotal	**348,100**	**794.348**	**1,182.399**	**5,787.358**	**80.14**	**204.31**	**6,841.815**	**7,221.441**
CORPS PLANTS								
Fort Peck	185,250	691.977	595.200	4,179.00	100.00	142.43	4,179.000	4,179.000
Garrison	583,300	1,335.338	1,249.700	9,568.00	100.00	130.61	9,568.000	9,568.000
Oahe	786,030	1,117.028	1,088.900	8,147.00	100.00	133.66	8,147.000	8,147.000
Big Bend	494,320	488.559	460.100	7,540.00	100.00	61.02	7,540.000	7,540.000
Fort Randall	320,000	933.804	902.800	8,641.00	100.00	104.48	8,641.000	8,641.000
Gavins Point	132,300	494.294	479.200	10,284.00	99.88	46.60	10,296.000	10,296.000
Subtotal	**2,501,200**	**5,061.000**	**4,775.900**	**48,359.00**	**99.98**	**98.76**	**48,371.000**	**48,371.000**
TOTAL MISSOURI BASIN	**2,849,300**	**5,855.348**	**5,958.299**	**54,146.36**	**97.40**	**110.04**	**55,212.815**	**55,592.441**

[1] River Release and Total Release at Pilot Butte Reservoir is computed inflow to Pilot Butte Reservoir due to the location of the powerplant at inlet of supply canal.

[2] Spirit Mountain Powerplant is used to dissipate energy in the transition from the pressurized portion of the Shoshone Canyon Conduit to the free flow section of the conduit. Water used for generation at Spirit Mountain Powerplant is then routed to Heart Mountain Canal or used for generation at Heart Mountain Powerplant.

[3] This represents the total for the four separate powerplants at Buffalo Bill Dam.

TABLE CET3

MONTHLY ENERGY GENERATION (MILLION KILOWATT-HOURS)

WATER YEAR 2008

	BUREAU OF RECLAMATION PLANTS								
				BUFFALO BILL PLANTS					
MONTH	CANYON FERRY	PILOT BUTTE	BOYSEN	HEART MOUNTAIN	SPIRIT MOUNTAIN	BUFFALO BILL	SHOSHONE	YELLOWTAIL	TOTAL
October	23.016	0.700	1.287	0.873	0.978	1.098	1.572	26.497	**56.021**
November	22.478	0.000	1.564	0.000	0.000	0.000	1.713	33.635	**59.390**
December	24.659	0.000	1.387	0.000	0.000	0.000	1.113	39.818	**66.977**
January	23.881	0.000	1.572	0.000	0.000	0.000	1.232	37.918	**64.603**
February	21.077	0.000	1.333	0.000	0.000	0.000	1.380	35.587	**59.377**
March	22.603	0.000	1.458	0.000	0.000	0.000	1.649	36.463	**62.173**
April	21.804	0.000	2.177	0.255	0.000	4.880	1.819	33.834	**64.769**
May	30.446	0.000	4.580	3.372	1.808	13.140	2.033	52.843	**108.222**
June	40.442	0.000	9.106	3.112	2.452	12.805	1.852	173.702	**243.471**
July	34.948	0.248	6.934	2.841	3.191	13.441	2.164	114.220	**177.987**
August	27.889	0.565	5.711	2.807	2.927	12.927	2.149	57.213	**112.188**
September	26.022	0.502	3.696	3.322	3.112	11.963	2.027	56.577	**107.221**
TOTAL	**319.265**	**2.015**	**40.805**	**16.582**	**14.468**	**70.254**	**20.703**	**698.307**	**1,182.399**

	CORPS OF ENGINEERS PLANTS							MISSOURI
MONTH	FORT PECK	GARRISON	OAHE	BIG BEND	FORT RANDALL	GAVINS POINT	TOTAL	BASIN TOTAL
October	33.300	85.500	83.800	37.800	67.400	41.500	**349.300**	**405.321**
November	31.800	82.800	41.200	18.300	45.100	25.800	**245.000**	**304.390**
December	46.100	117.300	107.800	47.200	63.600	36.700	**418.700**	**485.677**
January	47.200	117.100	105.600	48.300	70.700	36.500	**425.400**	**490.003**
February	43.800	110.200	126.600	56.100	58.400	32.700	**427.800**	**487.177**
March	44.200	97.100	77.700	31.900	44.200	30.800	**325.900**	**388.073**
April	50.000	92.800	114.100	48.300	77.500	40.900	**423.600**	**488.369**
May	63.600	98.100	79.300	32.300	67.200	37.100	**377.600**	**485.822**
June	57.400	110.100	26.100	14.200	44.700	33.900	**286.400**	**529.871**
July	61.600	114.700	84.300	33.700	104.700	46.000	**445.000**	**622.987**
August	63.100	119.100	157.900	57.100	143.100	61.600	**601.900**	**714.088**
September	53.100	104.900	84.500	34.900	116.200	55.700	**449.300**	**556.521**
TOTAL	**595.200**	**1,249.700**	**1,088.900**	**460.100**	**902.800**	**479.200**	**4,775.900**	**5,958.299**

TABLE CET4

WATER USED FOR POWER GENERATION (1,000 ACRE-FEET)

