Introduction to the 2004 Annual Operations

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 2004, which are principal factors governing the pattern of reservoir operations. This report also describes operations during water year 2004 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 2005, 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 2004 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 2003 and 2004," compares the water storage available at the beginning of water year 2005 to that available at the beginning of water year 2004. Table CET7 is a summary of the end of month storage contents for each reservoir during water year 2004. 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 2004

Antecedent Conditions:

There were extremely dry conditions that existed following the 2003 water year. The temperatures and precipitation for water year 2003 varied significantly between basins. However, the El Nino forecast for above average temperatures and below average precipitation held true for much of the early part of water year 2003. Early spring precipitation was good but for many basins the remaining part of the water year was much below normal. All basins east of the Continental Divide in Montana, where Reclamation facilities are located, and the Bighorn basin in Wyoming finished the year with below normal valley and mountain precipitation.

The 2003 snowpack as of April 1 ranged from below normal to above normal in the river basins in Montana and Wyoming. It varied from 34 percent of normal in the Milk River basin to 104 percent of normal in the Bighorn River basin. The below normal snowpack, in addition to the below normal valley rains produced dry conditions east of the Continental Divide. The dry conditions were reflected in the inflows for the year.

Inflows for water year 2003 were much below average and several low inflow records were set. The April through July inflow at Reclamation facilities varied from 28 percent of average at Clark Canyon Reservoir to 87 percent of average at Lake Sherburne. Inflow for the entire water year was the seventh lowest on record for Canyon Ferry, the lowest on record for Clark Canyon Reservoir, and the second lowest on record for Bighorn Lake.

The end of September storage for Reclamation reservoirs ranged from much below average to slightly above average. Releases during 2003 were very conservative at Reclamation projects. At three major Reclamation projects, Yellowtail, Clark Canyon, and Canyon Ferry Dams, releases were below the minimum desired for the fishery as recommended by the Montana Fish, Wildlife, and Parks (MFWP).

October through December:

The water year 2004 snowfall season got off to a very slow start. A strong upper level ridge of high pressure over the Western United States resulted in warmer and drier conditions for much of October. This was followed by November and December which had varied temperatures and precipitation. This was an indication of what was to come. For the northern Rockies, the drought kept its grip for the fifth consecutive year. The valley precipitation for the Bighorn basin in Wyoming was also much below normal while the mountain precipitation was near normal for the October through December period, Table MTT3.

October through December inflows were below normal at all Reclamation reservoirs in Montana east of the Continental divide. During the fall several new record low inflows were set. A new record low inflow was recorded at Canyon Ferry for October and November, while Clark Canyon had a new record low for each month from October through December. A new record low inflow was recorded for Bighorn Lake during December.

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 82 percent of normal in the St. Mary River basin to 175 percent of normal in the Milk River basin. Mountain snow water content statewide in Montana was 102 percent of average and 163 percent of last year. The mountain snowpack in the Bighorn River basin in Wyoming was 94 percent of normal at the beginning of January. Mountain and valley precipitation across Montana during January was near normal. East of the Continental Divide precipitation was 92 percent of average and 90 percent of last year. This was mainly due to storms during the last week of the month producing 3 to 4 inches of snow water in northwest and northcentral Montana.

In February, precipitation around the state was much below normal thus causing the percent of average snow water content to decline. By March 1, mountain snow water content for the state was 94 percent of average and 118 percent of last year. East of the Continental Divide snow water content was 93 percent of average and 111 percent of last year. Precipitation during March for mountain and valley areas east of the Continental Divide was 50 percent of average and 36 percent of last year. Also during March, record high temperatures and snowmelt rates were recorded at all of the 124 SNOTEL sites in Montana and northern Wyoming. This caused significant decreases in snowpack; however, much of the snowmelt went into the soil and did not occur as surface runoff.

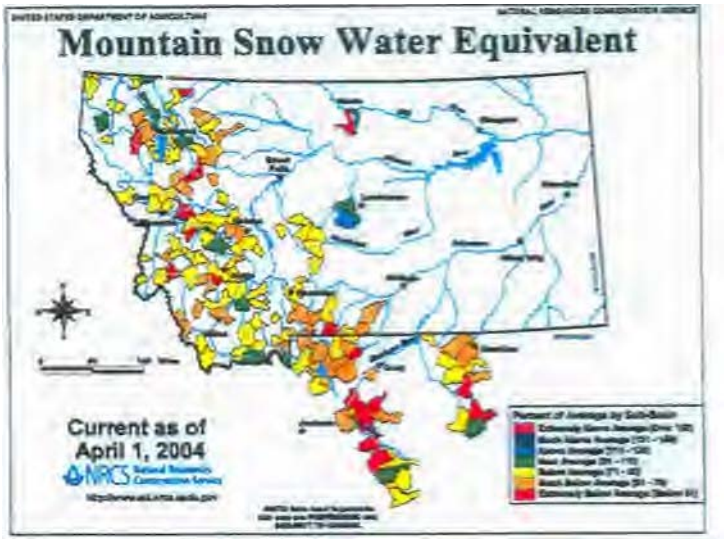
January through March inflows were below normal to much below normal. The exception was Lake Sherburne which was 101 percent of average. Inflow during January and March were lowest on record for Clark Canyon Reservoir and Bighorn Lake.

April through July:

As of April 1, mountain snow water contents statewide were 78 percent of average and 84 percent of last year. West of the Continental Divide, snowpack was 80 percent of average and 87 percent of last year. East of the Continental Divide, snowpack was 75 percent of average and 77 percent of last year. During April, precipitation varied across the state with mountain areas in the Sun River basin receiving near average precipitation while mountain areas in the Beaverhead River basin were much below average. Overall, the April mountain and valley precipitation across the state was 72 percent of average and 63 percent of last year. April temperatures were generally 2 to 4 degrees above average across Montana.

Precipitation during May improved significantly from April. Mountain and valley precipitation across the state was 121 percent of average and 91 percent of last year. East of the Continental

Divide mountain and valley precipitation was 116 percent of average and 91 percent of last year. Even though May provided good precipitation, many basins experienced record early snowmelts due to the previous dry and warm months. This resulted in many streams and rivers peaking before the end of May.



As of June 1, remaining mountain snow water contents were generally below to much below average. In Montana east of the Continental Divide snowpack was 62 percent of average and west of the Continental Divide snowpack was 60 percent of average. The peak mountain snowpack was below nounal for basins in Montana where Reclamation facilities are located. In addition, the peak snowpack for the Bighorn River basin in Wyoming was also much below normal. The peak snowpack for Reclamation reservoirs occurred between March 4 and March 30. The peak generally occurs around April 15; however, above normal temperatures and below normal precipitation resulted in a much earlier than usual peak snowpack, Figure MTG1. June and the fist half of July were cool and wet throughout most of Montana. During the latter half of July, conditions reversed and became warm and dry. This trend would again reverse leading into late summer.

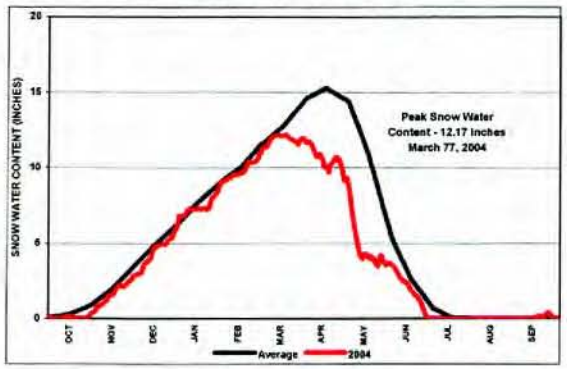
August through September:

August precipitation was above average in most areas of western and central Montana. New record high daily precipitation totals were set at both Helena and Great Falls during August. September had near to above average precipitation for most areas in Montana east of the Continental Divide. The exceptions were the valley areas of the Beaverhead and St. Mary basins as well as both the mountain and valley areas of the Sun River basin. The Bighorn basin in Wyoming varied between months; valley precipitation during August was near average while September it was below average. However, the mountain precipitation in the Bighorn Basin was above average for both months. August temperatures were generally below average, while September temperatures were near average.

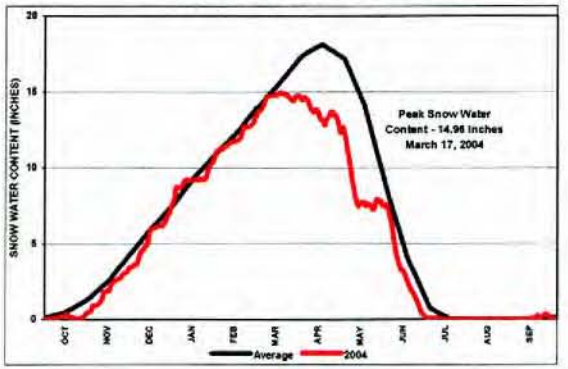
The inflow conditions for August through September ranged from much below average to much above average. The total inflows for the water year ranged from 30 percent of normal at Clark Canyon Reservoir to 96 percent of normal at Lake Sherburne. Leading into water year 2005 the drought remained prominent in the Bighorn basin in Wyoming and most basins in Montana east of the Continental Divide.

Figure MTG1
WATER YEAR 2004
SNOW WATER CONTENT

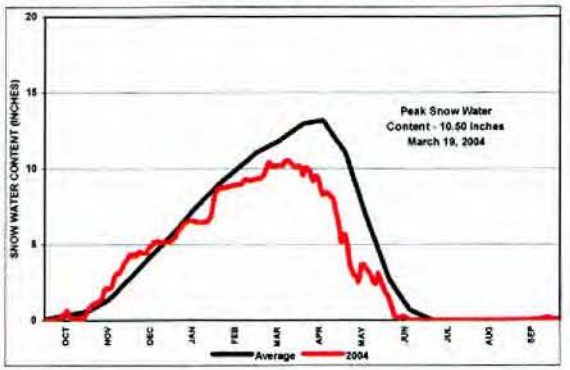
Clark Canyon Reservoir



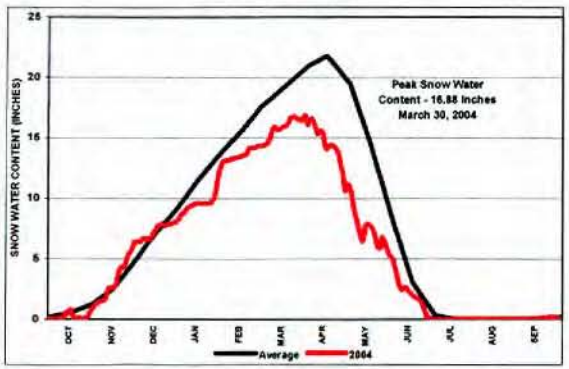
Canyon Ferry Reservoir



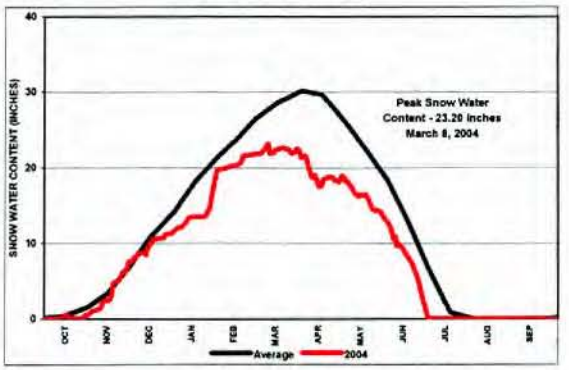
Gibson Reservoir



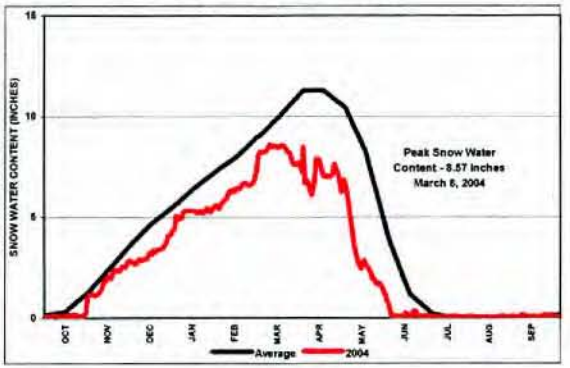
Lake Elwell



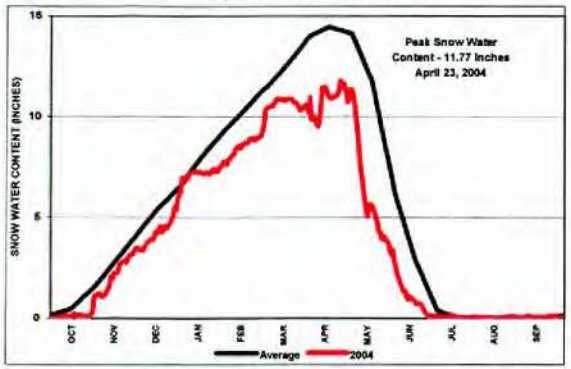
Lake Sherburne



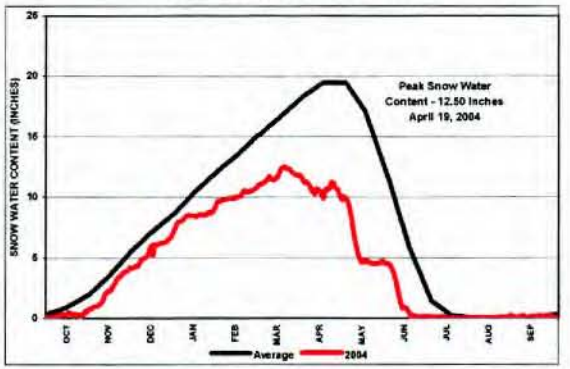
Bull Lake Reservoir



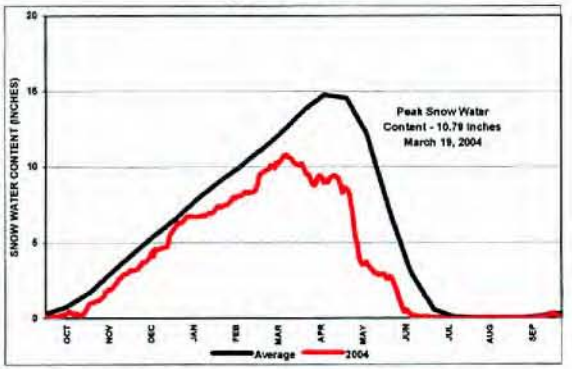
Boysen Reservoir



Buffalo Bill Reservoir



Bighorn Lake



Reservoir Storage, Releases and Inflows:

The 2004 water year storage began with Reclamation reservoirs ranging from much below average to near average storage. October 1 storage in the Upper Missouri basin was 2,480,200 acre-feet, 91 percent of average. Storage for the Milk River Project was 85,800 acre-feet, 80 percent of normal. Storage in Bighorn Lake in the Bighorn River basin was 785,900 acre-feet, 77 percent of normal. These storage levels continued to decrease through March. New record low end-of-month storages were set for Clark Canyon Reservoir for October through June. June end-of-month storage was a new record low for Bighorn Lake.

The only Reclamation reservoirs in Montana that filled to normal full capacity were Gibson, Pishkun, and Willow Creek Reservoirs of the Sun River Project.

There were no flood damages prevented during water year 2004 by Reclamation facilities in Montana east of the Continental Divide. This was the first time since 1989 that no flood damage benefits were provided.

The January through March storage in Reclamation reservoirs east of the Continental Divide ranged from much below average to near average. For example,.the end of March storage ranged from 37 percent of normal at Clark Canyon Reservoir to 105 percent of normal at Lake Elwell. Record low storage was recorded at Clark Canyon for January through March.

Storage conditions during April and May improved in some basins, while declining in others. At the end of May, storage had declined in Clark Canyon Reservoir to 30 percent of average; conversely storage in Willow Creek Reservoir had increased to 112 percent of average. The extremely dry conditions again would dominate in the Beaverhead river basin and thus put significant demands on reservoir storage. Other areas of Montana were fortunate to have frequent thunderstorms to offset demand for reservoir storage. The Milk River basin for example, started the irrigation season in April with below average reservoir storage and ended in September with above average storage.

June through August storage ranged from much below average to above average. Storage in Clark Canyon Reservoir and Bighorn Lake were much below normal throughout this period. End of June storage in both Clark Canyon Reservoir and Bighorn Lake were the lowest on record. End of June storage in Canyon Ferry Reservoir was the second lowest on record. These same trends continued in July and August. End of month storage for Bighorn Lake and Clark Canyon Reservoir were second and third lowest, respectively for both months. Areas in north and northcentral Montana continued to have thunderstorm activity that reduced demands on reservoir storage. However, southwest Montana did not improve throughout the summer, which led to Clark Canyon Reservoir being only 17 percent of normal at the end of August.

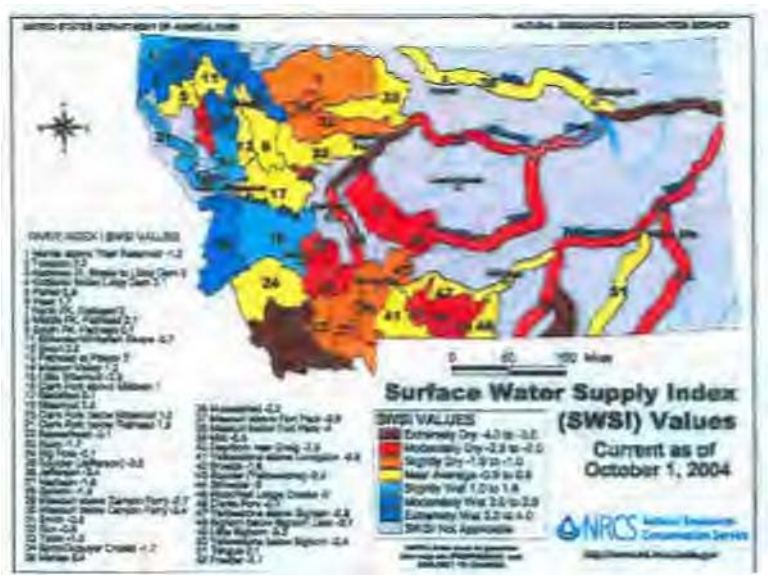
Water year 2004 ended with storage ranging from much below average to much above average. Some Reclamation reservoirs in northcentral and central Montana entered water year 2005 with near or above normal storage. The Reclamation reservoirs with the least amount of carryover storage

were Clark Canyon and Canyon Ferry- Reservoirs. Clark Canyon began the 2005 water year at the third lowest level since construction of the dam, while Canyon Ferry Reservoir began the water year at the fourth lowest level since exclusive flood control storage was allocated in 1966.

Releases from nearly all Reclamation reservoirs were very conservative for the entire year because of the severe drought conditions. In general, releases were only increased when absolutely necessary to control the spring runoff or to meet the irrigation demands. In the Missouri and Bighorn Rivers, flows were maintained at rates below the desired minimum fishery flows for most of water year 2004. Beginning in early September, releases from Clark Canyon Dam were set for the winter at approximately 25 cfs, well below the desired minimum for river fisheries.

Water Supply and RunOff

The January 1 forecasted April-July runoff volumes ranged from 39 to 90 percent of average among Reclamation reservoirs east of the Continental Divide. This indicated that the drought may be continuing for most of Montana and northwest Wyoming. In addition to the below average snowpack, the water supply outlook declined dramatically in March due to the extremely dry and warm weather. As of April 1 it appeared that almost all reservoirs in Montana and the Bighorn basin in Wyoming would be water short. The April 1 forecasted April-July runoff volumes ranged from 27 to 83 percent of average. This was an accurate indication of the actual runoff volumes for April-July. The actual runoff for water year 2004 ranged from 17 to 88 percent of average, MTT2.



During water year 2004 the peak release at Clark Canyon was approximately 250 cfs greater than peak inflow. Peak release was 429 cfs on July 28, while the inflow peaked at 179 cfs on May 16, which was much below normal. Canyon Ferry peak inflow was 9,352 cfs on June 12, while the peak release was 3,754 cfs on April 6. In the Sun River basin, Gibson Reservoir inflow peaked at 2,869 cfs, while the release peaked at 2,830 cfs both occurring on June 6. The peak inflow for Pishkun and Willow Creek Reservoirs were 1,491 cfs on July 3; and 158 cfs on May 10, respectively. Inflow to Lake Elwell peaked at 1,797 cfs on June 10 and releases peaked at 659 cfs on June 2. In the Milk River basin, Lake Sherburne peak inflow was 877 on August 26 and releases peaked at 863 cfs on September 15. The peak inflow for Fresno Reservoir was 1,506 cfs on March 9 while the release peaked at 1,258 cfs on May 7. Peak inflow at Nelson Reservoir was 344 cfs on April 5 while the release peaked at 352 on July 30. In the Bighorn River basin, Bighorn Lake peak inflow was 2,858 cfs on September ?2 and the peak release was

2,249 cfs on October 193, which were both much below normal. Inflows to Reclamation facilities in Montana east of the Continental Divide were all much below average.

TABLE MTT1
2004 **MOUNTAIN SNOW WATER CONTENT**
AS A PERCENT OF NORMAL

DRAINAGE BASIN	JAN 1	FEB 1	MAR 1	APR 1	MAY 1	
Beaverhead	106	101	94	75	57	
Jefferson	100	96	93	77	61	
Madison	114	107	103	86	73	
Gallatin	101	96	94	79	54	
Missouri Headwaters above Toston	107	100	96	79	60	
Sun	97	102	89	69	46	
Marias	87	95	77	76	45	
Milk River	175	156	168	73	14	
St. Mary	82	92	88	71	63	
Wind	89	79	83	64	66	
Shoshone	88	81	74	62	48	
Bighorn (Boysen-Bighorn)	94	82	87	67	61	

TABLE MTT2
2004 WATER SUPPLY FORECASTS

RESERVOIR	JAN 1/		FEB 2/		MAR 1/		APR 1/		MAY 1/		JUN 1/		ACTUAL APRIL-JULYS'		% 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	44.0	39	51.9	46	53.3	47	30.3	27	13.3	15	12.0	19	19.6	17	65
Canyon Ferry	1,474.0	73	1,602.0	79	1,602.0	79	987.9	49	624.1	37	496.0	45	846.0	42	86
Gibson	432.0	90	426.2	89	408.0	85	366.0	77	275.4	63	172.4	65	306.5	64	84
Tiber	333.1	69	411.3	85	346.0	71	302.0	62	238.0	56	108.0	42	216.9	45	72
Sherburne	93.2	90	95.8	92	91.2	88	86.4	83	72.5	76	44.5	71	91.7	88	106
Fresno	45.5	55	48.0	58	38.0	46	18.6	31	16.8	40	8.0	41	23.4	28	62
Yellowtail	772.6	65	696.7	58	775.6	65	562.7	47	385.6	38	257.2	34	392.1	33	70

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.

TABLE MTT3
PERCENT OF AVERAGE PRECIPITATION
2004 VALLEY PRECIPITATION

BASIN	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Beaverhead												
Monthly % of Average	31	27	106	35	179	47	74	105	103	56	73	88
Year-to-Date % of Average	31	30	47	45	61	58	62	77	83	79	79	80
Jefferson												
Monthly % of Average	58	28	140	55	125	65	97	133	90	83	96	113
Year-to-Date % of Average	58	45	69	66	74	72	78	96	94	93	93	95
Madison												
Monthly % of Average	48	39	161	114	124	63	107	183	66	144	131	129
Year-to-Date % of Average	48	43	89	95	100	94	96	112	105	108	110	111
Gallatin												
Monthly % of Average	68	66	249	95	184	54	97	98	102	115	94	93
Year-to-Date % of Average	68	68	109	106	117	103	102	100	101	102	101	101
Missouri Above Toston												
Monthly % of Average	54	39	162	97	128	60	106	153	81	116	112	119
Year-to-Date % of Average	54	47	85	88	94	88	91	106	101	103	104	105
Sun-Teton												
Monthly % of Average	71	114	52	116	27	83	113	103	86	69	163	68
Year-to-Date % of Average	71	93	80	89	78	79	85	89	88	86	94	92
Marias												
Monthly % of Average	166	89	62	97	14	22	71	129	67	49	127	94
Year-to-Date % of Average	166	133	114	110	97	80	78	97	88	82	88	89
Milk												
Monthly % of Average	143	80	130	170	62	17	52	179	77	178	141	91
Year-to-Date % of Average	143	117	121	132	122	101	89	122	109	121	123	120
St. Mary												
Monthly % of Average	77	132	35	140	29	81	85	99	91	52	158	65
Year-to-Date % of Average	77	108	82	97	86	85	85	88	89	85	92	90
Bighorn Above Yellowtail												
Monthly % of Average	41	41	150	34	227	3	106	25	74	118	102	88
Year-to-Date % of Average	41	41	64	58	80	64	76	60	62	69	71	73

2004 MOUNTAIN PRECIPITATION

BASIN	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Lima Resevoir												
Monthly % of Average	44	83	150	101	102	41	63	149	77	123	110	124
Year-to-Date % of Average	44	67	100	101	101	89	85	95	93	95	96	97
Clark Canyon Reservoir												
Monthly % of Average	61	86	112	97	94	42	64	139	78	114	108	132
Year-to-Date % of Average	61	76	90	92	92	83	80	90	88	90	91	93
Jefferson Drainage												
Monthly % of Average	69	91	116	90	84	51	70	129	80	95	135	129
Year-to-Date % of Average	69	82	95	94	92	85	82	90	89	89	92	94
Madison Drainage												
Monthly % of Average	54	98	160	96	95	45	67	155	78	96	150	132
Year-to-Date % of Average	54	81	112	107	105	94	90	98	97	97	99	101
Gallatin Drainage												
Monthly % of Average	72	79	144	75	109	46	69	102	82	99	124	106
Year-to-Date % of Average	72	76	100	94	96	85	83	86	85	86	88	89
Canyon Ferry Reservoir												
Monthly % of Average	64	92	134	90	89	48	69	133	79	94	138	130
Year-to-Date % of Average	64	81	102	99	97	88	85	92	91	91	93	95
Gibson Reservoir												
Monthly % of Average	144	116	45	101	33	72	106	117	57	91	119	75
Year-to-Date % of Average	144	128	97	98	87	84	87	92	87	87	89	89
Lake Elwell Reservoir												
Monthly % of Average	131	128	46	98	36	79	91	120	58	90	120	72
Year-to-Date % of Average	131	129	97	97	86	85	85	90	86	87	89	88
Sherburne Reservoir												
Monthly % of Average	96	112	60	107	39	71	80	105	83	92	237	124
Year-to-Date % of Average	96	106	89	94	84	82	82	84	84	85	91	93
Bighorn Lake												
Monthly % of Average	76	88	113	61	107	49	82	69	88	121	152	130
Year-to-Date % of Average	76	83	92	85	88	81	81	79	80	83	87	90

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 there were no flood damages prevented, either locally or downstream on the Missouri River main stem, during water year 2004. This was the first time since 1989 that no flood damage benefits were provided.

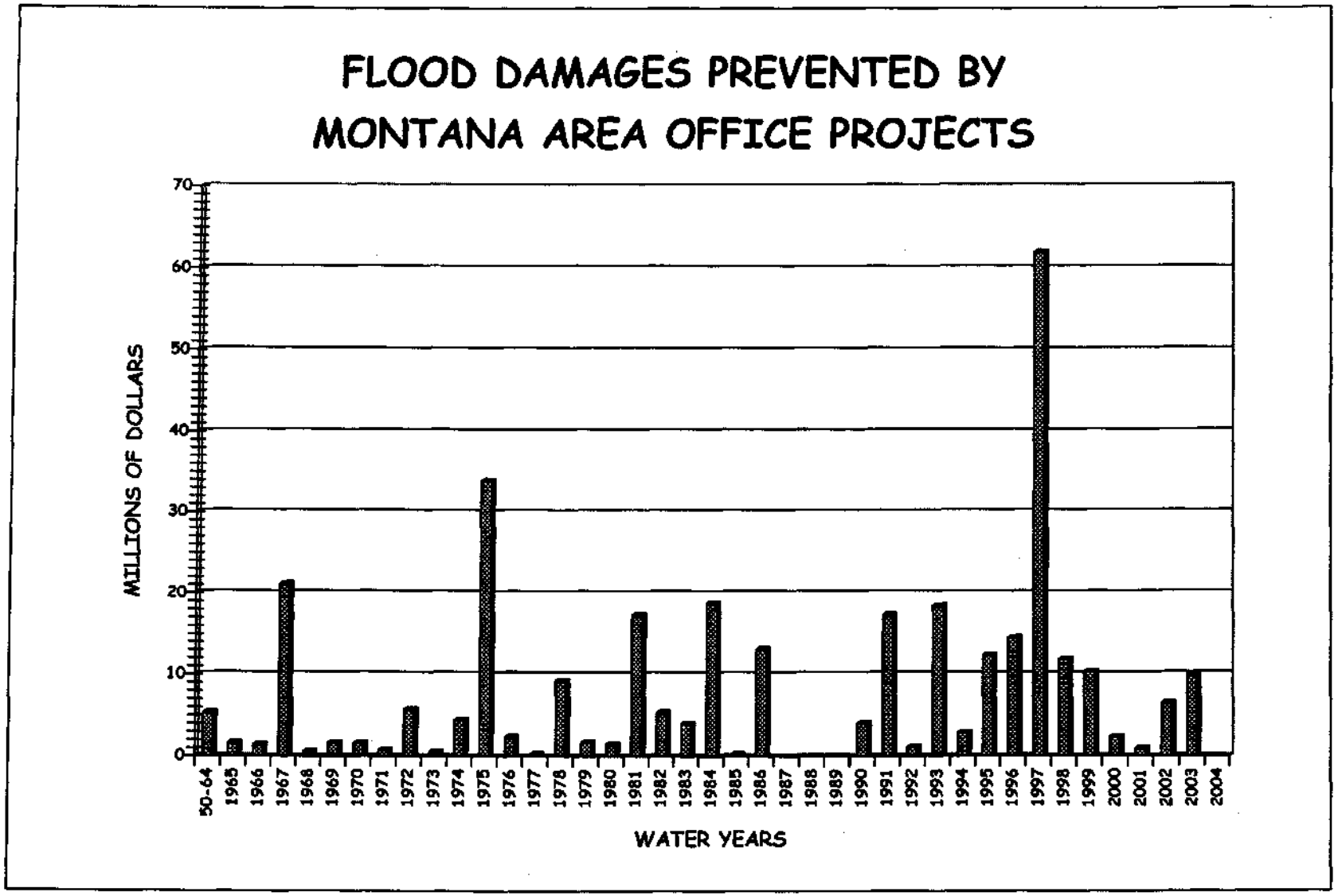
The distribution of flood damages prevented since 1950 is as listed in Table MTT4. For additional information on the operations of the reservoirs within the jurisdiction of the Montana Area Office, refer to the individual "Summary of Operations for 2004" for each reservoir in this report. Figure MTG2 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	2004 Total	Prev. Accum.	1950-2004 Accum. Total
Clark Canyon	$ 0.0	$ 0.0	$ 0.0	$ 13,420.4	$ 12,310.3
Canyon Ferry	0.0	0.0	0.0	138,132.5	138,132.5
Gibson'	0.0	0.0	0.0	3,044.5	3,044.5
Lake Elwell	0.0	0.0	0.0	58,667.7	58,667.7
Fresno	0.0	0.0	0.0	13,059.3	13,059.3
Yellowtail	0.0	0.0	0.0	96,257.3	96,257.3
Total	$ 0.0	$ 0.0	$ 0.0	$326,466.6	$326,466.6

[1] No space allocated to flood control, but some flood protection provided by operation for other purposes.

FIGURE MTG2


FLOOD DAMAGES PREVENTED BY
MONTANA AREA OFFICE PROJECTS
MILLIONS OF DOLLARS
0
10
20
30
40
50
60
70
50-64
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
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2003
2004
WATER YEARS

UNIT OPERATIONAL SUMMARIES FOR WATER YEAR 2004

Clark Canyon Reservoir

Clark Canyon Reservoir; a Vick-Sloan iviissouri basin rrogram (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 providin g 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.

The severe drought conditions in the Beaverhead basin continued during water year 2003. By August and September, valley and mountain precipitation in the Beaverhead River basin were well below nolinal. Inflow to Clark Canyon during August and September was 40 and 34 percent of average respectively. Large irrigation demands during water year 2003 had placed a heavy demand on storage in Clark Canyon Reservoir. Following the conclusion of the irrigation season and after the Labor Day weekend, releases from Clark Canyon were reduced to the fall and winter flow rate of between 25-30 cfs on September 4, which is much below the minimum recommended fishery flow of 200 cfs. Beginning at that time, storage in Clark Canyon began to steadily increase and entered water year 2004 with a content of 15,837 acre-feet at elevation 5494.82. At 13 percent of average, this was a new record low level for this time of year and 1,064 acre-feet or .87 feet lower than at the beginning of water year 2003.

The 2004 water year began with minor stoim activity thus resulting in valley and mountain precipitation much below average. This pattern reversed in December with near to above average precipitation for the month. On January 1, the Natural Resources and Conservation Service measured snowpack in the Beaverhead River basin at 106 percent of average. Mountain precipitation during January and February was again near average. Conversely, valley precipitation was much below average for January, at 35 percent of normal, and much above average for February, at 179 percent of normal. On March 1, the measured snowpack in the Beaverhead basin was 94 percent of avera g e. Conditions would change drastically during March indicating that another year of drought was eminent. Despite the oscillating precipitation patterns, the 2004 fall and winter inflow to Clark Canyon Reservoir remained at record low. Inflow for October through March was

49,172 acre-feet, or 44 percent of normal. This was 10,461 acre-feet or 18 percent lower than experienced in 2003 and the lowest inflow of record since construction of Clark Canyon Dam.

The mountain snowmelt in the Beaverhead River basin normally begins in late April or early May. However, in 2004, the above average March temperatures produced record high melt rates much earlier than normal. Several years of consecutive drought have had a significant affect in southwestern Montana. Soil moisture deficits were very severe throughout the winter and leading into the spring snowmelt runoff and thus minor amounts of surface runoff were produced during the March snowmelt. By May 1, the snowpack was measured at 57 percent of average, a decrease of almost 66 percent from that recorded on January 1. This was also a 48 percent decrease from water year 2003.. The valley and mountain precipitation improved in May to 105 percent of normal and 139 percent of normal respectively; however the inflows were still much below average, primarily due to the extremely dry soil conditions. In addition, the lack of precipitation and warm weather caused an increased upstream irrigation demand earlier in the season. Consequently, streamflows into Clark Canyon Reservoir continued to slowly recede and by May 4, inflow to Clark Canyon had dropped to as low as 38 cfs.

Based on the mountain snowpack, the water supply forecast prepared on April 1, indicated the April-July runoff into Clark Canyon would be 27 percent of normal, totaling 30,300 acre-feet. This was a significant reduction from the March 1 forecast of 53,300 acre-feet. The reduction was a result from the extremely warm and dry March. The April forecast of inflow in conjunction with the much below average storage at the beginning of the month was not favorable for the East Bench Irrigation District's water supply. Principally because with the existing contracts and water rights below Clark Canyon Dam, East Bench would not be able to receive any irrigation water without risking a late summer water shortage for the Clark Canyon Water Supply Company. East Bench Irrigation District elected to wait until the May water supply forecast to see if conditions improved before finalizing their decision. Unfortunately conditions remained dry and inflows were still at record low levels. Consequently East Bench Irrigation District was unable to divert any water through their main canal during 2004.

Snowmelt runoff during April through July was well below normal. Inflows into Clark Canyon Reservoir averaged 66 cfs during April, 75 cfs during May, 85 cfs during June and 98 cfs during July. These resulted in respective monthly total inflows of 3,933 acre-feet, 4,601 acre-feet, 5,055 acre-feet and 5,999 acre-feet. Releases during this time averaged 35 cfs during April, 185 cfs during May, 296 cfs during June and 282 cfs during July. Storage was allowed to slowly increase to a peak for the year of 57,296 acre-feet at elevation 5516.76 on April 25, 2004 before irrigation demands required storage to be drafted. This was 36 percent of normal and 33 percent of full capacity. This was also 15,708 acre-feet or 5.39 feet lower than the 2003 peak storage. The peak inflow for the year was recorded on May 16 at 179 cfs. This was also the lowest peak daily inflow since the construction of the dam. The total April-July inflow to Clark Canyon was 17 percent of average totaling 19,588 acre-feet and was the lowest April-July inflow of record since construction of Clark Canyon Dam. The 2004 April through July runoff surpassed the previous record low set in 2003 by 11,425 acre-feet.

Late spring storms moved across southwestern Montana, bringing some relief in the valleys and mountains, however still not enough to provide sufficient water to supply East Bench and the Clark Canyon Water Supply Company. By the end of June, valley precipitation for the water year had improved to 83 percent of average while mountain precipitation climbed to 93 percent of average.

Beginning in July, valley precipitation was only 56 percent of normal, once again reflecting the significant drought conditions. The below average valley precipitation continued through the end of the water year. Mountain precipitation for the Beaverhead basin maintained near to above average through the end of the water year providing some reduction in subsurface soil moisture deficits. The cumulative mountain precipitation for the water year was 132 percent of normal. Unfortunately, the lack of valley precipitation produced heavy demands on storage out of Clark Canyon to meet the downstream irrigation demands. Storage in Clark Canyon was quickly being depleted. By the end of July, only 26,458 acre-feet of storage remained in Clark Canyon Reservoir and continued to drop until August 20 when it reached 20,741 acre-feet. Releases were then reduced out of Clark Canyon to about 60 cfs by the end of August.

The majority of the storage water released from Clark Canyon Reservoir during water year 2004 to meet the downstream irrigation demands was released during April 26 through September 8. During this time, releases averaged 220 cfs and, at one point, reached a peak for the year of 429 cfs on July 28 to satisfy the downstream water needs. The average release of 220 cfs was about 127 cfs lower than the average release experienced a year ago during this similar time period. Beginning in April, storage in Clark Canyon declined from a peak of 57,296 acre-feet at elevation 5516.76 on April 25 to 24,729 acre-feet at elevation 5401.23 on October 1, 2004. This was the third lowest end of water year storage level ever recorded at Clark Canyon. This storage level was nearly 44,400 acre-feet below the target level of 60,000 acre-feet recommended by the Montana Fish, Wildlife and Parks as the minimum required to sustain an adequate and healthy lake fishery.

On September 8 the releases were reduced to a fall and winter flow of between 25-30 cfs, again much below the minimum recommended fishery flow of 200 cfs. During August 21 through the end of the water year, Clark Canyon Reservoir slowly began refilling and ended the water year with a storage content of 24,729 acre-feet at elevation 5501.23. This was 20 percent of normal and 14 percent of normal full capacity. This was also 8,892 acre-feet and 6.41 feet above the end of water year 2003. East Bench Irrigation District water users did not receive any water during 2004 and Clark Canyon Water Supply Company received about 82 percent of their contract supply. The total annual inflow to Clark Canyon Reservoir during 2004 was 30 percent of normal, totaling 80,548 acre-feet, the lowest annual inflow of record. By comparison this total inflow surpasses the other drought year by a significant amount; the inflow for water year 2004 was 24,642 acre-feet, 30,288 acre-feet and 55,573 acre-feet less than experienced during the drought years of 2003, 2002, and 2001 respectively. The total annual release to the Beaverhead River from Clark Canyon was 71,656 acre-feet or 27 percent of normal and was also the lowest annual release of record since construction of the dam. This was also 34,597 acre-feet less than what was released during the drought of 2003.

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 did not fill in water year 2004 and

peaked at 29,008 acre-feet, which is 34 percent of full capacity on June 20. 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 467 cfs on June 10 due to irrigation releases from storage, but the streamflow would have peaked at 246 cfs on May 16 if Clark Canyon Reservoir would not have been controlling the releases.

The Corps of Engineers determined that during 2004, Clark Canyon did not prevent any local or Main Stem flood damages. Since construction of the Clark Canyon Dam in 1965, Clark Canyon Reservoir has reduced flood damages by a total of $12,310,300.

Additional hydrologic and statistical information pertaining to the operation of Clark Canyon Reservoir during 2004 can be found in Table MTT5 and Figure MTGS.

Important Events - 2004

September 4, 2003: Following the 2003 irrigation season, releases from Clark Canyon to the Beaverhead River were reduced to approximately 30 cfs to conserve storage and allow Clark Canyon Reservoir to gradually increase throughout the fall and winter.

April 6: East Bench Irrigation District met to discuss operations and allotments for 2004. The April 1 mountain snowpack was 75 percent of normal and water supply forecast indicated the April-July runoff into Clark Canyon would be about 27 percent of normal. Based on this forecast, East Bench would not be able to divert water without possibly shorting Clark Canyon Water Supply later in the summer. It was decided to wait until the May meeting to make the final determination of whether East Bench would receive any water for the 2004 irrigation season.

April 26: This marked the beginning of when releases from Clark Canyon were increased to meet downstream irrigation demands. Clark Canyon Reservoir reached a peak storage content of 57,296 acre-feet at elevation 5516.76, 117,071 acre-feet or 29.34 feet below normal full pool level.

May 16: Inflow to Clark Canyon reached a peak for the year at 179 cfs.

May 4: East Bench Irrigation District determined that with the forecasted water supply and the reservoir storage they would not have any water available to divert. Irrigation water would not be delivered through their main canal during 2004.

May 6: Clark Canyon Water Supply Company decreased allotment from 4 to 3.5 acre-feet per acre to ensure that their users had enough water.

July 28: Releases from Clark Canyon Reservoir reached a peak of 429 cfs to meet downstream water demands from the Beaverhead River.

August 20: Storage in Clark Canyon Reservoir was drafted to a content of 20,741 acre-feet at elevation 5498.57. This was 12 percent of full capacity and 153,626 acre-feet or 47.53 feet below normal full pool level. After this time the reservoir begins to refill due to the decrease in irrigation demands downstream.

September 8: Release from Clark Canyon Dam to the Beaverhead River reduced to the winter release of approximately 30 cfs.

September 30: Clark Canyon Reservoir ends the water year with the third lowest storage on record.