WATER YEAR 2008

MONTH	CANYON FERRY	BOYSEN	PILOT BUTTE	BUFFALO BILL RESERVOIR UNITS				YELLOWTAIL	FORT PECK	GARRISON
				SHOSHONE	BUFF. BILL	HEART MTN.	SPIRIT MTN.[1]			
October	190.743	21.483	7.605	9.810	6.274	4.566	9.867	102.942	249.000	666.000
November	186.086	23.746	0.000	8.769	0.000	0.000	0.000	107.615	235.000	645.000
December	208.516	24.209	0.000	7.563	0.000	0.000	0.000	112.984	325.000	915.000
January	202.100	24.714	0.000	6.262	0.000	0.000	0.000	111.456	337.000	924.000
February	178.467	23.286	0.000	8.743	0.000	0.000	0.000	104.281	301.000	852.000
March	191.051	24.573	0.000	9.191	0.000	0.000	0.000	112.099	315.000	785.000
April	184.534	30.616	0.000	10.314	17.402	1.228	0.000	111.134	333.000	699.000
May	252.331	61.478	0.000	11.446	51.972	15.500	21.177	157.078	466.000	790.000
June	318.614	116.059	0.000	10.427	50.664	14.425	26.948	426.365	406.000	853.000
July	268.360	83.078	2.916	12.183	50.707	13.858	31.986	301.772	420.000	837.000
August	221.129	68.657	6.526	12.099	50.576	13.480	28.962	175.570	428.000	854.000
September	208.389	45.682	5.853	11.411	48.467	15.381	30.588	161.015	364.000	748.000
TOTAL	**2,610.320**	**547.581**	**22.900**	**118.218**	**276.062**	**78.438**	**149.528**	**1,984.311**	**4,179.000**	**9,568.000**

[1] Spirit Mountain Powerplant is used to dissipate energy in the transition from the pressurized portion of the Shoshone Canyon Conduit to the free flow section of th
Powerplant is then routed to Heart Mountain Canal or used for generation at Heart Mountain Powerplant.

TABLE CET5

TOTAL RELEASE (1,000 ACRE-FEET)

WATER YEAR 2008

MONTH	CANYON FERRY	BOYSEN	PILOT BUTTE	BUFFALO BILL	BULL LAKE	ANCHOR	YELLOWTAIL	FORT PECK	GARRISON	OAHE
October	190.951	24.775	0.000	33.220	2.129	0.516	102.942	249.000	666.000	651.000
November	186.086	23.862	0.000	8.985	2.189	0.372	107.615	235.000	645.000	319.000
December	208.516	24.732	0.000	9.474	1.328	0.123	112.984	325.000	915.000	834.000
January	202.100	24.714	0.000	9.544	1.328	0.123	111.456	337.000	924.000	819.000
February	178.467	23.286	0.000	8.964	1.242	0.028	104.281	301.000	852.000	952.000
March	191.051	24.634	0.000	9.480	1.328	0.144	112.099	315.000	785.000	599.000
April	202.828	30.616	4.859	38.169	5.368	0.593	111.134	333.000	699.000	814.000
May	322.167	61.478	23.933	147.842	14.579	1.709	157.078	466.000	790.000	612.000
June	745.219	130.516	25.607	325.538	4.070	3.000	464.256	406.000	853.000	197.000
July	444.636	84.530	43.584	270.246	20.178	5.934	301.772	420.000	837.000	602.000
August	264.081	68.957	37.182	128.398	54.528	1.991	175.570	428.000	854.000	1,136.000
September	235.608	45.682	28.540	103.877	33.693	0.572	161.015	364.000	748.000	612.000
TOTAL	**3,371.710**	**567.782**	**163.705**	**1,093.737**	**141.960**	**15.105**	**2,022.202**	**4,179.000**	**9,568.000**	**8,147.000**

TABLE CET6

TOTAL RESERVOIR STORAGE CONTENTS (1,000 ACRE-FEET)
WATER YEARS 2007 AND 2008

BUREAU RESERVOIRS	TOP OF CONSERVATION CAPACITY [3]	DEAD AND INACTIVE CAPACITY	TOTAL STORAGE SEPTEMBER 30		END OF SEPTEMBER PERCENT OF AVERAGE	
			2007	2008	2007	2008
Clark Canyon	174.4	1.1	62.1	64.5	63	52
Canyon Ferry	1,891.9	396.0	1,500.6	1,756.4	92	103
Helena Valley	10.5	4.6	7.5	7.4	106	111
Gibson	96.5	0.0	6.2	22.0	25	79
Willow Creek	31.8	0.0	14.2	27.7	71	159
Pishkun	46.7	16.0	16.0	36.4	49	111
Lake Elwell	925.6	554.3	691.9	835.1	90	107
Sherburne	66.1	1.9	7.0	35.2	46	420
Fresno	92.9	0.4	40.4	57.6	88	144
Nelson	79.0	18.1	53.1	63.4	104	112
Bull Lake	152.5	0.7	47.7	84.5	62	111
Pilot Butte	33.7	3.8	9.3	11.6	50	63
Boysen	741.6	219.2	389.7	628.8	64	104
Anchor[1]	17.2	0.1	0.3	0.3	78	107
Buffalo Bill[2]	646.6	41.7	417.8	484.4	96	111
Bighorn Lake	1,070.0	493.6	956.7	1,067.8	100	105
E. A. Patterson	8.6	0.5	5.7	3.0	90	48
Lake Tschida	67.1	5.2	52.9	41.9	90	73
Jamestown Reservoir	31.5	0.8	29.2	29.1	101	101
Shadehill Reservoir	120.2	43.9	69.6	78.9	64	74
Angostura Reservoir	123.0	42.2	48.9	69.4	55	78
Deerfield Reservoir	15.7	0.2	12.5	14.5	93	109
Pactola Reservoir	56.0	1.0	28.5	50.1	61	108
Keyhole Reservoir	188.7	6.6	58.8	87.6	62	95
Belle Fourche Reservoir	192.1	6.8	61.4	98.3	92	144
Subtotal	**6,076.9**	**1,751.6**	**4,220.5**	**5,183.3**		
CORPS RESERVOIRS						
Fort Peck	17,578.0	4,073.0	9,040.0	10,435.0		
Garrison	22,332.0	4,980.0	11,766.0	14,705.0		
Oahe	22,035.0	5,373.0	11,927.0	14,731.0		
Big Bend	1,738.0	1,621.0	1,669.0	1,655.0		
Fort Randall	4,433.0	1,517.0	2,662.0	2,604.0		
Gavins Point	393.0	307.0	389.0	394.0		
Subtotal	**68,509.0**	**17,871.0**	**37,453.0**	**44,524.0**		
TOTAL UPPER MISSOURI BASIN	**74,585.9**	**19,622.6**	**41,673.5**	**49,707.3**		

[1] Percent of average content of Anchor Reservoir is based on an 17-year average, 1991-2007.
[2] Percent of average content of Buffalo Bill Reservoir is based on an 15-year average, 1993-2007; to reflect the operation of the reservoir since 1992 when the dam was raised and the capacity of the reservoir was increased to 646,565 acre-feet.
[3] Includes joint-use space.

***Anchor end of Sep % of avg is entered manually for both years.
be sure to check previous years data that it copied correctly from what it said last year

TABLE CET7

WATER YEAR 2008
End-of-Month Reservoir Contents
(1,000 Acre-Feet)

RECLAMATION RESERVOIRS	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CLARK CANYON RESERVOIR	71.8	82.6	93.0	101.1	107.7	115.4	123.7	121.2	108.4	79.3	57.9	64.5
% of Average	57	62	66	72	76	78	76	73	65	53	45	52
CANYON FERRY RESERVOIR	1,498.5	1,491.5	1,455.9	1,406.2	1,409.7	1,415.9	1,433.6	1,692.4	1,914.3	1,900.2	1,747.3	1,756.4
% of Average	87	85	87	89	93	93	96	104	101	104	101	103
HELENA VALLEY RESERVOIR	7.1	6.9	6.6	6.3	6.1	5.9	10.0	10.3	9.5	8.0	7.5	7.4
% of Average	117	113	110	113	120	118	126	130	123	126	105	111
GIBSON RESERVOIR	11.0	14.4	17.0	20.4	23.3	26.7	21.9	83.9	96.3	64.7	27.5	22.0
% of Average	37	42	45	49	52	55	41	98	106	111	83	79
WILLOW CREEK	16.9	19.7	22.4	24.2	24.2	24.2	28.2	31.6	31.5	31.2	28.1	27.7
% of Average	89	100	113	120	117	111	114	115	106	133	152	159
PISHKUN RESERVOIR	16.0	16.0	16.0	16.0	16.0	16.0	28.5	46.8	39.4	39.0	41.6	36.4
% of Average	47	46	47	47	47	47	70	102	93	105	118	111
LAKE ELWELL (TIBER DAM)	680.5	671.2	662.4	653.6	644.2	644.0	645.0	832.0	937.2	915.6	859.9	835.1
% of Average	91	92	94	96	97	96	92	104	101	101	102	107
SHERBURNE LAKE	13.6	17.6	21.1	23.1	25.0	25.8	8.4	32.7	66.1	61.8	38.4	35.2
% of Average	144	130	121	114	111	115	45	112	125	129	163	420
FRESNO RESERVOIR	38.9	36.8	34.2	31.4	29.1	30.8	43.8	60.8	97.1	75.0	50.2	57.6
% of Average	99	95	92	88	82	89	62	93	157	169	134	144
NELSON RESERVOIR	55.2	53.1	51.0	49.6	48.2	48.7	50.9	45.6	57.7	51.2	52.4	63.4
% of Average	93	91	90	90	89	90	84	75	97	93	97	112
BULL LAKE	53.3	55.3	56.5	57.1	57.7	57.6	53.6	64.1	117.0	147.8	109.5	84.5
% of Average	70	72	73	74	75	74	69	71	92	116	107	111
PILOT BUTTE RESERVOIR	28.0	27.6	27.6	27.5	27.4	27.3	27.1	26.5	30.2	28.0	20.9	11.6
% of Average	110	104	104	103	103	95	89	97	102	110	96	63
BOYSEN RESERVOIR	397.9	412.6	419.5	422.7	430.6	447.7	445.7	513.1	620.1	662.6	631.2	628.8
% of Average	66	70	73	76	79	83	86	93	94	101	101	104
ANCHOR RESERVOIR	0.3	0.3	0.4	0.4	0.5	0.3	0.3	0.4	4.5	1.7	0.3	0.3
% of Average[1]	106	116	186	197	199	90	53	27	148	88	56	107
BUFFALO BILL RESERVOIR	424.4	438.2	443.4	447.3	452.2	455.2	438.3	477.3	578.6	628.8	559.2	484.4
% of Average[2]	103	105	107	108	110	112	114	109	102	112	113	111
BIGHORN LAKE	991.9	980.1	933.5	888.3	852.0	826.0	795.8	930.3	1,061.2	1,090.1	1,044.2	1,067.8
% of Average	98	100	101	102	101	99	97	106	103	105	103	105
E. A. PATTERSON LAKE	4.6	4.6	4.6	4.5	4.5	4.6	4.5	4.4	4.2	3.8	3.3	3.0
% of Average	74	73	74	73	67	69	56	57	56	54	50	48
LAKE TSCHIDA	54.0	53.6	53.4	53.2	52.9	53.9	54.5	53.9	53.9	47.9	42.7	41.9
% of Average	91	90	90	90	86	76	81	81	81	76	72	73
JAMESTOWN RESERVOIR	28.6	27.6	27.7	27.6	27.7	28.8	29.0	29.3	31.4	30.1	29.4	29.1
% of Average	106	104	106	104	103	83	60	70	86	88	89	101
SHADEHILL RESERVOIR	67.6	65.6	64.2	62.9	61.5	62.5	62.9	73.9	82.5	81.4	80.5	78.9
% of Average	64	63	62	62	59	53	53	62	70	70	72	74
ANGOSTURA RESERVOIR	49.6	50.2	51.8	53.1	54.6	58.5	59.9	81.0	84.8	80.6	72.7	69.4
% of Average	55	55	55	55	55	54	54	72	76	79	79	78
DEERFIELD RESERVOIR	12.3	12.1	12.1	11.9	11.9	11.8	12.1	12.9	13.5	14.4	14.5	14.5
% of Average	92	89	87	84	83	81	83	88	93	101	106	108
PACTOLA RESERVOIR	28.2	28.1	28.0	28.0	28.0	28.4	29.5	35.7	42.8	49.2	49.7	50.1
% of Average	59	59	59	59	59	59	60	71	84	101	106	108
KEYHOLE RESERVOIR	58.1	57.8	58.2	58.5	59.1	64.1	64.6	84.2	91.4	91.2	88.3	87.6
% of Average	62	62	62	62	61	61	61	78	86	90	93	95
BELLE FOURCHE RESERVOIR	51.9	60.4	69.8	77.7	86.0	98.9	109.1	172.4	171.8	152.4	119.1	98.3
% of Average	65	67	71	72	73	74	76	114	118	136	150	144
CORPS RESERVOIRS	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
FORT PECK RESERVOIR	9,034.0	9,004.0	8,912.0	8,826.0	8,803.0	8,865.0	8,795.0	9,042.0	10,289.0	10,568.0	10,464.0	10,435.0
GARRISON RESERVOIR	11,636.0	11,537.0	11,102.0	10,719.0	10,401.0	10,388.0	10,340.0	10,986.0	13,154.0	14,677.0	14,673.0	14,705.0
OAHE RESERVOIR	11,896.0	12,120.0	12,148.0	12,217.0	12,108.0	12,383.0	12,311.0	12,768.0	14,615.0	15,006.0	14,630.0	14,731.0
BIG BEND RESERVOIR	1,668.0	1,642.0	1,660.0	1,636.0	1,636.0	1,652.0	1,624.0	1,648.0	1,661.0	1,631.0	1,661.0	1,655.0
FORT RANDALL RESERVOIR	2,657.0	2,394.0	2,628.0	2,689.0	3,237.0	3,476.0	3,681.0	3,751.0	3,942.0	3,583.0	3,240.0	2,604.0
LEWIS AND CLARK LAKE	394.0	410.0	392.0	385.0	403.0	374.0	388.0	416.0	356.0	370.0	364.0	394.0