TABLE MTT5

HYDROLOGIC DATA FOR 2004

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	5494.82	15,837	OCT 01, 2003
END OF YEAR	5501.23	24,729	SEP 30, 2003
ANNUAL LOW	5494.82	15,837	OCT 01, 2003
ANNUAL HIGH	5516.76	57,296	APRIL 25, 2004
HISTORIC HIGH	5564.70	283,073	JUN 25, 1984

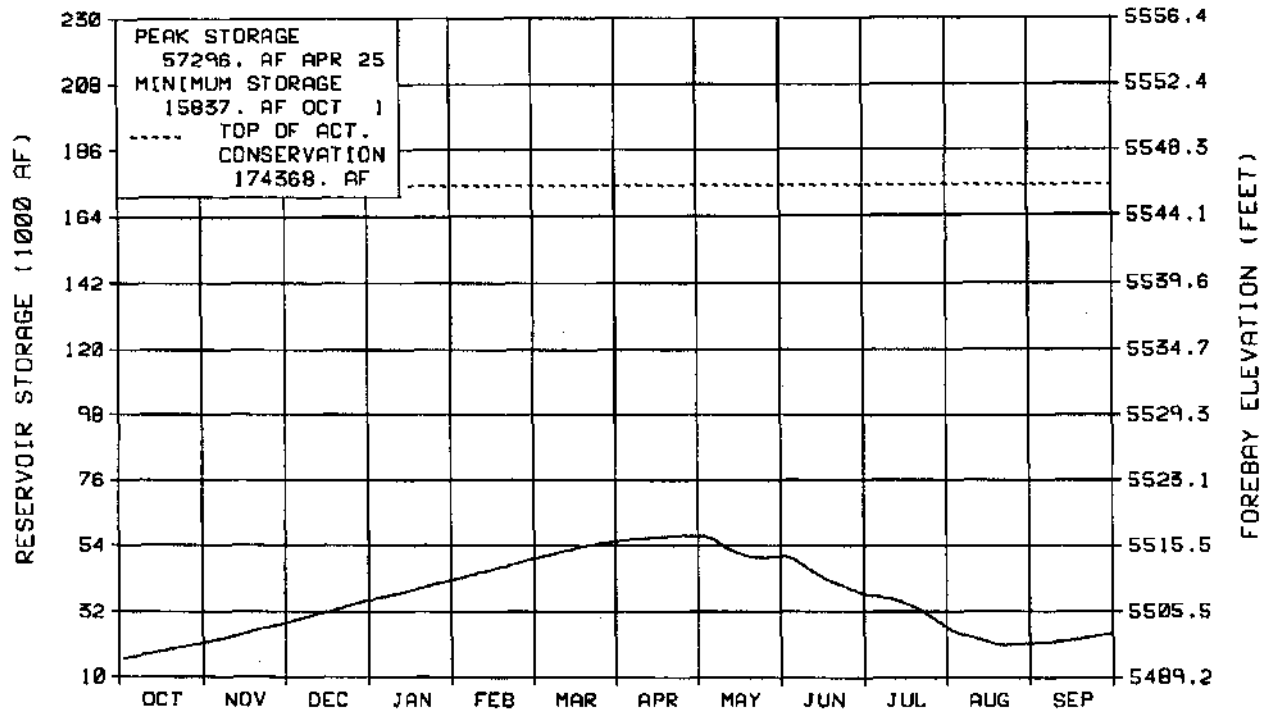
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	80,548	OCT 03-SEP 04	71,656	OCT 03-SEP 04
DAILY PEAK (CFS)	179	MAY 16, 2004	429	JUL 28, 2004
DAILY MINIMUM (CFS)	38	MAY 04, 2004	25	DEC 16, 2004
DAILY FLOW AT BARRETTS (CFS)			467	JUN 10, 2004
DAILY FLOW AT BARRET"TS W/O CLARK CANYON RESERVOIR (CFS)			246	MAY 16, 2004
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

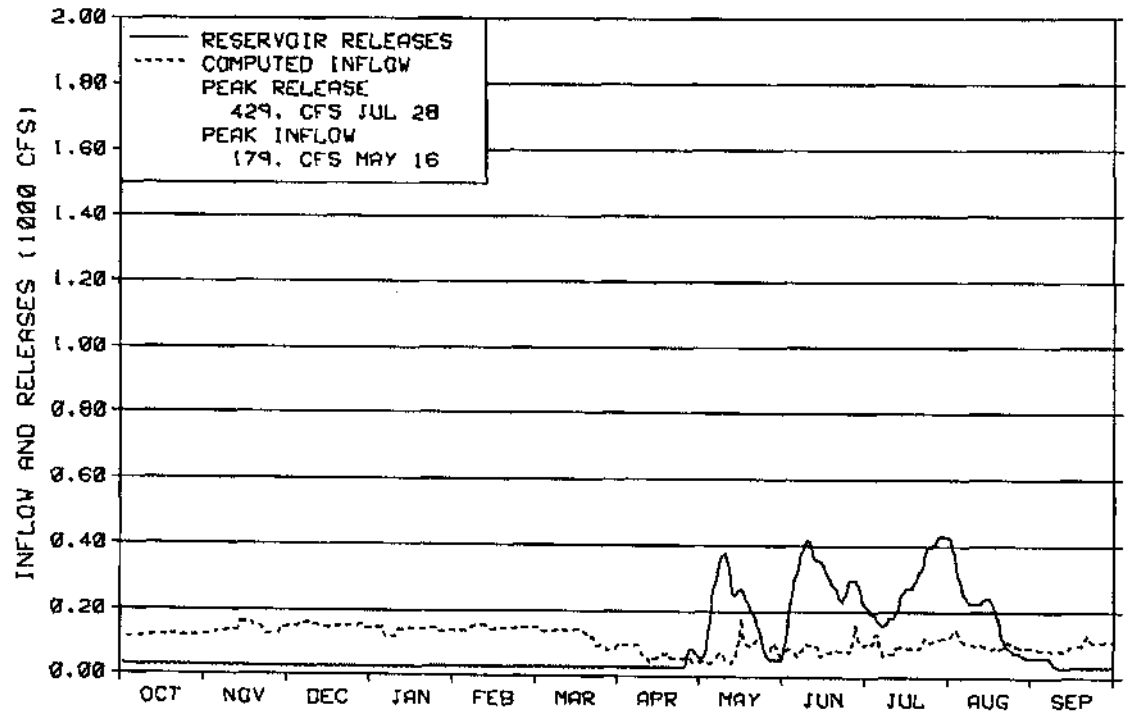
MONTH	INFLOW		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	7.3	31	1.7	11	21.4	17
NOVEMBER	8.3	37	1.6	11	28.1	21
DECEMBER	9.3	48	1.6	12	35.7	26
JANUARY	8.5	53	1.6	14	42.6	31
FEBRUARY	8.4	58	1.6	15	49.4	35
MARCH	7.5	40	1.7	15	55.2	37
APRIL	3.9	18	2.1	15	57.1	36
MAY	4.6	17	11.3	38	50.3	30
JUNE	5.1	14	17.6	42	37.8	23
JULY	6.0	22	17.3	37	26.5	18
AUGUST	6.1	32	11.4	29	21.2	17
SEPTEMBER	5.7	28	2.2	10	24.7	20
ANNUAL	80.5	30	71.7	27		
APRIL-JULY	19.6	17				

* Average for the 1965-2004 period.

FIGURE MTG3

CLARK CANYON RESERVOIR





WATER YEAR 2004

Canyon Ferry Lake and Powerplant

Canyon Ferry Lake (P-S MBP), foimed 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 is 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 20,300 acres on the East Bench Unit (P-S MBP). In addition, about 5,200 acres in the Helena Valley Unit that were once irrigated by pumping from Lake Helena and from other streams, are now irrigated by pumping from Canyon Ferry Reservoir. About 28,000 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 was conducted and a new elevation-area-capacity table and curve was developed. The 1997 survey deter m ined 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.

The lingering effects of the droughts of 2001, 2002, and 2003 continued to impact Montana and the inflow to Canyon Ferry Lake. According to the National Weather Service records, valley precipitation during August and September of 2003 was recorded at 68 and 20 percent of average, respectively while the mountain precipitation was recorded at 80 and 44 percent of average, respectively. This was much less than the precipitation received during August and September of 2002. Inflow to Canyon Ferry during August and September totaled 82,838 acre-feet and 93,603 acre-feet respectively and were 49 and 44 percent of normal, respectively, making the total August-September inflow to Canyon Ferry Lake was the second lowest of record. After experiencing near record low inflow, releases from Canyon Ferry Lake continued to be maintained at rates that would sustain flows in the Missouri River below Holter Dam between 2,800-3,000 cfs during August and September. As a result, storage in Canyon Ferry Lake slowly declined throughout the summer and entered water year 2004 with a storage content of 1,547,182 acre-feet at elevation 3786.31. This was 140,447 acre-feet or 4.44 feet lower than at the be inning of water year 2003.

Precipitation in the Missouri River Basin above Canyon Ferry Reservoir during October and November was well below normal, contributing to below normal streamflows. Valley precipitation during October was only 54 percent of average while the mountain precipitation was only 64 percent of average. During November the valley precipitation worsened, dropping to only 39 percent of average. With generous snow falling in the higher elevation, the mountain precipitation improved significantly to 92 percent of average. Releases from Canyon Ferry to the Missouri River were maintained at rates to provide 2,800-3,000 cfs below Holter Dam. With this release rate, storage in Canyon Ferry Lake continued to slowly draft to 1,500,024 acre-feet at elevation 3784.78 by December 1.

On December 1, mountain snowpack in the upper Missouri River Basin above Canyon Ferry was measured at 80 percent of average. Power demands were high across much of the western United States. Western Area Power Administration inquired whether it was possible to increase turbine releases to help meet the demands. Based on the December water supply forecast and help meet the increased energy demands, turbine releases were increased to 2-unit capacity to maintain river flows downstream of Holter Dam at about 3,000-3,200 cfs on December 7. This release rate was maintained through the winter and early spring until April 6, at which time they were reduced to better assure Canyon Ferry of refilling.

Precipitation in the watershed above Canyon Ferry improved significantly during December through February. Valley precipitation was 162, 97, and 128 percent of average, respectively, while the mountain precipitation varied at 134, 90, and 89 percent of average, respectively. By January 1, the Natural Resources and Conservation Service (NRCS) measured the mountain snowpack in the Missouri River Basin above Canyon Ferry to be 107 percent of average, about 42 percent more than a year ago. Snowpack in the Jefferson, Madison, and Gallatin River Basins, major tributaries of the Missouri River Basin was 100, 114 and 101 percent of normal, respectively. As the winter proceeded, mountain snowfall accumulated at near normal rates. By March 1, mountain snowpack in the Missouri River Basin was at 96 percent of average. This was a 10 percent improvement from that experienced a year ago. Snowpack in the tributaries of the Jefferson, Madison, and Gallatin River Basins reported 93, 103 and 94 percent of normal respectively, as compared to 91, 75 and 86 percent of normal a year ago.

The water supply forecast prepared on March 1, indicated the April-July runoff into Canyon Ferry Lake was expected to be 79 percent of average, totaling 1,602,000 acre-feet. With storage at 92 percent of average, projected operations indicated total release out of Canyon Ferry could be maintained at about 3,600-3,700 cfs during March and later increased to above 4,100 cfs thoughout the recreation season. This would allow storage in Canyon Ferry Lake to successfully fill to the top of the conservation pool at elevation 3797.

By the beginning of the second week of March, weather conditions changed dramatically. There was essentially little to no precipitation that was reported in the basin. Snow fell over the mountains at well below normal rates during March and April. On April 1, the snowpack above Canyon Ferry was measured at 79 percent of average and by May 1 it was measured at only 60 percent of average as compared to 97 percent of average on May 1, 2003. Snowpack in the Jefferson, Madison, and

Gallatin River Basins was 61, 73 and 54 percent of normal respectively, as compared to 105, 88, and 92 percent of average in May of 2003. Because of the lack of spring precipitation, the decision was made to reduce releases out of Canyon Ferry to rates that would maintain river flows downstream of Holter Dam at 2,800-3,000 cfs. This would better assure Canyon Ferry Lake of refilling to levels that would protect the summer recreation around the Lake. During April 7-10, the total release out of Canyon Ferry Lake was gradually reduced from 3,790 cfs to 3,000 cfs in an effort to conserve storage. However, irrigation deliveries to the Helena Valley Project were begun on April 1 and the total discharge from Canyon Ferry was adjusted accordingly to maintain river flows downstream of Holter Dam near 3,000•cfs.

Conservation releases from Canyon Ferry were now exceeding the inflow to Canyon Ferry Lake. As a result, storage in Canyon Ferry Lake continued to slowly decrease to a low for the year of 1,347,065 acre-feet at elevation 3779.58 on May 21. With the small amount of high elevation snow remaining and much of the lower elevation snow already melted, it was not until the middle of May when streamflows into Canyon Ferry Lake began to increase as a result of the snowmelt runoff. On June 12, inflow to Canyon Ferry reached a peak for the year of 9,352 cfs. Storage in Canyon Ferry Lake began to slowly increase in late May, reaching a summer peak content of 1,540,047 acre-feet at elevation 3786.08 on July 13.

Inflow to Canyon Ferry quickly receded to 1,345 cfs by July 30 and continued to drop until reaching a low of 1,156 cfs on August 12. This was the sixth lowest inflow of record into Canyon Ferry Lake for this date since construction of the dam. The rapid and critical decline in streamflow to Canyon Fen), Lake was a big concern for Reclamation. The record low streamflows and below normal spring precipitation indicated the severe drought in Montana would persist. The April-July runoff into Canyon Ferry totaled 845,981 acre-feet. At 42 percent of normal, this was the third lowest April-July inflow to Canyon Ferry since construction of the dam in 1954. This was also 515,293 acre-feet lower than that experienced during the drought of 2003 and only 112,355 acre-feet more than the lowest April-July inflow of record experienced in 1966.

Because of the near record low inflows to Canyon Ferry Lake, releases from Canyon Ferry to the Missouri River were maintained at or near record low rates. The releases were closely regulated to maintain river flows downstream of Holier Dam between 2,800-3,000 cfs during most of April through September, in an effort to conserve storage in Canyon Ferry Lake. During April-July, approximately 652,165 acre-feet of water was released to the Missouri River. This was 43 percent of average and was the third lowest amount released during April-July since construction of the dam.

Precipitation in the Missouri River Basin increased to above normal during August and September. However, due to the unusually dry soil conditions, much of the precipitation was absorbed quickly into the soils. Streamflows increased from about 50 percent of average in July to 63 percent of average during August and September. Inflow during August-September totaled 240,434 acre-feet and was the tenth lowest of record since construction of the dam. Water released from Canyon Ferry to the Missouri River during August-September totaled 308,120 acre-feet and was the second lowest of record at only 63 percent of average and only 37,088 acre-feet more than the record low released in 1959. The total amount of water released from Canyon Ferry to the Missouri River during April-

September was 960,285 acre-feet, 48 percent of average, and was the lowest amount recorded during this period since construction of the dam in 1954. By the end of the water year, storage in Canyon Ferry Lake had dropped to a content of 1,398,950 acre-feet at elevation 3781.39.

During 2004, Canyon Ferry powerplant generated 239,085,000 kilowatt-hours, the third lowest since construction of the powerplant. This was 59 percent of the long-term average and 83,686,000 kilowatt-hours less than generated in 2003. The plant used 89 percent of the water released from the dam in 2004. The remainder of the water (239,615 acre-feet) was released to meet the irrigation needs of the Helena Valley Irrigation District.

The Corps of Engineers estimated that during 2004, the operations of Canyon Ferry did not prevent any local flood damages or damages downstream on the Missouri River below Fort Peck Reservoir. Since construction of the Canyon Ferry Dam in 1954, Canyon Ferry Reservoir has reduced flood damages by a total of $138,132,600.

Important Events - Water Year 2004

October 1: All irrigation deliveries to the Helena Valley Unit were discontinued for the 2003 irrigation season. To continue conserving storage in Canyon Ferry, turbine releases were maintained at rates that maintained river flows downstream of Holter Dam near 3,000 cfs.

October 6: River flows were lower than anticipated and in response, turbine releases to the Missouri River were increased to maintain river flows downstream of Holter Dam at or near 3,000 cfs, while restricting and limiting turbine releases to 2-unit capacity.

October 9: PPL-MT reported difficulty in maintaining stable levels in Hauser and Holter Reservoirs while maintaining river flows downstream of Holter Dam above 2,800. In response, turbine releases to the Missouri River were increased to maintain river flows downstream of Holter Dam at or near 3,000 cfs, while restricting and limiting turbine releases to 2-unit capacity.

October 17: PPL-MT reported reservoir levels in Hauser and Holter Reservoirs are at normal full pool levels and increasing. In response and continue conserving storage in Canyon Ferry, turbine releases to the Missouri River were decreased to maintain river flows downstream of Holter Dam at or near 2,900 cfs, while restricting and limiting turbine releases to 2-unit capacity.

October 23: Flow measurements indicated actual river flows were less than anticipated. Turbine releases were adjusted to maintain river flows at or near 2,900 cfs.

November 4-7: Inspections and test drilling in Helena Valley Reservoir and repairs to the outlet works were nearing completion. Helena Valley Irrigation District planned to begin refilling Helena Valley. Turbine releases were adjusted appropriately to maintain river flows downstream of Holter Dam at or near 2,900 cfs.

November 9-10: Based on the water supply forecast, turbine releases out of Canyon Ferry were increased to maintain river flows downstream of Holter Dam at or above 3,200 cfs.

November 18: Maintenance work was completed on Helena Valley Dam and Reservoir. Helena Valley Irrigation District began refilling Helena Valley Reservoir at a rate of 300 cfs. In response, operations of Canyon Ferry were adjusted accordingly to maintain river flows downstream of Holter Dam at 3,200 cfs.

November 20: After successfully refilling Hauser and Holter Reservoirs, PPL-MT requested river releases out of Canyon Ferry be decreased by 200 cfs to 3,000 cfs.

November 24: Helena Valley Reservoir successfully reached the desired winter target elevation. River releases out of Canyon Ferry were adjusted appropriately to maintain river flows downstream of Holter Dam at or near 3,000 cfs.

December 7-Anri1 6: Power demands were high across much of the western United States. At the request of the Western Area Power Administration, turbine releases out of Canyon Ferry were increased and maintained between 3,400-3,700 cfs through April 6.

April 1-September 30: Irrigation deliveries to Helena Valley Unit were initiated on April 1 and adjusted periodically throughout the irrigation season to meet the irrigation demands. Because of the low snowpack and persistent dry weather conditions, as irrigation deliveries to the Helena Valley Project were adjusted, turbine releases from Canyon Ferry powerplant were also adjusted proportionately to maintain minimum river flows below Holter Dam between 2,800-3,000 cfs.

April 7-10: April water supply forecast showed a significant decline of runoff expected into Canyon Ferry. As a water conservation measure, total release from Canyon Ferry was gradually decreased from 3,790 cfs to 3,000 cfs 2,675 cfs through the powerplant and 325 cfs for the Helena Valley Project).

April 14: Reclamation attended and participated in the Upper Missouri River Advisory Group meeting held in the MFWP Conference Room 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 2004.

April 29: PPL-MT reported difficulty in maintaining stable levels in Hauser and Holter Reservoirs. At the request of PPL-MT, the river releases out of Canyon Ferry were decreased as necessary to prevent the reservoir levels of Hauser and Holter Reservoirs from increasing while maintaining river flows below Holter Dam no lower than 2,800 cfs.

May 7: PPL-MT reported difficulty in maintaining stable levels in Hauser and Holter Reservoirs. At the request of PPL-MT, the river releases out of Canyon Ferry were increased as necessary to prevent the reservoir levels of Hauser and Holter Reservoirs from dropping while maintaining river flows below Holter Dam no lower than 2,800 cfs.

TABLE MTT6
HYDROLOGIC DATA FOR 2004
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

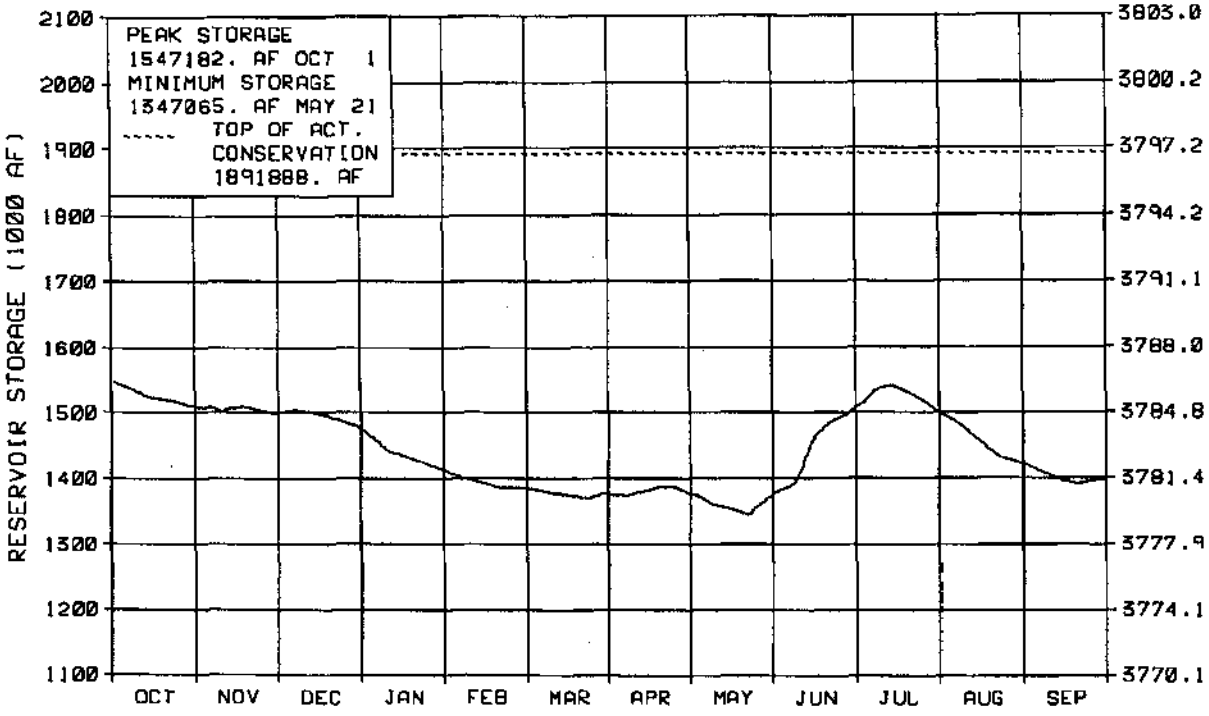
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	3786.31	1,547,182	OCT 01, 2003
END OF YEAR	3781.39	1,398,950	SEP 30, 2004
ANNUAL LOW	3779.58	1,347,065	MAY 21, 2004
ANNUAL HIGH	3786.31	1,547,182	OCT 01, 2003
HISTORIC HIGH	3800.00	2,050,900	JUN 23, 1964

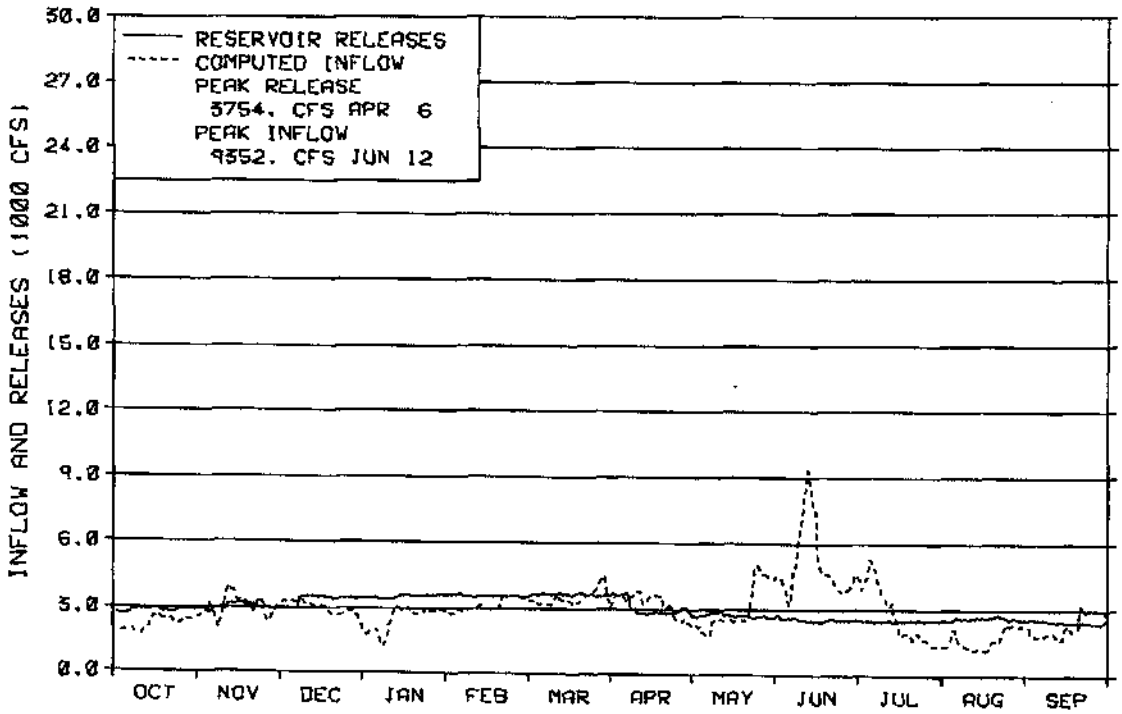
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	2,131,54 8	OCT 03-SEP 04	2,170,136	OCT 03-SEP 04
DAILY PEAK (CFS)	9,352	JUN 12, 2004	3,754	APR 6, 2004
DAILY MINIMUM (CFS)	1,15 6	AUG 12, 2004	2,389	SEP 24, 2004
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

MONTH	INFLOW		OUTFLOW*				CONTENT	
	KAF	% OF AVG	PUMPED TO HELENA VALLEY (KAF)	% OF AVG	RIVER KAF	% OF AVG	KAF	% OF AVG
OCTOBER	136.5	48	0.0	0	174.4	66	1,509.2	87
NOVEMBER	177.8	60	6.0	1551	180.9	66	1,500.0	86
DECEMBER	179.8	74	0	---	207.8	69	1,472.1	88
JANUARY	155.4	70	0	---	217.4	72	1,410.0	90
FEBRUARY	180.8	82	0	---	205.2	75	1,385.6	92
MARCH	214.9	80	0	---	224.1	74	1,376.4	95
APRIL	192.2	55	10.1	183	181.0	59	1,377.6	94
MAY	184.4	32	19.7	156	166.7	45	1,375.6	84
JUNE	301.8	39	20.5	134	151.1	31	1,505.8	80
JULY	167.5	50	20.9	126	153.4	43	1,499.1	82
AUGUST	103.5	61	21.2	139	160.6	63	1,420.9	82
SEPTEMBER	136.9	64	11.3	152	147.6	63	1,398.9	82
ANNUAL	2,131.5	54	109.6	148	2,170.1	58		
APRIL-JULY	846.0	42						

* Average for the 1955-2004 period.

FIGURE MTG4
CANYON FERRY LAKE





WATER YEAR 2004

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.

In April 2003, a Static Risk Analysis for Helena Valley Dam was conducted by the Denver Technical Service Center. As a result of the study, recommendations were made to obtain additional information regarding the geology at the darn site, conduct investigations of the internal condition of the dam, and investigate known sinkhole locations at the dam as soon as possible in order to more accurately quantify the piping risk associated with the dam. To facilitate the investigations, the reservoir was lowered to an elevation of 3791.50 on October 19, 2003. The investigations occurred during the latter half of October and the reservoir was refilled in November to an elevation of 3811.66 by November 24.

At the beginning of the year, storage in Helena Valley Reservoir was 3,950 acre-feet at an elevation of 3802.75 feet. Helena Valley Reservoir reached a low for the spring of 5,413 acre-feet at an elevation of 3807.87 feet on April 4, 2004. Diversions to the Helena Valley Unit from Canyon Ferry Reservoir were started on April 5. Storage in Helena Valley Reservoir then steadily increased to a peak for the year of 10,518 acre-feet at an elevation of 3820.20 feet on July 5, 2004. During 2004, 109,644 acre-feet of water was pumped to Helena Valley from Canyon Ferry Reservoir. Helena Valley Irrigation District released 92,178 acre-feet for irrigation. Irrigation deliveries were discontinued for the season on October 4.

The reservoir provided an adequate water supply to satisfy all irrigation requirements for the Helena Valley Unit in 2004 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 HELENA
VALLEY RESERVOIR FOR 2004

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	3802.75	.3,950	10/1/03
End of Year	3815.17	8,118	9/30/04
Annual Low	3791.50	1,741	10/19/03
Annual High	3820.20	10,518	7/05/04
Historic High	3820.60	10,738	6/02/75
INFLOW-OUTFLOW DATA			ANNUAL
Pumped from Canyon Ferry to Helena Valley Unit			109,644 AC-FT
Inflow to Helena Valley Reservoir			97,271 AC-FT
Released from reservoir for irrigation			92,178 AC-FT
Delivered to the City of Helena for municipal use			1,283 AC-FT

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 dry conditions in 2003 provided below average water supply storage in the Sun River basin, heading into water year 2004. During August and September of 2003, precipitation in the Sun River watershed varied between much below average to much above average. The valley precipitation during those months was 37 and 138 percent of average respectively, while precipitation in the mountains was 56 and 134 percent of average respectively. The August through September inflow to Gibson Reservoir was 56 percent of average, totaling 25,402 acre-feet. With the inflows averaging 187 cfs and releases averaging 159 cfs during September, storage in Gibson Reservoir slowly filled and entered water year 2004 with a storage content of 6,246 acre-feet at elevation 4612.81. This was 22 percent of average and

6 percent of full capacity and 90,231 acre-feet or 111.19 feet below the top of the conservation pool. Storage at the beginning of water year 2004 was 20,268 acre-feet or 40.25 feet less than at the beginning of water year 2003.

The October 1 reservoir operating plans indicated Gibson Reservoir not filling to a storage content of at least 50,000 acre-feet by the end of March primarily due to the fall inflows being well below average. Consequently, fall and winter releases from Gibson Reservoir to the Sun River were reduced in mid-September and maintained at a minimum flow rate of approximately 45-60 cfs through November 19. Releases were then slightly increased in late November to approximately 70 cfs. Precipitation was near to above average during November therefore releases to the Sun River were increased to approximately 100 cfs, however by mid-December it was apparent that conditions had reversed and precipitation was much below average. Therefore, releases were then reduced to approximately 75 cfs as an effort to conserve storage. Storage in Gibson Reservoir had slowly but steadily increased to 17,300 acre-feet at elevation 4637.22 by the end of December.

Precipitation in the Sun River basin varied from above average to much below average during water year 2004. Cumulative precipitation for October through December was below average for valley areas but near average for mountain areas in the Sun River basin. By January 1, the Natural Resources and Conservation Service (NRCS) measured snowpack in the Sun-Teton River Basins at 97 percent of average, which was a 51 percent increase from a year ago. In January conditions improved slightly in the valley areas with near average precipitation while mountain areas again received near average precipitation. Conditions reversed in February, valley and mountain precipitation were both much below average during the month. Consequently, the beginning of March snowpack was 89 percent of average. Following the extremely dry February, March precipitation was again below average. This decreased the cumulative precipitation for both the valley and mountain areas to even further below average for the water year.

March and April were the only months of water year 2004 that inflows were near to above average. This was a result of snowmelt runoff during 2004 coming earlier than normal due to the warm and dry conditions. By April 1 the snowpack measured 69 percent of average. Snowpack in the Sun River basin usually peaks in early April, but in 2004 the peak snowpack occurred approximately a month early. Therefore, snowmelt runoff began entering Gibson Reservoir near the middle of March when streamflows gradually increased from about 113 cfs in early March to near 608 cfs by the end of the month. Streamflows steadily increased until April 9, reaching 1,127 cfs. Cool temperatures and some additional precipitation then reduced the snowmelt and inflows began to recede to 820 cfs on April 11. As the temperatures once again increased, streamflows increased to 1,293 cfs on April 15. Temperatures again cooled and inflow decreased until April 24, when it reached 935 cfs. By the end of April, warmer temperatures prevailed thus causing the mountain snowmelt to be well underway. During April and May precipitation in both the valley and mountain areas was near to above average; however, after the warm and dry conditions earlier in the spring the accumulated snowpack had already been decreased thus contributing to a below average spring runoff volume.

The peak inflow for the year of 2,869 cfs occurred on June 6. As the inflows increased, the releases from Gibson Reservoir to the Sun River were increased to control the rate of fill of storage. On June 6, Gibson Reservoir reached a peak storage content for the year of 96,387 acre-feet at elevation 4723.93, 0.07 feet from the top of the active conservation pool. The peak discharge to the Sun River over the Sun River Diversion Dam was recorded on May 11 at 1,776 cfs, while the peak discharge from Gibson Reservoir was recorded on June 6 at 2,830 cfs. The peak inflow was much below average principally because June and July valley and mountain precipitation were both below average. With the snowmelt runoff essentially over by early June and the lack of significant precipitation, inflow to Gibson Reservoir was only 48 and 64 percent of average for June and July, respectively. This resulted in the actual April-July inflow totaling 306,490 acre-feet, which is approximately 172,000 acre-feet or 36 percent below average.

August provided some relief with above average precipitation; however, the cumulative water year precipitation was still below average. Concluding the water year, September valley and mountain precipitation were both below average at 68 and 75 percent of average respectively. The August-September inflow to Gibson Reservoir was 76 percent of average totaling 34,513 acre-feet. Beginning in August, releases from Gibson Dam to the Sun River were gradually reduced from approximately 1,290 cfs to about 260 cfs by the of the month. Releases were again reduced in early September to approximately 60 cfs. However, releases were increased for a short duration to meet downstream irrigation demands and diversion requirements. This resulted in storage of Gibson Reservoir declining to a content of 17,759 acre-feet at elevation 4638.07, on September 15. In the latter part of September releases were reduced to rates adequate to allow diversion to the Pishkun Supply Canal and provide water to meet downstream irrigation and fishery demands below the Sun River Diversion Dam. The reduction in releases during late September allowed Gibson Reservoir to gradually fill to 22,496 acre-feet at elevation 4646.44 by the end of the water year. This was 80 percent of average and 23 percent of normal full capacity or 73,981 acre-feet or 77.56 feet below the top of the conservation pool. Storage at the end of water year 2004 was 16,250 acre-feet or 33.63 feet greater than at the end of water year 2003.

Total annual inflow for water year 2004 was 65 percent of average, totaling 398,784 acre-feet. This was 12,165 acre-feet or 2 percent greater than the inflow experienced during water year 2003.

Diversions to the Pishkun Supply Canal were started on April 5 and April 14 for Willow Creek and Pishkun Reservoirs, respectively. It was adjusted periodically throughout the year to meet the downstream irrigation demands on the Sun River Project. Diversions to Pishkun Reservoir were discontinued September 15 due to adequate storage to satisfy the remaining irrigation demands for Greenfields Irrigation District and meet the operational objectives for winter carry-over storage in Pishkun Reservoir. The total diversion to Pishkun Reservoir during water year 2004 was approximately 261,286 acre-feet. Diversion to Willow Creek Reservoir was discontinued on June 7. Diversions to Willow Creek Reservoir were reinitiated

on September 25 and continued through the end of November totaling 11,922 acre-feet. The total diversion for the season to Willow Creek Reservoir was 23,883 acre-feet. All diversions for the season were discontinued on November 30, 2004.

Greenfields Irrigation District discontinued water delivery on September 17. Supplemental water contracts served by Greenfields were satisfied for approximately 33 days while Gibson Reservoir was making releases through the spillway. Based on average diversions to Pishkun Reservoir and supplemental water delivered, Greenfields delivered a near normal allotment to their water users. The total diversion for Fort Shaw Irrigation District was above average during 2004. The total water diverted was approximately 54,600 acre-feet, which is 129 percent of average.

Even though there is no space allocated to flood control, the Corps of Engineers still estimates flood damages that are prevented by Gibson Reservoir. During 2004 Gibson Reservoir did not contribute to the reduction of flood damages locally or downstream on the Missouri River below Fort Peck Reservoir.

Additional hydrologic and statistical data pertaining to the operation of Gibson Reservoir can be found in Table MTT8-A and Figure MTGS.

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 during the 2003 irrigation season were discontinued on October 22, 2003. Reservoir content in Pishkun at the beginning of water year 2004 was 33,479 acre-feet at elevation 4360.50. This was about 101 percent of average and about 72 percent of normal full capacity and 3,331 acre-feet or 2.58 feet lower than at the beginning of water year 2003. This also happened to be the minimum storage content for the water year.

Diversions from the Sun River during October totaled approximately 4,267 acre-feet, which increased storage until mid-October. Thereafter, storage began to decrease because of normal reservoir losses. Throughout the winter and early spring of 2004 storage slowly declined to 34,860 acre-feet at elevation 4361.57 on April 14. Diversions from the Sun River to Pishkun Reservoir began on April 14, increasing storage to 48,007 acre-feet at elevation 4370.82 on May 13. Irrigation releases from Pishkun Reservoir were started on May 8 with a maximum

TABLE MTT8-A
HYDROLOGIC DATA FOR 2004
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

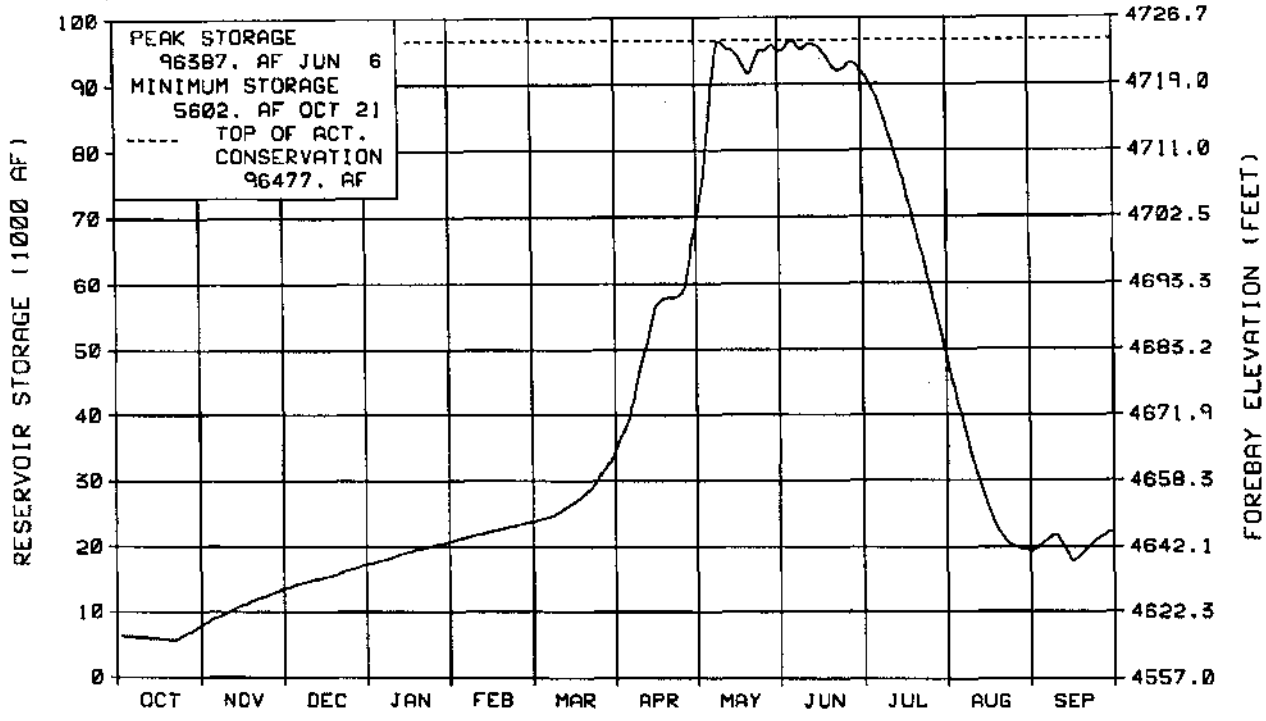
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4612.81	6,246	OCT 01, 2003
END OF YEAR	4646.44	22,496	SEP 30, 2004
ANNUAL LOW	4610.89	5,602	OCT 21, 2003
ANNUAL HIGH	4723.93	96,387	JUN 06, 2004
HISTORIC HIGH	4732.23	116,400	JUN 08, 1964

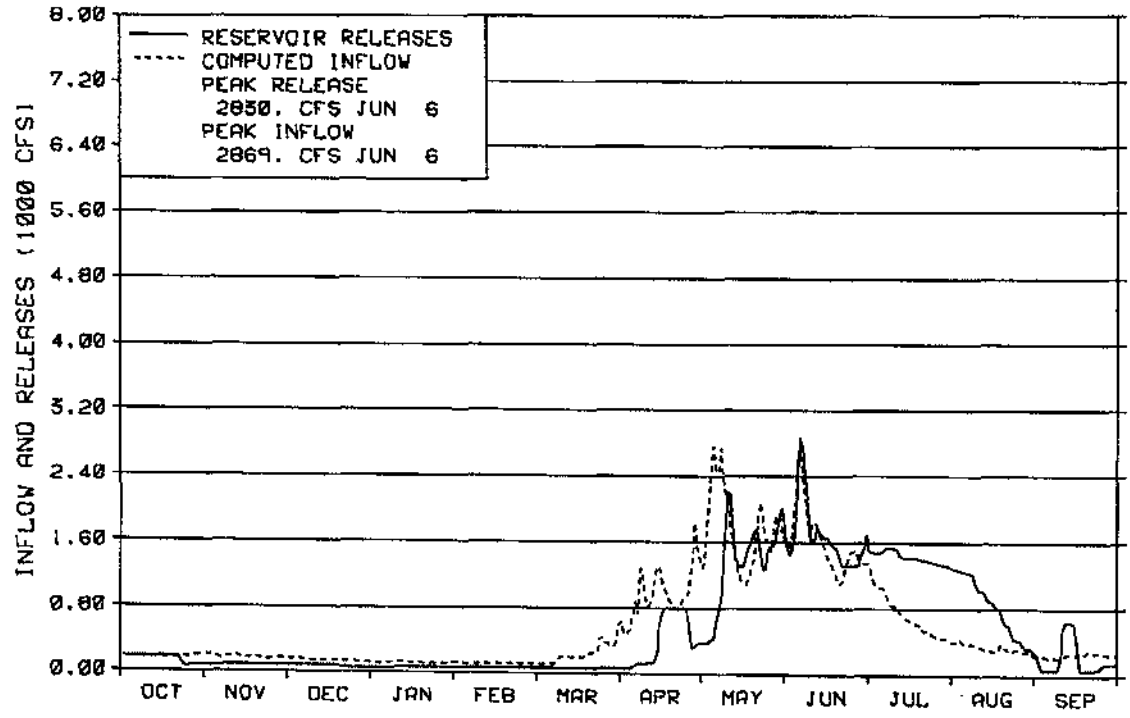
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	398,784	OCT 03-SEP 04	382,534	OCT 03-SEP 04
DAILY PEAK (CFS)	2,869	JUN 06, 2004	2,830	JUN 06, 2004
DAILY MINIMUM (CFS)	109	JAN 25, 2004	55	APR 02, 2004

MONTH	INFLOW		OUTFLOW*				CONTENT	
	KAF	% OF AVG	TOTAL CANAL KAF	% OF AVG	RIVER KAF	% OF •AVG	KAF	% OF AVG
OCTOBER	10.7	56	4.3	133	3.0	29	7.9	26
NOVEMBER	10.3	60	0	---	3.7	33	13.4	39
DECEMBER	8.4	54	0	---	5.7	50	17.3	45
JANUARY	7.2	52	0	---	4.6	46	20.8	50
FEBRUARY	6.5	53	0	---	4.3	52	23.8	53
MARCH	14.7	102	0	---	5.3	54	34.6	72
APRIL	57.7	144	19.6	226	6.0	26	68.6	128
MAY	108.4	64	44.1	114	41.0	42	94.8	111
JUNE	96.1	48	74.8	131	27.1	20	91.9	103
JULY	44.3	64	83.3	116	9.2	34	48.8	83
AUGUST	19.9	75	44.2	110	7.4	55	19.4	58
SEPTEMBER	14.6	76	8.1	70	7.0	68	22.5	80
ANNUAL	398.8	65	278.5	120	124.2	34		
APRIL-JULY	306.5	64						

* Average for the 1931-2004 period.

FIGURE MTG5
GIBSON RESERVOIR



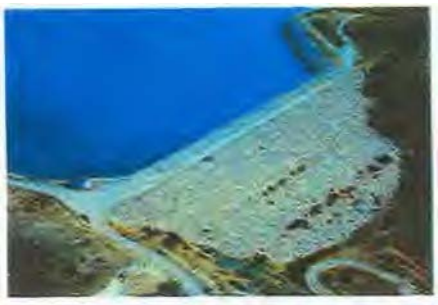


WATER YEAR 2004

release of 1,675 cfs recorded on June 7. All diversions from the Sun River to Pishkun Reservoir were discontinued on September 15. All irrigation releases from Pishkun Reservoir were discontinued on September 17. Approximately 251,511 acre-feet of water, 97 percent of avera ge, was released from Pishkun Reservoir durin g May 8 through September 17 to help meet the irri gation demands on the Sun River Project. Irrigation demands were reduced in Au gust and Pishkun Reservoir was allowed to refill to a peak content for the year of 48,089 acre-feet at elevation 4370.87 on August 19. Releases were then made for irrigation, drawing Pishkun Reservoir down through mid-September. Subsequently, releases were discontinued and by the end of the water year, the reservoir storage was 37,391 acre-feet at elevation 4363.53. This was 113 percent of average and 80 percent of full capacity. This was also 3,912 acre-feet or 3.03 feet higher than at the end of water year 2003.

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

Willow Creek Reservoir 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 0 Ranch, and other downstream senior water users.



All diversions from the Sun River to Willow Creek during the 2003 irrigation season were discontinued on May 25, 2003, about four months earlier than avera ge. Reservoir content in Willow Creek at the beginning of water year 2004 was 17,650 acre-feet at elevation 4132.50. This was 109 percent of average and 61 percent of full capacity and 10,050 acre-feet or 6.25 feet less than at the beginning of water year 2003.