[1] Percent of average content of Anchor Reservoir is based on a 17-year average, 1991-2007; this is due to the availability of data for Anchor Reservoir.

[2] Percent of average content of Buffalo Bill Reservoir is based on an 15-year average, 1993-2007; to reflect the operation of the reservoir since 1992 when the dam was raised and the capacity of the reservoir was increased to 646,565 acre-feet.

TABLE CET8
WATER YEAR 2008
Monthly Inflow Amounts
(1,000 Acre-Feet)

RECLAMATION RESERVOIRS	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
CLARK CANYON RESERVOIR	11.6	12.6	12.3	10.0	8.4	9.6	10.0	11.1	17.1	14.8	11.0	14.9	143.3
% of Average	#REFI	57	64	62	58	51	46	41	47	53	57	74	59
CANYON FERRY RESERVOIR	188.8	179.1	172.9	152.5	182.0	197.2	220.5	581.0	967.1	430.6	111.2	244.7	3,627.5
% of Average	#REF1	60	71	69	82	73	63	101	126	127	65	115	99
HELENA VALLEY RESERVOIR	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2	4.2	12.0	13.3	15.2	22.4	15.3	80.9
% of Average	#REF1	N/A	N/A	N/A	N/A	N/A	77	107	95	101	138	188	117
GIBSON RESERVOIR	9.8	9.0	8.7	7.9	6.0	8.2	16.5	203.8	220.0	90.3	27.5	19.8	627.6
% of Average	#REF!	53	55	57	49	56	41	120	111	131	104	104	105
WILLOW CREEK	2.7	2.8	2.7	1.8	0.0	0.0	4.0	4.7	1.4	-0.3	-0.4	0.1	19.6
% of Average	#REFI	363	609	496	N/A	1	197	114	37	N/A	N/A	28	141
PISHKUN RESERVOIR	0.0	0.0	0.0	0.0	0.0	0.0	12.5	51.4	49.8	82.8	56.4	26.1	278.9
% of Average	#REF!	N/A	N/A	N/A	N/A	N/A	178	141	86	119	136	209	124
LAKE ELWELL (TIBER DAM)	9.2	10.7	11.6	10.2	7.7	18.5	19.1	213.1	195.4	61.1	10.1	16.3	583.0
% of Average	((REF!	49	62	63	36	37	30	127	102	98	52	102	90
SHERBURNE LAKE	6.5	4.1	3.5	2.0	1.9	1.2	4.3	43.9	44.6	23.0	10.2	6.0	151.2
% of Average	#REF!	73	91	70	80	39	48	136	107	109	108	94	110
FRESNO RESERVOIR	1.2	0.5	-0.1	-0.3	0.1	5.2	22.0	54.9	64.4	34.9	29.5	23.1	235.3
% of Average	#REF!	23	N/A	N/A	3	17	55	125	141	99	90	88	90
NELSON RESERVOIR	2.1	-2.1	-2.1	-1.4	-1.4	0.5	2.7	2.0	14.7	10.7	11.4	14.3	51.5
% of Average	#REF!	N/A	N/A	N/A	N/A	37	37	31	189	219	162	235	141
BULL LAKE	7.7	4.2	2.5	2.0	1.8	1.2	1.4	25.4	57.0	51.0	16.2	8.7	179.0
% of Average	#REFI	140	101	90	109	68	39	89	93	110	76	93	99
PILOT BUTTE RESERVOIR'	18.7	-0.3	-0.1	-0.1	-0.1	-0.1	4.7	23.3	29.3	41.4	30.1	19.2	166.0
% of Average	#REF1	N/A	N/A	N/A	N/A	N/A	62	100	77	98	92	82	97
BOYSEN RESERVOIR	33.0	38.6	31.7	27.9	31.2	41.7	28.7	128.8	237.6	127.0	37.6	43.3	806.9
% of Average	#REFI	79	83	76	83	79	60	102	97	95	62	80	92
ANCHOR RESERVOIR	0.5	0.3	0.3	0.1	0.1	0.0	0.6	1.9	7.1	3.1	0.6	0.6	15.2
% of Average'	#REF!	110	136	160	71	N/A	87	45	109	154	261	99	100
BUFFALO BILL RESERVOIR	39.8	22.8	14.7	13.5	13.9	12.5	21.3	186.8	426.8	320.4	58.8	29.1	1,160.3
% of Average	#REFI	110	93	91	106	65	51	118	148	206	130	110	145
BIGHORN LAKE	138.1	95.8	66.3	66.3	68.0	86.1	80.9	291.6	595.1	330.7	129.6	184.6	2,133.2
% of Average	#REFI	63	48	50	50	51	50	118	144	114	81	107	98
E. A. PATTERSON LAKE	0.4	-0.1	0.0	0.0	0.0	0.1	-0.1	-0.1	-0.2	-0.4	-0.3	-0.2	-1.0
% of Average	#REFI	-39	-5	-9	7	2	-3	-9	-9	46	78	174	-6
LAKE TSCHIDA	E	-0.2	0.4	0.4	0.3	1.2	0.5	0.0	0.9	-1.4	-1.8	-0.5	0.9
°/ci of Average	#REF!	N/A	34	46	6	4	3	N/A	12	N/A	N/A	N/A	1
JAMESTOWN RESERVOIR	2.6	0.6	0.1	-0.1	0.1	7	0.2	0.3	4.0	-0.2	-0.4	0.4	8.6
% of Average	#REF!	49	26	N/A	21	13	1	4	100	N/A	N/A	24	14
SHADEHILL RESERVOIR	-1.0	-0.9	-0.4	-0.4	-0.5	2.0	-4.3	11.7	9.4	-0.3	0.0	-0.9	14.6
% of Average	#REF!	N/A	N/A	N/A	N/A	9	N/A	98	172	N/A	N/A	N/A	22
ANGOSTURA RESERVOIR	0.7	0.6	1.6	1.3	1.6	3.8	1.4	23.2	9.0	6.5	7	0.3	51.0
% of Average	#REFI	21	78	58	29	29	17	143	61	165	38	31	70
DEERFIELD RESERVOIR	0.3	0.3	0.4	0.3	0.3	0.4	0.7	1.2	1.0	1.3	0.5	0.5	7.1
% of Average	#REFI	43	50	45	50	38	53	78	74	130	66	68	69
PACTOLA RESERVOIR	0.9	0.8	0.8	0.9	0.9	1.2	2.0	7.2	8.1	8.5	2.9	1.9	36.2
% of Average	#REF!	42	56	60	60	44	46	107	129	244	101	90	104
KEYHOLE RESERVOIR	-0.7	-0.3	0.3	0.3	0.6	5.0	0.5	19.6	7.3	-0.3	-2.8	-0.7	28.8
% of Average	#REF!	N/A	181	76	21	67	29	376	565	N/A	N/A	N/A	194
BELLE FOURCHE RESERVOIR	4.7	8.5	9.4	7.9	8.3	12.9	10.2	63.3	18.6	7.1	1.0	-1.2	150.6
% of Average	((REF!	86	101	83	90	79	83	425	188	168	60	N/A	147

1 Negative values are the result of calculated inflow based on reservoir release and change in reservoir content.
2 Percent of average inflow for Anchor Reservoir is based on a 17-year average, 1991-2007, this is due to the availability of data for Anchor Reservoir.