Storage in Willow Creek Reservoir remained fairly stable and with a slight increase throughout the winter. Diversions from the Sun River to Willow Creek Reservoir during 2004 were initiated on April 5 at a rate of approximately 18 cfs and were eventually increased to 125 cfs on May 29. The diversions began to reach Willow Creek Reservoir on April 7 and storage began to steadily increase to a peak storage content for the year of 32,450 acre-feet at elevation 4142.10 on June 27. This storage level was 115 percent of average and was at 100 percent of full capacity. Due to the reservoir approaching normal full pool diversions from the Sun River to Willow Creek were discontinued on June 7 with the total inflow during this period approximately equal to 12,392 acre-feet. To help meet irrigation demands within the Sun River Irrigation Projects a release of 10 cfs was initiated from Willow Creek Reservoir on July 10 and steadily increased to 198 cfs on July 17. Releases were adjusted through July and August according to downstream water user needs, until they were discontinued on August 23. Approximately 12,246 acre-feet of storage was released from

TABLE MTT8-B
HYDROLOGIC DATA FOR 2004
PISHKUN RESERVOIR (SUN RIVER PROJECT)

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4342.00	16,250	16,250
TOP OF ACTIVE CONSERVATION	4370.00	46,670	30,420

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4360.50	33,479	OCT 01, 2003
END OF YEAR	4363.53	37,391	SEP 30, 2004
ANNUAL LOW	4360.50	33,479	OCT 01, 2003
ANNUAL HIGH	4370.87	48,089	AUG 19, 2004
HISTORIC HIGH	4371.40	48,950	JUL 04, 1953

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	255,436	OCT 03-SEP 04	251,511	OCT 03-SEP 04
DAILY PEAK (CFS)	1,491	JUL 03, 2004	1,675	JUN 07, 2004
DAILY MINIMUM (CFS)	0	*	0	*

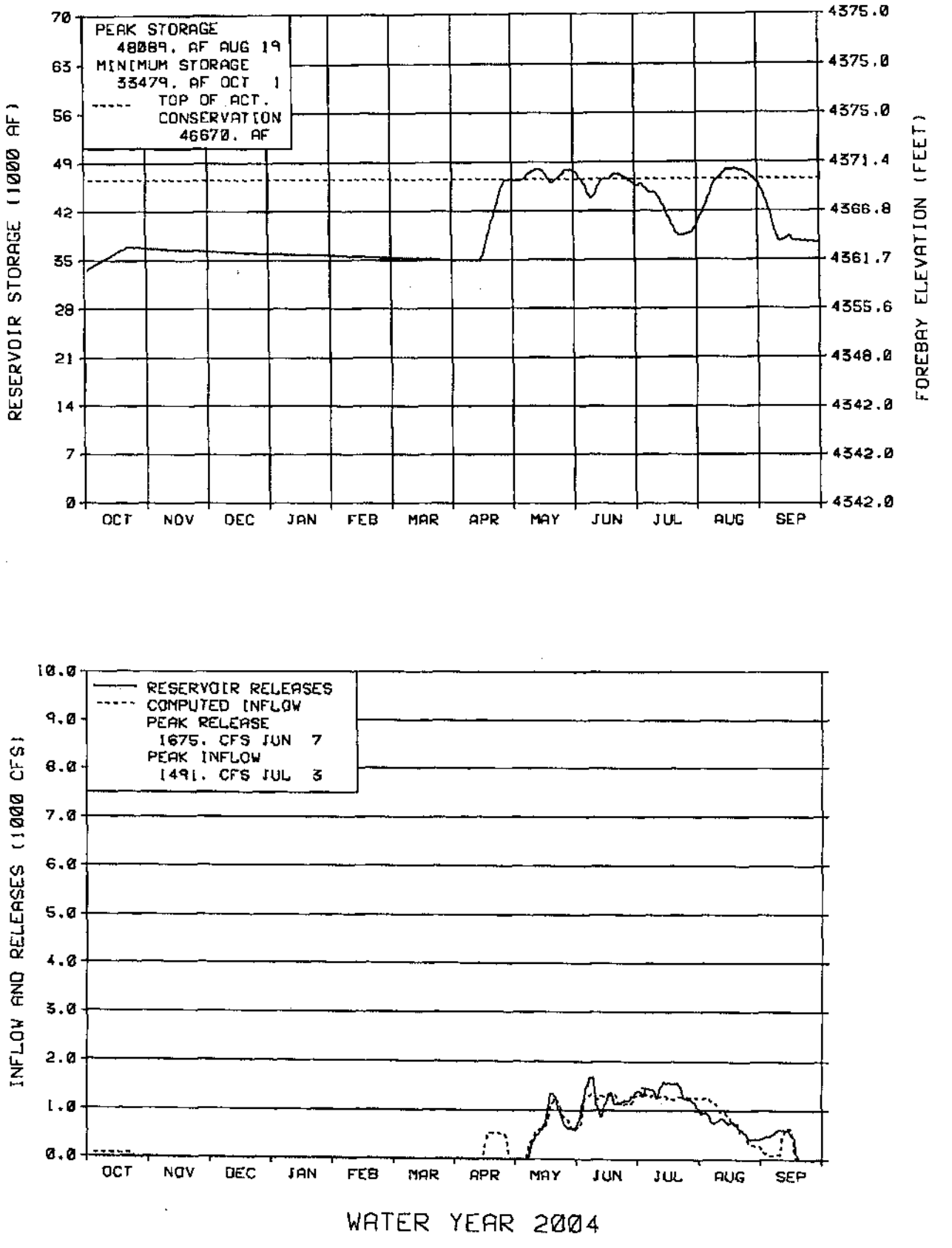
* During nonirrigation season

MONTH	INFLOW*		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	3.2	116	0	---	36.7	107
NOVEMBER	-0.4	---	0	---	36.3	105
DECEMBER	-0.4	---	0	---	35.9	104
JANUARY	-0.3	---	0	---	35.6	104
FEBRUARY	-0.3	---	0	---	35.3	103
MARCH	-0.4	---	0	---	34.9	102
APRIL	11.6	165	0	---	46.5	115
MAY	37.6	105	36.2	120	47.8	105
JUNE	71.0	122	73.0	119	45.9	108
JULY	78.3	114	84.2	115	40.0	107
AUGUST	46.8	111	41.1	95	45.7	130
SEPTEMBER	8.6	67	16.9	108	37.4	113
ANNUAL	255.4	112	251.5	111		
APRIL-JULY	198.5	117				

* Average for the 1947-2004 period.

FIGURE MTG6

PISHKUN RESERVOIR



Willow Creek Reservoir during July 9 through August 23 to help meet the irrigation demands in 2004. As a result, storage was drafted to the minimum content for the water year of 18,895 acre-feet at elevation 4131.86 on September 24. Diversions were reinitiated to Willow Creek Reservoir on September 25 which allowed storage to slowly increase through the remainder of the year. Willow Creek Reservoir ended the water year with a storage content of 19,154 acre-feet at elevation 4132.08. This was 106 percent of average and 59 percent of normal full capacity. This was also 496 acre-feet or 0.42 feet lower than at the end of water year 2003. Diversions to Willow Creek Reservoir continued through November 30 with an average diversion of 88 cfs per day. Approximately 11,922 acre-feet of water was diverted at the end of water year 2004 and beginning of water year 2005.

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

Important Events – 2004

October 22: Diversions to Pishkun Supply Canal were discontinued for the winter.

April 5: Diversions to the Pishkun Supply Canal were started.

June 6: Gibson Reservoir reaches normal full pool and inflow to the reservoir peaks at approximately 2870 cfs.

June 7: Diversions to Willow Creek Reservoir discontinued.

June 27: Willow Creek Reservoir reaches peak for year

August 19: Pishkun Reservoir reaches peak for year.

September 15: Diversions to Pishkun Reservoir discontinued for the year.

September 17: Greenfields Irrigation District discontinued water delivery from Pishkun Reservoir.

September 25: Diversion to Willow Creek Reservoir reinitiated to provide increased winter carry-over storage.

November 30: Diversions discontinued to the Pishkun Supply Canal.

TABLE MTT8-C
HYDROLOGIC DATA FOR 2004
WILLOW CREEK RESERVOIR (SUN RIVER PROJECT)

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR. STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4085.28	67	67
TOP OF ACTIVE CONSERVATION	4142.00	32,300	32,233

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4132.50	17.650	OCT 01, 2003
END OF YEAR	4132.08	19,154	SEP 30, 2004
ANNUAL LOW	4131.86	18,895	SEP 24, 2004
ANNUAL HIGH	4142.10	32,450	JUN 27, 2004
HISTORIC HIGH	4144.00	35,300	JUN 22, 1975

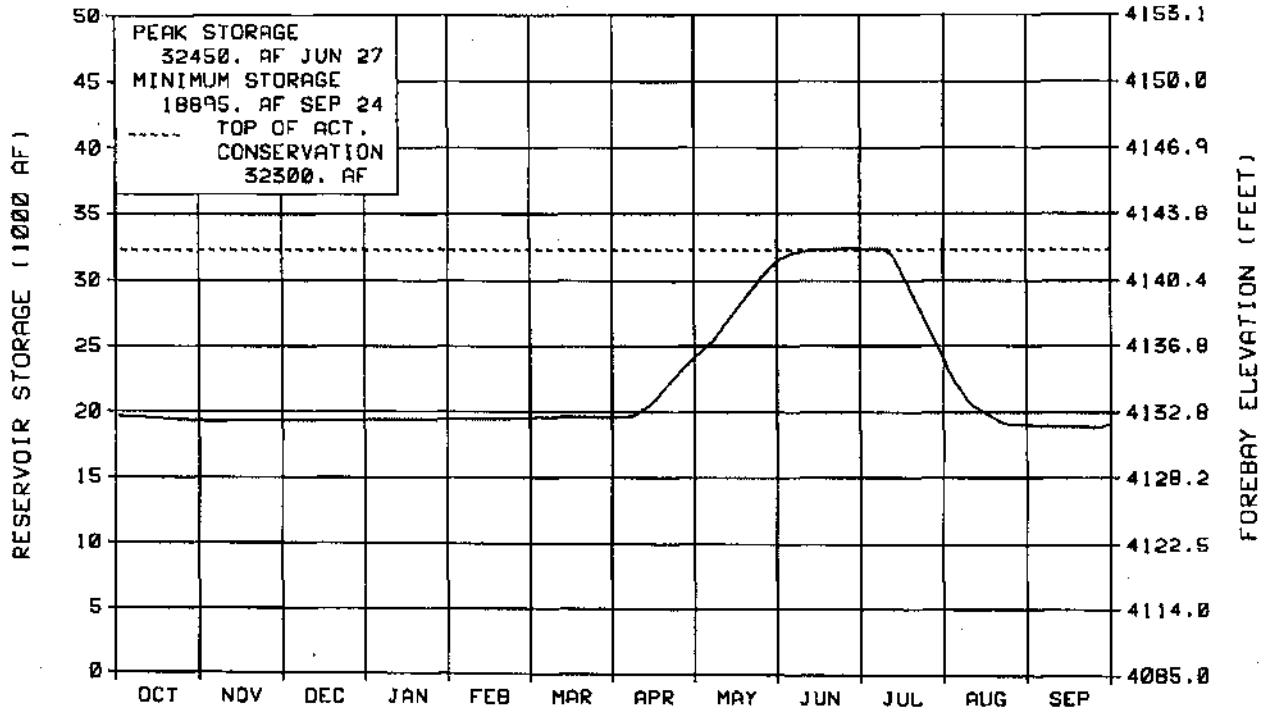
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	11,750	OCT 03-SEP 04	12,246	OCT 03-SEP 04
DAILY PEAK (CFS)	158	MAY 10, 2004	198	JUL 17, 2004
DAILY MINIMUM (CFS)	0	*	0	*

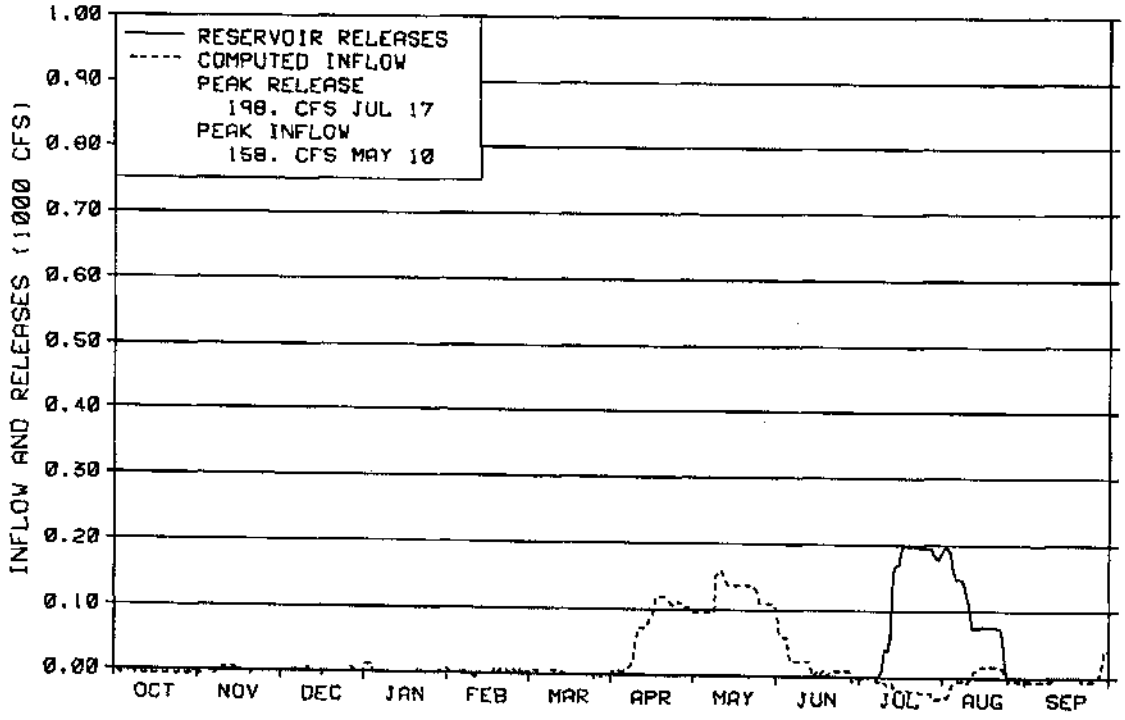
* During nonirrigation season

MONTH	INFLOW*		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	-0.3	---	0	---	19.3	99
NOVEMBER	0.0	---	0	---	19.3	96
DECEMBER	0.0	---	0	---	19.4	95
JANUARY	0.1	23	0	---	19.5	94
FEBRUARY	0.1	17	0	---	19.6	92
MARCH	0.1.	6	0	---	19.6	88
APRIL	4.4	220	0	---	24.0	98
MAY	7.4	177	0	---	31.4	112
JUNE	1.0	23	0	---	32.4	111
JULY	-1.0	---	7.4	139	24.0	100
AUGUST	0.0	---	4.9	134	19.1	100
SEPTEMBER	0.1	22	0	---	19.2	106
ANNUAL	11.8	80	12.2	85		
APRIL-JULY	11.7	107				

• Average for the 1952-2004 period.

FIGURE MTG7
WILLOW CREEK RESERVOIR





WATER YEAR 2004

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 was begun 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.

During July and August of 2003, precipitation in the Marias River Basin above Lake Elwell was well below normal. Valley precipitation was recorded at 10 and 19 percent of average, respectively, while mountain precipitation was 16 and 37 percent of average, respectively. Inflow to Lake Elwell continued to drop in early July and by mid August, upstream demands and evaporation caused inflow to be less than zero. Inflow into Lake Elwell during August-September totaled 1,436 acre-feet, the fifth lowest inflow ever recorded during this time. At the end of water year 2003, normal operations of Lake Elwell drafted storage to 857,180 acre-feet at an elevation of 2986.52 feet. This was 104 percent of normal, 0.32 feet lower than reported the previous year, and the sixth highest end of September elevation ever reported at Lake Elwell.

During August 28 through September 2 of 2003, releases from Lake Elwell to the Marias River were being maintained at the current rate of 500 cfs but were gradually switched from the river outlet

works to the auxiliary outlet works to aid in the construction of a Federal Energy Regulatory Commission (FERC) permitted powerplant. Tiber Montana, L.L.C. began construction of the powerplant in early September and by June 4, flows were switched from the auxiliary outlet works back to the river outlet works so that the newly constructed powerplant could be tested at various flow regimes before bringing the powerplant on line to begin producing power.

Water year 2004 started off very wet with valley precipitation in the Marias River basin upstream of Lake Elwell being above normal during October of 2003 and mountain precipitation being above normal during October and November. Valley precipitation during October was 166 percent of normal. Mountain precipitation during October and November was 131 and 128 percent of normal, respectively. Inflow into Lake Elwell during October through December totaled 25,092 acre-feet. This was only 40 percent of normal and the fifth lowest ever recorded.

During the winter of 2003-2004, mountain snowpack in the Marias Basin above Lake Elwell began accumulating at below normal rates until mid-November when the snowpack was above normal and remained above normal until mid-December. By January 1, the Natural Resources and Conservation Service (NRCS) measured snowpack in the Marias River Basin above Lake Elwell to be 87 percent of average. The January 1 water supply forecast, based on mountain snowpack, indicated the April-July runoff into Lake Elwell would be 333,100 acre-feet, only 69 percent of normal.

As the winter progressed, mountain snowfall increased at below normal rates and by April 1, mountain snowpack in the Marias River Basin had deteriorated to 76 percent of normal. Mountain snowpack peaked on March 30 at 81 percent of normal. The April 1 water supply forecast indicated the April-July runoff into Lake Elwell would be 302,000 acre-feet or 62 percent of normal. Storage in Lake Elwell slowly drafted to a low content for the year of 740,973 acre-feet at elevation 2978.95 on April 9.

The May 1 water supply forecast indicated the May-July runoff into Lake Elwell would be 238,000 acre-feet or 56 percent of normal. Inflow into Lake Elwell reached a peak for the year of 1,797 cfs on June 10, 2004. Storage steadily increased until reaching a peak content for the summer of 846,020 acre-feet at elevation 2985.83 on July 11, 2004. Actual April-July runoff into Lake Elwell totaled 216,893 acre-feet which was 45 percent of normal and 50,553 acre-feet less than in 2003.

Precipitation in the Marias River Basin above Lake Elwell was well below normal during June and July. Valley precipitation was recorded at 67 and 49 percent of average, respectively, while mountain precipitation was 58 and 90 percent of average, respectively. Inflow into Lake Elwell during June-September totaled 107,422 acre-feet which was only 37 percent of normal and the eleventh lowest inflow ever recorded during this time. The total annual runoff into Lake Elwell during 2004 was 304,057 acre-feet, 45 percent of normal. This was the seventh lowest annual inflow ever recorded into Lake Elwell.

By the end of the year, normal operations Lake Elwell drafted storage to 794,525 acre-feet at an elevation of 2982.55 feet. This was 96 percent of normal and 3.97 feet lower than reported on September 30, 2003.

The Corps of Engineers determined that during 2004, inflows to Lake Elwell were not large enough to have caused local flooding or flooding 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 $58,667,700.00.

Important Events – 2004

August 28-September 2, 2003: To aid in the construction of a FERC permitted powerplant releases were altered to allow the fish to gradually adjust to an increase in the water temperature, flows were maintained at the current rate of 500 cfs and mixed between the auxiliary outlet works and the river works prior to switching completely to the auxiliary works.

October 20-21, 2003: Downstream water user requested flows be reduced to 300 cfs for approximately 30 hours to install pipe in the river for an irrigation system.

December 1, 2003: Natural Resources and Conservation Service measured snowpack conditions in the watershed above Lake Elwell to be about 130 percent of normal.

January 1, 2004: Natural Resources and Conservation Service measured snowpack conditions in the watershed above Lake Elwell to be about 87 percent of normal.

February 3 and 4, 2004: To accommodate construction of a flow mixing structure in the river immediately downstream of the auxiliary works, each day flows were reduced to 300 cfs at 07:00 and maintained at that rate until 19:00 when flows were returned to 500 cfs.

April 1, 2004: Natural Resources and Conservation Service measured snowpack conditions in the watershed above Lake Elwell to have increased to only 76 percent of normal. Water supply forecast indicated the April-July runoff into Lake Elwell would be 302,000 acre-feet or 62 percent of normal.

April 13, 2004: 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.

May 28-June 4, 2004: Flows were discontinued from the auxiliary outlet works and initiated through the river outlet works. Tiber MT LLC conducted load rejection tests on the powerplant before bringing the powerplant on line to begin producing power.

July 11, 2004: Lake Elwell reaches a summer peak elevation for the year of 2985.83 feet, 7.17 feet below the top of the joint use pool.

Additional hydrologic and statistical information pertaining to the operation of Lake Elwell during 2004 can be found in Table MTT9 and Figure MTGS.

TABLE MTT9
HYDROLOGIC DATA FOR 2004
LAKE ELWELL (TIBER DAM)

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	2966.40	577,625	577,625
TOP OF ACTIVE CONSERVATION	2976.00	699,325	121,700
TOP OF JOINT USE	2993.00	967,319	267,994
TOP OF EXCLUSIVE FLOOD CONTROL	3012.50	**1,368,157**	400,838

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2986.52	857,180	OCT 01, 2003
END OF YEAR	2982.55	794,525	SEP 30, 2004
ANNUAL LOW	2978.95	740,973	APR 09, 2004
ANNUAL HIGH	2986.52	857,180	OCT 01, 2003
HISTORIC HIGH	3005.59	1,214,417	JUL 12, 1965

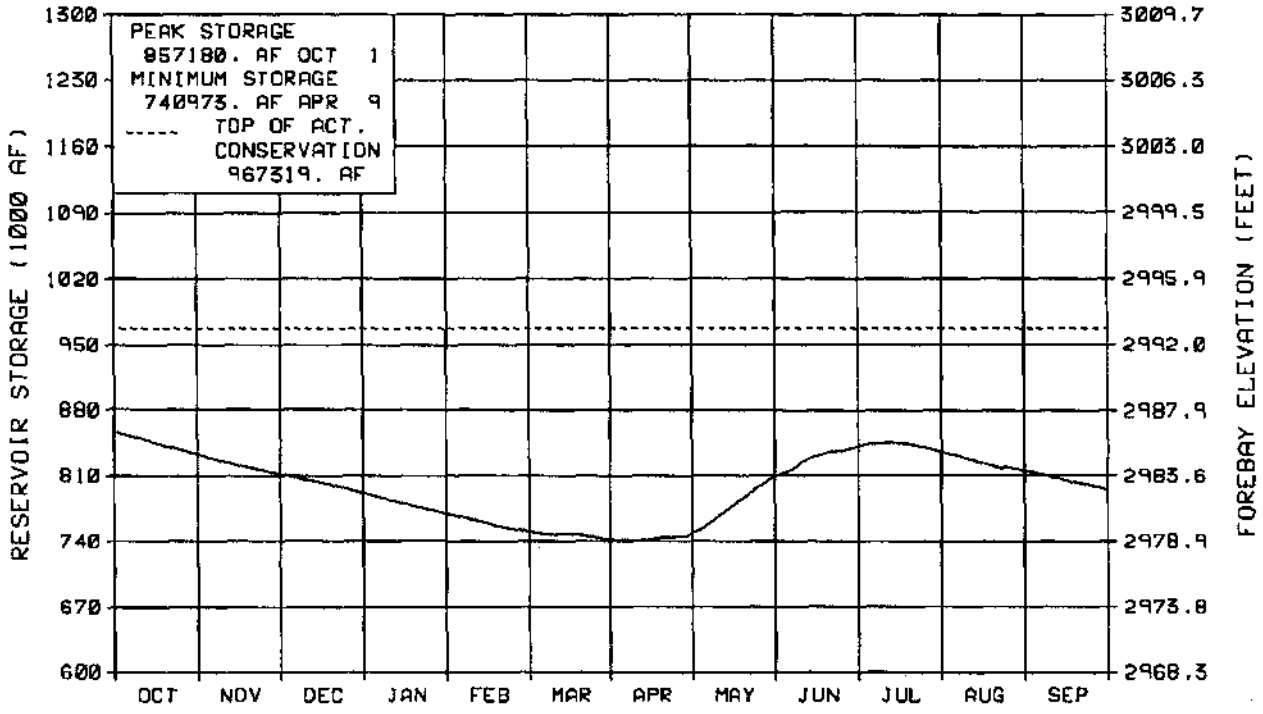
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	304,057	OCT 03-SEP 04	366,711	OCT 03-SEP 04
DAILY PEAK (CFS)	1,797	JUN 10, 2004	659	JUN 02, 2004
DAILY MINIMUM (CFS)	22	AUG 20, 2004	319	OCT 21, 2003
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

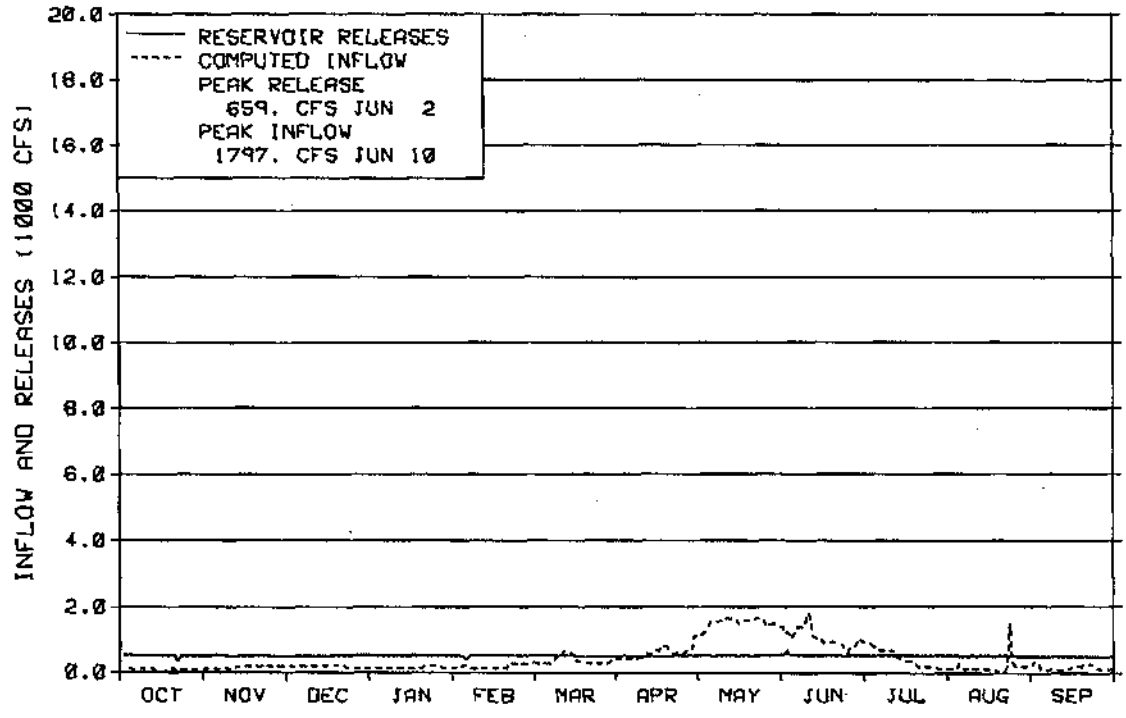
MONTH	INFLOW		OUTFLOW*		-CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	5.3	24	30.5	66	831.9	106
NOVEMBER	9.3	42	29.9	83	811.4	106
DECEMBER	10.5	**56**	31.1	112	790.7	106
JANUARY	9.1	56	3131.5	124	768.3	107
FEBRUARY	11.1	51	28.9	116	750.4	107
MARCH	22.7	46	31.0	**88**	742.1	105
APRIL	**35.8**	57	29.9	65	748.0	102
MAY	92.9	**55**	31.7	45	809.2	97
JUNE	62.5	33	30.7	31	841.1	87
JULY	25.6	41	31.2	40	835.4	**88**
AUGUST	10.3	53	30.9	51	814.9	92
SEPTEMBER	8.9	**56**	29.3	**56,**	794.5	96
ANNUAL	304.1	45	366.7	61		
APRIL-JULY	216.9	45				

* Average for the 1957-2004 period.

FIGURE MTG8

LAKE ELWELL

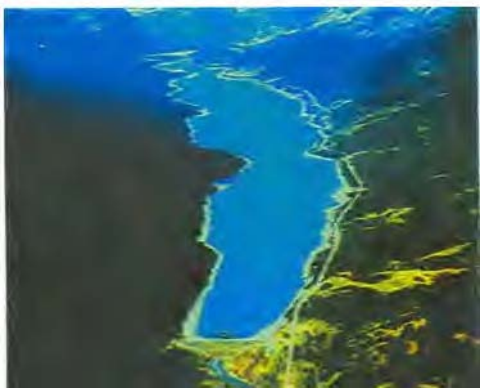




WATER YEAR 2004

Milk River Project

The 120,000-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.



Sherburne Reservoir is located in Glacier National Park on Swiftcurrent Creek, a tributary of the St. Mary River in the Hudson Drainage Basin. Lake Sherburne has a total capacity of 67,854 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.

Water year 2003 provided precipitation extremes in both valley and mountain areas of the St. Mary River basin. Unfortunately, the latter part of the year produced much below average precipitation. Valley areas for August and September were 8 and 74 percent of normal respectively, while mountain areas were 24 and 78 percent of normal respectively. Inflow to Lake Sherburne was only 3,999 acre-feet, 62 percent of normal during September. This resulted in storage in Lake Sherburne being drafted to 7,846 acre-feet, 78 percent of normal and 12 percent of normal full capacity, at elevation 4736.72 by the beginning of water year 2004. The October 1 storage would also be the low storage for water year 2004. The St. Mary Canal was shutdown on September 19, 2003, but some water was released from Lake Sherburne during October 28-31 to satisfy requirements under the Boundary Waters Treaty. After this date releases were discontinued until spring of 2004.

Fall precipitation in both the mountain and valley areas were below average. Cumulative valley precipitation from October to the end of December was 82 percent of average. During the same period cumulative mountain precipitation was 89 percent of average. Inflows during October through December were much below normal at 68, 53, and 69 percent of average, respectively. This resulted in storage at the end of December of approximately 13,700 acre-feet, 70 percent of average.

On January 1, the Natural Resource and Conservation Service reported that mountain snowpack in the St. Mary basin was 82 percent of normal. This was mainly because of the below average December precipitation. Conditions improved slightly in January with near to above normal precipitation in both valley and mountain areas. At the beginning of February the snowpack was 92 percent of average; however conditions would change drastically in February. February was extremely dry with precipitation 29 and 39 percent of average for the valley and mountain areas respectively. Storm patterns began to change by the end of March, which caused valley and mountain precipitation to steadily improve through the end of May. Total inflow during January through March was 8,355 acre-feet, 99 percent of normal.

Generally, diversions into the St. Mary Canal in the spring began as soon as weather permits, which in mild years can be as early as March. In 2004, the prospect of continued drought in the Milk River basin indicated that irrigation water would possibly be needed very early in the season; therefore diversions to the St. Mary Canal were initiated on March 30. Releases from Lake Sherburne preceded the canal diversion on March 29. Even with slightly improved precipitation during March snowpack still accumulated at below normal rates. Consequently, due to warm and dry conditions during February and March, the beginning of April snow water content had declined to 71 percent of normal. The snow pack had already peaked on March 8 much earlier than the normal time. The April 1 water supply forecast for April through July runoff indicated that the runoff would be 86,400 acre-feet, 83 percent of normal

Once releases were started, storage decreased until April 27 when warm weather melted the remaining low elevation snow beginning the snowmelt runoff season for 2004. Diversion to the St. Mary Canal averaged 455 cfs during April and 558 cfs during May. Releases from Lake Sherburne were increased during April and early May to maintain diversion rates for the St. Mary Canal. Releases were then reduced to about 28 cfs on May 12 to increase storage as the flow of the St. Mary River was adequate to meet the canal diversions. Cooler temperatures in late May slowed the snowmelt runoff and releases were once again were increased. Due to fluctuating spring temperatures, resulting in periodic increases in streamflow levels in the St. Mary River, Lake Sherburne releases were adjusted to still maintain diversion into the St. Mary Canal. This occurred again in May and June for short durations. Finally due to prevailing warmer temperatures in June the snowmelt runoff remained steady and releases from Lake Sherburne were reduced to approximately 40 cfs from June 30 through July 12. The actual April through July runoff was 91,800 acre-feet, 88 percent of normal.

Below average precipitation continued into June and July, resulting in the cumulative water year precipitation for both valley and mountain areas of 85 percent of average. The snowmelt runoff was essentially melted out during the last week of June which is approximately two weeks earlier than normal. Lake Sherburne storage peaked on July 27 at 53,573 acre-feet, at elevation 4778.95, which was 11,220 acre-feet and 9.05 feet from normal full capacity.

During late summer and early fall, the precipitation in the St. Mary basin improved principally due to a few heavy precipitation events in the mountains. Precipitation in the mountains

above Lake Sherburne resulted in August and September monthly precipitation being 237 and 124 percent of average, respectively. Inflow during August and September were 176 and 185 percent of normal, respectively. In addition the heavy precipitation events resulted in the daily inflow to Lake Sherburne peaking for the year at 877 cfs on August 26. Inflow for the water year totaled 138,343 acre-feet, 96 percent of normal. This was 17,263 acre-feet or 14 percent greater than the inflow experienced during water year 2003. Storage on September 30, 2004, was 18,631 acre-feet, 183 percent of normal.

According to preliminary data, diversions from the St. Mary River to the Milk River totaled 182,012 acre-feet, 122 percent of the long-term average. The long-teuu average annual diversion is 149,500 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 for water year 2004 were discontinued on September 21 because of maintenance on the canal. The maintenance was delayed until the irrigation demands on the Milk River were significantly reduced. In addition flow in the St. Mary River was much below average, which provided that the United States share of water could be stored in Lake Sherburne for future use without excess loss to Canada. The gates at Lake Sherburne were closed on September 22.

Additional hydrologic and statistical information pertaining to the operation of Sherburne Reservoir during 2004 can be found in Table MTT10-A and Figure MTG9.

Fresno Reservoir 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 32,802 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 a suitable water quality for municipal use. The city of Harlem and the Hill County Water District have also contracted for municipal use.

Drought conditions remained in the Milk River basin during water year 2003. Cumulative precipitation was only 88 percent of normal at the end of September. In addition inflow into

TABLE mu10-A
HYDROLOGIC DATA FOR 2004
SHERBURNE RESERVOIR (MILK RIVER PROJECT)

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4729.30	3,06 `	3,061
TOP OF ACTIVE CONSERVATION	4788.00	67,854	64,793

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4736.72	7,846	OCT 01, 2003
END OF YEAR	4749.55	18,631	SEP 30, 2004
ANNUAL LOW	4736.72	7,846	OCT 01, 2003
ANNUAL HIGH	4778.95	53,573	JUL 27, 2004
HISTORIC HIGH	4788.30	68,371	JUN 30, 1986

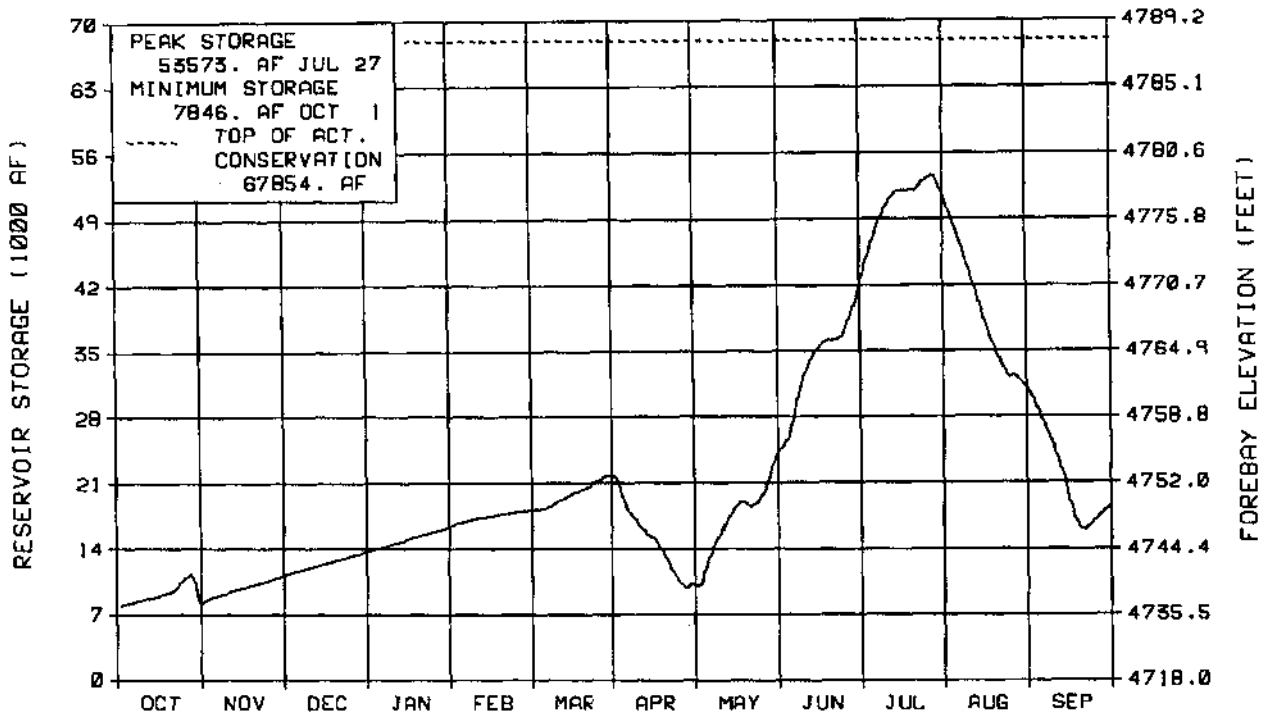
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	138,343	OCT 03-SEP 04	127,558	OCT 03-SEP 04
DAILY PEAK (CFS)	877	AUG 26, 2004	863	SEP 15,2004
DAILY MINIMUM (CFS)	19	FEB 24, 2004	0	*

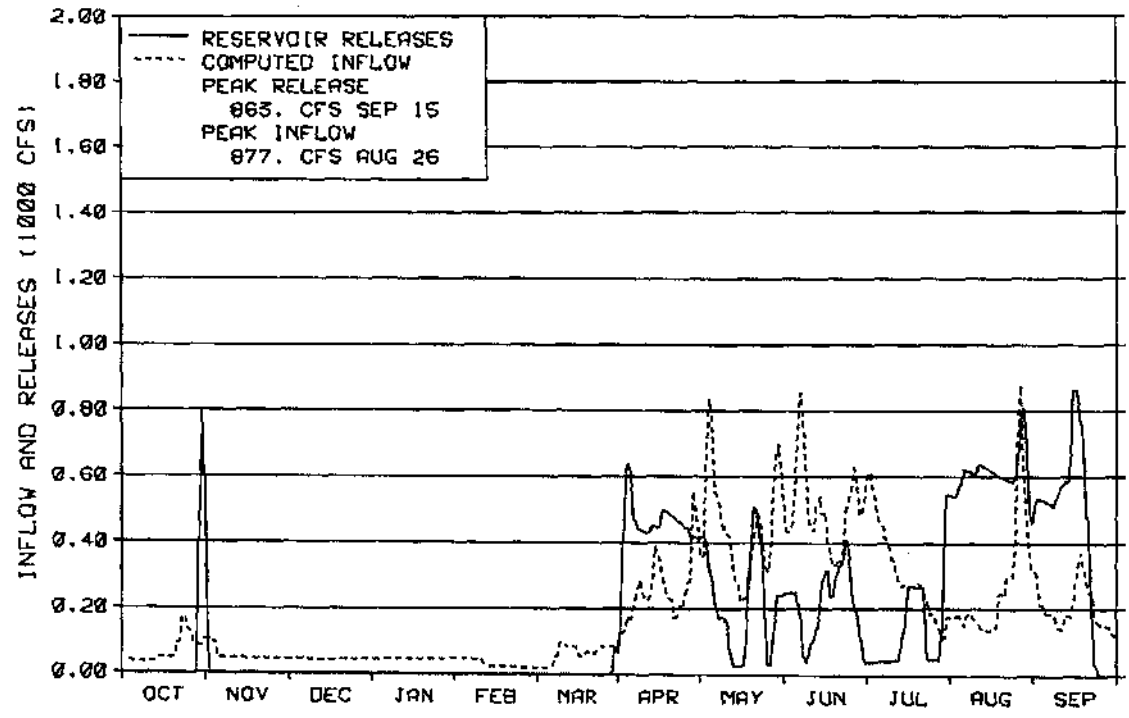
* During nonirrigation season

MONTH	INFLOW		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	4.1	68	3.8	98	8.2	72
NOVEMBER	3.0	53	0.0	---	11.1	71
DECEMBER	2.6	69	0.0	---	13.7	70
JANUARY	2.7	98	0.0	---	16.5	73
FEBRUARY	1.7	69	0.0	---	18.2	73
MARCH	3.9	131	0.3	8	21.8	88
APRIL	15.5	172	27.1	199	10.2	48
MAY	27.5	85	13.4	67	24.3	77
JUNE	30.0	72	12.6	265	41.6	76
JULY	18.8	89	9.0	36	51.4	102
AUGUST	16.7	176	37.4	116	30.7	118
SEPTEMBER	11.8	185	23.9	107	18.6	183
ANNUAL	138.3	96	127.6	90		
APRIL-JULY	91.8	88				

* Average for the 1955-2004 period.

FIGURE MTG9
LAKE SHERBURNE





WATER YEAR 2004

Fresno Reservoir during September was only 12,227 acre-feet, 47 percent of normal. With irrigation discontinued for the season, Fresno Reservoir slowly filled to a storage content of 27,756 acre-feet, 70 percent of normal and 30 percent of full capacity to begin water year 2004. Releases were reduced to winter levels of approximately 40 cfs on September 10 near the end of water year 2003. No additional releases were made from Fresno Reservoir to transfer water to Nelson Reservoir during fall of 2003.

Accumulated precipitation from October through December was 121 percent of normal. Reservoir inflow was much below average into Fresno from October to December and storage decreased steadily throughout the fall. The end of December storage was 21,113 acre-feet, 56 percent of average and 23 percent of normal full capacity.

By January 1, the Natural Resource and Conservation Service reported the snowpack in the Milk River basin at 175 percent of average. The above average precipitation during January helped maintain the snowpack. Even with the much above average snowpack on February 1, the March through July runoff forecast for Fresno Reservoir was still only 48,000 acre-feet, 58 percent of average. This was mainly because the unusually large snowpack was downstream of Fresno Reservoir. In fact there was near record snowpack from Malta to east of Glasgow, Montana which was a result of a few significant snow storms.

Storage at the end of February was 15,282 acre-feet, 43 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 beginning of March. Snowpack in the Milk River basin on March 1 was 168 percent of normal. However most of this snow water content remained downstream of Fresno Reservoir. The snowpack in the upper Milk River basin in Alberta, Canada was not nearly as good and below average runoff was anticipated. The March 1 water supply forecast indicated that 38,000 acre-feet of runoff could be expected, which was only 46 percent of normal. Based upon this forecast, Fresno Reservoir was not expected to fill to the top of the conservation pool. Also in March, Reclamation and the Milk River Basin irrigation districts began to discuss water supply. The irrigation water supply did not appear to be favorable based on storage and forecasted runoff for Fresno Reservoir. In contrast, downstream of Fresno Reservoir there was flooding concerns due to the near record snowpack levels. Fortunately, the precipitation during March was only 17 percent of normal. This allowed the snowpack to gradually melt during the daytime and refreeze during the night. No major flooding was reported on the lower Milk River.

As the snowmelt runoff below Fresno Reservoir began in early March the new diversion capability of the rehabilitated Dodson Diversion Dam provided enough water to Nelson Reservoir that no water needed to be transferred from Fresno Reservoir for the start of the irrigation season. Approximat ely 14,209 acre-feet of runoff was delivered to Nelson Reservoir during March 16 though May 3, before irrigation releases were initiated from Fresno Reservoir. Ultimately, no storage water was transferred from Fresno Reservoir into Nelson Reservoir during water year 2004 because if the increased spring diversion and reduced

irrigation demands. The actual March through July inflow for Fresno Reservoir, excluding St. Mary canal water, was approximately 23,400 acre-feet, 28 percent of average. Inflow to Fresno Reservoir peaked during this time at 1,506 cfs, on March 9.

At the April 20 meeting, Reclamation proposed that based on the dry February and March a conservative irrigation allotment for 2004 would be only approximately one acre-feet per acre. This was a significant reduction from the initial 2003 allotment of 1.5 acre-feet per acre. Then on April 29, there was a conference call between Reclamation staff and water users to again discuss water supply. During this call the Milk River Joint Board of Control (MRJBC) elected to set the irrigation allotment at 1.1 acre-feet per acre and decided that the irrigation season would begin on May 10. Irrigation releases from Fresno Reservoir were initiated on May 3 and peaked at approximately 1,258 cfs on May 7. Reclamation did not meet with the water users again until June. At the meeting on June 15, the MRJBC voted to increase irrigation allotments by 1.25 acre-feet per acre based on more favorable precipitation and storage conditions. This increased the total allotment to 2.35 acre-feet per acre. Another conference call was conducted on August 17 and an update of water supply was provided to the irrigation districts. In conclusion, the MRJBC decided to increase irrigation allotments; in contrast, this increase did not have an associated volume, each district was allotted all necessary water to irrigate through the end of September

By May 1, cumulative valley precipitation was only 89 percent of normal. However, much above average precipitation in May increased the cumulative precipitation to 122 percent of normal by June 1. This helped to satisfy much of the early irrigation demand which allowed more water to be diverted from the St. Mary system to Fresno Reservoir. Precipitation during June was below normal while July was once again much above average. This allowed reservoir storage to continue to increase until July 14, when storage peaked at 68,968 acre-feet at elevation 2569.46. The average releases for June, July and August were 218, 637, and 698 cfs, respectively, which are below normal for the prime irrigation months.

August and September monthly precipitation were both near to above average. At the end of September the cumulative annual precipitation was 120 percent of normal. Total inflow for the year was 186,984 acre-feet, 70 percent of normal. This was 52,796 acre-feet or 28 percent less than the inflow experienced during water year 2003. Diversions from the St. Mary River basin to the Milk River basin accounted for about 87 percent of the inflow to Fresno Reservoir during 2004. Storage on September 30, 2004 was 42,372 acre-feet, 106 percent of normal and 46 percent of normal full capacity.

The Corps of Engineers estimated that during 2004 inflows to Fresno Reservoir were not large enough to have caused local flooding even if passed downstream undiminished. In addition, Fresno did not contribute to the reduction of flood damages downstream on the Missouri River below Fort Peck Reservoir. Since construction of Fresno Dam in 1939, the reservoir has reduced flood damages by a total of $13,059,200.

Additional hydrologic and statistical information pertaining to the operation of Fresno Reservoir during 2003 can be found in Table MTT I O-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.