FIGURE CEG1

ANNUAL GENERATION AT USBR PLANTS

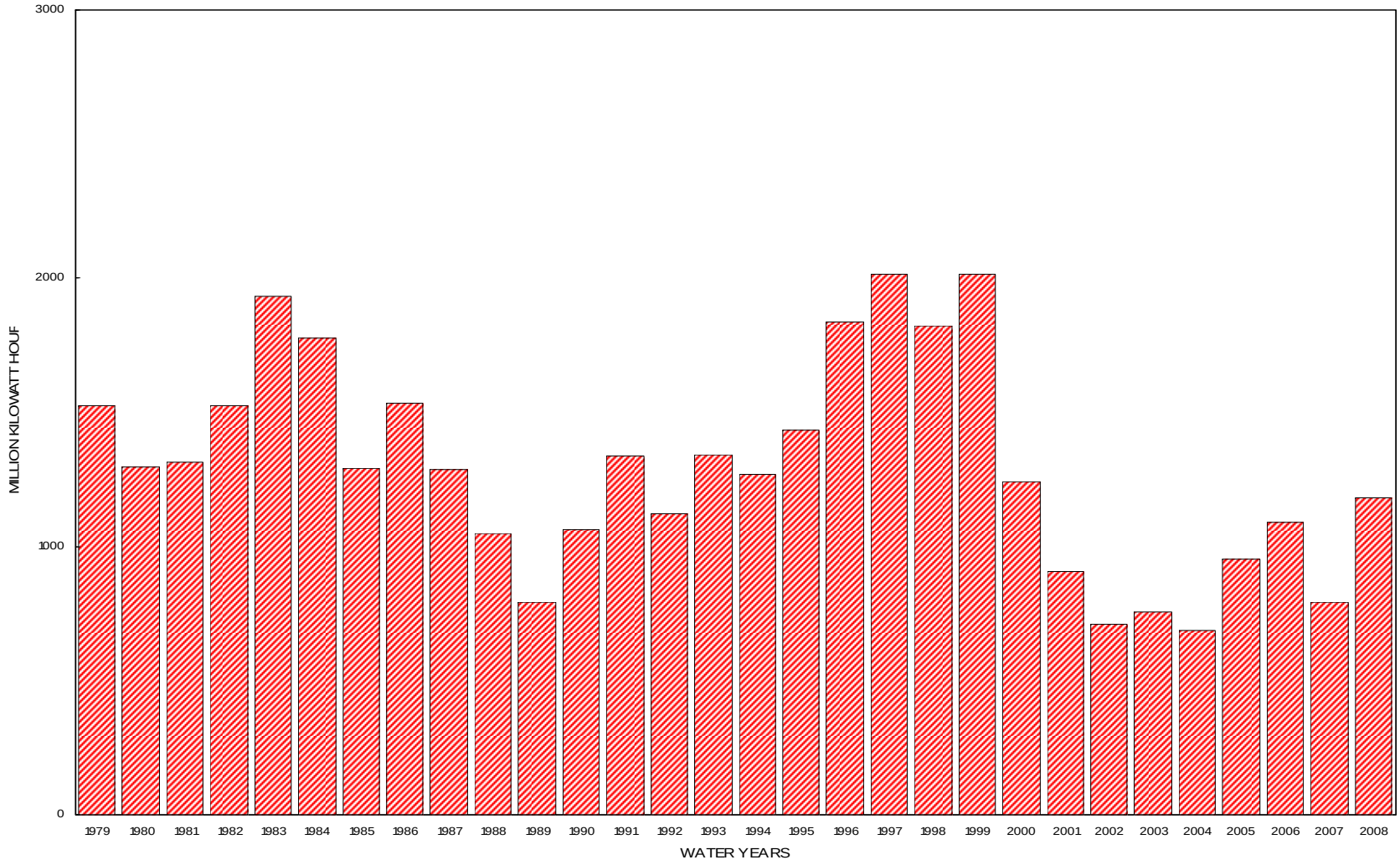


FIGURE CEG2

MONTHLY GENERATION AT USBR PLANTS

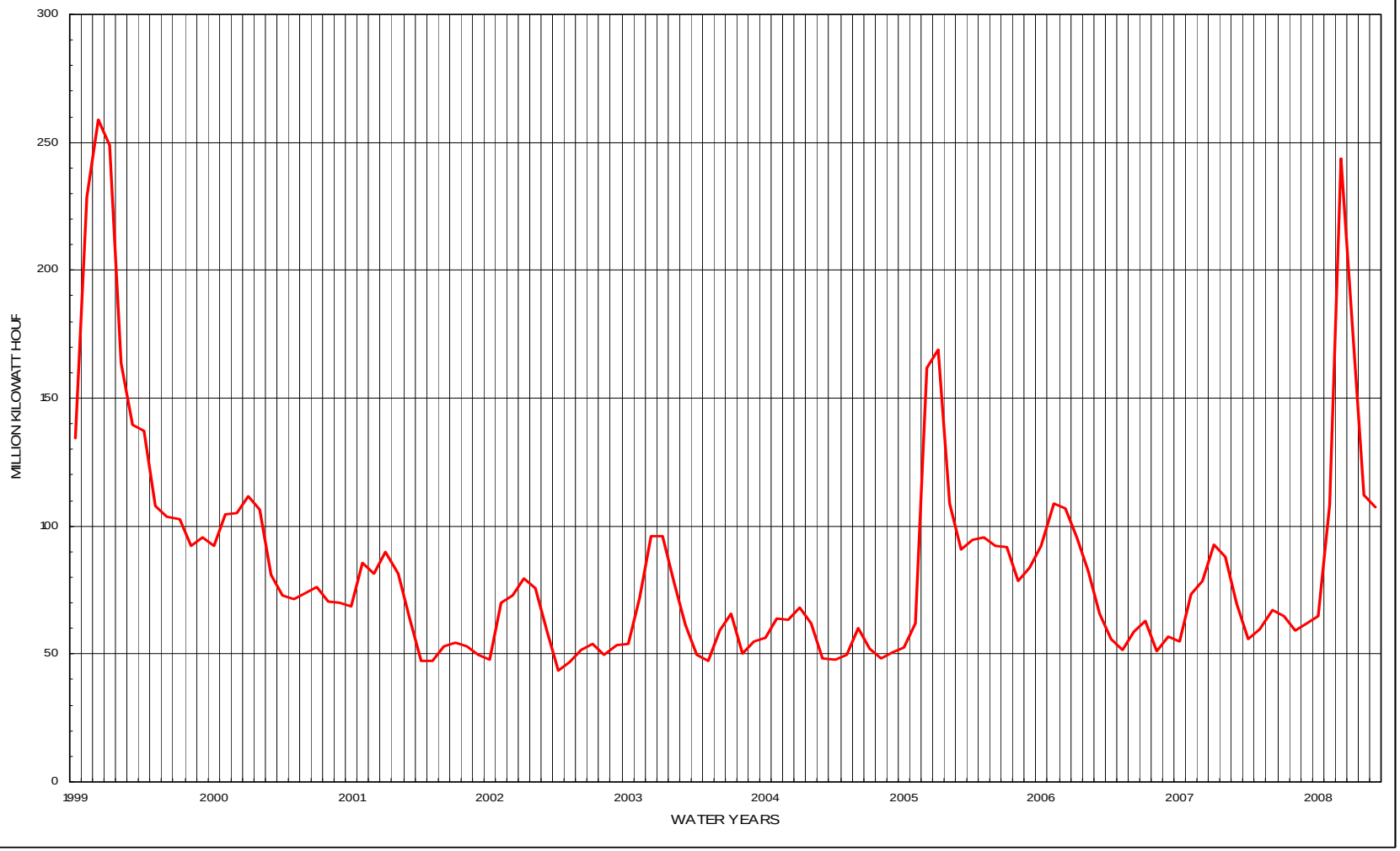


FIGURE CEG3

ANNUAL GENERATION AT COE PLANTS

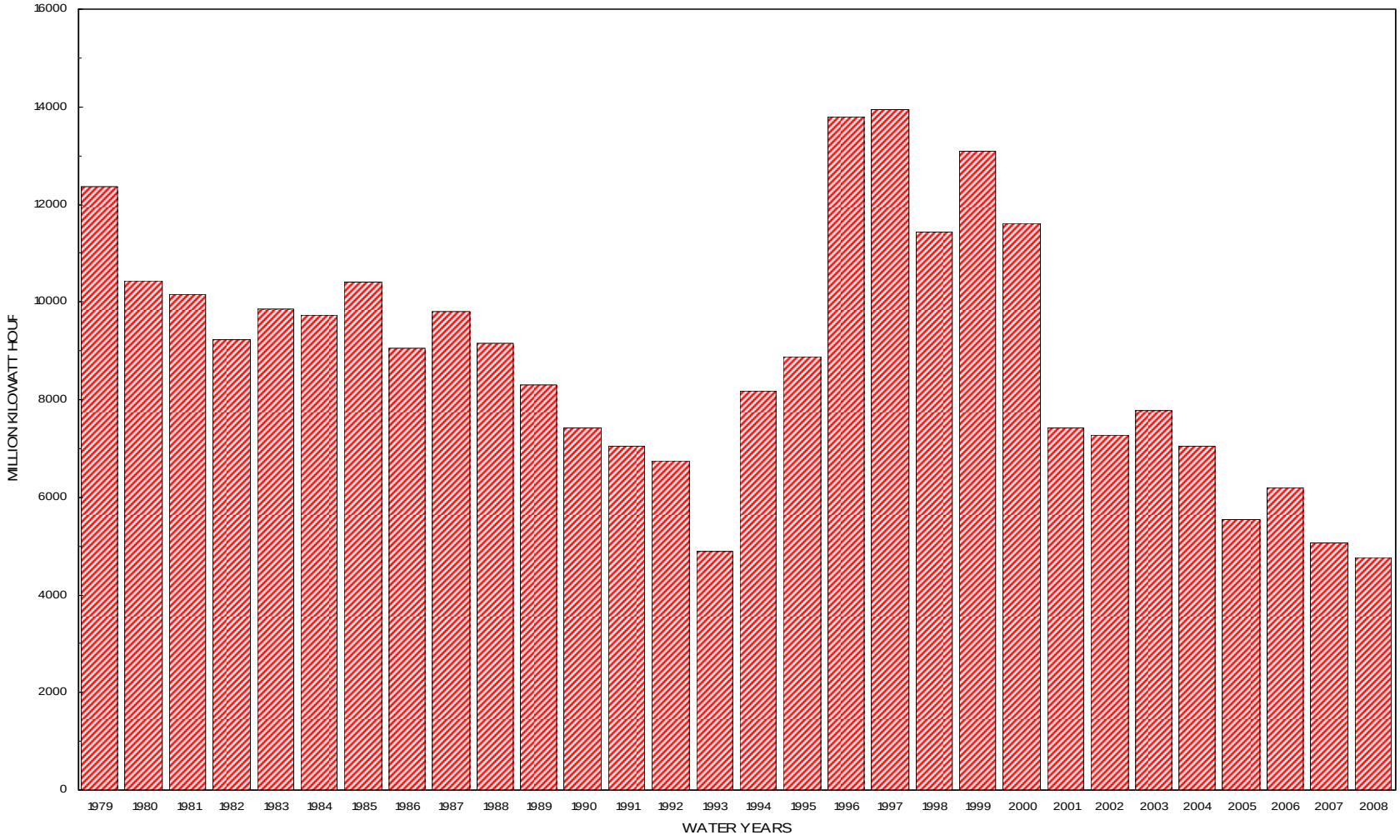