Nelson Reservoir began the water year with a storage content of 50,164 acre-feet, at elevation 2214.09, 88 percent of average and 64 percent of normal full capacity. Storage decreased through the winter until mid-March. Natural runoff in the Milk River was available for diversion during March and April. Releases from Fresno Reservoir to transfer storage were not necessary during water year 2004 due to the increased diversion capability of the recently rehabilitated Dodson Diversion Dam. Irrigation releases from Nelson Reservoir began on May 10 and continued though September 28. From the end of May storage steadily increased until late June when irri gation demands increased. Storage in Nelson Reservoir peaked at 64,947 acre-feet at elevation 2218.17 on June 28. Nesting piping plover did not affect the filling of Nelson Reservoir during 2004 and water levels were allowed to increase during June and July. Inflow to Nelson Reservoir during June and July totaled 13,885 acre-feet. Releases to the Milk River during June 28 through August 10 and again during August 18 though 27 were made for use by Glas gow Irrigation District. Storage was drafted until early August when irrigation demands were decreased because of the above average precipitation. Diversions to Nelson Reservoir and irrigation demands were generally maintained even throughout August. In September demands decreased significantly and storage was allowed to increase. Water that was diverted into Nelson Reservoir during August and September totaled 13,802 acre-feet. Total inflow into Nelson Reservoir during water year 2004 was 38,886 acre-feet. Storage on September 30, 2004 was 58,639 acre-feet at elevation 2216.50, 103 percent of average and 74 percent of normal full capacity.

Additional hydrologic and statistical information pertaining to the operation of Nelson Reservoir during 2003 can be found in Table MTT10-C and Figure MTG11.

TABLE MTT 10-B
HYDROLOGIC DATA FOR 2004
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	2553.65	27,756	OCT 01, 2003
END OF YEAR	2560.47	42,372	SEP 30, 2004
ANNUAL LOW	2546.31	15,282	FEB 29, 2004
ANNUAL HIGH	2569.46	68,968	JUL 14, 2004
HISTORIC HIGH	2579.35	154,023	APR 03, 1952

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	186,984	OCT 03-SEP 04	172,368	OCT 03-SEP 04
DAILY PEAK (CFS)	1,506	MAR 09, 2004	1,258	MAY 07, 2004
DAILY MINIMUM (CFS)	0	*	32	FEB 29, 2004

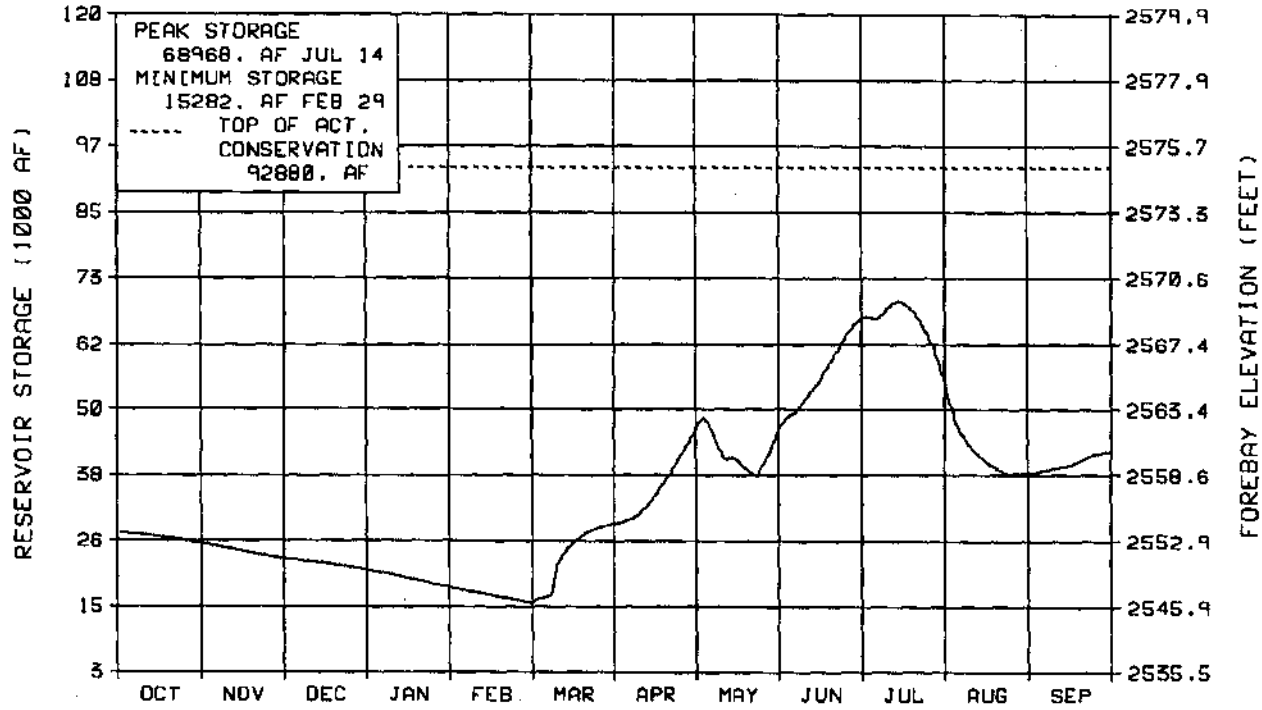
4. During nonirrigation season

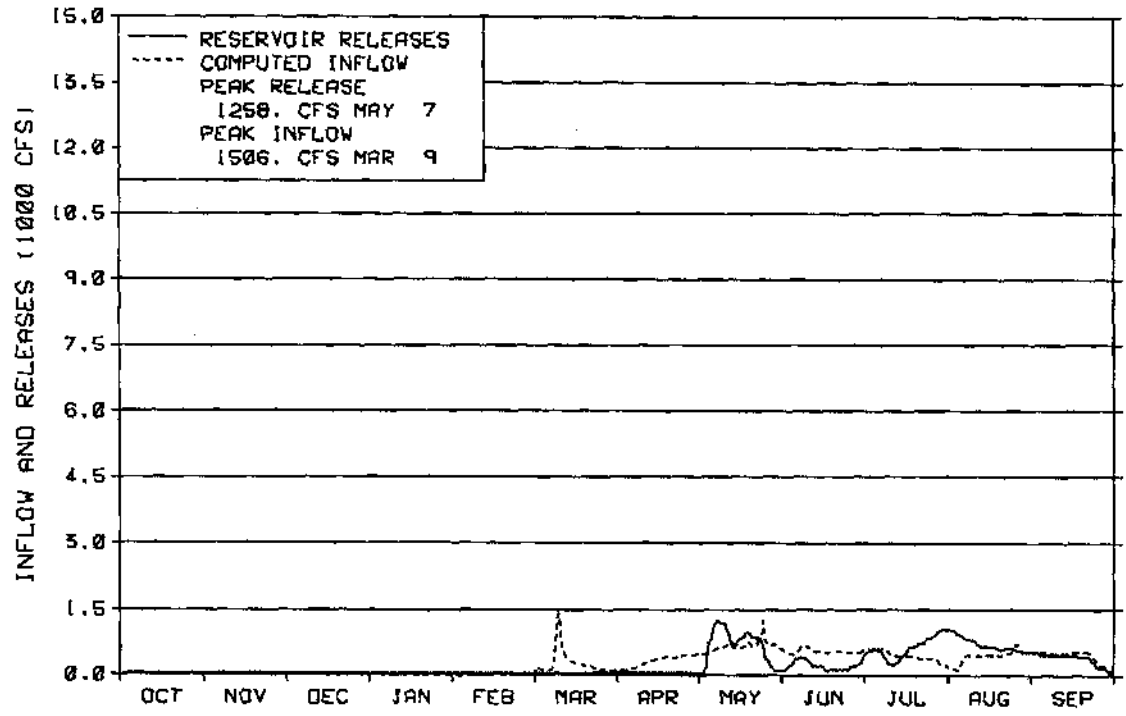
MONTH	INFLOW		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	0.4	5	2.3	29	25.9	66
NOVEMBER	-0.5	---	22	70	23 2	60
DECEMBER	0.0	4	2.1	82	21.1	56
JANUARY	-1.2	---	2.0	79	17.9	50
FEBRUARY	-0.8	---	1.8	76	15.3	43
MARCH	16,3	54	2.2	33	29.4	56
APRIL	19.0	48,	2.4	11	46.0	65
MAY	41.3	94	41.2	85	46.1	70
JUNE	32.8	72	13.0	26	66.0	106
JULY	27.2	77	39.1	70	54.1	122
AUGUST	27.3	83	42.9	95	38.5	103
SEPTEMBER	25.0	96	21.1	94	42.4	106
ANNUAL	187.0	70	172.4	65		
APRIL-JULY	120.3	73				

* Average for the 1949-2004 period.

FIGURE MTG10

FRESNO RESERVOIR





WATER YEAR 2004

TABLE MTT10-C
HYDROLOGIC DATA FOR 2004
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	2214.09	50,164	OCT 01, 2003
END OF YEAR	2216.50	58,639	SEP 30, 2004
ANNUAL LOW	2211.70	42,752	MAR 14, 2004
ANNUAL HIGH	2218.17	64,947	JUN 28, 2004
HISTORIC HIGH	2221.60	79,224	JUL 12, 1965

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	38,886	OCT 03-SEP 04	430,411	OCT 03-SEP 04
DAILY PEAK (CFS)	344	APR 05, 2004	352	JUL 30, 2004
DAILY MINIMUM (CFS)	0	*	0	*

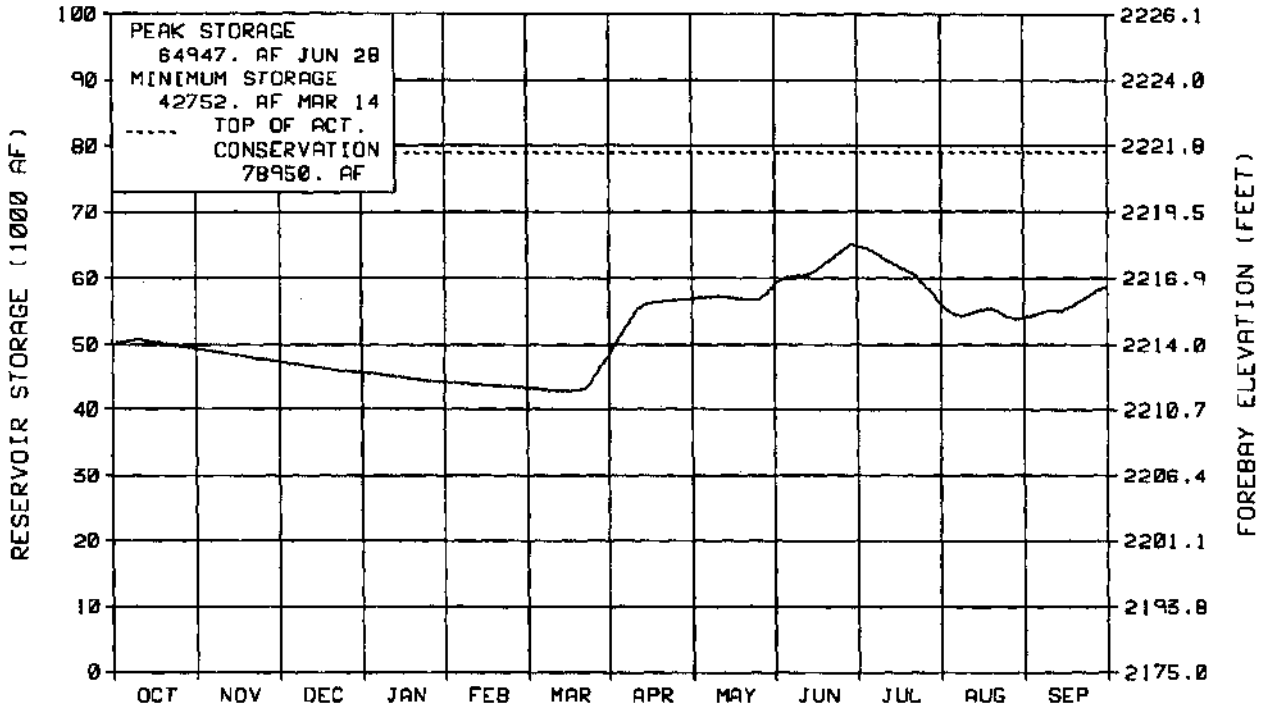
* Durin nonirrigation season

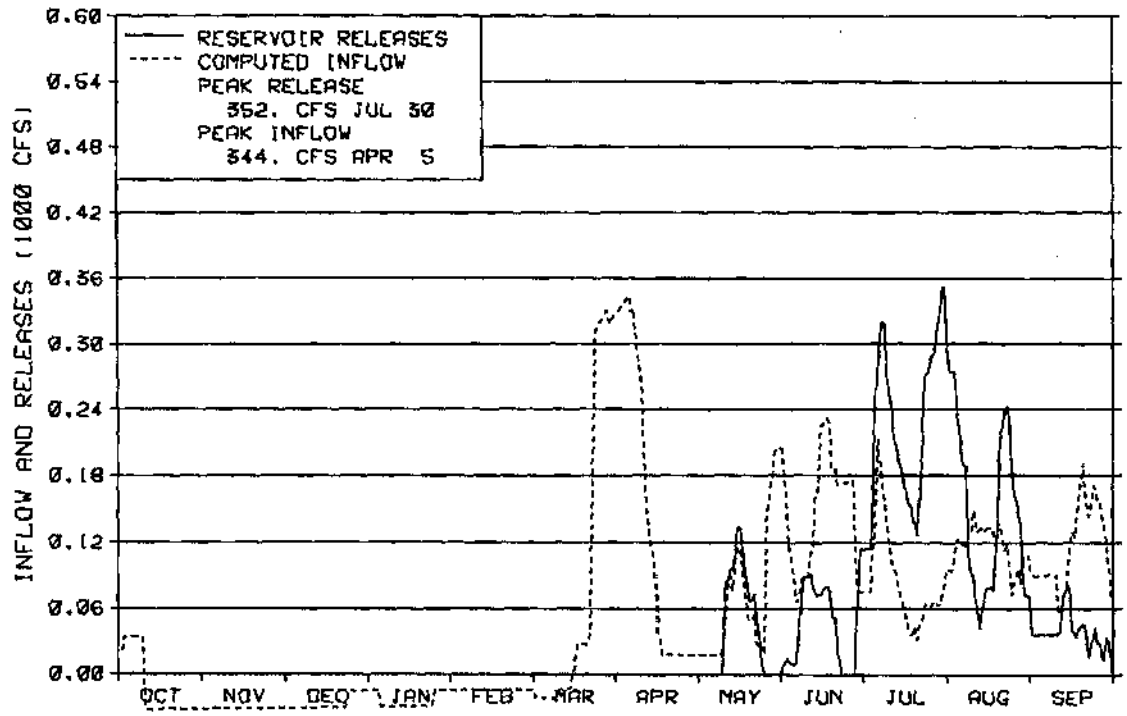
MONTH	INFLOW*		OUTFLOW*		CONTENT	
	KAF	% OF AVG	KAF	% OF AVG	KAF	% OF AVG
OCTOBER	-0.9	---	0.0	---	49.3	83
NOVEMBER	-1.9	---	0.0	---	47.3	81
DECEMBER	-1.7	---	0.0	---	45:7	81
JANUARY	-1.5	---	0.0	---	44.1	80
FEBRUARY	-0.9	---	0.0	---	43.3	80
MARCH	5.3	411	0.0	---	48.6	89
APRIL	8.2	118	0.0	---	56.9	94
MAY	4.5	67	2.4	32	59.0	97
JUNE	8.6	113	2.8	38	64.8	109
JULY	5.2	109	14.1	145	56.0	102
AUGUST	7.1	104	8.9	117	54.1	100
SEPTEMBER	6.7	116	2.2	63	58.6	103
ANNUAL	38.9	98	30.4	78		
APRIL-JULY	26.6	102				

* Average for the 1947-2004 period.

FIGURE MTG11

NELSON RESERVOIR





WATER YEAR 2004

Important Events

March 1: Milk River runoff forecast indicates only 46 percent of normal runoff.

March 9: Inflow to Fresno Reservoir peaked at 1,506 cfs.

March 29: Releases begin from Lake Sherburne.

March 30: St. Mary Canal begins to divert.

April 20: Reclamation and the irrigation districts met in Malta again to review the water supply and plan beginning date for irrigation diversion. Allotment is proposed at 1.1 acre-feet per acre.

April 29: During a conference call the Milk River Joint Board of Control elects to set irrigation allotments at 1.1 acre-feet per acre and set May 10 as the start date for the irrigation season.

June 15: Reclamation and the irrigation districts met in Malta. During the meeting the Milk River Joint Board of Control determined that due to the good precipitation and decreased irrigation demands that the allotment for the 2004 irrigation season would be increased by 1.25 acre-feet per acre. This brought the total allotment to 2.35 acre-feet per acre for the year.

June 28: Nelson Reservoir storage peaks for the year at 64,947 acre-feet at elevation 2218.17, 3.43 feet below normal full pool.

July 14: Fresno Reservoir storage peaks for the year at 68,968 acre-feet at elevation 2569.46, 5.54 feet below normal full pool.

July 27: Lake Sherburne storage peaks for the year at 53,573 acre-feet, at elevation 4778.95, which is 9.05 feet from normal full pool.

August 17: Allotments are once again increased during a conference call between Reclamation and the Milk River Joint Board of Control. New allotments specify no set increase in volume, irrigators are allowed all water needed until October 1.

August 26: Inflow to Lake Sherburne peaked for the year at 877 cfs.

September 13-22: Additional water from what was needed to maintain the St. Mary Canal diversion was released from Lake Sherburne to satisfy requirements under the Boundary Waters Treaty.

September 21: St. Mary Canal diversions are discontinued.

September 22: Lake Sherburne releases are discontinued.

September 28: Irrigation releases end for the season on the Milk River.

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.

Water year 2003 ended the fourth consecutive year of severe drought in the Bighorn Basin and the persistent drought continued into water year 2004, creating significant impacts on the climatic and hydrologic conditions in the basin. Runoff into Bighorn Lake during water year 2003 totaled 1,208,318 acre-feet and was the 3 rd lowest annual inflow of record. Record low or near record low precipitation was recorded at many locations across Montana and Wyoming during August and September of 2003. As a result of high irrigation demands upstream of Bighorn Lake, streamflows into Bighorn Lake were well below normal. Inflow to Bighorn Lake during August-September was only 60 percent of average, totaling 207,192 acre-feet. This was the 8 th lowest August-September inflow of record since the construction of Yellowtail Dam.

Streamflows into Bighorn Lake improved from 46 percent of average in August 2003 to 72 percent of average in September. With inflows averaging about 2,160 cfs and releases to the Bighorn River maintained at about 1,500 cfs during September, storage slowly increased 4 feet in September.

Bighorn Lake entered water year 2004 with a storage content of 785,928 acre-feet at elevation 3607.20. This was about 77 percent of normal and was also 284,101 acre-feet or 32.80 feet below the top of the joint-use pool. This was also 28.59 feet or 150,937 acre-feet greater than at the beginning of water year 2003.

Streamflows in the Bighorn River Basin, including the Wind and Shoshone Rivers, were well below normal during water year 2003 and remained below normal as they entered water year 2004. Because the streamflows were well below normal, irrigation demands required heavy demands on storage from Boysen and Buffalo Bill Reservoirs located on the Wind and Shoshone Rivers. As a result, storage levels in Boysen and Buffalo Bill Reservoirs at the beginning of water year 2004 were 53 and 96 percent of average. The combination of low streamflows and reservoir levels in Boysen and Buffalo Bill Reservoirs, prompted the WYAO to maintain winter releases out of these reservoirs at the minimum winter flow rates of 350 and 100 cfs, respectively, in an effort to conserve storages for the next irrigation season.

Even though the tributary flows between Boysen and Buffalo Bill Reservoirs to Bighorn Lake were only 66 percent of average during October through February, the operations of Boysen and Buffalo Bill Reservoirs actually had a more significant impact on the low inflow to Bighorn Lake during the fall and winter of 2003-2004. The October-February inflow totaled 348,981 acre-feet and was only 44 percent of average, the lowest of record since the construction of Yellowtail Dam. During January, one of the coldest months of winter, runoff into Bighorn Lake dropped to as low as 21 percent of average. Extreme low temperatures caused much of the streamflows to develop into ice storage and on January 8 the average daily inflow to Bighorn Lake dropped to a low for the year of 128 cfs.

The fall and winter of 2003-2004 for the Bighorn River Basin started out very mild and dry. Snows accumulated at near record low rates in the higher elevations during October before turning to near normal rates during November through January. About the middle of January, winter storms were less frequent over the Bighorn Basin. On January 1, the Natural Resources Conservation Service (NRCS) measured mountain snowpack in the Bighorn Basin at about 94 percent of normal. The Wind and Shoshone River Basins, major tributaries of the Bighorn River, were measured at 89 and 88 percent of normal, respectively. These were 21, 17 and 14 percent higher than reported on January 1, 2003.

As the winter progressed, winter snow over the higher elevations accumulated at below normal rates. This was much different than the winter of 2002-2003 where mountain snowpack continued to increase at normal to above normal rates. During March, valley and mountain precipitation was well below normal at only 3 and 49 percent of average, respectively. By April 1, the mountain snowpack in the Bighorn River Basin was measured at 67 percent of average. This was a significant difference from that reported on April 1, 2003 where the mountain snowpack was reported at 104 percent of average. The Wind and Shoshone River Basins, major tributaries of the Bighorn River, were measured at 64 and 62 percent of normal, respectively. On April 1, 2003, the mountain snowpack in these basins were reported snowpack at 97 and 105 percent of average, respectively.

By April 1 there was little to no snow reported at many lower elevation sites. Upstream irrigation demands were unseasonably high, placing a high demand of the water out of the Bighorn River. As the snowmelt runoff began, streamflows showed little signs of increasing. In fact much of the little precipitation that was received or the little low elevation snow that remained in the basin was absorbed into the dry soils. Inflow to Bighorn Lake is heavily dependent upon the releases out of Boysen and Buffalo Bill Reservoirs located upstream of Bighorn Lake on the Wind and Shoshone Rivers, respectively. Historically, the water released from Boysen and Buffalo Bill Dams accounts for about 60-70 percent of the inflow to Bighorn Lake. Because storages in these reservoirs were well below normal and at critically low levels, all natural inflows to these reservoirs would be stored with little opportunity for Bighorn Lake to receive any excess flows released out of these reservoirs. At this time, it appeared the only inflow that could be expected to flow into Bighorn Lake would be attributed to other tributary flows. These too, were forecast to be well below normal. Largely due to the conservative releases maintained out of Boysen and Buffalo Bill Dams, the inflow to Bighorn Lake during March, April and May were only 39, 36 and 42 percent of average, respectively. This was about 12 percent less than in 2003.

Precipitation improved a bit during April to 106 percent of average in the valley and to 82 percent of average in the mountains. However, during May and June, the precipitation dropped to well below normal. Due to the lack of normal precipitation, larger irrigation demands occurred much earlier than normal. These high irrigation demands combined with the lack of low elevation snowmelt, caused streamflows to drop to unusually low levels. Inflows slowly increased from 772 cfs on April 8 to 2,573 cfs on June 11. This peak inflow of 2,573 cfs was the lowest peak inflow of record to occur during the spring snowmelt runoff season (April-July), since construction of the dam.

On March 1, Bighorn Lake had a storage content of 699,298 acre-feet at elevation 3591.51. By May 8, storage had steadily declined to 650,341 acre-feet at elevation 3581.76. During this time, inflow to Bighorn Lake averaged 1,120 cfs. With releases to the Bighorn River averaging 1,500 cfs, it would not be long before all boat ramps would soon be unusable for the summer recreation season. Boat ramps around Bighorn Lake are considered unusable when the lake level is at or below elevation 3580. In close coordination with Montana Fish, Wildlife and Parks (MFWP) and the National Park Service (NPS), the decision was made to decrease releases to the Bighorn River to 1,300 cfs, about 200 cfs lower than the lowest recommended minimum flow required to sustain a healthy river fishery below Yellowtail Afterbay Dam. This release rate would continue until there was significant evidence climatic and hydrologic conditions showed signs of improving. However, it was agreed to increase these releases to 1,500 cfs during the summer and fall when requested by MFWP, to assist them in conducting their annual fish population estimates.

Precipitation in the Bighorn River watershed continued to remain well below normal during May and June. Upstream irrigation demands remained high and, as a result, inflows into Bighorn Lake continued to remain at record low levels. The May-June inflow to Bighorn Lake was 32 percent of average, totaling 224,745 acre-feet and was the lowest May-June inflow of record since construction of Yellowtail Dam. With releases to the Bighorn River maintained at 1,300 cfs, storage slowly increased to 684,749 acre-feet at elevation 3588.67. This was 51.33 feet or 385,280 acre-feet below the top of the joint-use pool and 64 percent of full capacity and was 158,697 acre-feet or 27.28 feet

lower than recorded on this date in 2003. This was also the lowest peak storage level reached during the spring runoff season of April-July since construction of the dam.

In early June, the Montana Fish, Wildlife and Parks were preparing to conduct a fish study in the Bighorn River. To assist them with the study, the river releases were increased from 1,300 cfs to 1,500 cfs on June 8. Based upon the June water supply forecast, it was determined this release rate would be maintained throughout the remainder of the year.

The persistent drought, which has been lingering on for the past 5 consecutive years, kept upstream irrigation demands high during 2004. Inflow to Bighorn Lake during June and July was 26 and 33 percent of average totaling 115,878 and 105,397 acre-feet, respectively. The June inflow was the lowest inflow of record while the July inflow was the 8th lowest inflow of record. Actual April-July runoff into Bighorn Lake during 2004 was the lowest of record at 33 percent of normal and totaled 392,149 acre-feet, 12 percent or 156,099 acre-feet lower than last year.

Precipitation in the Bighorn Basin upstream of Bighorn Lake improved slightly during August and September. Valley precipitation during August and September was 102 and 88 percent of average, while the mountain precipitation was 152 and 130 percent of average. This precipitation helped reduce irrigation demands, allowing storage to slowly refill. The August-September inflow totaled 229,741 acre-feet and was the 8th lowest inflow of record. By the end of the water year on September 30, storage in Bighorn Lake had reached 710,342 acre-feet at elevation 3593.63. This was the 2nd lowest end-of-year storage level recorded since construction of Yellowtail Dam and was 75,351 acre-feet or 15.02 feet higher than the previous record low established in 2002. This was also 359,687 acre-feet or 46.37 feet below the top of the joint-use pool.

Annual runoff into Bighorn Lake totaled 1,041,572 acre-feet and will be recorded as the 2nd lowest annual runoff of record since construction of Yellowtail Dam. This was 42 percent of average and 1 percent or 11,960 acre-feet greater than the total runoff experienced during the record drought year of 2002. The total amount of water released to the Bighorn River during 2004 was 1,045,490 acre-feet, 45 percent of normal. This was the 2nd lowest amount of water ever released to the Bighorn River since construction of Yellowtail Dam and was 40,589 acre-feet lower than the previous record low released a year ago in 2003.

The drought of 2004 severely impacted the operations of Bighorn Lake and the Bighorn River Basin. There was difficulty in managing the critically low water supply in the Bighorn Basin and balancing it among the various competing interest groups. However with strict conservation measures implemented early in the year, it was possible to provide limited opportunities early in the season for partial lake recreation on Bighorn Lake, protect the lake fishery interests, and provide habitat for the renowned trout fishery downstream of Yellowtail Afterbay Dam. Throughout the winter and early spring, the National Park Service worked diligently to extend or lower the end of the boat ramps at Ok-A-Beh and Barry's Landing recreation sites. Although Horseshoe Bend Marina and concessions were never opened in 2004, there were still opportunities to launch boats at Ok-A-Beh and Barry's Landing around Bighorn Lake. This was not true for the downstream river fishery. Even though it was not possible to maintain river flows at 2,500 cfs, releases to the Bighorn River had to be maintained between 1,300-1,500 cfs, in an effort to protect main channel habitat for the fishery without jeopardizing the operations of the powerplant.

The Corps of Engineers estimated Bighorn Lake did not prevent any local flood damages or flood damages downstream on the Missouri River below Fort Peck Reservoir during 2004. Since construction of Yellowtail Dam in 1965, Bighorn Lake has reduced flood damages by a total of $101,251,600.

Total generation produced at Yellowtail Powerplant during 2004 was 322,627,000 kilowatt-hours, the second lowest generation generated since construction of the powerplant in 1967. The generation generated in 2004 was 34 percent of the long term average and was only 8,900 kilowatt-hours more than generated during the record low year of 2003. All of the water released from the dam was released through the powerplant.

Important Events - Water Year 2004

October 7-8: All irrigation deliveries from the Afterbay to the Bighorn Canal (Canal) were gradually discontinued for the 2003 irrigation season.

October 19-22: A special operation was performed at Yellowtail Dam and Afterbay Dam in an attempt to determine the leakage and seepage flow downstream of Yellowtail Dam. Power turbine releases were adjusted and maintained at 1,500 cfs while the releases through the sluice gates of the Afterbay were adjusted to maintain the Afterbay Reservoir at a constant level. The flow rate through the sluice gates was determined from a rating curve and table used at the USGS streamgaging station near the St. Xavier gaging station. These values were then used to determine the amount of leakage and seepage downstream of Yellowtail Dam.

October 20: Flow measurements indicated flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river release at 1,500 cfs.

October 23: New flow measurements indicated flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river release at 1,500 cfs.

December 2: Flow measurements indicated flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river release at 1,500 cfs.

December 10: Power generation indicated flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain river release at 1,500 cfs.

January 26: Power generation indicated flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river release at 1,500 cfs.

March 30: Reclamation attended and participated in the Bighorn Interagency Coordination Meeting in Cody, WY to discuss the operations of Bighorn Lake and Bighorn River. 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 2004 season.

April 4-5: Another special operation was performed at Yellowtail Dam and Afterbay Dam in an attempt to determine the leakage and seepage flow downstream of Yellowtail Dam. Power turbine releases were adjusted and maintained at 1,500 cfs while the releases through the sluice gates of the Afterbay were adjusted to maintain the Afterbay Reservoir at a constant level. The flow rate through the sluice gates was determined from a rating curve and table used at the USGS streamgaging station near the St. Xavier gaging station. These values were then used to determine the amount of leakage and seepage downstream of Yellowtail Dam.

April 19-30: A 12-day outage was scheduled on the Afterbay Dam sluice gates for annual maintenance. During this outage, the level of the Afterbay was maintained between elevations 3183-3190 to adequately release the desired flow through the spillway to the Bighorn River.

April 22-23: Irrigation diversions from the Afterbay Reservoir to the Bighorn Canal were started at a rate of 100 cfs and gradually increased to 200 cfs. Power generation also indicated flows in the Bighorn River were higher than anticipated. Turbine releases were adjusted to maintain river release at 1,500 cfs.

April 27-29: The BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,850 cfs (1,500 cfs to the Bighorn River and 350 cfs to the Bighorn Canal).

April 29: Inflows are well below normal and Bighorn Lake continues to decrease more quickly than desired. In close coordination with Montana Fish, Wildlife and Parks, releases from Bighorn Lake to the Bighorn River were reduced to 1,300 cfs in an effort to control the runoff into Bighorn Lake. Turbine releases were gradually decreased to maintain a total release of 1,650 cfs (1,300 cfs to the Bighorn River and 350 cfs to the Bighorn Canal).

May 3: The BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,700 cfs (1,300 cfs to the Bighorn River and 400 cfs to the Bighorn Canal).

May 5: The BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,750 cfs (1,300 cfs to the Bighorn River and 450 cfs to the Bighorn Canal).

May 11: The 131A requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,800 cfs (1,300 cfs to the Bighorn River and 500 cfs to the Bighorn Canal).

May 25: The level of the tailwater was maintained no higher than elevation 3183 to allow boats to safely enter the Yellowtail Dam spillway stilling basin for inspection of the spillway tunnel.

May 25-27: Recent rains prompted the BIA to request a decrease in diversions to the Bighorn Canal. Turbine releases were gradually decreased to maintain a total release of 1,550 cfs (1,300 cfs to the Bighorn River and 250 cfs to the Bighorn Canal).

June 1: The BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,600 cfs (1,300 cfs to the Bighorn River and 300 cfs to the Bighorn Canal).

June 3: The BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,700 cfs (1,300 cfs to the Bighorn River and 400 cfs to the Bighorn Canal).

June 9: The BIA requested an increase in diversions to the Bighom Canal. In addition to the increase in irrigation deliveries, MFWP also requested an increase of 200 cfs to the Bighorn River to allow them to conduct their annual fish studies. In response, turbine releases were gradually increased to maintain a total release of 2,000 cfs (1,500 cfs to the Bighorn River and 500 cfs to the Bighorn Canal).

June 16-17: Due to maintenance concerns with the Bighorn Canal, the BIA requested a reduction in irrigation diversions. Turbine releases were gradually decreased and maintained a total release of 1,850 cfs (1,500 cfs to the Bighorn River and 350 cfs to the Bighorn Canal).

June 21: The BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,875 cfs (1,500 cfs to the Bighorn River and 375 cfs to the Bighorn Canal).

June 21-July 8: The level of the tailwater was maintained no higher than elevation 3190 to allow for maintenance on the spillway tunnel liner on Yellowtail Dam.

June 23-24: The BIA requested a reduction in diversions to the Bighorn Canal to assist them with maintenance of the canal. Turbine releases were gradually decreased to maintain a total release of 1,750 cfs (1,500 cfs to the Bighorn River and 250 cfs to the Bighorn Canal).

June 24-25: Maintenance on Bighorn Canal was completed. In response the BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually decreased to maintain a total release of 1,850 cfs (1,500 cfs to the Bighorn River and 350 cfs to the Bighorn Canal).

July 1: MFWP reported fish studies and samplings in the Bighorn River were completed. To continue conserving storage in Bighorn Lake, turbine releases to the Bighorn River were decreased to 1,650 cfs (1,300 cfs to the Bighorn River and 350 cfs to the Bighorn Canal).

July 12: The BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,750 cfs (1,300 cfs to the Bighorn River and 450 cfs to the Bighorn Canal).

July 16: The BIA requested an increase in diversions to the Bighorn Canal. Turbine releases were gradually increased to maintain a total release of 1,800 cfs (1,300 cfs to the Bighorn River and 500 cfs to the Bighorn Canal).

August 16-27: A 12-day outage was scheduled on the Afterbay Dam sluice gates for annual maintenance. During this outage, the Afterbay level was maintained no lower than elevation 3183 and no higher than elevation 3190 to sufficiently release 1,340 cfs through the spillway gates to the Bighorn River.

August 19: The BIA requested an decrease in diversions to the Bighorn Canal. Turbine releases were gradually decreased to maintain a total release of 1,780 cfs (1,340 cfs to the Bighorn River and 440 cfs to the Bighorn Canal).

August 31: The BIA requested an decrease in diversions to the Bighorn Canal. Power generation indicated flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain a total release of 1,675 cfs (1,340 cfs to the Bighorn River and 335 cfs to the Bighorn Canal).

September 7: Recent flow measurements indicated flows in the Bighorn River were lower than anticipated. Turbine releases were adjusted to maintain a total release of 1,570 cfs (1,330 cfs to the Bighorn River and 240 cfs to the Bighorn Canal).

September 15 — October 7: MFWP requested an increase of 200 cfs to the Bighorn River to allow them to conduct their annual fish studies. In response, turbine releases were gradually increased to maintain a total release of 1,740 cfs (1,500 cfs to the Bighorn River and 240 cfs to the Bighorn Canal).

September 21: The BIA requested an decrease in diversions to the Bighorn Canal. Turbine releases were gradually decreased to maintain a total release of 1,640 cfs (1,500 cfs to the Bighorn River and 140 cfs to the Bighorn Canal).

October 7: The BIA requested all diversions to the Bighorn Canal be discontinued for the 2004 irrigation season. Turbine releases were gradually decreased to maintain a total release of 1,500 cfs (1,500 cfs to the Bighorn River and 0 cfs to the Bighorn Canal).

Additional hydrologic and statistical information pertaining to the operations of Bighorn Lake during 2004 can be found on Table MTT1 1 and MTG12.

For more detailed information on the operations of Boysen and Buffalo Bill Reservoirs during 2004, refer to the narratives for Boysen Reservoir and Powerplant and Shoshone Project under the responsibility of the Wyoming Area Office.

TABLE MIT 11
HYDROLOGIC DATA FOR 2004
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	3607.20	785,928	OCT 01, 2003
END OF YEAR	3593.63	710,342	SEP 30, 2004
ANNUAL LOW	3581.76	650,341	MAY 08, 2004
ANNUAL HIGH	3611.84	815,099	NOV 13, 2003
HISTORIC HIGH	3656.43	1,365,198	JUL 06, 1967

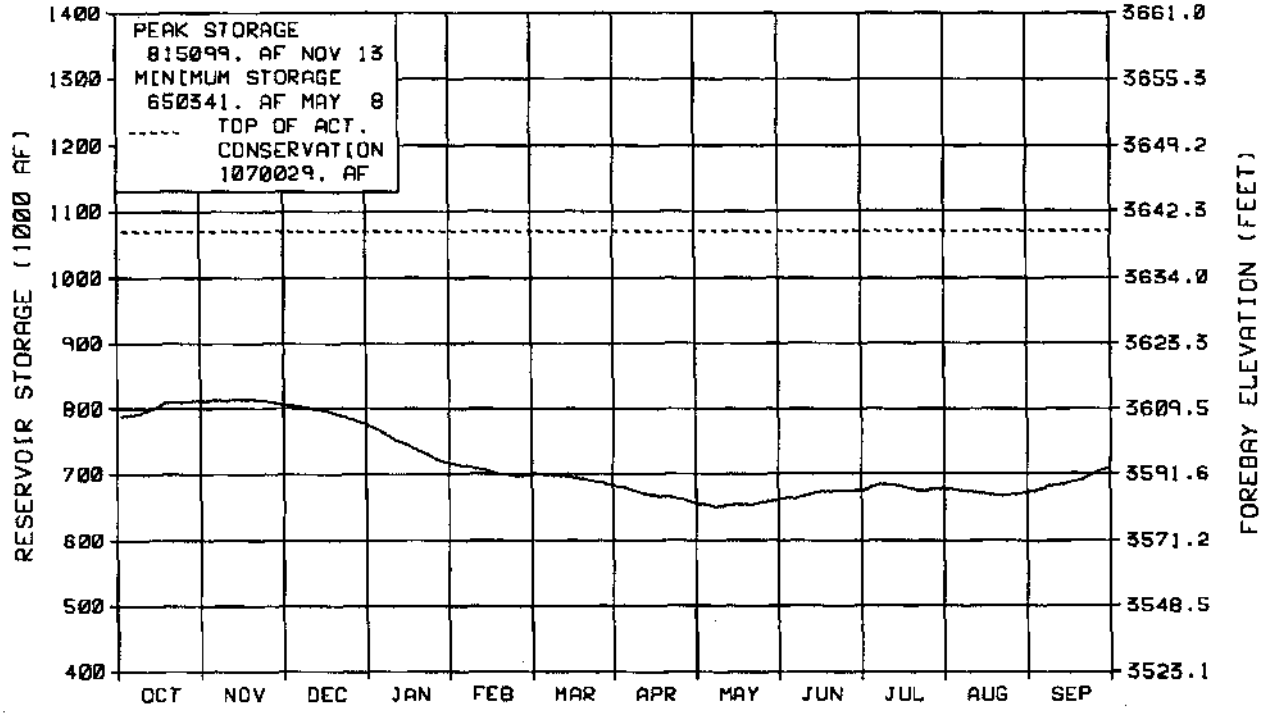
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW*	DATE
ANNUAL TOTAL (AF)	1,041,572	OCT 03-SEP 04	1,045,490	OCT 03-SEP 04
DAILY PEAK (CFS)	2,858	SEP 22, 2004	2,249	OCT 19, 2003
DAILY MINIMUM (CFS)	128	JAN 28, 2004	1,233	OCT 22, 2003
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

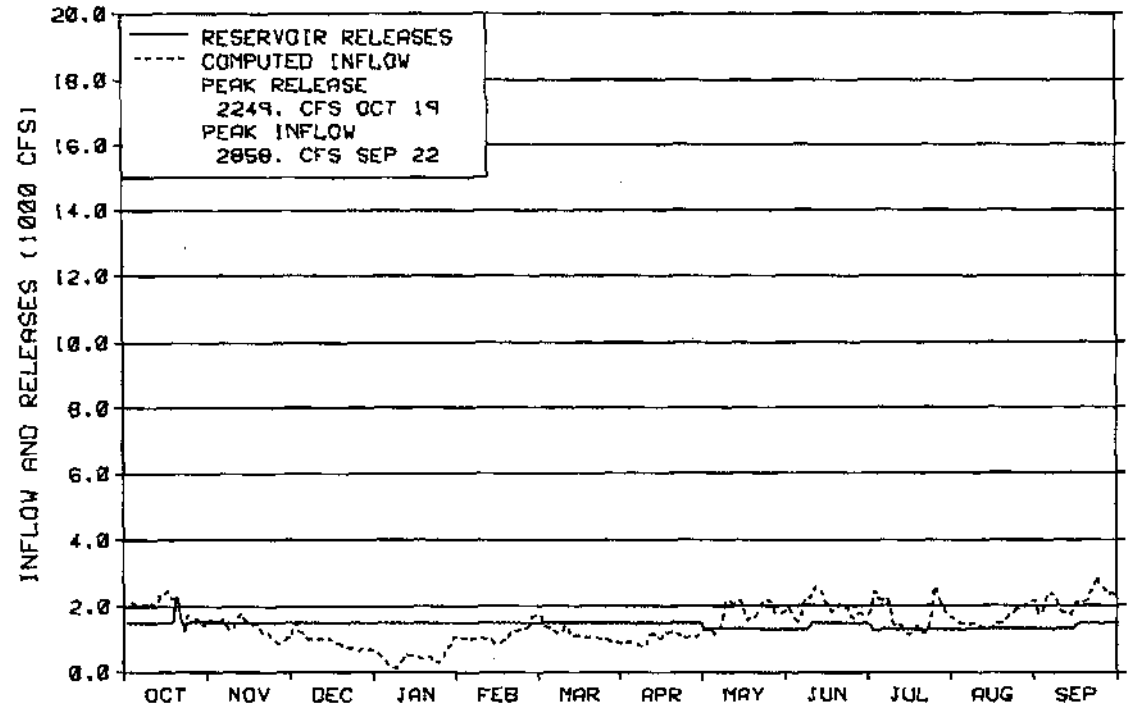
*Discharge to the Bighorn River

MONTH	INFLOW		OUTFLOW*				CONTENT	
	KAF	% OF AVG	CANAL KAF	% OF AVG	RIVER KAF	% OF AVG	KAF	% OF AVG
OCTOBER	118.8	62	3.2	74	94.0	53	812.2	81
NOVEMBER	78.9	49	0.0	---	89.1	48	806.5	83
DECEMBER	56.4	38	0.0	---	92.3	49	773.7	**84**
JANUARY	29.5	21	0.0	---	92.1	49	715.3	83
FEBRUARY	65.4	45	0.0	---	85.9	51	699.3	83
MARCH	70.7	39	0.0	---	91.9	**48**	682.5	82
APRIL	62.0	36	3.9	641	88.7	48	656.1	80
MAY	108.9	42	26.0	226	81.0	42	662.0	76
JUNE	115.9	26	21.9	100	**85.5**	32	675.3	66
JULY	105.4	33	26.7	96	80.0	28	677.8	**65**
AUGUST	100.2	59	27.4	102	81.5	47	673.3	66
SEPTEMBER	129.5	73	13.0	69.	83.7	55	710.3	70
ANNUAL	1,041.6	42	122.0	109	1,045.5	45		
APRIL-JULY	392.1	33						

* Average for the 1967-2004 period.

FIGURE MTG12
BIGHORN LAKE





WATER YEAR 2004

CLIMATE SUMMARY

Water year 2004 saw a continuation of the drought conditions that have persisted in the Bighorn Basin since 2000. Mountain snowpack tracked below average through the winter months and the snowmelt runoff produced April through July inflow to Basin reservoirs that was well below average. Summer precipitation over the Basin was above average, especially in the Wind River drainage, which kept streamflows at higher levels further into the summer, reducing the need for storage water and allowing the reservoirs to end the water year in better condition than had been expected.

Precipitation during October was below average in the Shoshone and Wind River drainages with temperatures in both basins about four degrees above average. Between October 17 and October 23, new record high temperatures were set each day as temperatures rose into the seventies and eighties at stations in both the Wind and Shoshone basins. The warm and dry conditions came to an abrupt end on October 29 as cold air and snow moved into Wyoming from the north. Snowfall totals in excess of two feet were common in the southern end of the Wind River Mountains while the mountains above Buffalo Bill received close to one foot of snow. November temperatures ranged from four to six degrees below average in the Shoshone and Wind River basins. Precipitation was also less than average in both the Shoshone and Wind River drainages, with the only noteworthy snowfall occurring on November 16 and 17. On December 1, the snowpack stood at 75 percent of average in the Shoshone drainage and 82 percent of average in the Wind River basin. December was warmer than normal in the Bighorn Basin and precipitation was also above average for the month. In the mountains of the Shoshone watershed, snowfall between December 12 and 14 resulted in accumulations of one to two feet. An active weather pattern beginning the last week of the year brought moderate to heavy snowfall to western Wyoming as three major winter storms hammered the area between December 25 and January 2. By January 1, the snowpack in the Wind River watershed had improved to 95 percent of average and the Shoshone basin snowpack was 85 percent of average and snow was still falling. By the time the last storm had exited the State, snowfall totals for the nine day period of three to five feet were common at SNOTEL sites throughout the Basin. In the lower Wind River drainage, the Deer Park SNOTEL received 86 inches of snow from the three storms.