FIGURE CEG4

MONTHLY GENERATION AT COE PLANTS

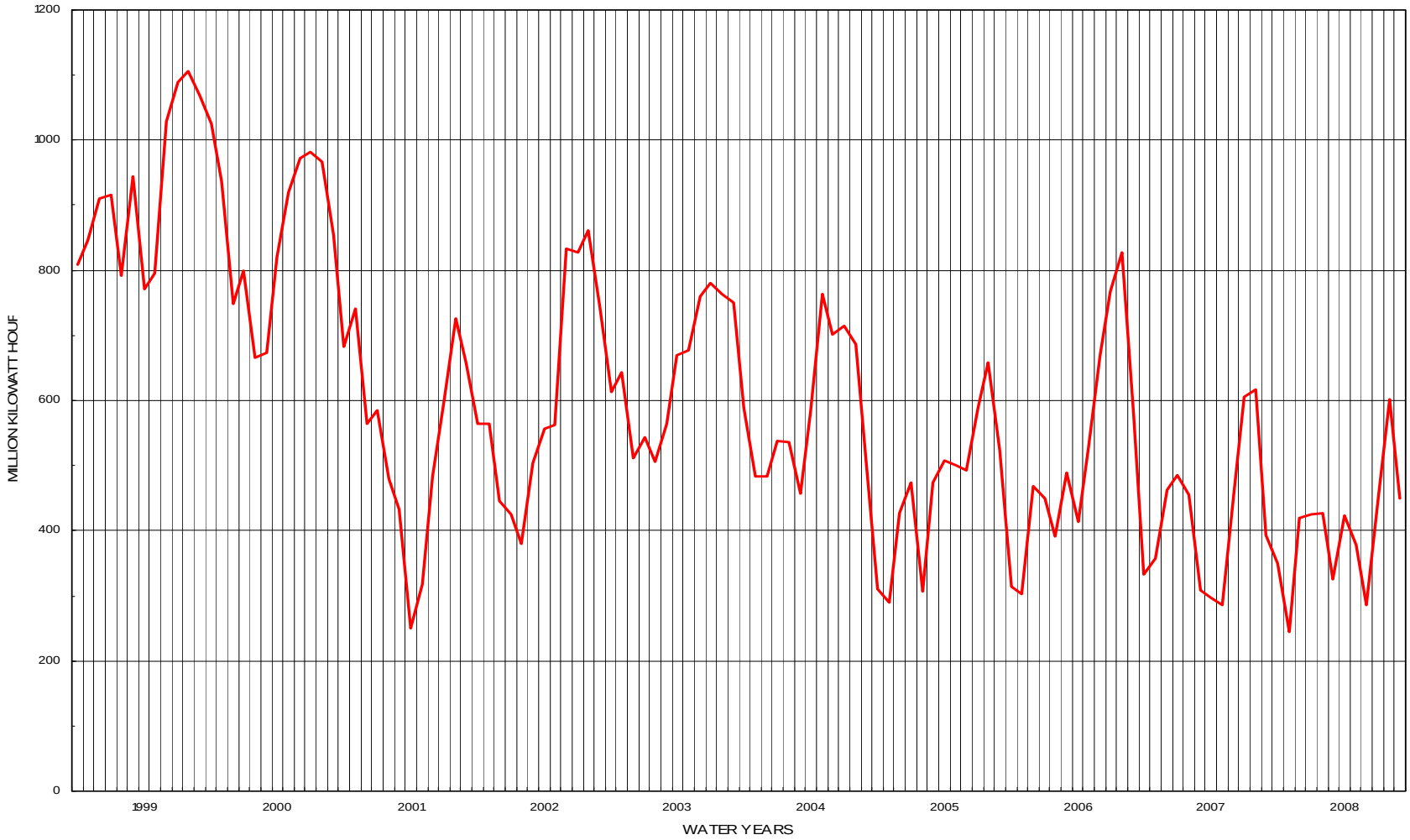


FIGURE CEG5

ANNUAL GENERATION - USBR & COE PLANTS

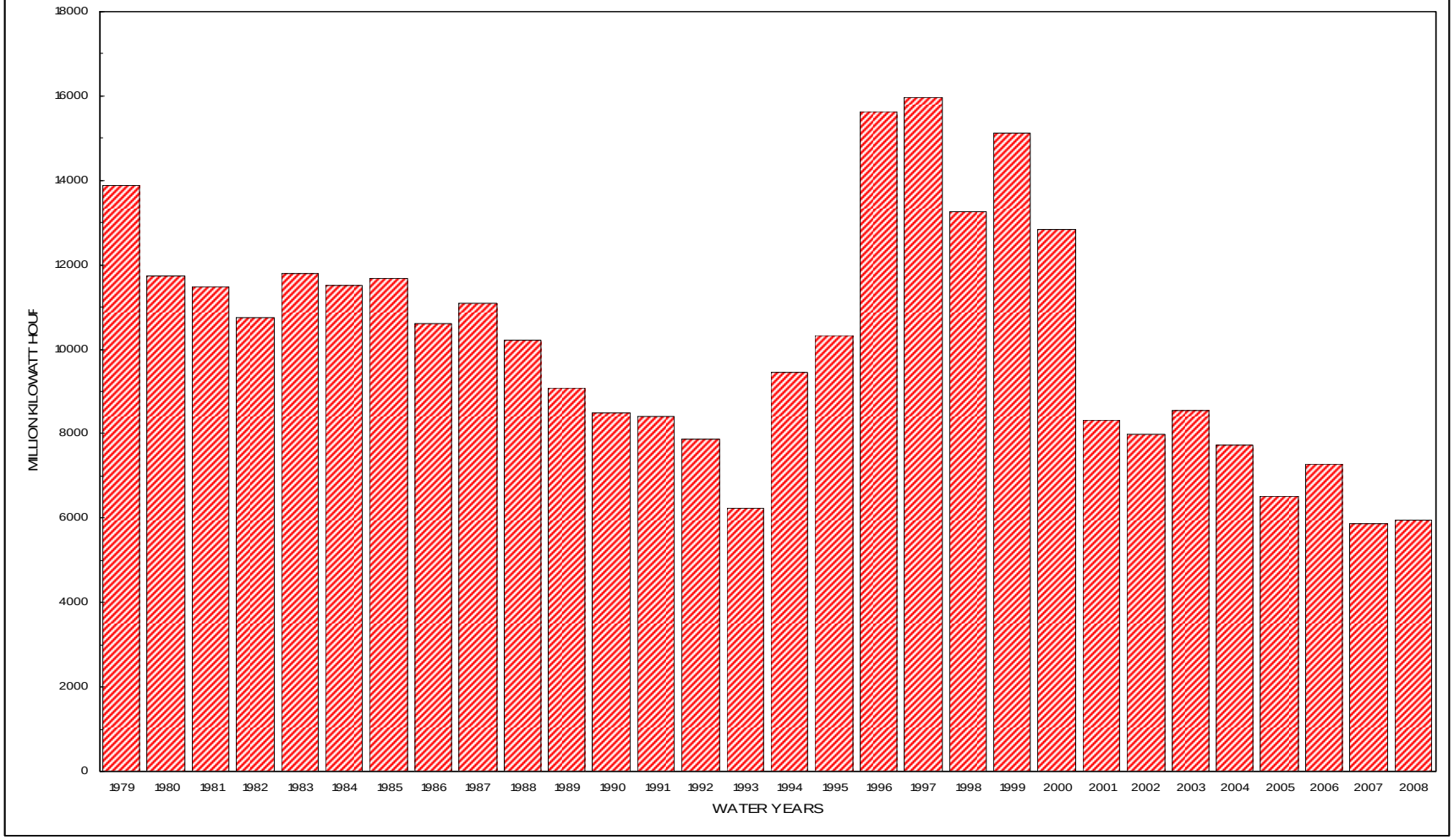


FIGURE CEG6

MONTHLY GENERATION - USBR & COE PLANTS