Following the yearend storms, skies cleared and arctic air descended into Wyoming, bringing extreme cold to the region on January 6. Temperatures remained below average for the month as did precipitation in the mountains above Boysen and Buffalo Bill. On February 1, the snowpack in the Shoshone basin was down to 78 percent of normal while the snowpack in the Wind River drainage was 82 percent of average, falling 13 percent during January. A second blast of arctic cold moved into Wyoming on February 12, with overnight lows reaching 25 to 30 degrees below zero at many sites within the Basin. For the most part, temperatures during February were from two to four degrees above average in the northern half of the Bighorn Basin in Wyoming with below average precipitation. In the southern half of the Basin, temperatures were about two to four degrees below average and precipitation was above average. A major winter storm moved into Wyoming from Utah on February 28, dissecting the State diagonally from the southwest corner to the northeast. While the mountains above Buffalo Bill received little precipitation from the storm., the Wind River Range caught the brunt of the storm and the snowpack increased nine percent during the last two days of February to 91 percent of average on March 1. In the Shoshone basin a five percent decrease occurred over the month, dropping the March 1 snowpack to 73 percent of average.

March was extremely dry in the Bighorn Basin with temperatures generally four to six degrees above average. In the Shoshone drainage, the weather station at Buffalo Bill Dam received no precipitation during March or February and the Tower Falls weather station recorded the second lowest March precipitation in over 60 years. In the Boysen watershed, the Riverton, Diversion Dam, Dubois, and Lander stations each reported the lowest March precipitation in more than 40 years. As a result, the snowpack in the Shoshone and Wind River basins fell 11 and 20 percent during the month, respectively. On April I , the snowpack in the Wind River basin was 71 percent of average and the Shoshone basin snowpack was 62 percent of average. Snowpack in the Shoshone basin continued to fall further from average during April as the basin was on the fringe of storms that moved through Wyoming on April 9 and 28. On the other hand, the highest snowfall totals from these storms fell on the east slopes of the Wind River Range and the snowpack in the watershed above Boysen increased to 80 percent of average on May 1. The May 1 snowpack in the Shoshone drainage was 51 percent of average. April was slightly wanner than normal, with temperatures in the Basin about three degrees above average. Precipitation in the Shoshone and Wind River basins was below average during May with temperatures in both basins near the monthly normal.

During the first week of May, temperatures reached into the eighties and inflows to Buffalo Bill and Boysen began to increase as the runoff began. As a cold front moved through on the 13th the snowmelt slowed and temperatures remained fairly cool for the remainder of the month. June was a repeat of the previous month as warm temperatures during the first days of the month caused inflows to rise for a few days before cool weather returned and the flows declined. At Buffalo Bill, inflows from snowmelt runoff peaked on June 10, averaging 5,951 cfs for the day. June was colder than normal but precipitation was above average in the Shoshone basin and well above average in the Wind River basin. The peak inflow to Boysen of 5,346 cfs occurred on July 2. Above average precipitation fell in the Shoshone and Wind River basins during July, August, and September with below average temperatures each month of the summer. In August, the weather station at Lander recorded the second highest rainfall for the month dating back to 1901. The timely summer rains helped maintain reservoir inflows in the late summer at levels that hadn't been seen in a few years.

The 2004 mountain snow water content for the drainage basins in Wyoming are shown on Table WYT I . The 2004 water supply forecasts are shown on Table WYT2 and the 2004 precipitation in inches and the percent of average is shown on Table WYT3.

TABLE WYT1
2004 MOUNTAIN SNOW WATER CONTENT ,
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	4.43	79	5.43	74	8.23	91	8.47	61	6.60	63
BOYSEN	6.26	95	7.62	82	10.41	91	10.94	71	11.31	80
BUFFALO BILL	7.44	85	9.63	78	11.03	73	11.36	62	9.90	51

, 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, Hobbs Park, Kirwin, Little Warm, St. Lawrence Alt, South Pass, Togwotee Pass, Townsend Creek, and Younts Peak;

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

TABLE WYT2
2004 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	120	85	110	78	110	78	100	71	110	78	100	71	117.3	83	117
BOYSEN	440	75	350	59	400	68	200	34	250	42	250	42	320.7	54	160
BUFFALO BILL	630	92	530	77	530	77	400	58	350	51	400	58	387.0	57	97

Averages are based on the 1974-2003 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	0.97	88	0.79	70	1.10	106	1.39	123	0.56	64	0.54	48	0.68	53	2.00	96	2.18	110	1.45	95	2.14	171	1.66	130
YEAR-TO-DATE PRECIP AND % OF AVERAGE	0.97	88	1.76	79	2.86	88	425	97	4.81	91	5.35	83	6.03	78	8.03	82	10.21	87	11.86	88	13.80	95	15.46	98
BOYSEN																								
MONTHLY PRECIP AND % OF AVERAGE	0.60	79	0.11	20	0.50	168	0.07	26	0.97	317	0.03	5	2.31	193	0.59	32	1.69	143	1.07	118	1.14	182	1.05	109
YEAR-TO-DATE PRECIP AND % OF AVERAGE	0.60	79	0.71	55	1.21	" 77	1.28	69	2.25	104	2.28	82	4.69	115	5.18	89	8.87	98	7.94	100	9.08	106	10.13	107
BULL LAKE																								
MONTHLY PRECIP AND % OF AVERAGE	0.58	96	0.15	33	027	119	0.08	38	0.72	291	0.03	6	2.00	178	0.67	37	2.41	202	1.14	114	1.02	139	1.05	104
YEAR-TO-DATE PRECIP AND % OF AVERAGE	0.58	96	0.73	70	1.00	79	1.08	73	1.80	105	1.83	83	183	115	4.50	87	6.91	109	8.05	109	9.07 '	112	10.12	111
MOUNTAIN PRECIPITATION[2]																								
BUFFALO BILL																								
MONTHLY PRECIP AND % OF AVERAGE	1.80	75	3.70	100	3.00	97	2.50	83	1.50	60	120	43	2.70	79	3.60	95	2.80	93	2.50	114	3.70	231	3.30	150
YEAR-TO-DATE PRECIP AND % OF AVERAGE	1.80	75	5.50	90	8.50	92	11.00	90	12.50	85	13.70	78	16.40	778	20.00	81	22.80	82	25.30	85	29.00	92	32.30	96
BOYSEN																								
MONTHLY PRECIP AND % OF AVERAGE	1.20	57	2.60	87	2.30	92	1.80	72	2.30	105	0.90	31	4.30	123	3.00	88	130	138	2.30	135	2.90	207	2.50	125
YEAR-TO-DATE PRECIP AND % OF AVERAGE	1.20	57	3.80	75	6.10	80	7.90	78	10.20	83	11.10	73	15.40	82	18.40	83	21.70	89	24.00	92	26.90	97	29.40	99
BULL LAKE																								
MONTHLY PRECIP AND % OF AVERAGE	1.00	50	1.80	82	1.60	94	1.30	81	2.40	150	0.70	29	4.30	134	2.50	74	4.10	178	1.90	127	2.70	193	2.10	111
YEAR-TO-DATE PRECIP AND % OF AVERAGE	1.00	50	2.80	f[3]	4.40	75	5.70	76	8.10	89	8.80	77	13.10	' 89	15.80	86	19.70	97	21.60	99	24.30	104	26.40	105

[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:
BuH Lake.. ..... Burns, Diversion Darn, and Dubois;
Boysen ..... Boysen Darn, Burris, Diversion Don, Davis, Lander, and Riverton;
Buffalo BIN ..... Buffalo BSI 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 ..... Cob Springs, Elldiart Park, Hobbs Park, and St. Lawrence Alt
Boysen ..... Boroughs Creek, Cold Springs, Hobbs Park, Kinvin, Little Warm, St Lawrence Alt, South Pass, Togwotee Pass, Townsend Creek, and Younts Peak;
Buffalo Bill ..... Blackneter, Evening Star, Kirwin, Marquette, Sylvan Lake, Sylvan Road. and Younts Peak

Averages for Valley Precipitation are based on the 1973-2002 period
Averages for Mountain Precipitation are based on tie 1971-2000 period

FLOOD BENEFITS

Flood Damage Prevented in the Wind/Bighorn and Shoshone River Systems'					
Reservoir	**Local**	**Main Stem**	**2004 Total**	**Previous Accumulation**	**1950 - 2004 Accumulation Total**
Bull Lake[2]	$ 0	$ 0	$ 0	$ 2,690,300	$ 2,690,300
Boysen	$ 0	$ 0	$ 0	$81,283,800	$81,283,800
Buffalo Bile	$ 0	$ 0	0	$10,567,300	$10,567,300

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 2004.
2/ No space is allocated to flood control, butsome flood protection is provided by operation for other purposes.

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 56,345 AF of water at the start of water year 2004, which was 70 percent of the normal end of September content and 37 percent of capacity. Irrigation deliveries to Riverton Unit lands ended on September 19, 2003. Releases from Bull Lake were reduced to approximately 25 cfs at the end of the irrigation season to conserve the remaining storage in Bull Lake.

During water year 2003, 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 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. While inflow during October, November, and December was below average, it did exceed the release and storage in Bull Lake increased to 57,655 AF at the end of December. On January 1, snowpack in the basin above Bull Lake was 79 percent of average. Water supply forecasts were prepared each month, beginning in January and continuing through June, for the April-July snowmelt runoff period. The January forecast indicated the April-July snowmelt runoff would be approximately 120,000 AF, which was 85 percent of average. Precipitation in the mountains above Bull Lake was about 80 percent of average during January and the snowpack fell five percent further below average during the month. On February 1 the snowpack was 74 percent of average and the April-July snowmelt runoff forecast was lowered to 110,000 AF, 78 percent of average. Inflow during January and February continued to lag behind average and at the end of February, Bull Lake held 58,105 AF of water at elevation 5770.23 feet. The watershed above Bull Lake received above average precipitation during February but very little snow in March and by April 1 the snowpack had fallen to 61 percent of average. The forecast prepared on April 1, indicated a further reduction was in order and the April 1 forecast was lowered to 100,000 AF.

Midvale began diverting water into Wyoming Canal on April 6, utilizing the natural flow in the Wind River to flush the canal and continue the fill of Pilot Butte. Irrigation releases began on April 19 but the 20 cfs release from Bull Lake was maintained through the end of April as irrigation demand was being satisfied by natural flow in the Wind River. The April inflow to Bull Lake was above average and with no irrigation releases during the month, Bull Lake storage increased to 61,637 AF on April 30. April precipitation was above average and the snowpack improved slightly over the month resulting in the May 1 forecast of April-July snowmelt runoff increasing to 110,000 AF. The reservoir continued to rise until May 14 when the effect of colder temperatures slowed the runoff and storage water from Bull Lake was needed to help satisfy irrigation demand. Bull Lake

storage was utilized during the remainder of May but as inflow in the Wind River increased in early June the release from Bull Lake was reduced and the lake began to store water again. The lake level increased during the remainder of June and most of July, achieving a maximum content of 138,433 AF at elevation 5800.48 feet on July 29. The maximum content was 14,026 AF and 4.52 feet below the top of the active conservation pool. Bull Lake inflow peaked on June 30 when the average for the day was 1,843 cfs. As flows in the Wind River declined and the use of Bull Lake storage was needed to satisfy the irrigation demand, the reservoir level began to fall. Irrigation deliveries on the Riverton Unit continued until September 30, with Bull Lake ending the water year holding 89,664 AF of water at elevation 5783.24 feet.

Actual April-July inflows totaled 117,266 AF, 83 percent of average. Total inflow to Bull Lake for the water year was 161,591 AF, which was 86 percent of average. The flow of the Wind River above the mouth of Bull Lake Creek was estimated to be 67 percent of average, totaling 285,913 AF during the April-July period. The total diversion into the Wyoming Canal for the April-September period was 313,240 AF, 91 percent of average.

Additional hydrologic and statistical information pertaining to Bull Lake operations during 2004 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.

Irrigation releases from Pilot Butte ended on September 19, 2003, and water year 2004 began with a total storage content of approximately 10,350 AF in Pilot Butte Reservoir at elevation 5427.20 feet. As natural flow in the Wind River became available following the 2003 irrigation season, diversions into Wyoming Canal were reinstated on October 1 in order to refill Pilot Butte Reservoir. Diversions continued through October 23 when storage in the reservoir reached 28,268 AF at elevation 5453.71 feet. After diversions into the lake were terminated for the year, the reservoir level slowly fell through the winter as evaporation reduced the content. Storage on March 31 was 27,572 AF at elevation 5452.87 feet. Diversions into Pilot Butte began April 6 and the reservoir reached its maximum storage content for the year of 32,603 AF at elevation 5458.75 feet on May 9, 2004. Releases from Pilot Butte began on April 6 to flush the canal and irrigation deliveries were initiated on April 19. In water year 2004, irrigation deliveries from Pilot Canal continued through September 30. At the end of water year 2004, Pilot Butte held 18,764 AF of water at elevation 5441.24 feet.

Total generation at the Pilot Butte Powerplant in water year 2004 was 4,287,000 kilowatt-hours (kWh). During water year 2004, 46,822 AF or 26 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 2004 can be found in Table WYT5 and Figure WYG2.

TABLE . WYT4
HYDROLOGIC DATA FOR WATER YEAR 2004
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	5769.44	56,345	OCT 01, 2003
END OF YEAR	5783.24	89,664	SEP 30, 2004
ANNUAL LOW	5769.44	56,345	OCT 01, 2003
HISTORIC LOW*	5743.03	6,228	MAR 31, 1950
ANNUAL HIGH	5800.48	138,433	JUL 29, 2004
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)	161,591	OCT 03-SEP 04	128,257	OCT 03-SEP 04
DAILY PEAK (cfs)	1,843	JUNE 30, 2004	1,068	AUG 20, 2004
DAILY MINIMUM (cfs)	6	DEC 28, 2003	17	APR 19, 2004
PEAK SPILLWAY FLOW (cfs)			0	
TOTAL SPILLWAY FLOW (AF)			0	

	INFLOW		OUTFLOW		CONTENT	
MONTH	KAF	% of Avg*	. KAF	% of Avg*	KAF	% of Avg*
OCTOBER	2.8	54	1.6	23	57.5	73
NOVEMBER	1.6	55	1.5	58	57.6	73
DECEMBER	1.4	58	1.4	67	57.7	73
JANUARY	1.5	71	1.1	52	58.0	73
FEBRUARY	1.1	69	1.0	59	58.1	74
MARCH	1.1	61	1.1	61	58.1	74
APRIL	4.6	135	1.1	27	61.6	79
MAY	17.8	67	18.3	125	61.1	68
JUNE	47.4	76	8.6	35	99.9	78
JULY	47.5	98	9.3	20	138.1	107
AUGUST	20.5	95	50.6	110	108.0	104
SEPTEMBER	14.4	153	32.7	90	89.7	116
ANNUAL	161.6	86	128.2	67		

APRIL - JULY INFLOW (AF)	
ACTUAL	AVERAGE
117,266	140,500

* Average for the 1974=2003 period

FIGURE WYG1

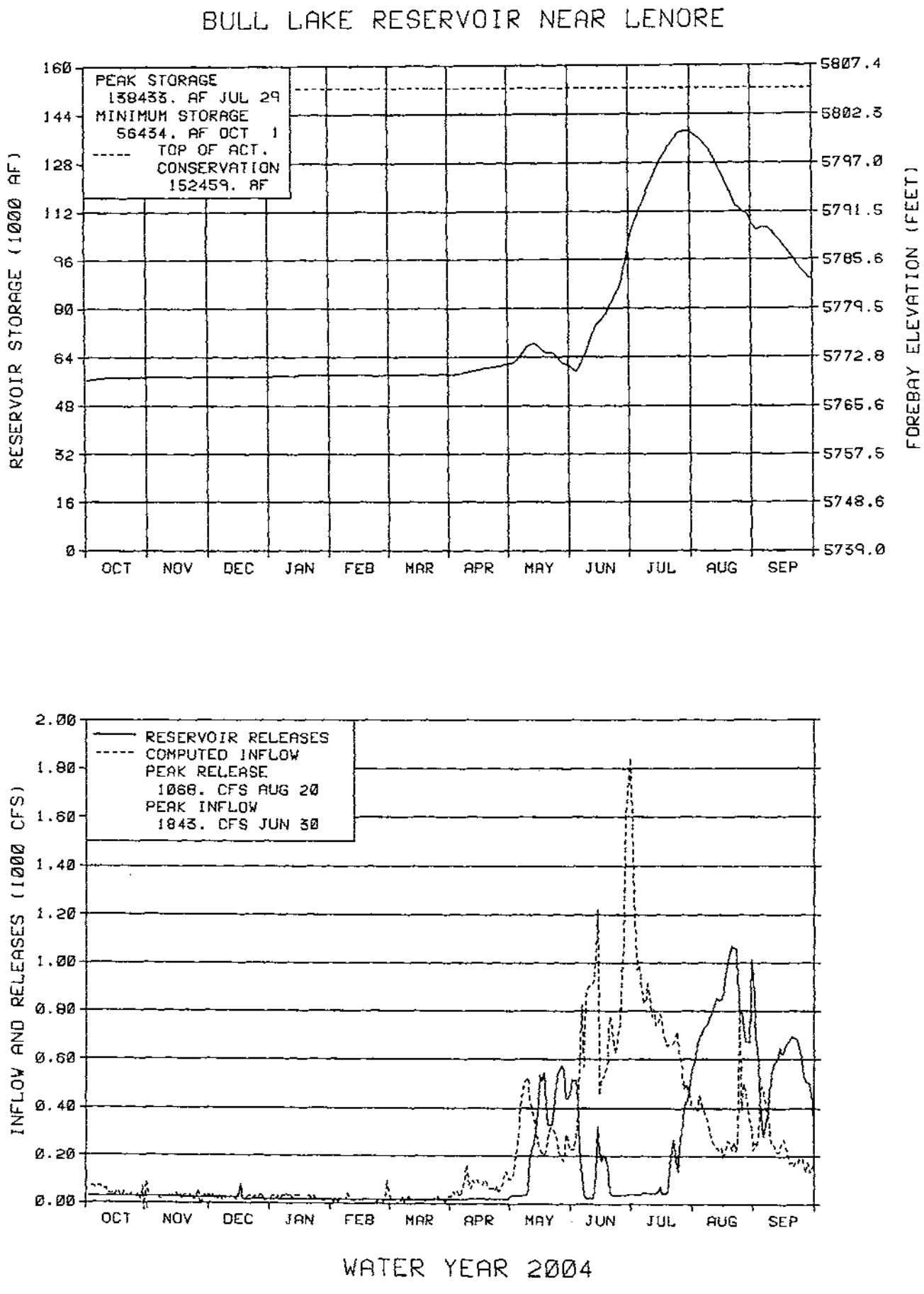

BULL LAKE RESERVOIR NEAR LENORE
PEAK STORAGE
138433. AF JUL 29
MINIMUM STORAGE
56434. AF OCT 1
TOP OF ACT. CONSERVATION
152459. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
160
144
128
112
96
80
64
48
32
16
0
5807.4
5802.3
5797.0
5791.5
5785.6
5779.5
5772.8
5765.6
5757.5
5748.6
5739.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
1068. CFS AUG 20
PEAK INFLOW
1843. CFS JUN 30
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 2004

TABLE WYT5
HYDROLOGIC DATA FOR WATER YEAR 2004
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	5427.20	10,350	OCT 01, 2003
END OF YEAR	5441.24	18,764	SEP 30, 2004
ANNUAL LOW	5427.20	10,350	OCT 01, 2003
HISTORIC LOW	5409.96	3,792	SEP 19, 2001
ANNUAL HIGH	5458.75	32,603	MAY 09, 2004
HISTORIC HIGH	5460.00	36,910	7/7/73 & 6/24/89

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	184,439	OCT 03-SEP 04	176,025	OCT 03-SEP 04
DAILY PEAK (cfs)	1,118	JUNE 29, 2004	750	JULY 23, 2004
DAILY MINIMUM (cfs)	0	WINTER MONTHS	0	WINTER MONTHS
PEAK SPILLWAY FLOW (cfs)			0	
TOTAL SPILLWAY FLOW (AF)			0	

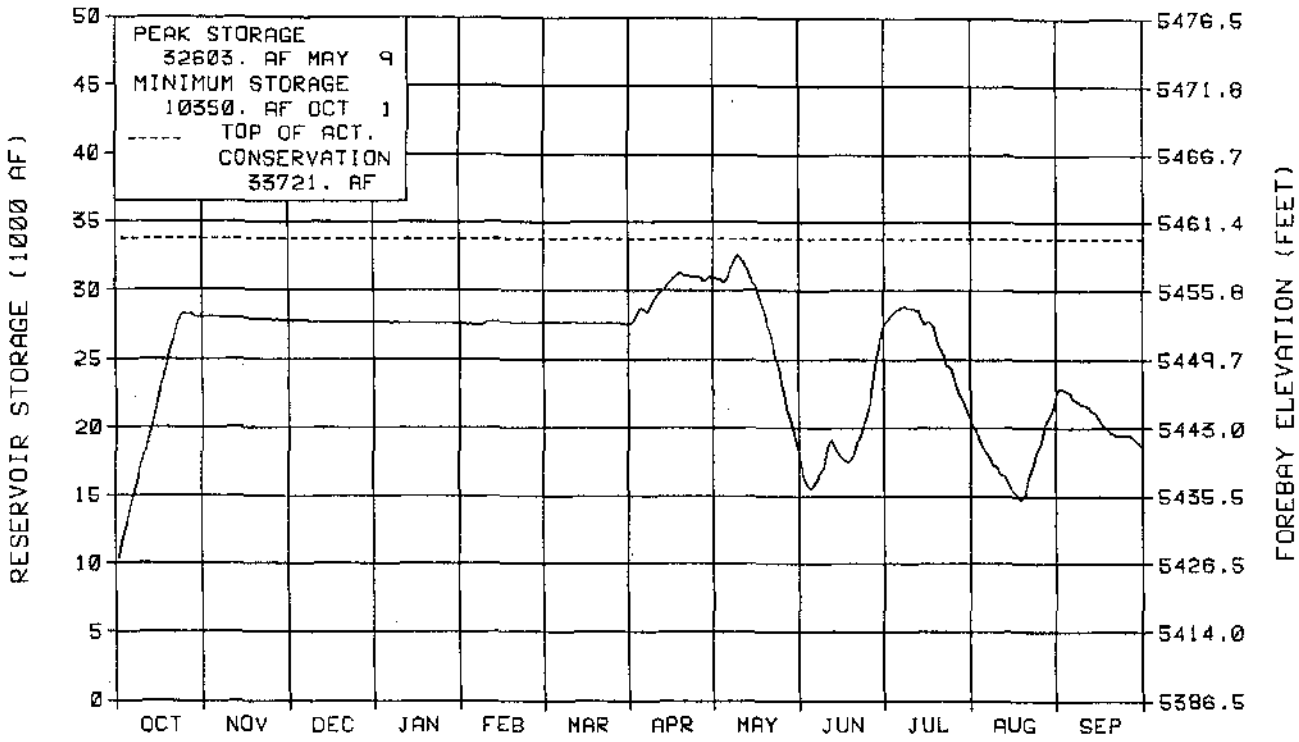
	INFLOW*		OUTFLOW		CONTENT	
MONTH	KAF	% of Avg**	KAF	% of Avg**	KAF	% of Avg"
OCTOBER	17.8	223	0.0	0	28.1	127
NOVEMBER	-0.3	0	0.0	0	27.8	119
DECEMBER	-0.1	0	0.0	0	27.7	120
JANUARY	-0.1	0	0.0	0	27.6	121
FEBRUARY	0.1	0	0.0	0	27.7	121
MARCH	-0.1	0	0.0	0	27.6	111
APRIL	9.6	110	6.1	120	31.0	108
MAY	16.1	71	28.8	113	18.3	72
JUNE	41.7	108	32.9	89	27.2	99
JULY	31.1	72	37.6	80	20.6	89
AUGUST	41.8	128	, 39.6	109	22.8	117
SEPTEMBER	26.9	113	30.9	115	18.8	115
ANNUAL	184.4	102	176.0	98		

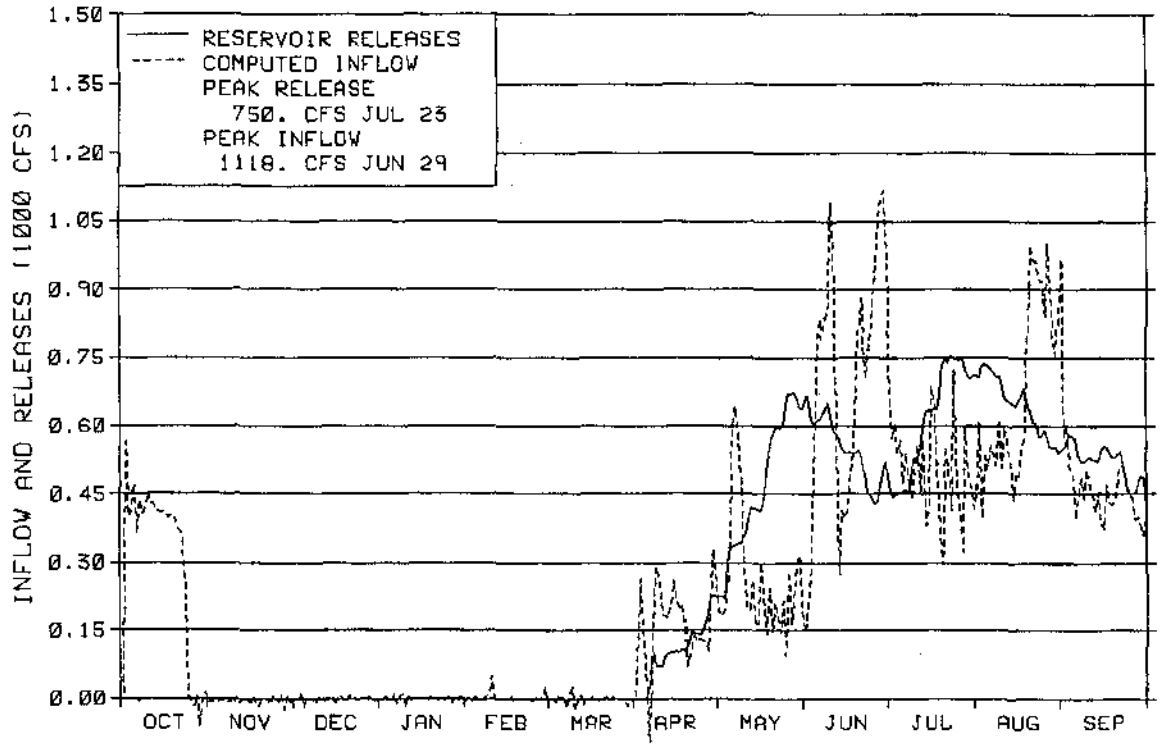
* Negative values are the result of calculated inflow based on reservoir release and change in reservoir content.

** Average tir the 1974-2003 period

FIGURE WYG2

PILOT BUTTE RESERVOIR





WATER YEAR 2004

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 Y2 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. In addition, water is provided on a demand basis, by exchange, to Midvale, Riverton Valley, and LeClair Irrigation Districts located on the Wind River upstream of the reservoir. Riverton Valley and LeClair Irrigation Districts hold long term contracts with Reclamation.

Water year 2004 began with 351,939 AF of water stored in Boysen Reservoir, which was 61 percent of the 30 year average. This was the fourth lowest content at the beginning of a water year since the initial filling of Boysen Reservoir. The corresponding reservoir elevation of 4698.53 feet was over 26 feet below the top of the joint use pool. Irrigation releases for the 2003 season ended on September 29, 2003, as the demand for irrigation water fell below the planned fall and winter release of 350 cfs. With releases limited to 350 cfs, the reservoir level began to rise and on October 31, reservoir storage had increased to 358,897 AF. October was warm and dry, with the only appreciable snowfall above Boysen occurring at the end of the month. The snowpack continued to accumulate at a less than average rate through November and most of December. Three strong storms moved through Wyoming between December 25 and January 2, improving conditions in the Boysen watershed substantially at the beginning of the new year. Even though the inflow to Boysen was less than average in November and December, the reservoir level continued to increase and Boysen held 390,620 AF of water on December 31 , 2003.

Forecasts of April-July snowmelt runoff were prepared at the beginning of each month beginning in January and continuing through June. On January 1 the snowpack in the mountains above Boysen was 95 percent of average and the forecast indicated approximately 440,000 AF of water, 75 percent of average, would enter Boysen Reservoir during the April-July runoff period. Precipitation during January was well below average and the snowpack fell 13 percent during the month to stand at 82 percent of average on February 1. With snow conditions looking worse than they were the previous month, compared to average, the February 1 forecast of April - July runoff was lowered to 350,000 AF. For most of February the snowpack hovered around 82 percent of average until a storm on the 28 brought significant snowfall to the Wind River Mountains. At the end of February, Boysen Reservoir content was 413,444 AF at elevation 4703.87 feet and

the basin snowpack was 91 percent of average. Conditions on March 1 indicated the snowmelt runoff forecast should be increased to 400,000 AF, which was 68 percent of average. The month of March was extremely dry in the Wind River basin with temperatures that were above average. Many of the lower elevation National Weather Service stations in the drainage reported the lowest March precipitation in over 40 years, receiving about five percent of the average March precipitation. Conditions in the mountains were not much better as the higher elevation SNOTEL sites only received 31 percent of average precipitation. The snowpack began to slide further from average immediately following the storm at the end of February, dropping 20 percent over the month to 71 percent of average on April 1. In light of the deteriorating conditions during March, the April 1 forecast was reduced to 200,000 AF. This was 34 percent of the thirty year average April-July inflow to Boysen and a 50 percent reduction from the previous month's forecast.

The release from the Dam continued at 350 cfs and water users were notified that when increased releases were required to meet irrigation demands, Boysen storage water use accounting would begin. Boysen Reservoir storage water use accounting was implemented on April 5, 2004, and all changes in the release from the Dam were coordinated by and requested through the Wyoming State Engineer's Office in Riverton. As releases were increased to meet irrigation demands, Boysen storage was called on to supplement the natural flow at times prior to the start of runoff Precipitation during April was above average as a couple of fairly good storms centered over the east side of the Wind River Range. At the end of April, Boysen Reservoir held 447,016 AF of water at elevation 4706.57 feet. April inflow was 87 percent of average and the snowpack .on May 1 had improved to 80 percent of average, prompting an increase in the May 1 forecast of April-July snowmelt runoff to 250,000 AF. As temperatures rose into the eighties during the first week of May, inflow to Boysen picked up as the snowmelt got under way. The snowpack lost from three to five percent a day and inflows rose until May 13 when temperatures fell below freezing and the snowmelt slowed. The remainder of May was fairly cool with highs barely reaching the mid-sixties and inflows falling below the amount needed to satisfy irrigation demands. More seasonable temperatures returned during the first week of June and the inflow to Boysen rose as most of the remaining snow melted. Following the week of warm weather, the pattern reverted back to below average temperatures for the remainder of the month with above average precipitation. In 2004, the peak inflow occurred on July 2 at 5,346 cfs and was a combination of snowmelt and rainfall runoff. Reservoir inflow exceeded the release from June 5 through July 14 when the reservoir reached a maximum content for the year of 536,883 AF at 4713.09 ft. Releases through the irrigation season were limited to what was required to meet irrigation demand and with a few exceptions, the reservoir level declined each day after July 14. The maximum release of the irrigation season of 1,177 cfs occurred on July 5.

Actual inflow for the April-July period totaled 320,645 AF, which was 54 percent of average. Total inflow to Boysen during water year 2004 was 627,745 AF, 63 percent of average. The reservoir ended the water year at 4711.60 feet with a content of 515,208 AF. This was 91 percent of the average end of September content. During water year 2004, Boysen Powerplant generated 30,139,000 kWh of electricity, about 41 percent of average and 4,579,000 kWh more than was generated in 2003. Of the 468,984 AF of water released from Boysen in water year 2004, 435,881 AF was discharged through the powerplant and 33,103 AF bypassed the powerplant.

Based on the preliminary accounting of Boysen Reservoir storage water use during the 2004 irrigation season, contractors below Boysen used the following amounts of storage water from Boysen Reservoir: Bighorn Canal Irrigation District used 6,096 AF, all from long term contract; Bluff Irrigation District used 249 AF, all from temporary contract; Hanover Irrigation District used 4,570 AF, all from long term contract; Highland Hanover Irrigation District used 4,742 AF, all from long term contract; Kirby Ditch Company used 1,110 AF, all from temporary contract; Owl Creek Irrigation District used 5,541 AF, all from long term contract; and Upper Bluff Irrigation District used 1,219 AF, all from long term contract. Contractors above Boysen used the following amounts of storage water by exchange: LeClair Irrigation District used 151 AF, all from long term contract; Midvale Irrigation District used 4,000 AF, all from temporary contract; and Riverton Valley Irrigation District used 30 AF, all from long term contract.

Important Events - 2004

September 29, 2003: Irrigation demand fell below the planned fall and winter release of 350 cfs, ending storage use accounting. The fall and winter release for water year 2004 was set at 350 cfs.

October 10, 2003: Boysen Reservoir fall water information meeting was held in Worland to discuss water year 2003 operations, expected 2004 operation, and the winter release.

March 18, 2004: Boysen Reservoir spring water information meeting was held in Worland to discuss the water supply and proposed operation of Boysen Reservoir in 2004.

April 5, 2004: The release from the Dam was increased to meet irrigation demand. Boysen Reservoir storage water use accounting was initiated and contractors were charged for storage water in accordance with their contracts.

September 30, 2004: Irrigation demand fell below the planned fall and winter release of 400 cfs, ending storage use accounting. The fall and winter release for water year 2005 was set at 400 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 2004
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 CONSERVA1ON	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	4698.53	351,939	OCT 01, 2003
END OF YEAR	4711.60	515,208	SEP 30, 2004
ANNUAL LOW	4698.53	351,939	OCT 01, 2003
HISTORIC LOW ELEVATION •	4684.18		MAR 18, 1956
HISTORIC LOW CONTENT *		235,737	SEP 24, 2002
ANNUAL HIGH	4713.09	536,883	JUL 14, 2004
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)	627,745	OCT 03-SEP 04	468,984*	OCT 03-SEP 04
DAILY PEAK (cfs)	5,346	JUL 02, 2004	1,177	JUL 05, 2004
DAILY MINIMUM (cfs)	54	DEC 29, 2003	314	OCT 31, 2003
PEAK SPILLWAY FLOW (cfs)'*				
TOTAL SPILLWAY FLOW (AT"				

* Of the 468,984 AF of water released from Boysen Reservoir, 33 103 AF bypassed the powerplant.

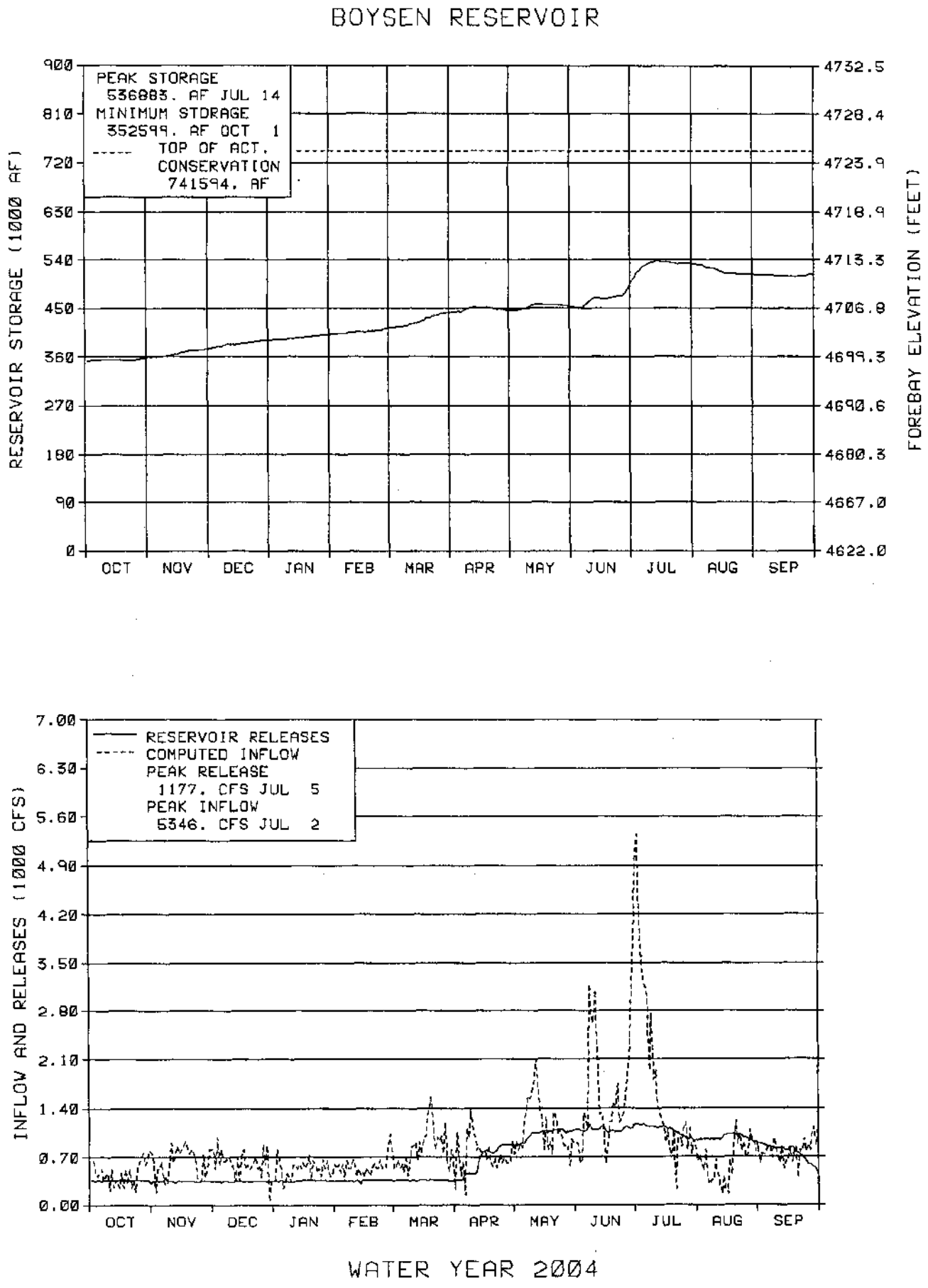
**Spillway flow refers to water released through the spillway to control the reservoir level.

	INFLOW		OUTFLOW		CONTENT	
MONTH	KAF	% of Avg*	KAF	% of Avg*	KAF	% of Avg"
OCTOBER	29.3	46	22.3	31	358.9	62
NOVEMBER	37.4	75	21.1	34	375.2	66
DECEMBER	37.0	94	21.6	34	390.6	72
JANUARY	32.6	89	22.1	37	401.1	77
FEBRUARY	33.2	88	20.8	38	413.4	81
MARCH	51.0	94	22.4	34	442.0	89
APRIL	44.0	87	39.0	52	447.0	94
MAY	69.5	54	63.0	65	453.5	90
JUNE	97.2	37	65.4	47	489.8	79
JULY	110.0	73	66.6	45	533.2	87
AUGUST	39.6	60	59.8	63	513.1	88
SEPTEMBER	47.0	84	44.9	80	515.2	91
ANNUAL	627.8	63	469.0	47		

APRIL - JULY INFLOW (AF)	
ACTUAL	AVERAGE
320,645	589,200

' Average for the 1974-2003 period

FIGURE WYG3


BOYSEN RESERVOIR
PEAK STORAGE
536883. AF JUL 14
MINIMUM STORAGE
352599. AF OCT 1
TOP OF ACT. CONSERVATION
741594. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
900
810
720
630
540
450
360
270
180
90
0
4732.5
4728.4
4723.9
4718.9
4713.3
4706.8
4699.3
4690.6
4680.3
4667.0
4622.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
1177. CFS JUL 5
PEAK INFLOW
5346. CFS JUL 2
INFLOW AND RELEASES (1000 CFS)
7.00
6.30
5.60
4.90
4.20
3.50
2.80
2.10
1.40
0.70
0.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2004

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. There have also been substantial water losses through a rock waste area just upstream from the dam. 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. To prevent damage to the dikes and minimize the chance of creating new sinkholes, a reservoir restriction is in place at Anchor Reservoir. 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 2004 was 254 AF at elevation 6355.00 feet. The reservoir level remained fairly constant until March when storage in the reservoir began to gradually increase, achieving a maximum content for the year of 540 AF on March 30. The release from the Dam was also increased near the end of March, drawing the reservoir down to 254 AF on April 30. Snowpack in the basin above Anchor was close to average when it peaked in mid-March, about a month earlier than normal. Storms in April brought some snow to the Owl Creek Mountains but the snowpack remained below average and was essentially gone by early May. During most of the summer the reservoir level remained fairly stable as inflow was passed through to supplement downstream demand. The peak inflow to Anchor in 2004 of 109 cfs occurred on July 7 and the maximum release from the Dam was 83 cfs on July 3. At the end of the water year Anchor Reservoir held 429 AF of water at elevation 6360.40 feet.

Hydrologic and statistical data pertaining to Anchor Reservoir operations during 2004 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 2004
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 01,2003
END OF YEAR	6360.40	429	SEP 30, 2004
ANNUAL LOW	6355.00	254	OCT 01, 2003
HISTORIC LOW			
ANNUAL HIGH	6363.10	540	MAR 30, 2004
HISTORIC HIGH	6418.52	9,252	JUL **03, 1967**

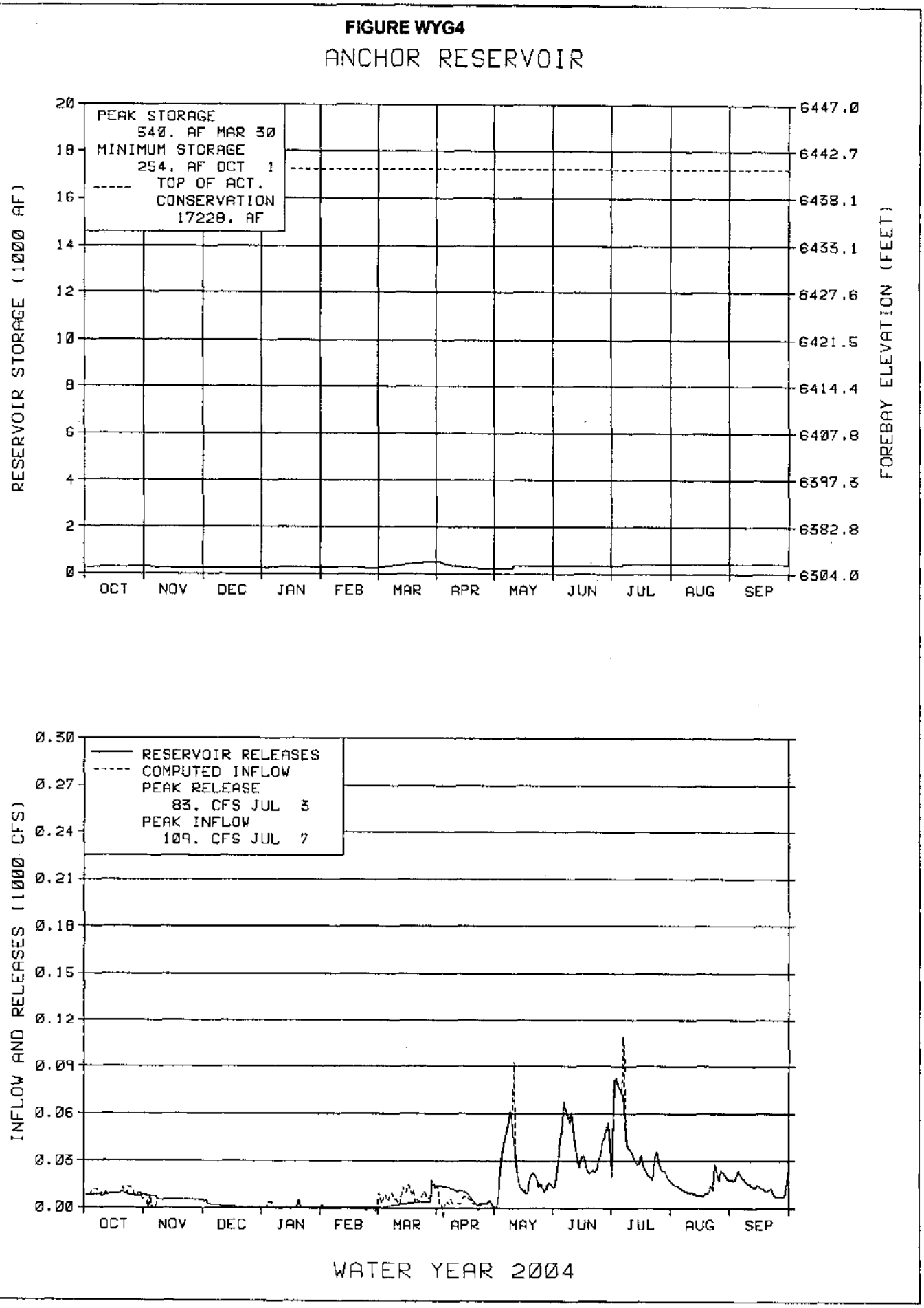
INFLOW-OUTFLOW DATA	INFLOW	DATE	**OUTFLOW'**	DATE
ANNUAL TOTAL (AF)	9,486	OCT 03-SEP 04	9,312	OCT 03-SEP 04
DAILY PEAK (cfs)	109	JUL 07, 2004	83	JUL 03, 2004
DAILY MINIMUM (cfs)	0	WI NTER MONTHS	0	WINTER MONTHS
PEAK SPILLWAY FLOW (cfs)			0	
TOTAL SPILLWAY FLOW *(AF)*			0	

" 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 2604, no water flowed over the notch in the dike.

	INFLOW		OUTFLOW*		CONTENT	
MONTH	KAF	% of Avg	KAF	% of Avg	KAF	% of Avg*
OCTOBER	0.6	86	0.5	73	0.3	126
NOVEMBER	0.3	100	0.3	83	0.3	127
DECEMBER	0.1	50	0.1	33	0.3	137
JANUARY	0.1	100	0.0	0	0.3	162
FEBRUARY	0.0	0	0.0	0	0.3	124
MARCH	0.5	167	0.2	100	0.5	**184**
APRIL	0.2	29	0.5	101	0.3	**48**
MAY	1.5	33	1.4	40	0.4	21
JUNE	**2.2**	**29**	2.2	39	0.4	10
JULY	**2.4**	104	2.3	67	0.4	18
AUGUST	0.9	900	0.9	47	0.4	60
SEPTEMBER	0.8	133	0.8	84	0.4	130
ANNUAL	9.6	54	**8.2**	46		

*Average is for the 1991-2003 period. This period was used because of the availability of data at Anchor Reservoir.

FIGURE WYG4


ANCHOR RESERVOIR
PEAK STORAGE
540. AF MAR 30
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
83. CFS JUL 3
PEAK INFLOW
109. CFS JUL 7
INFLOW AND RELEASES (1000 CFS)
0.30
0.27
0.24
0.21
0.18
0.15
0.12
0.09
0.06
0.03
0.00
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2004

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 darn 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 Powerplant, 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 Revised Instream Flow Operation Agreement for Buffalo Bill Reservoir Enlargement, 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 2004 was 465,714 AF at elevation 5369.70 feet. As the 2003 irrigation season ended, irrigation deliveries to the Heart Mountain Canal were discontinued on October 17 and releases to the river were gradually reduced to 100 cfs by October 19. Because the total inflow to Buffalo Bill Reservoir in water years 2001, 2002, and 2003 did not average more than 750,000 AF, Buffalo Bill Reservoir was determined to be in a critical low flow period based on the criteria of the Revised Instream Flow Agreement for Buffalo Bill Reservoir. In years following a critical low flow year or critical low flow period, the Agreement requires a minimum flow of 100 cfs be provided in the river at the Shoshone Powerplant and a minimum flow of 100 cfs be provided in the river at the Buffalo Bill Powerplant. The release of 100 cfs was maintained until April 12, when increases were required to meet the irrigation demands of the downstream districts.

During October, reservoir inflow was 69 percent of average and the reservoir level continued to fall until irrigation releases ended. After the release was reduced to 100 cfs the reservoir began to recover and at the end of the month there was 444,733 AF in storage at elevation 5366.73 feet. Inflow during November and December was below average but greater than the release and the reservoir content gradually increased through the period. Precipitation during the October through December period was about 92 percent of average in the mountains and the snowpack in the Buffalo Bill watershed stood at 85 percent of average on January 1. 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 1 indicated that 630,000 AF of runoff could be expected to flow into Buffalo Bill Reservoir during the April through July period, which was 92 percent of the 30 year average. Snowfall was below average during the month of January and by February 1 the snowpack had fallen to 78 percent of average, a seven percent decline from the previous month. As a result of the worsening snow conditions, the February 1 snowmelt runoff forecast was decreased to 530,000 AF. During February, the mountains above Buffalo Bill Reservoir received about 60 percent of normal precipitation and the snowpack fell another five percent over the month to 73 percent of average on March 1. Streamflow above Buffalo Bill was also less than average during January and February, with reservoir inflow about 80 percent of average for those months. At the end of February, Buffalo Bill Reservoir held 468,610 AF of water at elevation 5370.14 feet. The March 1 forecast of April-July runoff remained at 530,000 AF, which was 77 percent of average. During March, conditions in the basin above Buffalo Bill continued to deteriorate as above average • temperatures coupled with less than half the normal monthly precipitation pulled the snowpack down to 62 percent of average on April 1. Based on the forecast prepared on April 1, the data indicated the expected April through July runoff would be 400,000 AF.

Releases to the river were increased beginning on April 12 in order to meet the downstream irrigation demand and Heart Mountain Canal diversions began on April 15. Reservoir inflows began to increase in late March and on April 14 Buffalo Bill held 501,069 AF of water. Releases were adjusted as needed once irrigation season started but demand exceeded inflow and the reservoir was drawn down to 473,892 AF of water at elevation 5370.88 feet on April 30. The snowpack continued to accumulate at a rate that was considerably less than average during April and the forecast prepared on May 1 indicated a reduction in the expected April-July inflow to 350,000 AF. As irrigation demand continued to increase, the reservoir level declined until early June when the inflow from snowmelt runoff began to exceed the reservoir release. Temperatures finally rose into the 80's during the first week of June and inflow to the reservoir peaked on June 10 with an average for the day of 5,951 cfs. Provisional data from the U S Geological Survey shows that the inflow on the North Fork of the Shoshone River peaked at 3,720 cfs on June 10 and the peak on the South Fork of 2,070 cfs also occurred on June 10. Releases were limited to what was required to satisfy irrigation demands and the reservoir continued to rise until July 13 when Buffalo Bill reached a maximum content of 541,326 AF at elevation 5379.98 feet. This was 105,239 AF and 13.52 feet below the top of the active conservation pool. The maximum release to the river of 1,118 cfs occurred on May 3 as water was needed to get crops started. Inflow during August and September was below average and at the end of water year 2004, the reservoir held 438,829 AF of water at elevation 5365.87 feet. The end of September content was 101 percent of the 1994-2003 average for the enlarged reservoir. The total inflow to Buffalo Bill during the April through July runoff period was 387,065 AF, which was 57 percent of average. The total water year inflow of 561,286 AF was 65 percent of average.

Total energy generated at all powerplants that directly receive water out of Buffalo Bill Reservoir totaled 92,229,000 kWh in 2004. Of this total amount, Heart Mountain Powerplant generated 9,121,000 kWh, Buffalo Bill Powerplant generated 47,611,000 kWh, Shoshone Powerplant generated 18,407,000 kWh and Spirit Mountain Powerplant generated 17,090,000 kWh. The powerplants used 533,766 AF of water to generate this amount of energy, or 91 percent of the total

water released from Buffalo Bill Reservoir during water year 2004. About 37 percent, or 219,117 AF of the total water released from Buffalo Bill Reservoir, was released to the Heart Mountain Canal for irrigation purposes.

Important Events — 2004

October 17, 2003: Irrigation diversions to the Heart Mountain Canal were discontinued for the 2003 irrigation season.

October 19, 2003: Irrigation releases to the Shoshone River were discontinued for the 2003 irrigation season, control of releases was returned to the Bureau of Reclamation, and a river release of 100 cfs was established for the winter.

April 5, 2004: Buffalo Bill Reservoir Public Information meeting was held in Powell to discuss water year 2003 operation and expected 2004 operation.

April 12, 2004: Releases from Buffalo Bill Reservoir were increased to meet downstream irrigation demand.

April 15, 2004: Irrigation releases to the Heart Mountain Canal were initiated for the 2004 irrigation season.

July 13, 2004, Buffalo Bill Reservoir reached a maximum elevation for the water year of 5379.98 feet.

Additional hydrologic and statistical information pertaining to the operations of Buffalo Bill Reservoir during water year 2004 can be found in Table WYT8 and Figure WYG5.

TABLE WYT8
HYDROLOGIC DATA FOR WATER YEAR 2004
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	5369.70	465,714	OCT 01,2003
END OF YEAR	5365.87	438,829	SEP 30, 2004
ANNUAL LOW	5365.87	438,829	SEP 30, 2004
HISTORIC LOW '		19,080	JAN 31, 1941
ANNUAL HIGH	5379.98	541,326	JUL 13, 2004
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)	561,286	OCT 03-SEP 04	587,848	OCT 03-SEP 04
DAILY PEAK (cfs)	5,951	JUN 10, 2004	1,118	MAY 03, 2004
DAILY MINIMUM (cfs)	21	OCT 27, 2003	96	NOV 06, 2003
PEAK SPILLWAY FLOW (cfs)			p	
TOTAL SPILLWAY FLOW (AF)			S	

*Daily peak and minimum are releases to the river is the 19742003 period. Because of the enlargement of Buffalo Bill Reservoir in 1992, the period of record on which average content is bases is 1992203.

	INFLOW		OUTFLOW		' CONTENT	
MONTH	KAF	% of Avg*	KAF	% of Avg	KAF	% of Avg"
OCTOBER	16.4	69	37.3	101	444.7	110
NOVEMBER	12.1	58	6.2	31	450.5	112
DECEMBER	14.0	86	**6.5**	31	458.0	114
JANUARY	12.2	80	**6.4**	33	463.7	117
FEBRUARY	10.9	81	6.0	33	468.6	120
MARCH	21.7	115	6.7	29	483.6	127
APRIL	38.6	91	**48.3**	85	473.9	135
MAY	71.9	46	103.4	93	**442.4**	111
JUNE	169.2	55	92.3	52	519.3	94
JULY	107.3	60	105.0	56	521.4	93
AUGUST	41.7	86	99.4	89	463.7	**94**
SEPTEMBER	45.4	172	70.3	90	438.8	101
ANNUAL	561.3	65	587.8	68		

APRIL- JULY INFLOW (AF)	
ACTUAL	AVERAGE
387,065	867,000

FIGURE WYG5

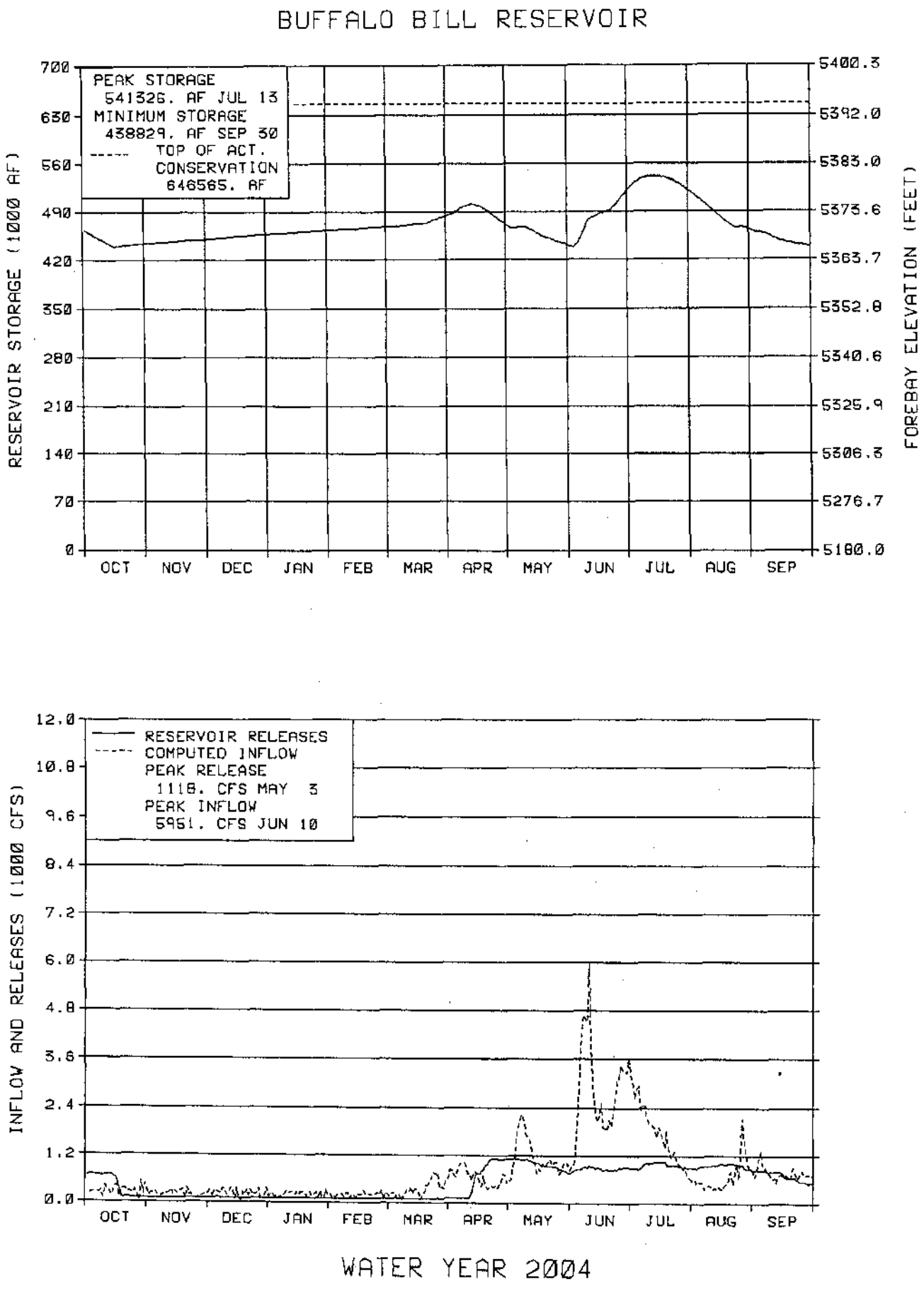

BUFFALO BILL RESERVOIR
PEAK STORAGE
541326. AF JUL 13
MINIMUM STORAGE
438829. AF SEP 30
TOP OF ACT. CONSERVATION
646565. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
700
630
560
490
420
350
280
210
140
70
0
5400.3
5392.0
5383.0
5373.6
5363.7
5352.8
5340.6
5325.9
5306.3
5276.7
5180.0
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
1118. CFS MAY 3
PEAK INFLOW
5951. CFS JUN 10
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
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
WATER YEAR 2004

Table WYT9

WATER YEAR 2004 ACTUAL OUTAGES FOR WYOMING POWERPLANTS

Facilities	Description of Work	Outage Dates
BOYSEN		
Unit 1	Annual Maintenance	10/27/03 - 12/03/03
Unit 1	Bonnet Drain Repair	01/26/04 - 03/07/04
Unit 2	KlA Repair Nitrogen Leak	10/28/03 - 10/29/03
Unit 2	Exciter Over Voltage	11/04/03 - 11/06/03
Unit 2	Annual Maintenance	12/08/03 - 01/12/04
Unit 2	Bonnet Drain Repair	01/26/04 - 03/07/04
PILOT BUTTE		
Unit 1	Annual Maintenance	01/14/04 - 02/11/04
Unit 1	WAPA Maintenance	04/05/04 - 04/07/04
Unit 2	Annual Maintenance	01/14/04 - 02/11/04
Unit 1	WAPA Maintenance	04/05/04 - 04/07/04
BUFFALO BILL .		
Buffalo Bill Powerplant		
Unit 1	Annual Maintenance	11/10/03 - 12/16/03
Unit 2	Annual Maintenance	12/22/03 - 01/25/04
Unit 3	Annual Maintenance	10/01/03 - 10/08/03
Shoshone Powerplant		
Unit 3	No Outages of More Than 24 Hours	
Heart Mountain Powerplant		
Unit 1	Bus Work / Annual Maintenance	11/20/03 - 05/03/04
Unit 1	Differential Lockout	05/04/04 - 05/05/04

Unit 1	Differential Lockout	05/10/04 - 05/13/04

Spirit Mountain Powerplant

Unit 1	Annual Maintenance	10/01/03 - 10/12/03
Unit 1	Roof Repair	03/15/04 - 03/18/04

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

Bull Lake Reservoir

During water year 2003, Midvale and Reclamation entered into an agreement whereby Reclamation could store up to 10,000 AF of Boysen water in Bull Lake and exchange Bull Lake storage for Boysen Reservoir water which is diverted from the Wind River at the Wind River Diversion Dam when runoff conditions are conducive to allow for such an exchange. The storage water released from Boysen was exchanged for an equal quantity of water held in Bull Lake, which was to be transferred back to Boysen following the irrigation season. When irrigation deliveries to the Riverton unit ended on September 19, 2003, Bull Lake Reservoir held 55,238 AF of water. Of the 55,238 AF held in Bull Lake, 19,983 AF was Boysen water in Bull Lake (9,983 AF was Boysen storage carried over from a similar agreement in 2002 plus 10,000 AF of water exchanged during 2003). When irrigation releases from Bull Lake ended for the season, a release of approximately 20 to 25 cfs was maintained as the Boysen water in Bull Lake was transferred back to Boysen Reservoir, providing a winter flow in Bull Lake Creek. The reservoir level remained fairly stable until early April when inflows began to increase. Releases in excess of inflow were required for a period from May 14 through June 2 to supplement Midvale's natural flow diversion. As temperatures warmed in early June, inflows to Bull Lake increased and the reservoir began to rise once again. Through the irrigation season, the release from Bull Lake was adjusted as necessary to satisfy irrigation demands on the Riverton Unit. Reservoir levels in water year 2004 varied from a minimum elevation of 5769.44 feet on October 1, 2003, to a maximum elevation of 5800.48 feet on July 16, or a range of 31.04 feet of fluctuation. Again in 2004, Midvale and Reclamation entered into an agreement whereby Boysen Reservoir storage water could be exchanged for water stored in Bull Lake. This arrangement allows Bull Lake to end the water year at a higher level and also provides a winter flow in Bull Lake Creek as the Boysen water in Bull Lake is transferred back to Boysen during the winter months. At the end of water year 2004, the content of Bull Lake was 89,664 AF, with 19,565 AF of the total being Boysen storage water in Bull Lake.

Boysen Reservoir

Boysen Reservoir storage at the beginning of water year 2004 was 61 percent of average and 47 percent of capacity. This was the fourth lowest Boysen content at the start of a water year since the initial filling of the reservoir in 1952. Following the 2003 irrigation season, the release from Boysen Dam was set at approximately 350 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. By April 5, the release of 350 cfs from the Dam was not adequate to meet irrigation demands and increases were made to satisfy downstream demands. The reservoir level fluctuated slightly during the month but the reservoir level on April 30 was 0.39 feet higher than it was on March 31.

May inflow was only 54 percent of average but the reservoir elevation still increased 0.50 feet during the month. The reservoir level was at 4707.20 feet going into the Memorial Day weekend, which was 8.74 feet higher than at the beginning of the holiday weekend in 2003.

Buffalo Bill Reservoir

Following the 2003 irrigation season, the release from Buffalo Bill Reservoir was set at approximately 100 cfs. Based on the criteria of the Revised Instream Flow Operation Agreement for Buffalo Bill Reservoir Enlargement, the average water year inflow for the 2001 through 2003 period met the criteria of a critical low flow period and therefore a release of 100 cfs at the Shoshone Powerplant and a total flow of 100 cfs was required at Buffalo Bill Powerplant.

Reclamation continues to support the Wyoming Game and Fish (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 through February 23 and May 4 through June 9, 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 5393.65 feet occurred on July 4, 2004, and the minimum elevation of 53 89.3 2 feet occurred on April 13, 2004. At the maximum elevation, the pool behind the South Fork Dike covered 202 surface acres. On October 17, 2003, when the water surface elevation of Buffalo Bill Reservoir was at its low for the year of 5366.06 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 5392.53 feet. At the minimum reported elevation of Buffalo Bill Reservoir, 184 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 increased to maintain the static water level of the pond behind the dike at approximately 539 1.00 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 2004, 12,950 AF of water was pumped from Diamond Creek Reservoir into Buffalo Bill Reservoir.

Reservoir levels during all of water year 2004 were adequate for recreational activities on Buffalo Bill Reservoir.

WEATHER SUMMARY FOR NORTH AND SOUTH DAKOTA

October precipitation was below to much below normal at all reservoirs.

November precipitation was much below normal at Dickinson and Jamestown, below normal at Deerfield, Keyhole, and Heart Butte, and above normal at Angostura, Belle Fourche and Shadehill, and much above normal at Pactola.

December precipitation was normal at Shadehill and Jamestown, and below normal at the remaining reservoirs.

January precipitation was much below normal at Dickinson and Jamestown, normal at Pactola, much above normal at Heart Butte, and below normal at the remaining reservoirs.

February precipitation was above normal at Pactola, Deerfield, and Heart Butte, normal at Dickinson and below normal at the remaining reservoirs.

March precipitation was above normal at Belle Fourche, Deerfield, Dickinson, and Heart Butte, much above normal at Jamestown and below normal at the remaining reservoirs.

April precipitation was below to much below normal at all reservoirs.

May precipitation was much above normal at Jamestown and below normal at the remaining reservoirs.

June precipitation was below to much below normal at all reservoirs.

July precipitation was below normal at Deerfield, Pactola, Shadehill, Heart Butte, and Jamestown and above normal at the remaining reservoirs.

August precipitation was above normal at Deerfield and Shadehill and below normal at the remaining reservoirs.

September precipitation was much above normal at Jamestown, above normal at Angostura, Pactola, and Heart Butte and normal at Shadehill, and below 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	**2004 Total**	**Average Total**	**Percent**
Angostura 1/	38.06	63.81	60
Belle Fourche 2/	37. 23	54.20	69
Deerfield	13.59	21.05	65
Keyhole 3/	16.65	34.45	48
Pactola	15.15	22.81	66
Shadehill 4/	19.86	31.60	63
Dickinson	10.51	16.35	64
Lake Tschida	13.01	15.75	83
Jamestown	20.28	18.49	110

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, WY and Sundance, WY climate conditions.

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, 2003, and September 30, 2004, 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, 2003	Storage September 30, 2004	Change in Storage
Angostura	81,877	54,703	-27,174
Belle Fourche	56,237	31,503	-24,734
Deerfield	15,176	14,127	-1,049
Keyhole	111,347	94,389	-16,958
Pactola	48,061	42,615	-5,446
Shadehill	77,934	99,303	21,369
Dickinson	6,381	5,870	-511
Lake Tschida	55,260	56,666	1,406
Jamestown	29,823	26,143	-3,680

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

Several Bureau of Reclamation reservoirs in northeastern Wyoming, South Dakota, and North Dakota provided flood relief during Water Year (WY) 2004. They are: Lake Tschida on the Heart River near Glen Ullin, North 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 2004
ACCUMULATED TOTAL 1950-2004

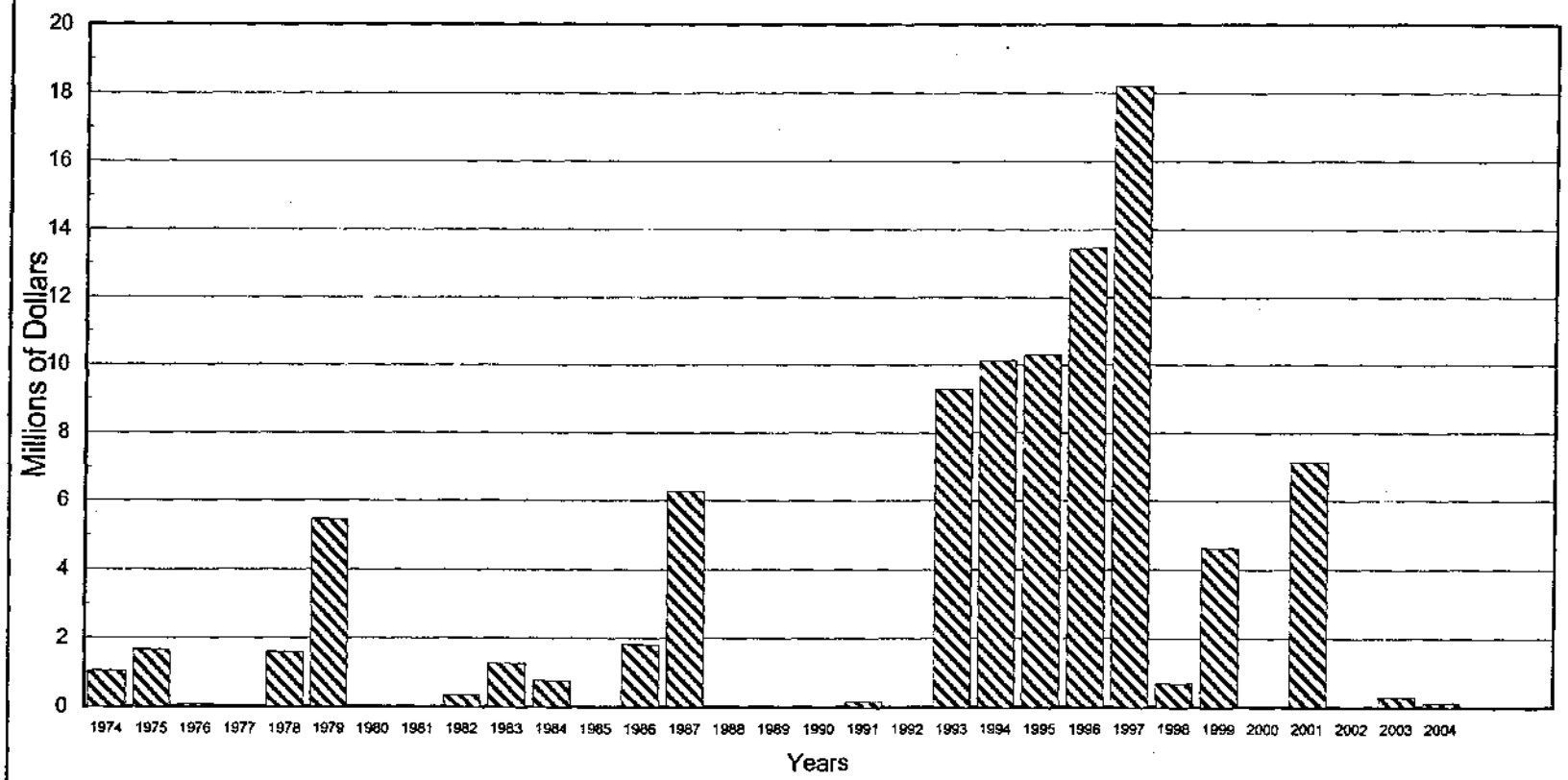
	Local	Main-Stem	2004 Total	Previous Accumulations	1950-2004 Accum Totals
Lake Tschida	$ 0	$ 0	$ 0	$ 13,295,700	$ 13,295,700
Shadehill	$ 0	$ 0	$ 0	$ 9,028,200	$ 9,028,200
Angostura	$ 0	$ 0	$ 0	$ 21,100	$ 21,100
Pactola	$ 0	0	$ 0	$ 3,116,900	$ 3,116,900
Keyhole	$ 0	$ 0	$ 0	$ 3,756,100	$ 3,756,100
Jamestown	$129,200	$ 129,200	$ 129,200	$ 86,672,300	$ 86,801,500
Total	$129,200	$ 129,200	$ 129,200	$115,890,300	**$116,019,500**

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

Figure DKG 1

FLOOD DAMAGES PREVENTED

By Dakota Area Projects Between Garrison and Gavins Point Dams



UNIT OPERATIONAL SUMMERIES FOR WATER YEAR 2004

EDWARD ARTHUR PATTERSON LAKE

BACKGROUND

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 2004 OPERATIONS SUMMARY

The water surface elevation of Dickinson Reservoir at the beginning of water year 2004 was 2417.93 feet with storage of 6,372 acre-feet, which is 2.07 feet, and 2,240 acre-feet below the top of the conservation pool (elevation 2420.0). Dickinson Reservoir peaked at elevation 2420.76 feet on March 9th with 9,551 acre-feet of storage. Reservoir releases were made throughout the summer for irrigation of Dickinson-Heart River Mutual Aid Corporation lands and for municipal water needs by the Dickinson Parks and Recreation District. Water was also released through the river bypass valve to lower the reservoir elevation to facilitate replacement of the stop log cable. The reservoir elevation on September 30, 2004 was 2417.40 feet with storage of 5,870 acre-feet, which is 2.60 feet, and 2,742 acre-feet below the top of conservation pool.

The maximum discharge of 1,606 cfs occurred on March le. Reservoir net inflows for water year 2004 totaled 18,660 acre-feet, 96 percent of average. Precipitation for the water year totaled 10.51 inches, which is 64 percent of average.

MONTHLY STATISTICS FOR WY 2004

Record and near record inflows were recorded in the following months:
February inflows were the 8th highest February inflows in 53 years of record.
March inflows were the 4th highest March inflows in 53 years of record.
August inflows were the 9th highest August inflows in 53 years of record.

Record end of month content were recorded in the following months:
No record end of month content was recorded at E. A. Patterson Reservoir

Additional statistical information on E.A. Patterson Lake and its operations during 2004 can be found on Table DKT3 and Figure DKG2.

TABLE DKT3
HYDROLOGIC DATA FOR 2004
E.A. PATTERSON DAM AND LAKE

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	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	2,417.93	6,372	OCT 01, 2003
END OF YEAR	2,417.40	5,870	SEP 30, 2004
ANNUAL LOW	2,417.40	5,870	SEP 30, 2004
ANNUAL HIGH	2,420.76	9,551	MAR 9, 2004
HISTORIC HIGH	2,422.19	**9,348	MAR 21, •1997

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	18,660	OCT 03-SEP 04	19,218	OCT 03-SEP 04
DAILY PEAK (CFS)	1,587	MAR 10, 2004	1,606	MAR 10, 2004
DAILY MINIMUM (CFS)	0	-	0	-
PEAK SPILL (CFS)			1,606	MAR 10, 2004
TOTAL SPILL (AF)			17,354	OCT 03-SEP 04

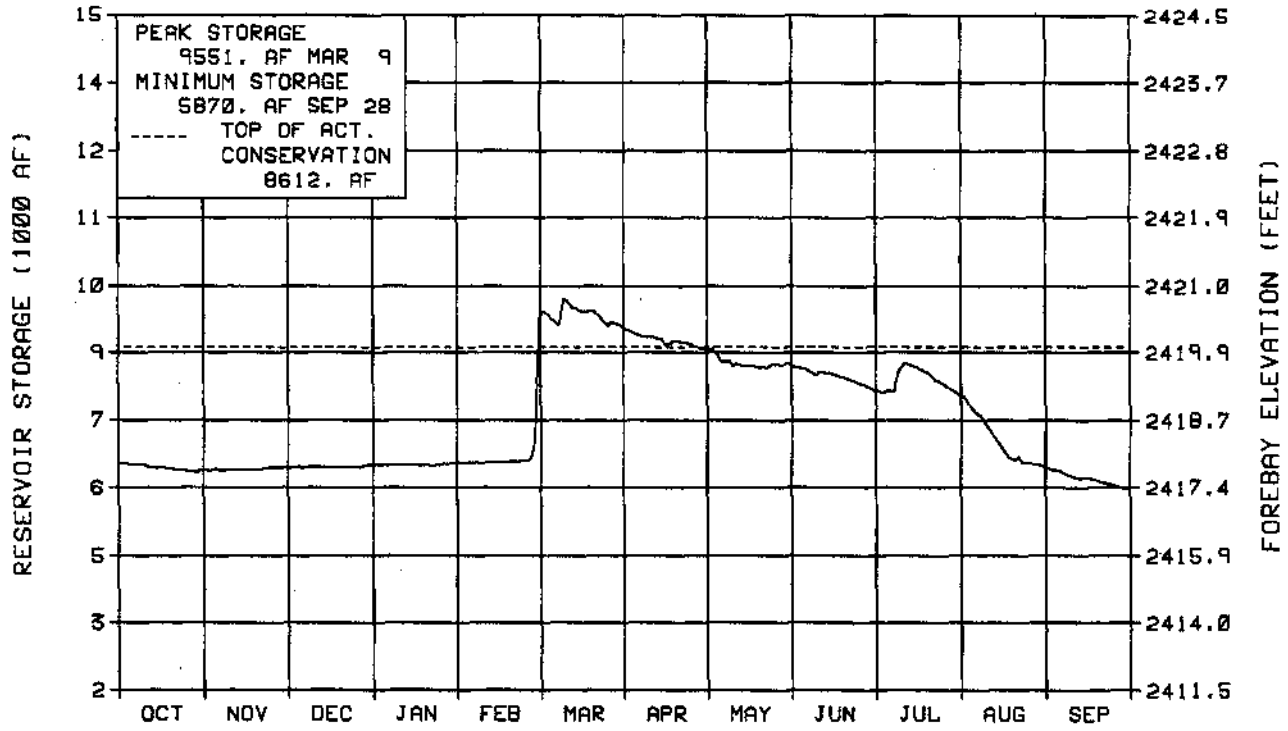
MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	-135	NA	0	NA	6,246	112
NOVEMBER	48	38	0	NA	6,294	113
DECEMBER	49	40	0	NA	6,343	115
JANUARY	38	22	0	NA	6,381	115
FEBRUARY	2,844	255	52	7	9,173	156
MARCH	16,127	226	16,325	267	8,975	130
APRIL	566	13	977	24	8,564	122
MAY	-314	NA	3	0	8,247	119
JUNE	-489	NA	0	NA	7,758	112
JULY	-78	NA	47	4	7,680	117
AUGUST	418	149	1804	253	6,294	103
SEPTEMBER	-413	NA	11	4	5,870	101
ANNUAL	18,660	96	19,218	99		
APRIL-JULY	-315	NA				

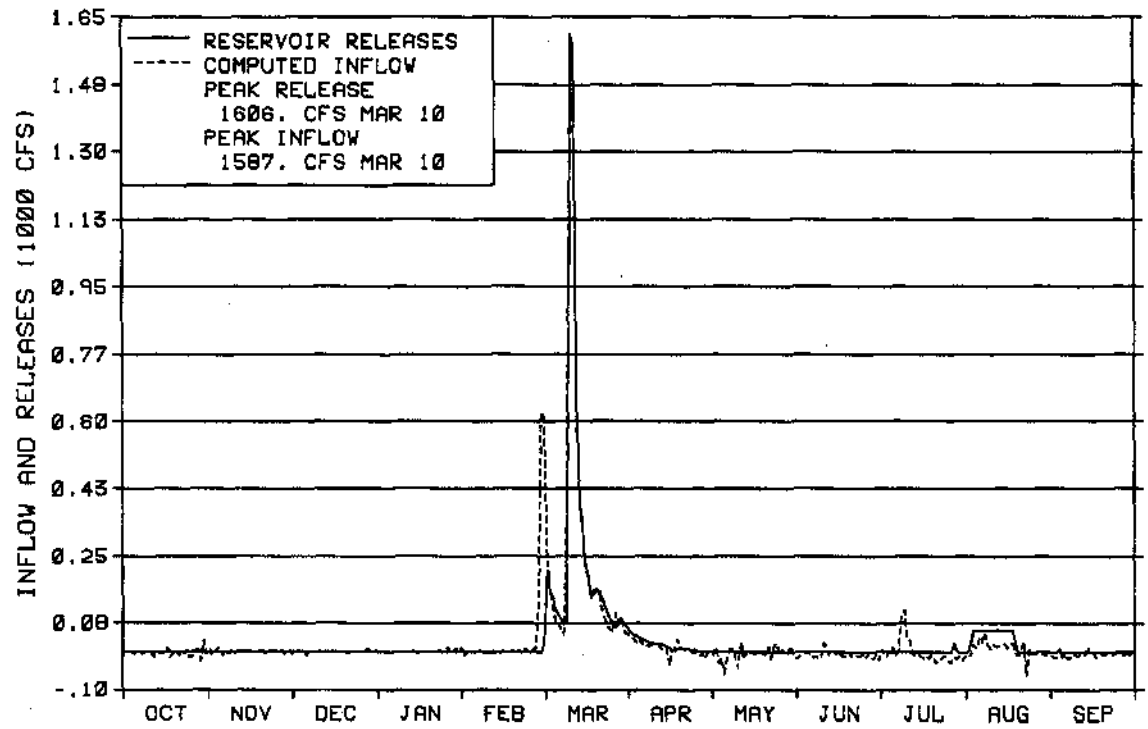
- Frequently observed during fall and winter months

** 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)

FIGURE DKG2

E. A. PATTERSON LAKE





WATER YEAR 2004

LAKE TSCHIDA

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. Lake Tschida 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 2004 OPERATIONS SUMMARY

The water surface elevation of Heart Butte Reservoir at the beginning of water year 2004 was 2060.68 feet with storage of 55,171 acre-feet, which is 3.82 feet, and 11,971 acre-feet below the top of conservation pool (elevation 2064.50). Heart Butte Reservoir peaked at elevation 2068.77 on March 12th with 82,015 acre-feet of storage. The reservoir elevation on September 30th 2004 was 2061.18 feet with storage of 56,666 acre-feet, which is 3.32 feet and 10,476 acre-feet below the top of conservation pool.

The maximum discharge of 2,252 cfs occurred on March 13th. Reservoir net inflows for water year 2004 totaled 68,530 acre-feet, 79 percent of average. Precipitation for the water year totaled 13.01 inches, which is 83 percent of average.

Heart Butte Dam and Reservoir are operated and maintained by the Bureau of Reclamation.

MONTHLY STATISTICS FOR WY 2004

Record and near record inflows were recorded in the following months:
January inflows were the 9th highest January inflows in 55 years of record.

Record end of month content were recorded in the following months:
No record end of month content was recorded at Lake Tschida Reservoir

Additional statistical information on Lake Tschida and its operations during 2004 can be found on Table DKT4 and Figure DKG3.

TABLE DKT4
HYDROLOGIC DATA FOR 2004
LAKE TSCHIDA

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	2,060.68	55,171	OCT 01, 2003
END OF YEAR	2,061.18	56,666	SEP 30, 2004
ANNUAL LOW	2,060.60	54,934	OCT 28, 2003
ANNUAL HIGH	2,068.77	82,015	MAR 12, 2004
HISTORIC HIGH	2,086.23	173,203	APR 09, 1952

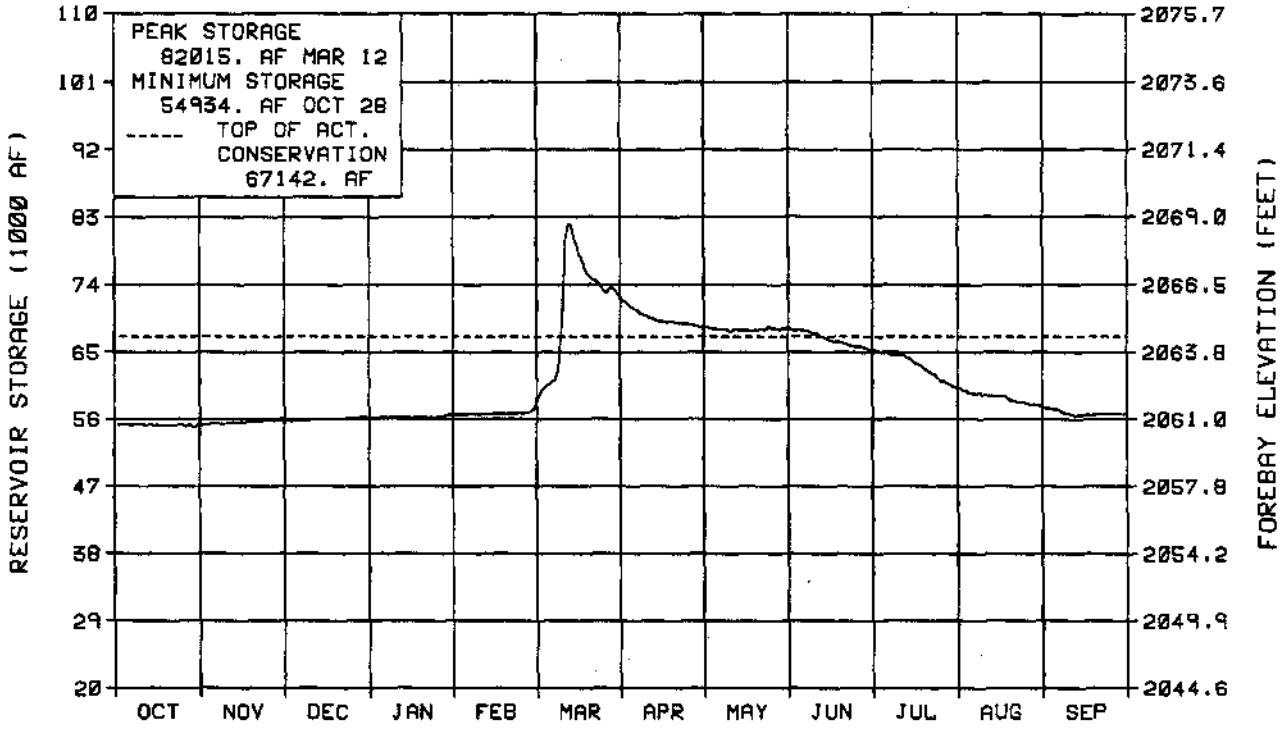
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	68,530	OCT 03-SEP 04	67,124	OCT 03-SEP 04
DAILY PEAK (CFS)	4,694	MAR 11, 2004	2,252	MAR 13, 2004
DAILY MINIMUM (CFS)	0	*	0	*
PEAK SPILL (CFS)			2,252	MAR 13, 2004
TOTAL SPILL (AF)			53,545	OCT 03-SEPO4

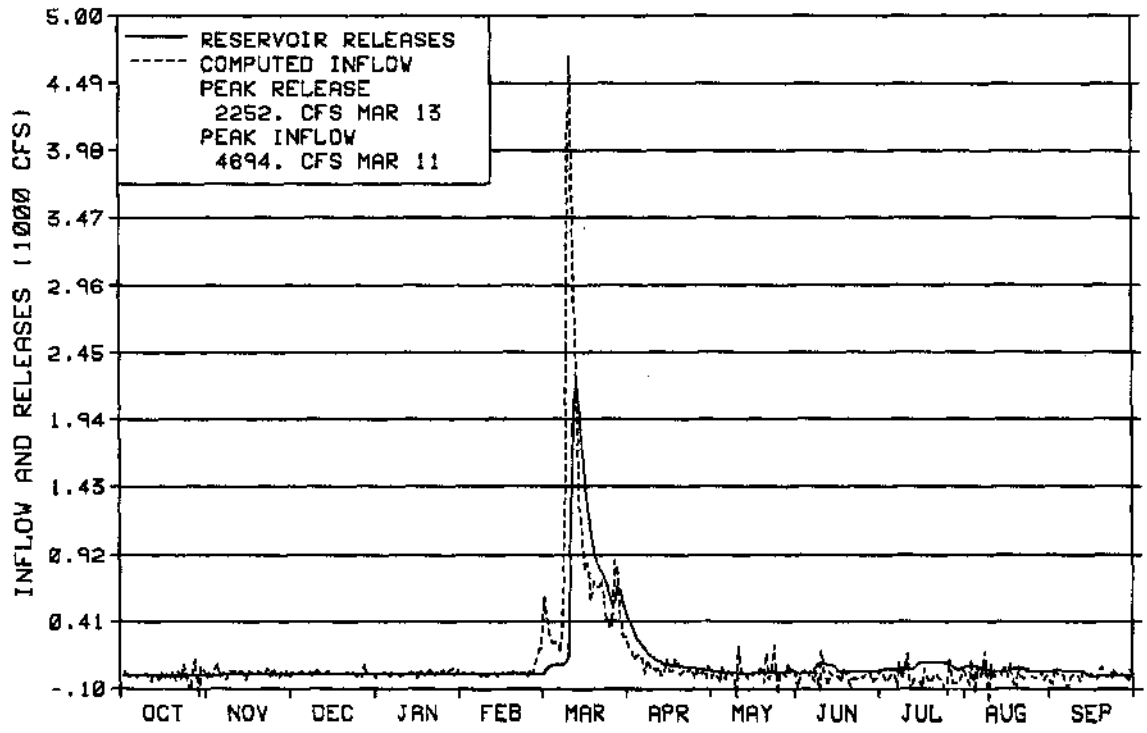
MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	-149	NA	0	NA	55,111	94
NOVEMBER	1,115	94	489	33	55,737	95
DECEMBER	1,033	130	615	46	56,155	97
JANUARY	1,035	117	615	52	56,575	98
FEBRUARY	1,695	45	575	29	57,695	97
MARCH	59,794	204	45,130	247	72,359	103
APRIL	3,996	17	7,920	34	68,435	96
MAY	1,288	13	1,488	13	68,235	98
JUNE	-463	NA	2,399	26	65,373	92
JULY	-858	NA	4,203	52	60,312	90
AUGUST	156	13	2,864	55	57,604	91
SEPTEMBER	-113	NA	825	31	56,666	93
ANNUAL	68,530	79	67,124	78		
APRIL-JULY	3,963	8				

* Frequently observed during fall and winter months

FIGURE DKG3

LAKE TSCHIDA





WATER YEAR 2004

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 2004 OPERATIONS SUMMARY

The water surface elevation of Jamestown Reservoir at the beginning of water year 2004 was 1430.13 feet with storage of 29,604 acre-feet, which is 2.13 feet, and 4,247 acre-feet above the top of the conservation pool (elevation 1428.00). Jamestown Reservoir peaked at elevation 1437.50 feet on April 18th with 53,100 acre-feet of storage. The reservoir elevation on September 30, 2004 was 1428.41 with storage of 26,143 acre-feet, which is 0.41 feet, and 786 acre-feet above the top of active conservation pool.

The maximum discharge of 456 cfs occurred on May 25th. Reservoir net inflows for water year 2004 totaled 92,133 acre-feet, 216 percent of average. Precipitation for the water year totaled 20.28 inches at 110 percent of average.

Jamestown Dam and Reservoir are operated and maintained by the Bureau of Reclamation.

MONTHLY STATISTICS FOR WY 2004

April inflows were the 9th highest April inflows in 51 years of record.
May inflows were the 7th highest May inflows in 51 years of record,.
June inflows were the 1st highest June inflows in 51 years of record.
July inflows were the 5th highest July inflows in 51 years of record.
September inflows were the 5th highest September inflows in 51 years of record.

Record end of month content were recorded in the following months:
No record end of month content was recorded at Jamestown Reservoir

Additional statistical information on Jamestown Reservoir and its operations during 2004 can be found on Table DKT5 and Figure DKG4.

TABLE DKT5
HYDROLOGIC DATA FOR 2004
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

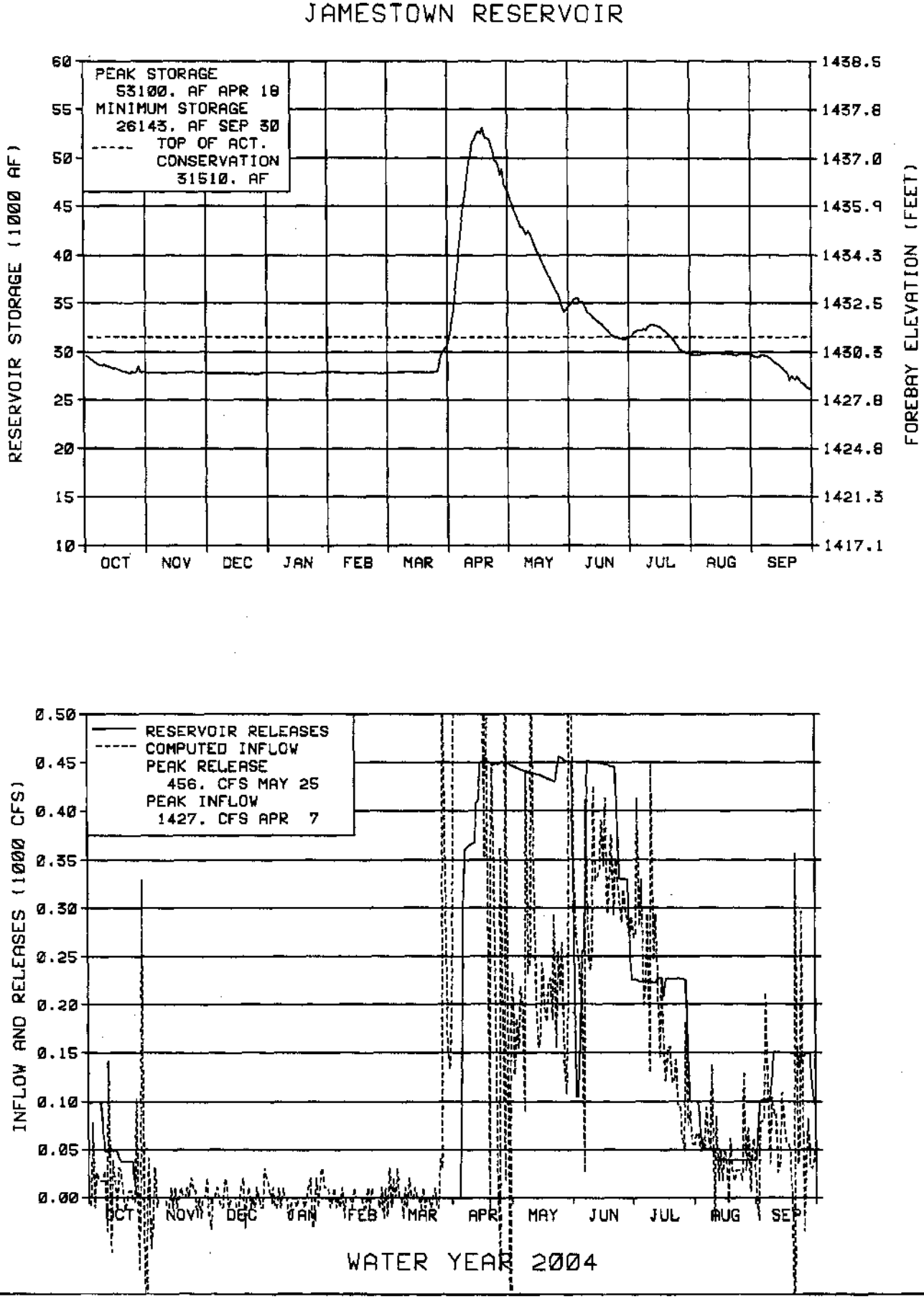
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	1,430.13	29,604	OCT 01, 2003
END OF YEAR	1,428.41	26,143	SEP 30, 2004
ANNUAL LOW	1,428.41	26,143	SEP 30, 2004
ANNUAL HIGH	1,437.50	53,100	APR 18, 2004
HISTORIC HIGH	1,445.91	126,067	MAY 05, 1997

INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	92,133	OCT 03-SEP 04	95,813	OCT 03-SEP 04
DAILY PEAK (CFS)	1,427	APRIL 7, 2004	456	MAY 25, 2004
DAILY MINIMUM (CFS)	0	*	0	*
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	694	83	2,649	122	27,867	113
NOVEMBER	-61	NA	0	NA	27,805	114
DECEMBER	82	25	0	NA	27,887	114
JANUARY	41	29	0	NA	27,928	114
FEBRUARY	-102	NA	0	NA	27,826	**113**
MARCH	2,961	46	0	NA	30,787	102
APRIL	36,939	202	21,047	293	46,679	113
MAY	15,130	222	27,173	259	34,636	92
JUNE	18,101	721	21,337	312	31,400	94
JULY	11,339	397	12,916	267	29,823	95
AUGUST	2,848	106	2,870	63	29,801	101
SEPTEMBER	4,162	496	7,820	210	26,143	98
ANNUAL	92,133	216	95,813	228		
APRIL-JULY	81,509	268				

* Frequently observed during fall and winter months

FIGURE DKG4


JAMESTOWN RESERVOIR
PEAK STORAGE
53100. AF APR 18
MINIMUM STORAGE
26143. AF SEP 30
TOP OF ACT.
CONSERVATION
31510. AF
RESERVOIR STORAGE (1000 AF)
FOREBAY ELEVATION (FEET)
60
55
50
45
40
35
30
25
20
15
10
1438.5
1437.8
1437.0
1435.9
1434.3
1432.5
1430.3
1427.8
1424.8
1421.3
1417.1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
RESERVOIR RELEASES
COMPUTED INFLOW
PEAK RELEASE
456. CFS MAY 25
PEAK INFLOW
1427. CFS APR 7
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
WATER YEAR 2004

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 was to modify 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 2004 OPERATIONS SUMMARY

Inflows for Deerfield Reservoir for WY 2004 totaled 6,618 acre-feet (67% of the average). The water year began with 15,176 acre-feet of storage, at elevation 5906.84. WY 2004 ended with Deerfield at elevation 5904.27 and storage content of 14,127 acre-feet. The peak reservoir elevation for the year was 5907.51 on March 31 with 15,457 acre-feet of storage.

Rapid Valley Water Conservancy District ordered 3,919 acre feet of water from Deerfield for the 2004 irrigation season.

The Annual Facility Review was done on June 29, 2004 by personnel from the Rapid City Field Office and the City of Rapid City.

An Emergency Management Tabletop exercise was conducted on June 19, 2004

MONTHLY STATISTICS FOR WY 2004

October EOM elevation at Deerfield Reservoir was 3rd highest in 51 years of record. October inflow was below average. Releases are at 10 cfs. Deerfield finished the month 1.2 feet from full.

November EOM elevation at Deerfield Reservoir was 4th highest in *51* years of record. November inflow was below average. Releases are at 10 cfs. Deerfield finished the month 1.3 feet from full.

December EOM elevation at Deerfield Reservoir was 5th highest in 51 years of record. December inflow was above average. Releases are at 10 cfs. Deerfield finished the month 1.1 feet from full.

January EOM elevation at Deerfield Reservoir was 7th highest in 51 years of record. January inflow was average. Releases are at 10 cfs. Deerfield finished the month 1.1 feet from full.

February EOM elevation at Deerfield Reservoir was above average. February inflow was above average. Releases are at 10 cfs. Deerfield finished the month 1.0 feet from full.

March EOM elevation at Deerfield Reservoir was above average. March inflow was slightly below average. Releases are at 15 cfs. Deerfield finished the month 0.5 feet from full.

April EOM elevation at Deerfield Reservoir was above average. April inflow was 5th lowest in 51 years of record. Releases are at 15 cfs. Deerfield finished the month 1.0 feet from full.

May EOM elevation, at Deerfield Reservoir, was above average. May inflow was 4th lowest in 51 years of record. Releases are at 10 cfs. Deerfield finished the month 1.4 feet from full.

June EOM elevation, at Deerfield Reservoir, was above average. June inflow was 4th lowest in 51 years of record. Releases are at 10 cfs. Deerfield finished the month 1.9 feet from full.

July EOM elevation, at Deerfield Reservoir, was above average. July inflow was 7th lowest in 51 years of record. Releases are at 10 cfs. Deerfield finished the month 2.4 feet from full.

August EOM elevation, at Deerfield Reservoir, was above average. August inflow was 8th lowest in 51 years of record. Releases are at 10 cfs. Deerfield finished the month 3.2 feet from full.

September EOM elevation, at Deerfield Reservoir, was above average. September inflow was below average. Releases are at 10 cfs. WY 2004 inflow was 11th lowest in 51 years of record. Deerfield finished the month 3.7 feet from full.

Additional statistical information on Deerfield Reservoir and its operations during 2004 can be found on Table DKT6 and Figure **DKG5.**

TABLE DKT6
HYDROLOGIC DATA FOR 2004
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	15,655	15,504
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL			

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	5,906.84	15,176	OCT 01, 2003
END OF YEAR	5,904.27	14,127	SEP 30, 2004
ANNUAL LOW	5,904.27	14,127	SEP 30, 2004
ANNUAL HIGH	5,907.51	15,457	MAR 31, 2004
HISTORIC HIGH	5,909.05	16,157	FEB 25, 1985

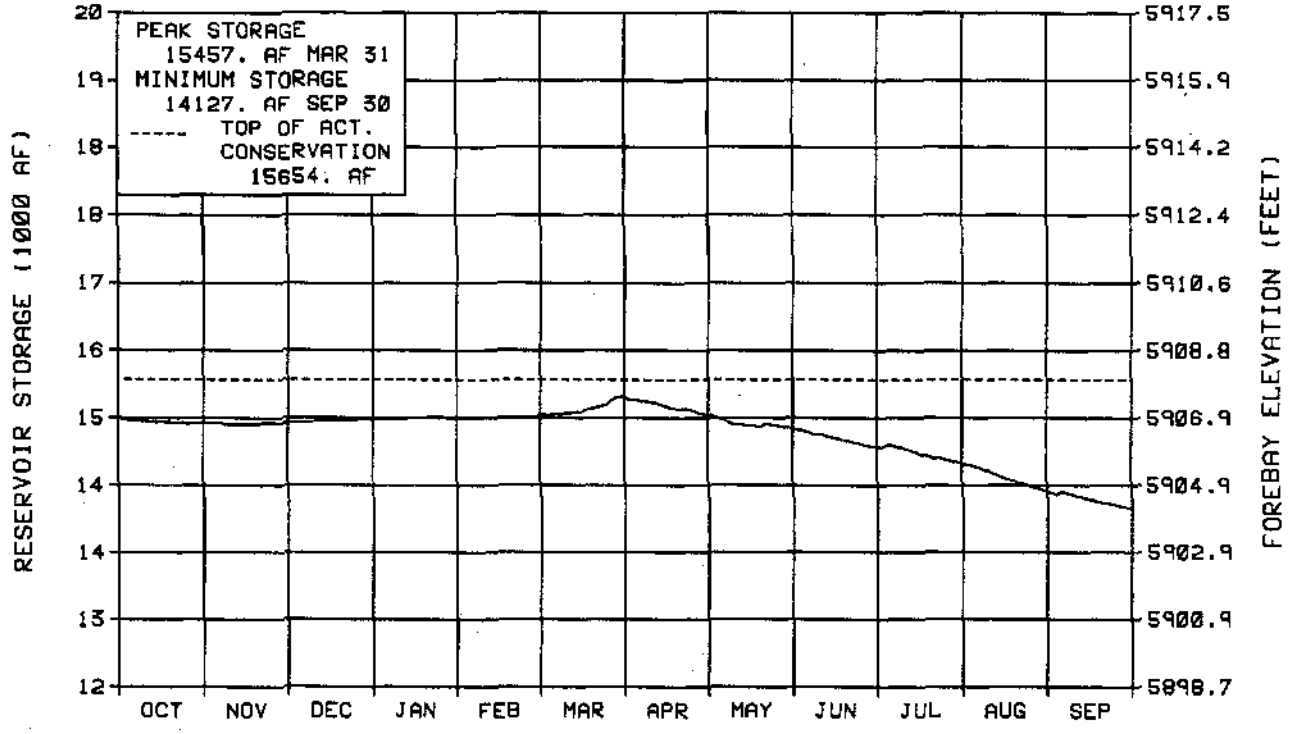
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	6,618	OCT 03-SEP 04	7,667	OCT 03-SEPO4
DAILY PEAK (CFS)	27	MAR 26, 2004	15	APR 1, 2004
DAILY MINIMUM (CFS)	0	*	10	OCT-MAY **04**
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

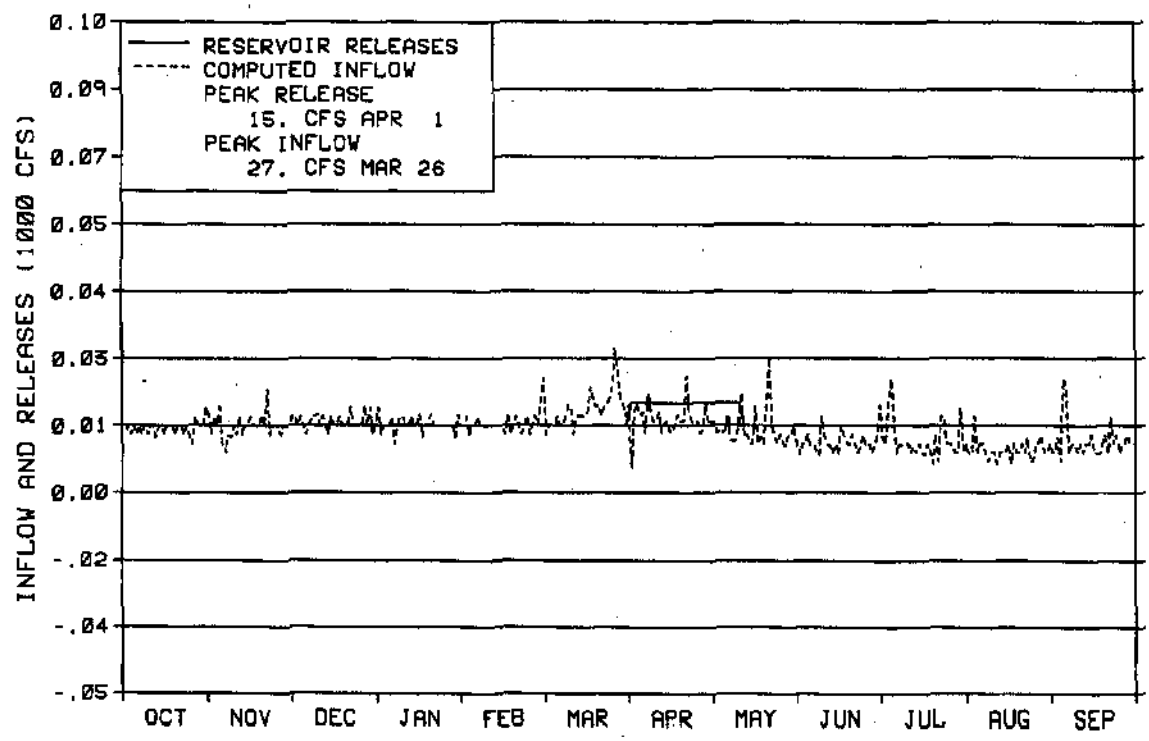
MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	582	87	615	80	15,143	123
NOVEMBER	591	98	**595**	181	15,139	121
DECEMBER	669	106	615	220	15,193	118
JANUARY	624	99	615	219	15,202	115
FEBRUARY	612	105	575	194	15,239	113
MARCH	**838**	95	620	106	15,457	112
APRIL	675	56	893	84	15,239	109
MAY	557	41	719	**55**	15,077	108
JUNE	380	3I	595	47	14,862	107
JULY	414	49	615	**54**	14,661	108
AUGUST	282	41	615	**49**	14,328	110
SEPTEMBER	394	64	595	**48**	14,127	114
ANNUAL	6,618	67	7,667	78		
APRIL-JULY	2,026	**44**				

* Frequently observed during fall and winter months

FIGURE DKG5

DEERFIELD RESERVOIR





WATER YEAR 2004

PAC TOLA 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 Snowtel (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 2004 OPERATIONS SUMMARY

Storage in Pactola Reservoir at the beginning of the year was 48,061 acre-feet at elevation 4570.44, which is 7,911 acre-feet and 9.8 feet below the top of the conservation pool. The inflows for WY 2004 totaled 16,645 acre-feet (47 % of average) and were 5th lowest in 48 years of record.

The water year maximum storage of 50,474 acre-feet occurred on April 30, 2004 and the annual minimum storage of 42,615 acre-feet occurred on September 30, 2004 (end of WY 2004). At the end of WY 2004, storage was 42,615 acre-feet at elevation 4562.99 ft, 13,357 acre-feet and 17.2 ft below the top of the conservation pool.

An Emergency Management Tabletop exercise was conducted on June 19, 2004

The Annual Facility Review was done on October 13, 2004 by personnel from the Rapid City Field Office and the City of Rapid City.

The City of Rapid City ordered 2,715 acre-feet from Pactola to meet needs over and above natural flow releases required to meet prior rights in Rapid Creek during the summer of 2004. The operation of Pactola Reservoir provided minimal local and mainstream flood relief during WY 2004. 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 during early May at 82 cfs.

MONTHLY STATISTICS FOR WY 2004

October EOM elevation at Pactola Reservoir was below average. October inflow was below average. Releases are at 20 cfs. Pactola ended the month 9.8 feet from full.

November EOM elevation at Pactola Reservoir was above average. November inflow was below average. Releases are at 20 cfs. Pactola ended the month 9.7 feet from full.

December EOM elevation at Pactola Reservoir was above average. December inflow was above average. Releases are at 20 cfs. Pactola ended the month 9.5 feet from full.

January EOM elevation at Pactola Reservoir was above average. January inflow was slightly above average. Releases are at 20 cfs. Pactola ended the month 9.3 feet from full.

February EOM elevation, at Pactola Reservoir, was above average. February inflow was slightly above average. Releases are at 20 cfs. Pactola ended the month 9.0 feet from full.

March EOM elevation, at Pactola Reservoir, was above average.. March inflow was slightly below average. Releases are at 20 cfs. Pactola ended the month 7.8 feet from full.

April EOM elevation, at Pactola Reservoir, was above average. April inflow was 8th lowest in 48 years of record. Releases are at 33 cfs. Pactola ended the month 6.6 feet from full.

May EOM elevation, at Pactola Reservoir, was above average. May inflow was 3rd lowest in 48 years of record. Began irrigation release May 1. Releases are at 46 cfs. Pactola ended the month 9.0 feet from full.

June EOM elevation, at Pactola Reservoir, was above average. June inflow was 3rd lowest in 48 years of record. Releases are at 64 cfs. Pactola ended the month 10.1 feet from full.

July EOM elevation, at Pactola Reservoir, was above average. July inflow was 6th lowest in 48 years of record. Releases ended the month at 48 cfs. Pactola ended the month 13.2 feet from full.

August EOM elevation, at Pactola Reservoir, was above average. August inflow was 4th lowest in 48 years of record. Releases ended the month at 51 cfs. Pactola ended the month 16.5 feet

from full.

September EOM elevation, at Pactola Reservoir, was above average. September inflow was 5th lowest in 48 years of record. Release at 20 cfs. WY 2004 inflow was 5th lowest in 52 years of record. Pactola ended the month 17.2 feet from full.

Additional statistical information on Pactola Reservoir and its operations during 2004 can be found on Table DKT7 and Figure DKG6.

TABLE DKT7
HYDROLOGIC DATA FOR 2004
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

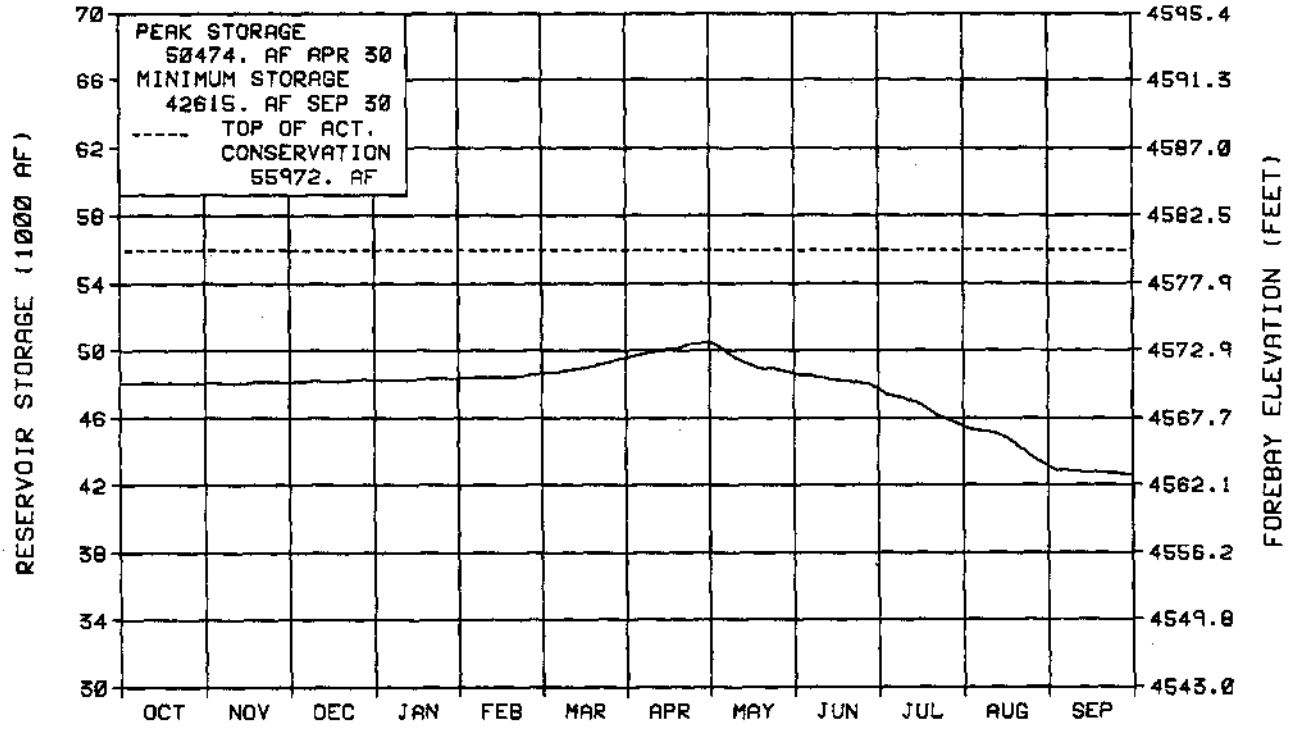
STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4,570.44	48,061	OCT 01, 2003
END OF YEAR	4,562.99	42,615	SEP 30, 2004
ANNUAL LOW	4,562.99	42,615	SEP 30, 2004
ANNUAL HIGH	4,573.55	**50,474**	APR 30, 2004
HISTORIC HIGH	**4,585.87**	61,105	MAY 19, 1965

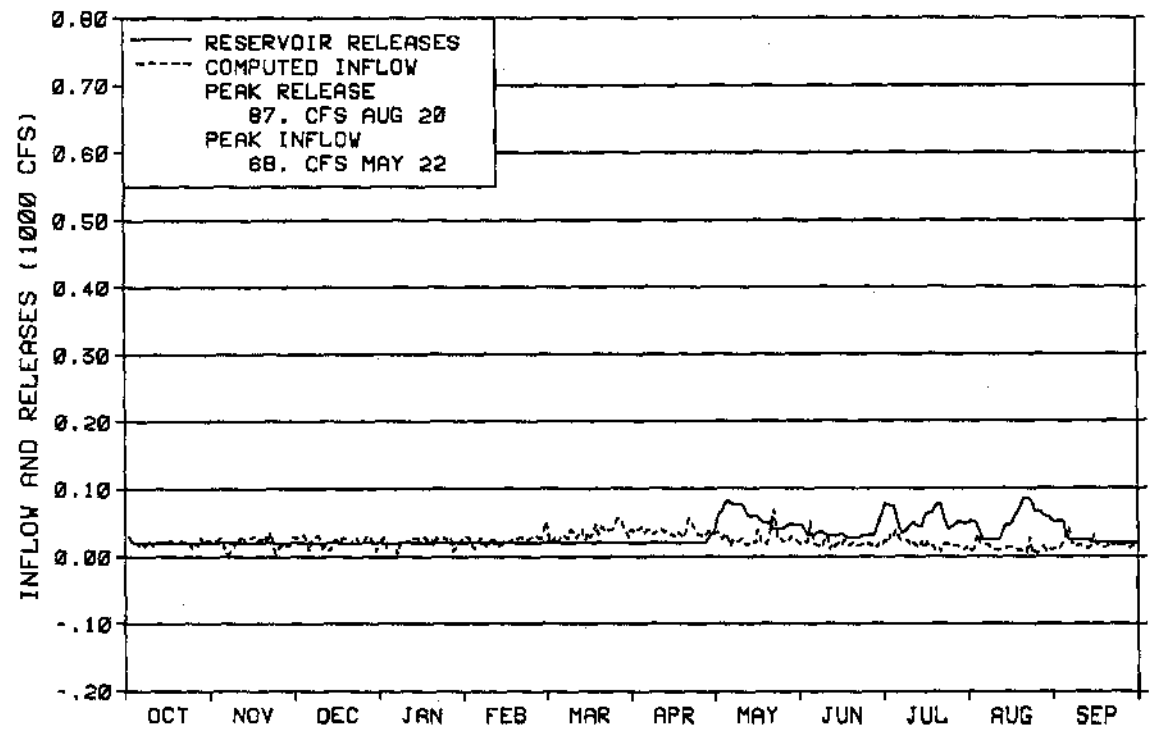
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	16,645	OCT 03-SEP 04	22,092	OCT 03-SEP 04
DAILY PEAK (CFS)	68	MAY 22, 2004	87	AUG 20,2004
DAILY MINIMUM (CFS)	4	AUG 23, 2004	20	OCT-MAY 04
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	1,242	60	1,257	76	48,046	107
NOVEMBER	1,251	83	1,190	87	48,107	107
DECEMBER	1,352	106	1,230	**88**	48,229	108
JANUARY	1,375	105	1,230	93	48,374	108
FEBRUARY	1,433	106	1,150	96	48,657	108
MARCH	2,143	89	1,230	70	49,570	109
APRIL	2,158	51	1,254	44	50,474	107
MAY	1,653	25	3,516	64	48,611	101
JUNE	1,171	17	2,001	33	47,781	98
JULY	1,119	30	3,376	64	45,525	97
AUGUST	**742**	27	3,165	77	43,102	96
SEPTEMBER	1,007	44	**1,494**	56	42,615	96
ANNUAL	16,645	47	22,092	64		
APRIL-JULY	6,101	29				

FIGURE DKG6

PACTOLA RESERVOIR





WATER YEAR 2004

ANGOSTURA RESERVOIR

BACKGROUND

Angostura Reservoir (P-S MBP), located on the Cheyenne River above I-lot 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 130,700 acre-feet with an additional surcharge capacity of 56,400 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 2004 OPERATIONS SUMMARY

Angostura began WY 2004 at an elevation of 3174.82 ft, and storage of 81,877 acre-feet. Total inflows for the water year were 16,126 acre-feet (19 % of average). Peak inflows occurred in March, totaling 4,052 acre-feet for the month.

Water users were allocated full allotments of project water. Releases for irrigation began May 1 and reached a peak of 245 cfs on August 18. The irrigation release was terminated on September 17, with 54,185 acre-feet remaining in storage. Total irrigation releases were 43,301 acre-feet. Storage on September 30, 2004 was 54,703 acre-feet at elevation 3165.53, which is 76,065 acre-feet and 21.67 ft below the top of conservation pool.

The Angostura Dam River Outlet Works Modification Contract (specifications no. 03S1602350) was bid in May of 2003 with work starting in August of 2003. Principal work items in the contract are: 1) furnishing and installing engine-generator system for use as a standby generator for the dam, 2) Installation of the new river outlet works control house with 48-inch-jet-flow gate, hydraulic control system and river outlet works pipe. The contract was completed in October of 2004.

Annual Emergency Management/Security orientation was conducted on March 29, 2004.

The Annual Facility Review was done in November, 2004 by personnel from the Rapid City Field Office.

MONTHLY STATISTICS FOR WATER YEAR 2004

October end-of-month (EOM) elevation and October inflow at Angostura Reservoir were below

average. Angostura ended the month 12.1 feet from full.

November end-of-month (EOM) elevation and November inflow at Angostura Reservoir were below average. Angostura ended the month 11.7 feet from full.

December end-of-month (EOM) elevation at Angostura Reservoir was below average and December inflow was above average. Angostura ended the month 11.0 feet from full.

January end-of-month (EOM) elevation at Angostura Reservoir was below average. January inflow was slightly below average. Angostura ended the month 10.5 feet from full.

February end-of-month (EOM) elevation at Angostura Reservoir was below average. February inflow was slightly below average. Angostura ended the month 9.4 feet from full.

March end-of-month (EOM) elevation at Angostura Reservoir was below average. March inflow was 7th lowest in 52 years of record. Annual Emergency Management/Security orientation done on 29 March. Angostura ended the month 8.3 feet from full.

April end-of-month (EOM) elevation at Angostura Reservoir was below average. April inflow was 2nd lowest in 52 years of record. Angostura ended the month 8.1 feet from full.

May end-of-month (EOM) elevation, at Angostura Reservoir, was 6th lowest and May inflow was 4th lowest in 52 years of record. Began filling distribution system on May 1. Angostura ended the month 10.2 feet from full.

June end-of-month (EOM) elevation, at Angostura Reservoir, was 5th lowest and June inflow was 7th lowest in 52 years of record. Angostura ended the month 12.5 feet from full.

July end-of-month (EOM) elevation, at Angostura Reservoir, was 4th lowest in 52 years of record. July inflow was much below average. Angostura ended the month 16.8 feet from full.

August end-of-month (EOM) elevation, at Angostura Reservoir, was 3rd lowest in 52 years of record. August inflow was below average. Angostura ended the month 21.1 feet from full.

September end-of-month (EOM) elevation, at Angostura Reservoir, was 3rd lowest in 52 years of record. September inflow was above average. Angostura ended the month 21.7 feet from full. WY 2004 inflow was 2nd lowest in 52 years of record.

Additional statistical information on Angostura Reservoir and its operations during 2004 can be found on Table DKT8 and Figure DKG7.

TABLE DKT8
HYDROLOGIC DATA FOR 2004
ANGOSTURA RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	3,163.00	48,325	48,325
TOP OF ACTIVE CONSERVATION	3,187.20	130,768	82,443
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL			

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	3,174.82	81,877	OCT 01, 2003
END OF YEAR	3,165.53	54,703	SEP 30, 2004
ANNUAL LOW	3,165.33	54,185	SEP 16, 2004
ANNUAL HIGH	3,179.10	96,988	APR 27, 2004
HISTORIC HIGH	3,189.37	** 152,228	MAY 20, 1978

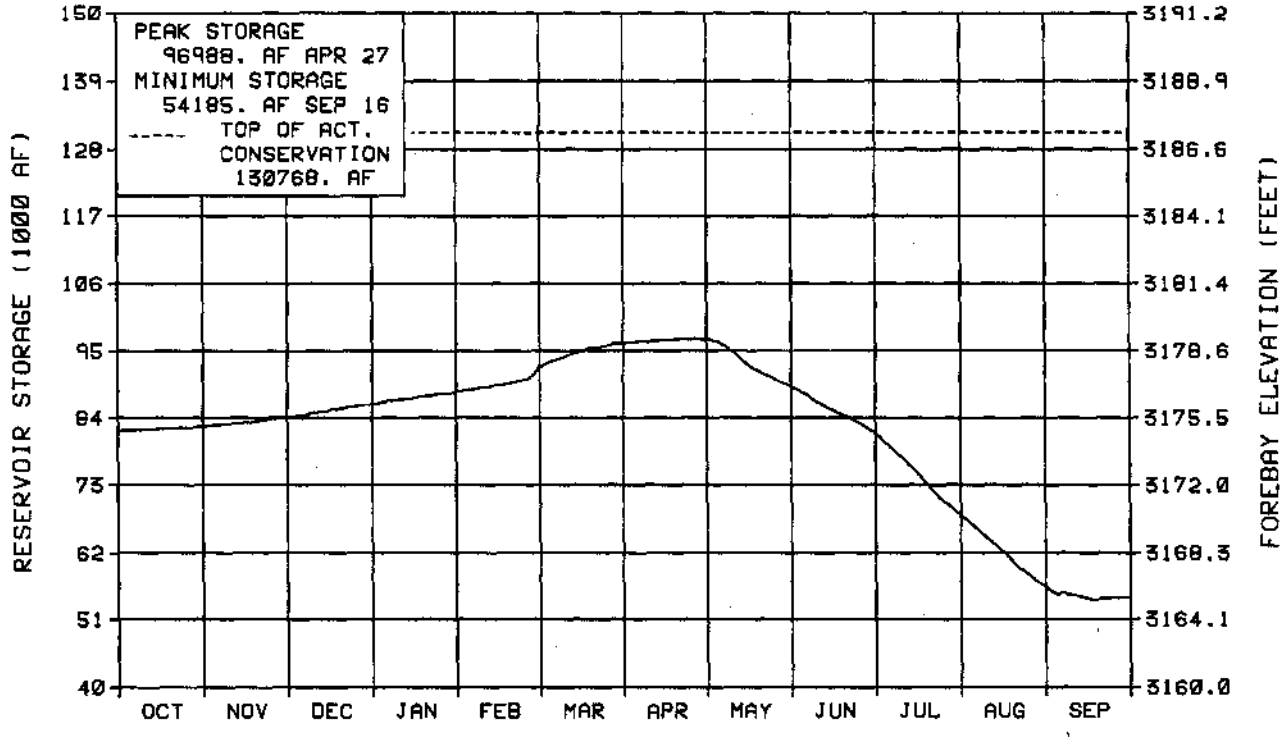
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	16,126	OCT 03-SEP 04	43,301	OCT 03-SEP 04
DAILY PEAK (CFS)	365	FEB 29, 2004	245	AUG 18, 2004
DAILY MINIMUM (CFS)	0	*	0	*
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

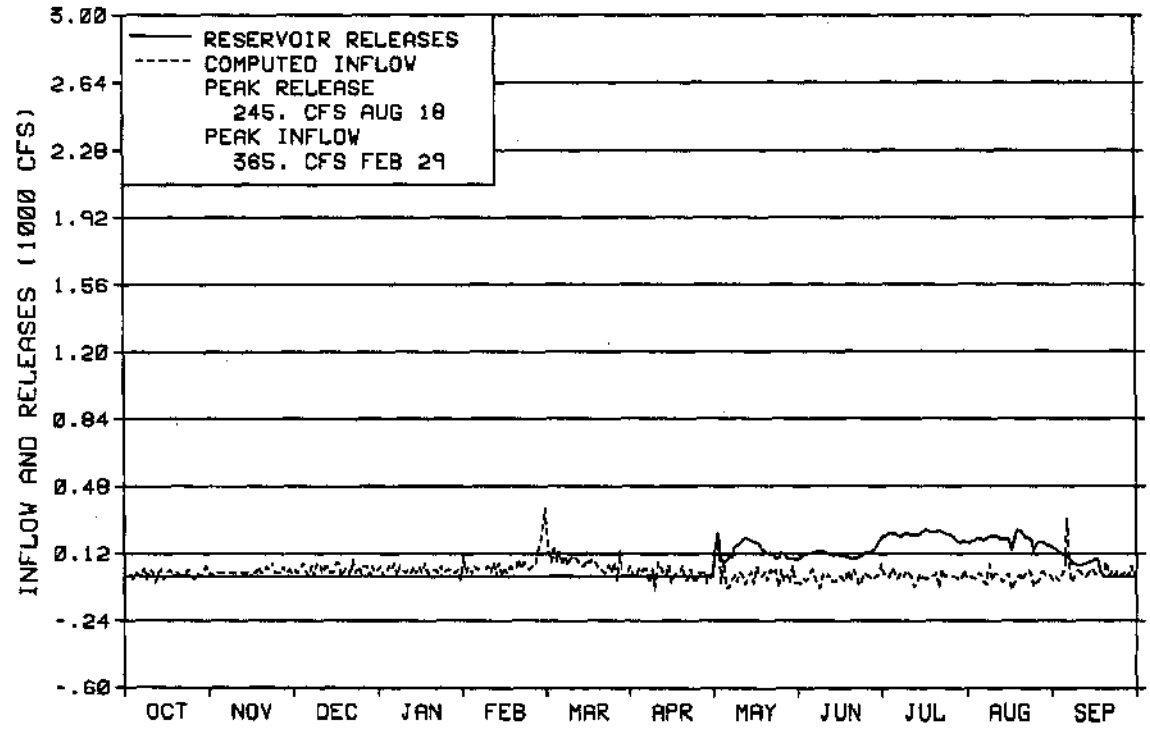
MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	762	46	0	NA	82,639	81
NOVEMBER	1,439	63	0	NA	84,078,	81
DECEMBER	2,281	128	0	NA	86,359	83
JANUARY	1,980	96	0	NA	88,339	83
FEBRUARY	3,921	87	0	NA	92,260	84
MARCH	4,052	35	0	NA	96,311	82
APRIL	601	8	0	NA	96,913	80
MAY	480	3	8,210	61	89,183	71
JUNE	-428	NA	7,142	35	81,613	65
JULY	-37	NA	13,374	81	68,202	59
AUGUST	-357	NA	11,739	87	56,106	53
. SEPTEMBER	1,433	127	2,836	50	54,703	54
ANNUAL	16,126	20	43,301	53		
APRIL-JULY	616	I				

* 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)

FIGURE DKG7

ANGOSTURA RESERVOIR





WATER YEAR 2004

KEYHOLE RESERVOIR

BACKGROUND

Keyhole Reservoir (P-S MBP) located on the Belle Fourche River below Moorcroft, Wyoming, has a conservation capacity of 193,753 acre-feet (185,801 acre-feet active) and 140,462 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 2004 OPERATIONS SUMMARY

Keyhole reservoir started WY 2004 with an elevation of 4088.45 and storage of 111,347 acre feet. Inflows for WY 2004 totaled a negative 5,553 acre-feet, which was 5th lowest in 52 years of record. Average inflows for a water year are 16,494 acre-feet. On March 23, 2004, Keyhole reached its peak elevation for WY 2004 at elevation 4089.06, 10.24 feet below top of conservation.

Keyhole ended WY 2004 at an elevation of 4085.38 ft, with storage of 94,389 acre-feet, which is 13.92 feet and 99,364 acre-feet below top of conservation.

Annual Emergency Management/Security orientation was April 13, 2004.

Irrigation releases began in May and continued intermittently through September with Crook County Irrigation District taking 0 acre-feet and the Belle Fourche Irrigation District ordering 11,405 acre-feet.

The Comprehensive Facility Review was done on May 5, 2004 by personnel from the Rapid City Field Office, the Regional Office in Billings and the TSC **in Denver.**

MONTHLY STATISTICS FOR WATER YEAR 2004

October EOM elevation was above average at Keyhole Reservoir. October inflow was below average. Keyhole finished the month 11.1 feet from full.

November EOM elevation was above average at Keyhole Reservoir. November inflow was above average. Keyhole finished the month 11.1 feet from full.

December EOM elevation was above average at Keyhole Reservoir. December inflow was above average. Emergency Management Functional Exercise held December 17th. Keyhole finished the month 11.0 feet from full.

January EOM elevation was above average at Keyhole Reservoir. January inflow was much below average. Keyhole finished the month 11.0 feet from full.

February EOM elevation was above average, at Keyhole Reservoir. February inflow was above average. Keyhole finished the month 10.4 feet from full.

March EOM elevation was above average, at Keyhole Reservoir. March inflow was 6th lowest in 52 years of record. Keyhole finished the month 10.3 feet from full.

April EOM elevation at Keyhole Reservoir was above average. April inflow was 5th lowest in 52 years of record. Annual Emergency Management/Security orientation done on April 13th. Keyhole finished the month 10.4 feet from full.

May EOM elevation, at Keyhole Reservoir, was above average. May inflow was 6th lowest in 52 years of record. Mechanical CFR completed May 5. 85 cfs irrigation release for BFID May 18-24. Keyhole finished the month 10.9 feet from full.

June EOM elevation, at Keyhole Reservoir, was above average. June inflow was 5th lowest in 52 years of record. Keyhole finished the month 11.3 feet from full.

July EOM elevation, at Keyhole Reservoir, was above average. July inflow was above average. Keyhole finished the month 11.9 feet from full.

August EOM elevation, at Keyhole Reservoir, was above average. August inflow was below average. Keyhole finished the month 13.2 feet from full.

September EOM elevation, at Keyhole Reservoir, was above average. September inflow was below average. Irrigation release ended September 14. Dewater/inspect stilling basin September 15. WY 2004 inflow was 5th lowest in 52 years of record. Keyhole finished the month 13.9 feet from full.

Additional statistical information on Keyhole Reservoir and its operations during 2004 can be found on Table DKT9 and Figure DKG8.

TABLE DKT9
HYDROLOGIC DATA FOR 2004
KEYHOLE RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	4,051.00	7,952	7,952
TOP OF ACTIVE CONSERVATION	4,099.30	193,753	185,801
TOP OF JOINT USE			
TOP OF EXCLUSIVE FLOOD CONTROL	4,111.50	334,215	140,462

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	4,088.45	111,347	OCT 01, 2003
END OF YEAR	4,085.38	94,389	SEP 30, 2004
ANNUAL LOW	4,085.38	94,389	SEP 30, 2004
ANNUAL HIGH	4,089.06	114,987	MAR 23, 2004
HISTORIC HIGH	4,100.38	210,222	MAY 21, 1978

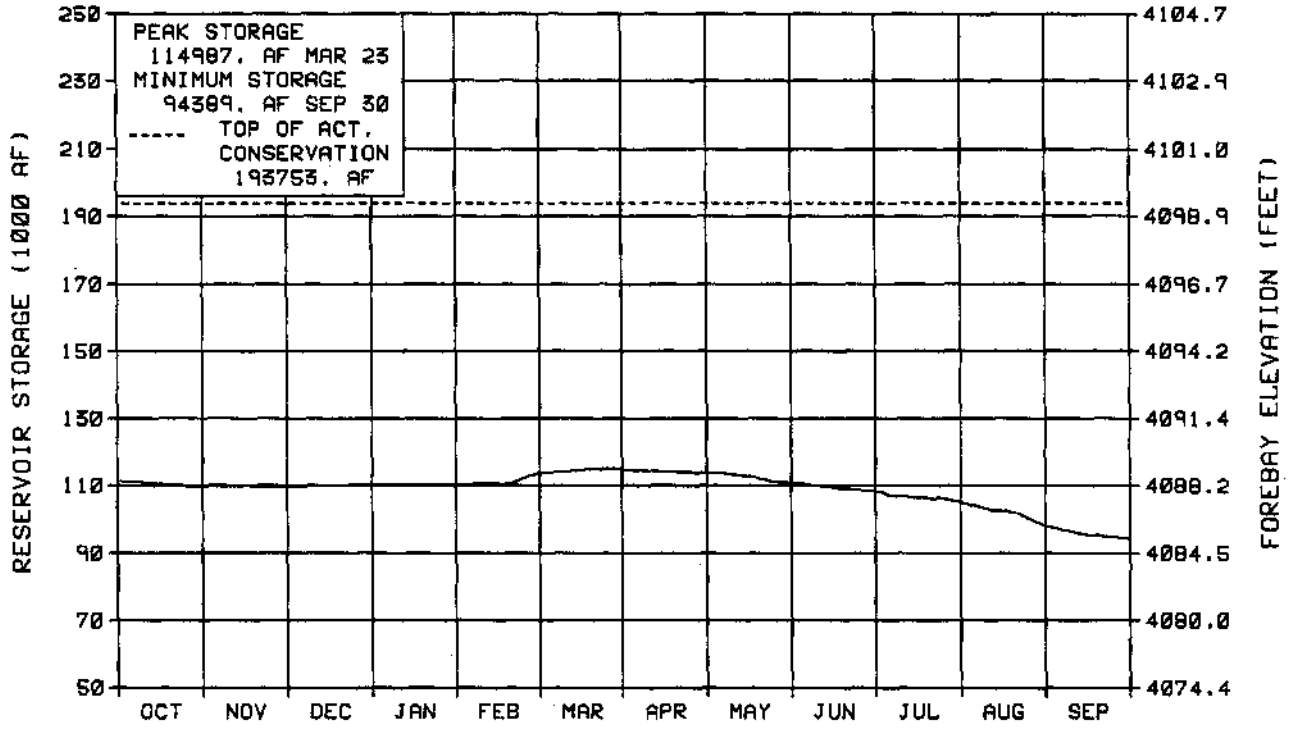
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	**-5,553**	OCT 03-SEP 04	11,405	OCT 03-SEP 04
DAILY PEAK (CFS)	390	JUL 23, 2004	200	JUL 01, 2004
DAILY MINIMUM (CFS)	0	*	0	*
PEAK SPILL (CFS)			0	NONE
TOTAL SPILL (AF)			0	NONE

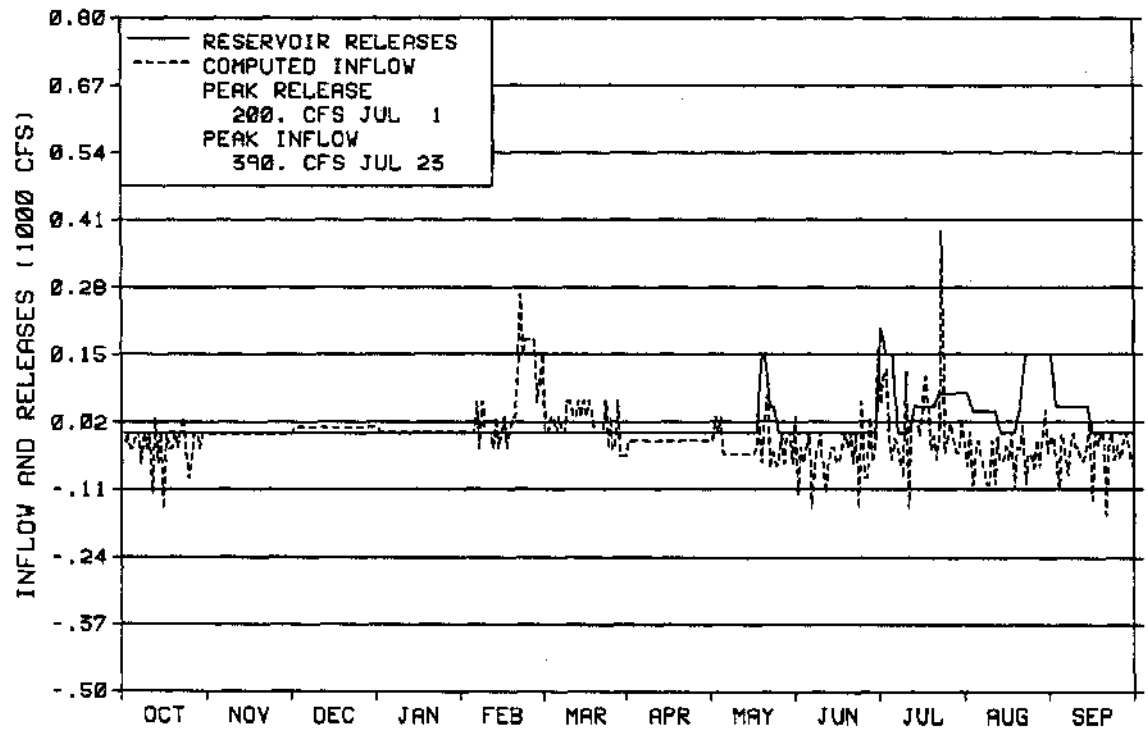
MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	-1466	NA	0	NA	109,881	124
NOVEMBER	**-175**	NA	0	NA	109,706	125
DECEMBER	643	531	0	NA	110,349	125
JANUARY	114	25	0	NA	110,463	125
FEBRUARY	3,321	112	0	NA	113,784	124
MARCH	932	13	0	NA	114,716	**117**
APRIL	-959	NA	0	NA	113,757	116
MAY	-1,515	NA	1,190	64	111,052	111
JUNE	-2,308	NA	198	9	108,546	107
JULY	872	NA	4,240	104	105,1789	108
AUGUST	-2,729	NA	4,339	**113**	8,110	107
SEPTEMBER	-2,283	NA	1,438	178	94,389	106
ANNUAL	-5,553	NA	11,405	77		
APRIL-JULY	-3,910	NA				

* Frequently observed during fall and winter months

FIGURE DKG8

KEYHOLE RESERVOIR





WATER YEAR 2004

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 Nod 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 2004 OPERATIONS SUMMARY

Shadehill reservoir began WY 2004 at elevation 2262.31 ft with storage of 77,934 acre-feet. The peak reservoir water elevation occurred on April 5, with an elevation of 2270.34 ft.

Inflows for the water year were 38,305 acre-feet (55% of average). Shadehill ended the water year at elevation 2267.58 ft with storage of 99,303 acre-feet.

All project irrigation demands were met from river maintenance releases. There were no storage releases for irrigation needed during water year 2004.

Annual Emergency Management/Security orientation was conducted March 31 st, 2004.

The Periodic Facility Review was done on April 6, 2004 by personnel from the Rapid City Field Office and the Regional Office in Billings.

MONTHLY STATISTICS FOR WATER YEAR 2004

October EOM elevation, at Shadehill Reservoir, was 6th lowest 52 years of record. October inflow was below average. Controlled release is at 20 cfs. Shadehill finished the month 10.3 feet below top of conservation.

November EOM elevation, at Shadehill Reservoir, was 5th lowest in 52 years of record. November inflow was below average. Controlled release is at 20 cfs. Shadehill finished the month 10.5 feet below top of conservation.

December EOM elevation, at Shadehill Reservoir, was 5th lowest in 52 years of record. December inflow was below average. Controlled release is at 20 cfs. Shadehill finished the month 10.7 feet below top of conservation.

January EOM elevation, at Shadehill Reservoir, was 6th lowest in 52 years of record. January inflow was much below average. Controlled release is at 20 cfs. Shadehill finished the month 11.0 feet below top of conservation.

February EOM elevation, at Shadehill Reservoir, was below average. February inflow was 6th highest in 52 years of record. Intake conduit dewatered/inspected February 25. Controlled release at 20 cfs. Shadehill finished the month 8.3 feet below top of conservation.

March EOM elevation, at Shadehill Reservoir, was above average. March inflow was above average. Annual Emergency Management/Security orientation done on 31 March. Controlled release at 27 cfs. Shadehill finished the month 1.7 feet below top of conservation.

April EOM elevation, at Shadehill Reservoir, was above average. April inflow was 7th lowest in 52 years of record. Controlled release at 27 cfs. Shadehill finished the month 1.8 feet below top of conservation.

May EOM elevation, at Shadehill Reservoir, was slightly below average. May inflow was 5th lowest in 52 years of record. Controlled release at 26 cfs. Shadehill finished the month 2.3 feet below top of conservation.

June EOM elevation, at Shadehill Reservoir, was below average. June inflow was the lowest in 52 years of record. Controlled release at 26 cfs. Shadehill finished the month 2.9 feet below top of conservation.

July EOM elevation, at Shadehill Reservoir, was below average. July inflow was below average. Controlled release at 26 cfs. Shadehill finished the month 3.3 feet below top of conservation.

August EOM elevation, at Shadehill Reservoir, was below average. August inflow was below average. Controlled release at 25 cfs. Shadehill finished the month 3.8 feet below top of conservation.

September EOM elevation, at Shadehill Reservoir, was slightly below average. September inflow was below average. Controlled release at 25 cfs. WY 2004 inflow was below average. Shadehill finished the month 4.4 feet below top of conservation.

Additional statistical information on Shadehill Reservoir and its operations during 2004 can be found on Table DKT10 and Figure DKG9.

TABLE DKT9
HYDROLOGIC DATA FOR 2004
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	2,262.31	77,934	OCT 01, 2003
END OF YEAR	2,267.58	99,303	SEP 30, 2004
ANNUAL LOW	2,260.80	72,588	FEB 18, 2004
ANNUAL HIGH	2,270.34	112,027	APR 05, 2004
HISTORIC HIGH	2,297.90	318,438	APR 10, 1952

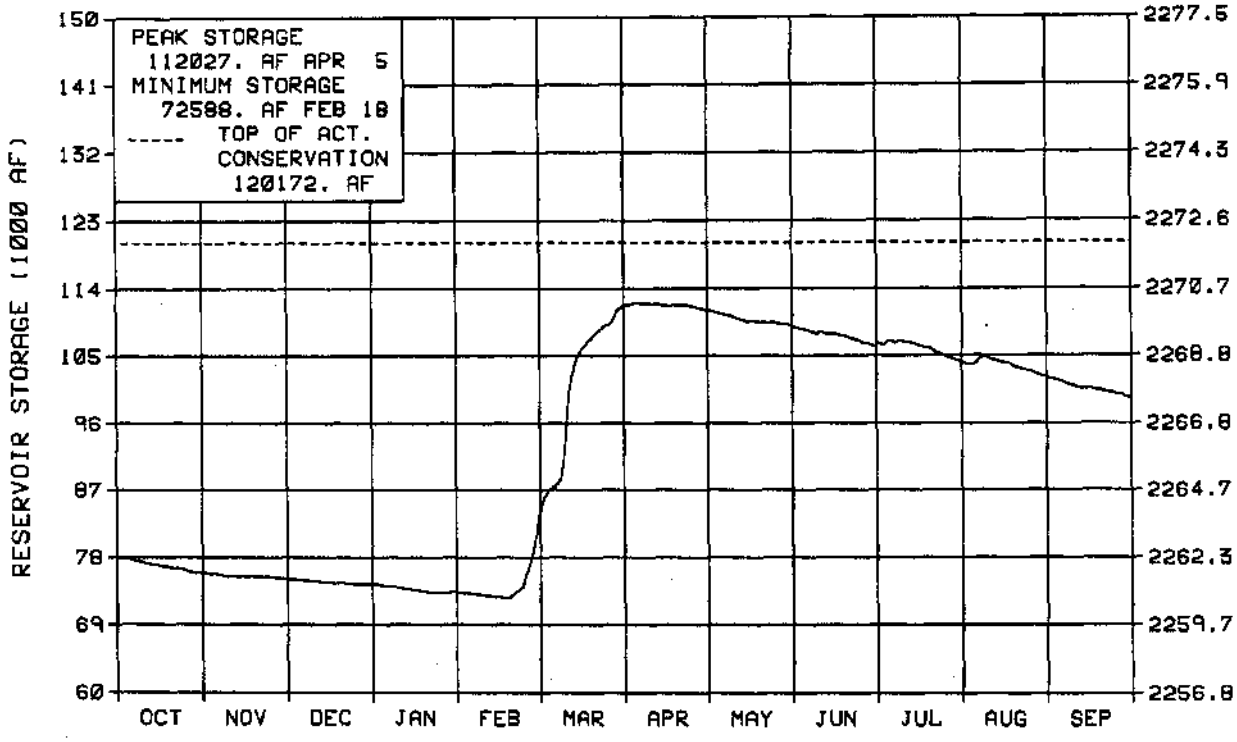
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	38,305	OCT 03-SEP 04	16,952	OCT 03-SEP 04
DAILY PEAK (CFS)	2,392	MAR 10, 2004	27	MAR 29, 2004
DAILY MINIMUM (CFS)	0	*	19	*
PEAK SPILL (CFS)			0	
TOTAL SPILL (AF)			0	

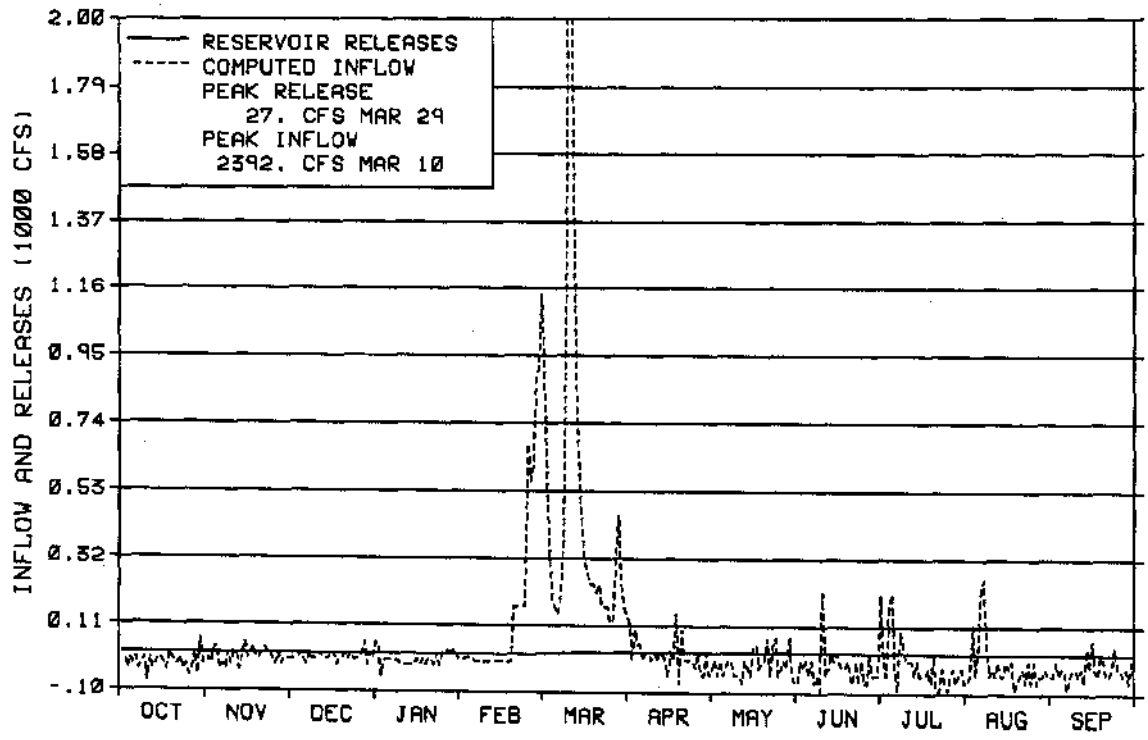
MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	% OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	-795	NA	1,245	38	75,910	67
NOVEMBER	398	52	1,180	44	75,128	68
DECEMBER	551	70	1,220	48	74,459	68
JANUARY	52	5	1,201	50	73,310	68
FEBRUARY	11,100	333	1,125	52	83,285	76
MARCH	29,897	142	1,539	18	111,643	91
APRIL	1,068	6	1,594	10	111,117	89
MAY	-551	NA	1,629	17	108,937	86
JUNE	-1,152	NA	1,555	18	106,230	84
JULY	-520	NA	1,597	29	104,113	83
AUGUST	-513	NA	1,574	35	102,026	84
SEPTEMBER	-1,230	NA	1,493	40	99,303	85
ANNUAL	38,305	55	16,952	25		
APRIL-JULY	-1,155	NA				

* Frequently observed during fall and winter months

FIGURE DKG9

SHADEHILL RESERVOIR





WATER YEAR 2004

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 192,077 acre-feet (185,277 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 was satisfied by the reservoir filling, the South Dakota Department of Environment and Natural Resources provided guidelines for complying with water rights on the Belle Fourche River. The District was 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 were greater than 45 cfs, the District was required to bypass up to 60 cfs for downstream irrigation rights. Any flows in excess of these amounts could be diverted into the reservoir and stored. If all of these rights were not needed, the District could divert flows into the reservoir.

WATER YEAR 2004 OPERATIONS SUMMARY

Belle Fourche Reservoir began WY 2004 at elevation 2952.34 and storage of 56,237 acre-feet.

Significant Canal Operations:

The Inlet Canal remained open all winter. South Canal was turned on May 10 and North Canal on May 16. South Canal was shut off on September 14 and North Canal on September 22.

Inflows peaked in March with a total of 13,470 acre-feet for the month which is 81% of average. Inflows for WY 2004 were 85,704 acre-feet, which was 74% of average, and the 8th lowest in 52 years of record.

The reservoir ended the water year at elevation 2944.03 ft with storage of 31,503 acre-feet. The reservoir finished the year 30.97 feet from full.

Annual Emergency Management/Security orientation was conducted on March 30, 2004.

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. Inclinometers readings were taken quarterly as required by the periodic monitoring schedule.

A Periodic Facility Review was done on April 7, 2004 by personnel from the Rapid City Field Office, the Regional Office in Billings, and the Belle Fourche Irrigation District.

MONTHLY STATISTICS FOR WATER YEAR 2004

October EOM elevation at Belle Fourche Reservoir was slightly below average. October inflow was below average. Belle Fourche ended the October month 20.6 feet from full.

November EOM elevation at Belle Fourche Reservoir was slightly below average. November inflow was slightly above average. Belle Fourche ended the month 18.3 feet from full.

December EOM elevation at Belle Fourche Reservoir was slightly below average. December inflow was slightly above average. Belle Fourche ended the month 16.3 feet from full.

January EOM elevation at Belle Fourche Reservoir was below average. January inflow was below average. Belle Fourche ended the month 14.7 feet from full.

February EOM elevation at Belle Fourche Reservoir was below average. February inflow was above average. Belle Fourche ended the month 12.7 feet from full.

March EOM elevation at Belle Fourche Reservoir was below average. March inflow was below average. Annual Emergency Management/Security orientation done on 30 March. Belle Fourche ended the month 10.4 feet from full.

April EOM elevation at Belle Fourche Reservoir was below average. April inflow was much below average. Belle Fourche ended the month 9.2 feet from full.

May EOM elevation, at Belle Fourche Reservoir, was below average. May inflow was below average. Began filling South Canal May 10, North Canal May 16. Belle Fourche ended the month 9.6 feet from full.

June EOM elevation, at Belle Fourche Reservoir, was 8th lowest and June inflow was 4th lowest in 52 years of record. Belle Fourche ended the month 12.3 feet from full.

July EOM elevation, at Belle Fourche Reservoir, was below average and July inflow was above average. Belle Fourche ended the month 16.8 feet from full. Note: Belle Fourche inflows include irrigation releases from Keyhole.

August EOM elevation, at Belle Fourche Reservoir, was below average and August inflow was below average. Belle Fourche ended the month 26.4 feet from full. Note: Belle Fourche inflows include irrigation releases from Keyhole.

September EOM elevation, at Belle Fourche Reservoir, was below average and September inflow was below average. South Canal release ended September 14 and North Canal release ended September 22. Belle Fourche ended the month 31.0 feet from full. WY 2004 inflow was 8th

lowest in 52 years of record. Note: Belle Fourche inflows include irrigation releases from Keyhole.

Additional statistical information on Belle Fourche Reservoir and its operations during 2004 can be found on Table DKT11 and Figure DKG10.

TABLE DKT1 1
HYDROLOGIC DATA FOR 2004
BELLE FOURCHE RESERVOIR

RESERVOIR ALLOCATIONS	ELEVATION (FEET)	TOTAL RESERVOIR STORAGE (AF)	STORAGE ALLOCATION (AF)
TOP OF INACTIVE AND DEAD	2,927.00	6,800	6,800
TOP OF ACTIVE CONSERVATION	2,975.00	192,077	185,277
TOP OF JOINT USE			
TOP OF EXCLUSIVE, FLOOD CONTROL			

STORAGE-ELEVATION DATA	ELEVATION (FT)	STORAGE (AF)	DATE
BEGINNING OF YEAR	2,952.34	56,237	OCT 01, 2003
END OF YEAR	2,944.03	31,503	SEP 30, 2004
ANNUAL LOW	2,943.05	29,363	SEP 19, 2004
ANNUAL HIGH	2,965.88	125,589	MAY 03, 2004
HISTORIC HIGH	2,975.80	198,455	MAY 12, 1978

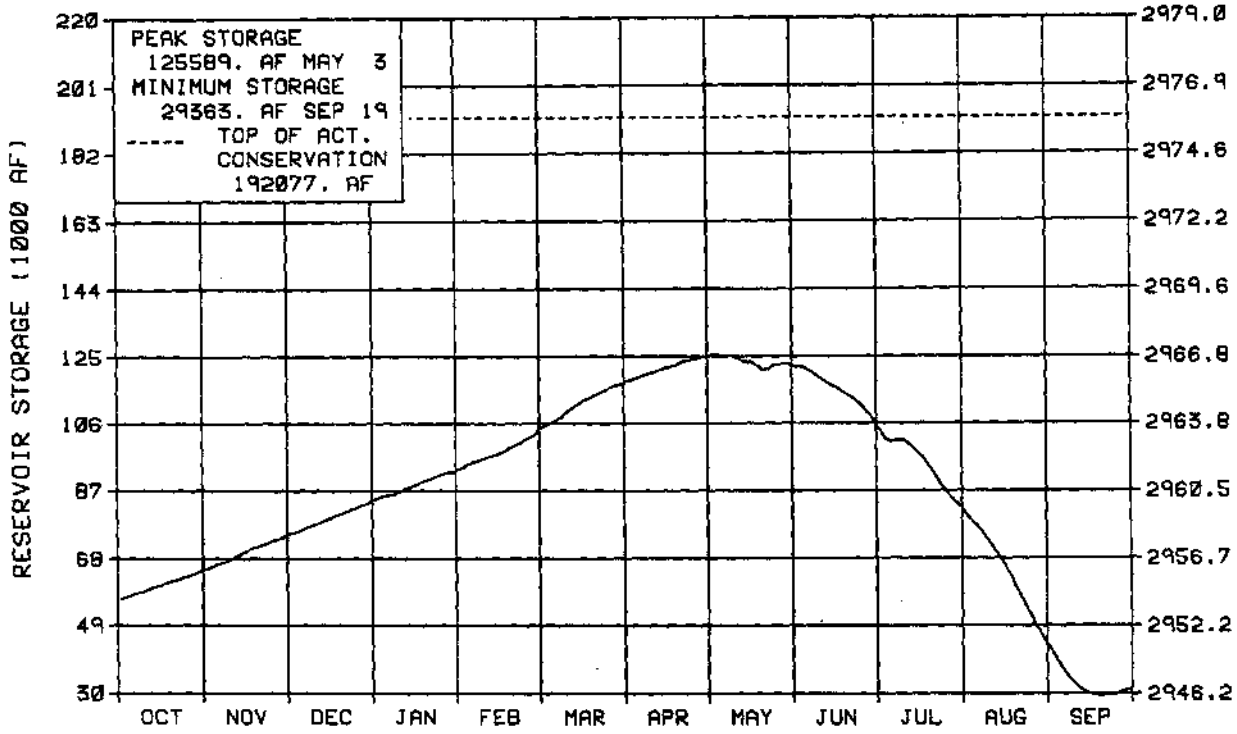
INFLOW-OUTFLOW DATA	INFLOW	DATE	OUTFLOW	DATE
ANNUAL TOTAL (AF)	85,704	OCT 03-SEP 04	110,438	OCT 03-SEP 04
DAILY PEAK (CFS)	631	MAY 24, 2004	721	JUL 02, 2004
DAILY MINIMUM (CFS)	0	*	0	*
PEAK SPILL (CFS)	0		0	NONE
TOTAL SPILL (AF)			0	NONE

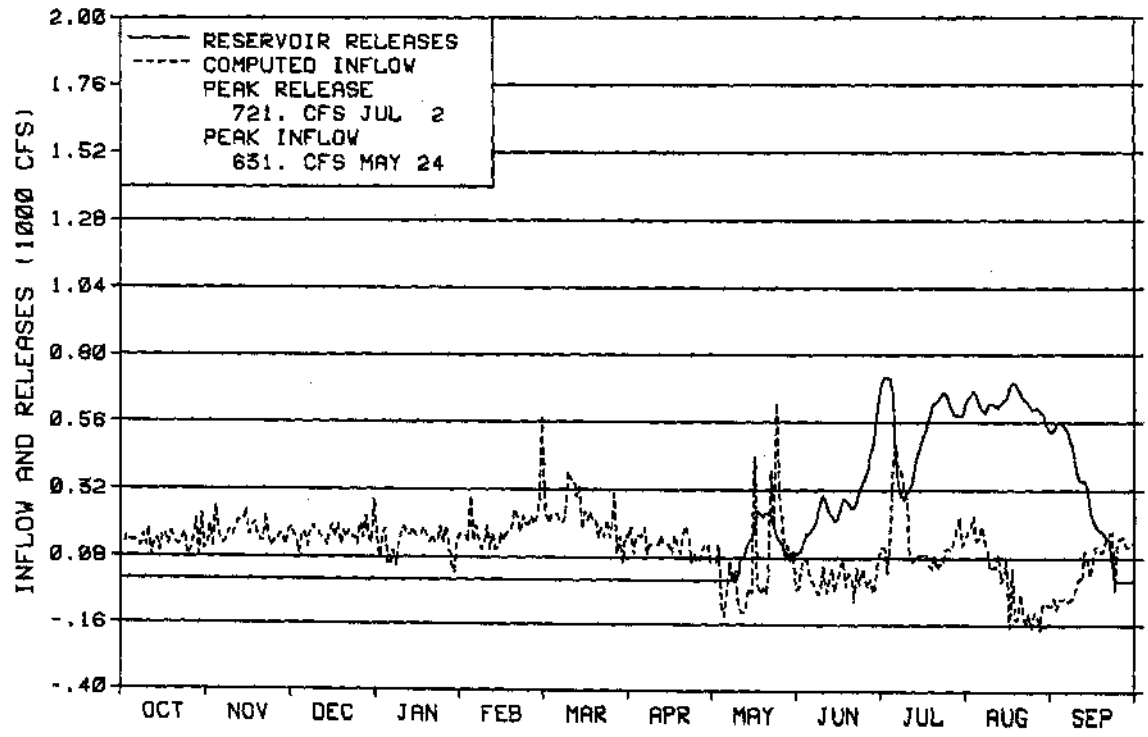
MONTH	INFLOW		OUTFLOW		CONTENT	
	AF	%OF AVG	AF	% OF AVG	AF	% OF AVG
OCTOBER	8,463	81	0	NA	64,700	91
NOVEMBER	10,051	101	0	NA	74,751	92
DECEMBER	9,924	106	0	NA	84,674	94
JANUARY	8,370	87	0	NA	93,044	94
FEBRUARY	11,087	107	0	NA	104,131	95
MARCH	13,470	81	0	NA	117,601	93
APRIL	7,478	54	0	NA	125,079	90
MAY	4,018	29	6,503	83	122,594	84
JUNE	456	4	16,909	100	106,1418	76
JULY	9,527	250	33,512	90	2,155	77
AUGUST	-264	NA	38,535	107	43,357	60
SEPTEMBER	3,124	64	14,979	88	31,503	52
ANNUAL	85,704	74	110,438	95		
APRIL-JULY	21,479	50				

* Frequently observed during fall and winter months

FIGURE DKG10

BELLE FOURCHE RESERVOIR





WATER YEAR 2004

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' 2004 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	4,211	10,785	2,717	975	18,688
Garrison	4,980	13,130	4,222	1,489	23,821
Oahe	5,373	13,461	3,201	1,102	23,137
Big Bend	1,682	0	117	60	1,859
Fort Randall	1,517	. 1,607	1,309	985	5,418
Gavins Point	321	0	90	59	470
Totals	18,084	38,983	11,656	4,670	73,393

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	517,750
Oahe	7	786,030
Big Bend	8	494,320
Fort Randall	8	320,000
Gavins Point	3	132.300
Totals	36	2,435,650

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 57.1 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 CETI presents the regulation benefit for most of those functions as recorded in 2003-2004, 2002-2003, 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*	Mar. - Dec.	0.67 million tons (2004)	0.5 million tons (2003)	2.1 million tons'
Flood Damages Prevented	Jan. - Dec.	$0.7 million (2004)	$49.7 million (2003)	$24.8 billion
Energy	Aug. - Jul.	7.4 billion KWH (Aug. 03-July 04)	7.9 billion KWH (Aug. 02-July 03)	9.8 billion KWH3

* Excludes sand, gravel, waterway material
2004 – estimate 0.67 million tons
Including sand, gravel, waterway material
7.4 million tons (2003)
2.1 million tons (36-year long-term average)

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

' Average for 38 years 1967-2004 with the peak shipments in 1977 (2.1 million tons)
2
3 Total damages prevented (1937-2004)
Average Annual 1968-2004

A detailed description of the main stem system operations during 2004 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 2,435,650 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 2004 was 7,734.451 million kilowatt hours, 806.0 million kilowatt hours less than in WY 2003. 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 Kilo Watt Hours

Year	USBR	COE	TOTAL
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
1998	1822.698	11435.586	13258.284
1997	2016.989	13942.025	15959.014
1996	1837.954	13788.867	15626.821
1995	1433.794	8883.983	10317.777

A comparison of 2003 and 2004 generation and other data from Missouri Basin Region powerplants is shown on Table CET2. Tables CET3, 4, and 5 show 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 2004 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 2004

BUREAU PLANTS	INSTALLED CAPACITY (KW)	MILLION KILOWATT-HOURS GENERATED 2003	MILLION KILOWATT-HOURS GENERATED 2004	WATER USED FOR GENERATION IN 2004 1,000 AF	WATER USED FOR GENERATION IN 2004 PERCENT OF TOTAL RELEASE	WATER USED FOR GENERATION IN 2004 KW-HOURS PER AF	RIVER RELEASE 1,000 AF	TOTAL RELEASE 1,000 AF
Canyon Ferry	50,000	322.771	239.085	2,040.166	89.49	117.19	2,170.137	2,279.780
Pilot Butte[1]	1,600	2.258	4.287	46.822	25.60	91.56	182.917	182.917
Boysen	15,000	25.560	30.139	435.881	92.94	69.15	468.984	468.984
Buffalo Bill Reservoir Units								
Shoshone	3,000	15.271	18.407	130.934	22.27	140.58	See below for	total.
Buffalo Bill	18,000	44.437	47.611	183.924	31.29	258.86	See below for	total.
Heart Mountain	6,000	18.170	9.121	46.960	7.99	194.23	See below for	total.
Spirit Mountain [2]	4,500	14.923	17.090	171.948	29.25	99.39	See below for	total.
Total for Buffalo Bill Reservoir[3]	31,500	92.801	92.229	533.766	90.80	172.79	365.794	587.848
Yellowtail	250,000	313.727	322.627	1,117.157	100.00	288.79	1,045.490	1,117.157
Subtotal	**348,100**	**757.117**	**688.367**	**4,173.792**	**90.02**	**164.93**	**4,233.322**	**4,636.686**
CORPS PLANTS								
Fort Peck	185,250	839.431	752.242	5,226.00	100.00	143.94	5,226.000	5,226.000
Garrison	517,750	1,862.752	1,569.371	11,980.00	100.00	131.00	11,980.000	11,980.000
Oahe	786,030	2,018.595	1,761.919	13,995.00	100.00	125.90	13,995.000	13,995.000
Big Bend	494,320	846.207	783.286	12,951.00	100.00	60.48	12,951.000	12,951.000
Fort Randall	320,000	1,502.469	1,482.875	14,508.00	100.00	102.21	14,508.000	14,508.000
Gavins Point	132,300	713.924	696.391	15,728.00	99.89	44.28	15,746.000	15,746.000
Subtotal	**2,435,650**	**7,783.378**	**7,046.084**	**74,388.00**	**99.98**	**94.72**	**74,406.000**	**74,406.000**
TOTAL MISSOURI BASIN	**2,783,750**	**8,540.495**	**7,734.451**	**78,561.79**	**99.39**	**98.45**	**78,639.322**	**79,042.686**

[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 2004

	BUREAU OF RECLAMATION PLANTS								
				BUFFALO BILL PLANTS					
MONTH	CANYON FERRY	PILOT BUTTE	BOYSEN	HEART MOUNTAIN	SPIRIT MOUNTAIN	BUFFALO BILL	SHOSHONE	YELLOWTAIL	TOTAL
October	21.396	0.596	0.808	1.608	1.548	1.588	1.466	20.587	**49.597**
November	21.109	0.000	0.922	0.000	0.000	0.000	1.323	23.881	**47.235**
December	25.044	0.000	0.994	0.000	0.000	0.000	1.107	32.048	**59.193**
January	25.639	0.000	0.835	0.000	0.000	0.000	0.986	38.119	**65.579**
February	24.037	0.000	0.000	0.000	0.000	0.000	0.880	25.190	**50.107**
March	25.726	0.000	0.865	0.000	0.000	0.000	0.916	27.546	**55.053**
April	19.573	0.000	2.587	0.000	0.347	6.724	1.530	25.352	**56.113**
May	16.054	0.000	4.563	1.237	2.885	10.052	2.003	27.021	**63.815**
June	14.449	0.639	5.032	1.164	2.985	7.836	1.987	29.359	**63.451**
July	14.987	1.041	5.320	1.182	3.232	9.884	2.149	30.251	**68.046**
August	15.632	1.062	4.741	1.193	3.101	8.774	2.104	25.224	**61.831**
September	15.439	0.949	3.472	2.737	2.992	2.753	1.956	18.049	**48.347**
TOTAL	**239.085**	**4.287**	**30.139**	**9.121**	**17.090**	**47.611**	**18.407**	**322.627**	**688.367**

	CORPS OF ENGINEERS PLANTS							MISSOURI BASIN
MONTH	FORT PECK	GARRISON	OAHE	BIG BEND	FORT RANDALL	GAVINS POINT	TOTAL	TOTAL
October	41.995	86.510	151.927	65.986	166.572	76.341	**589.331**	**638.928**
November	48.776	93.167	117.804	51.989	111.546	59.736	**483.018**	**530.253**
December	79.009	130.288	111.225	54.079	70.052	39.464	**484.117**	**543.310**
January	78.941	156.136	117.911	53.016	87.708	44.718	**538.430**	**604.009**
February	72.858	171.953	134.367	59.746	60.899	35.900	**535.723**	**585.830**
March	50.057	132.585	116.307	52.520	68.396	36.595	**456.460**	**511.513**
April	56.934	130.906	149.153	64.118	126.374	56.694	**584.179**	**640.292**
May	89.987	126.761	217.694	91.286	166.434	71.701	**763.863**	**827.678**
June	55.150	140.007	183.386	82.105	168.963	72.587	**702.198**	**765.649**
July	65.141	145.470	189.412	81.369	163.642	70.148	**715.182**	**783.228**
August	62.861	138.970	179.250	81.766	155.490	67.875	**686.212**	**748.043**
September	50.533	116.618	93.483	45.306	136.799	64.632	**507.371**	**555.718**
TOTAL	**752.242**	**1,569.371**	**1,761.919**	**783.286**	**1,482.875**	**696.391**	**7,046.084**	**7,734.451**

TABLE CET4

WATER USED FOR POWER GENERATION (1,000 ACRE-FEET)
WATER YEAR 2004

MONTH	CANYON FERRY	BOYSEN	PILOT BUTTE	BUFFALO BILL RESERVOIR UNITS				YELLOWTAIL	FORT PECK	GARRISON	OAHE	BIG BEND	FORT RANDALL	GAVINS POINT
				SHOSHONE	BUFF. BILL	HEART MTN.	SPIRIT MTN.[1]							
October	174.436	21.534	6.577	9.742	7.794	7.265	14.876	92.489	284.000	663.000	1,171.000	1,074.000	1,664.000	1,719.000
November	174.007	19.190	0.000	5.960	0.000	0.000	0.000	84.567	338.000	699.000	924.000	829.000	1,205.000	1,331.000
December	207.771	21.568	0.000	6.267	0.000	0.000	0.000	89.297	547.000	979.000	906.000	862.000	725.000	844.000
January	217.447	18.142	0.000	6.209	0.000	0.000	0.000	87.823	548.000	1,181.000	946.000	854.000	896.000	990.000
February	205.176	0.000	0.000	5.798	0.000	0.000	0.000	81.435	508.000	1,330.000	1,060.000	969.000	609.000	788.000
March	224.114	16.908	0.000	6.534	0.000	0.000	0.000	87.530	352.000	1,024.000	903.000	880.000	638.000	807.000
April	169.194	39.020	0.000	11.902	23.221	0.000	3.407	88.334	403.000	1,008.000	1,149.000	1,075.000	1,186.000	1,288.000
May	142.440	62.977	0.000	15.421	37.689	6.375	29.523	103.041	625.000	969.000	1,710.000	1,547.000	1,580.000	1,661.000
June	126.796	65.352	7.091	15.298	30.250	6.806	30.582	102.534	393.000	1,071.000	1,462.000	1,398.000	1,585.000	1,702.000
July	129.170	66.560	11.308	16.546	35.567	6.964	32.325	102.934	441.000	1,103.000	1,525.000	1,364.000	1,561.000	1,608.000
August	135.250	59.781	11.516	16.198	35.456	6.852	31.163	104.714	426.000	1,059.000	1,471.000	1,362.000	1,494.000	1,537.000
September	134.365	44.849	10.330	15.059	13.947	12.698	30.072	92.459	361.000	894.000	768.000	737.000	1,365.000	1,453.000
TOTAL	**2,040.166**	**435.881**	**46.822**	**130.934**	**183.924**	**46.960**	**171.948**	**1,117.157**	**5,226.000**	**11,980.000**	**13,995.000**	**12,951.000**	**14,508.000**	**15,728.000**

[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 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

TABLE CET5

TOTAL RELEASE (1,000 ACRE-FEET)
WATER YEAR 2004

MONTH	CANYON FERRY	BOYSEN	PILOT BUTTE	BUFFALO BILL	YELLOWTAIL	FORT PECK	GARRISON	OAHE	BIG BEND	FORT RANDALL	GAVINS POINT
October	174.436	22.334	0.000	37.307	92.489	284.000	663.000	1,171.000	1,074.000	1,664.000	1,719.000
November	186.956	21.147	0.000	6.155	84.567	338.000	699.000	924.000	829.000	1,205.000	1,331.000
December	207.771	21.568	0.000	6.517	89.297	547.000	979.000	906.000	862.000	725.000	844.000
January	217.447	22.123	0.000	6.427	87.823	548.000	1,181.000	946.000	854.000	896.000	990.000
February	205.176	20.800	0.000	5.994	81.435	508.000	1,330.000	1,060.000	969.000	609.000	788.000
March	224.114	22.352	0.000	6.730	87.530	352.000	1,024.000	903.000	880.000	638.000	807.000
April	191.104	39.020	6.136	48.285	88.334	403.000	1,008.000	1,149.000	1,075.000	1,186.000	1,288.000
May	186.401	63.034	28.756	103.446	103.041	625.000	969.000	1,710.000	1,547.000	1,580.000	1,661.000
June	171.532	65.352	32.924	92.314	102.534	393.000	1,071.000	1,462.000	1,398.000	1,585.000	1,702.000
July	174.252	66.595	37.632	104.969	102.934	441.000	1,103.000	1,525.000	1,364.000	1,561.000	1,608.000
August	181.751	59.781	39.638	99.374	104.714	426.000	1,059.000	1,471.000	1,362.000	1,494.000	1,537.000
September	158.840	44.878	30.939	70.330	92.459	361.000	894.000	768.000	737.000	1,365.000	1,471.000
TOTAL	**2,279.780**	**468.984**	**176.025**	**587.848**	**1,117.157**	**5,226.000**	**11,980.000**	**13,995.000**	**12,951.000**	**14,508.000**	**15,746.000**

TABLE CET6

TOTAL RESERVOIR STORAGE CONTENTS (1,000 ACRE-FEET)
WATER YEARS 2003 AND 2004

BUREAU RESERVOIRS	TOP OF CONSERVATION CAPACITY [3]	DEAD AND INACTIVE CAPACITY	TOTAL STORAGE SEPTEMBER 30		END OF SEPTEMBER PERCENT OF AVERAGE	
			2003	2004	2003	2004
Clark Canyon	174.4	1.1	15.8	24.7	13	20
Canyon Ferry	1,891.9	396.0	1,547.2	1,398.9	90	82
Helena Valley	10.5	4.6	4.0	8.1	57	110
Gibson	96.5	0.0	6.2	22.5	22	80
Willow Creek	32.3	0.1	19.7	19.2	109	107
Pishkun	46.7	16.3	33.5	37.4	102	113
Lake Elwell	967.3	577.6	857.2	794.5	104	96
Sherburne	67.9	3.1	7.8	18.6	76	182
Fresno	92.9	0.4	27.8	42.4	70	106
Nelson	79.0	18.1	50.2	58.6	89	103
Bull Lake	152.5	0.7	56.3	89.7	70	116
Pilot Butte	33.7	3.8	12.4	18.8	75	115
Boysen	741.6	219.2	351.9	515.2	61	91
Anchor[1]	17.2	0.1	0.3	0.4	100	121
Buffalo Bill[2]	646.6	41.7	465.7	438.8	108	101
Bighorn Lake	1,070.0	493.6	785.9	710.3	77	70
E. A. Patterson	8.6	0.5	6.4	5.9	100	92
Lake Tschida	67.1	5.2	55.3	56.7	94	96
Jamestown Reservoir	31.5	0.8	29.8	26.1	103	90
Shadehill Reservoir	120.2	43.9	77.9	99.3	70	89
Angostura Reservoir	130.8	48.3	81.9	54.7	88	59
Deerfield Reservoir	15.7	0.2	15.2	14.1	112	105
Pactola Reservoir	56.0	1.0	48.1	42.6	100	89
Keyhole Reservoir	193.8	8.0	111.3	94.4	111	94
Belle Fourche Reservoir	192.1	6.8	56.2	31.5	83	47
Subtotal	**6,120.8**	**1,776.3**	**4,241.9**	**4,198.1**		
CORPS RESERVOIRS						
Fort Peck	17,713.0	4,211.0	10,492.0	8,969.0		
Garrison	22,332.0	4,980.0	13,512.0	11,645.0		
Oahe	22,035.0	5,373.0	11,932.0	10,316.0		
Big Bend	1,799.0	1,682.0	1,693.0	1,689.0		
Fort Randall	4,433.0	1,517.0	3,367.0	2,796.0		
Gavins Point	411.0	321.0	373.0	386.0		
Subtotal	**68,723.0**	**18,084.0**	**41,369.0**	**35,801.0**		
TOTAL UPPER MISSOURI BASIN	**74,843.8**	**19,860.3**	**45,610.9**	**39,999.1**		

[1] Percent of average content of Anchor Reservoir is based on an 12-year average, 1991-2003.

[2] Percent of average content of Buffalo Bill Reservoir is based on an 11-year average, 1993-2003; 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.

TABLE CET7

WATER YEAR 2004
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	21.4	28.1	35.7	42.6	49.4	55.2	57.1	50.3	37.8	26.5	21.2	24.7
% of Average	17	21	26	31	35	37	36	30	23	18	17	20
CANYON FERRY RESERVOIR	1,509.2	1,500.0	1,472.1	1,410.0	1,385.6	1,376.4	1,377.6	1,375.6	1,505.8	1,499.1	1,420.9	1,398.9
% of Average	87	86	88	90	92	95	94	84	80	82	82	82
HELENA VALLEY RESERVOIR	1.7	6.6	6.2	6.0	5.7	5.4	10.3	10.4	10.4	8.4	9.0	8.1
% of Average	25	100	98	100	102	102	113	116	118	115	113	110
GIBSON RESERVOIR	7.9	13.4	17.3	20.8	23.8	34.6	68.6	94.8	91.9	48.8	19.4	22.5
% of Average	26	39	45	50	53	72	128	111	103	83	58	80
WILLOW CREEK	19.3	19.3	19.4	19.5	19.6	19.6	24.0	31.4	32.4	24.0	19.1	19.2
% of Average	99	96	95	94	92	88	98	112	111	100	100	106
PISHKUN RESERVOIR	36.7	36.3	35.9	35.6	35.3	34.9	46.5	47.8	45.9	40.0	45.7	37.4
% of Average	107	105	104	104	103	102	115	105	108	107	130	113
LAKE ELWELL (TIBER DAM)	831.9	811.4	790.7	768.3	750.4	742.1	748.0	809.2	841.1	835.4	814.9	794.5
% of Average	106	106	106	107	107	105	102	97	87	88	92	96
SHERBURNE LAKE	8.2	11.1	13.7	16.5	18.2	21.8	10.2	24.3	41.6	51.4	30.7	18.6
% of Average	72	71	70	73	73	88	48	77	76	102	118	183
FRESNO RESERVOIR	25.9	23.2	21.1	17.9	15.3	29.4	46.0	46.1	66.0	54.1	38.5	42.4
% of Average	66	60	56	50	43	56	65	70	106	122	103	106
NELSON RESERVOIR	49.3	47.3	45.7	44.1	43.3	48.6	56.9	59.0	64.8	56.0	54.1	58.6
% of Average	83	81	81	80	80	89	94	97	109	102	100	103
BULL LAKE	57.5	57.6	57.7	58.0	58.1	58.1	61.6	61.1	99.9	138.1	108.0	89.7
% of Average	73	73	73	73	74	74	79	68	78	107	103	116
PILOT BUTTE RESERVOIR	28.1	27.8	27.7	27.6	27.7	27.6	31.0	18.3	27.2	20.6	22.8	18.8
% of Average	127	119	120	121	121	111	108	72	99	89	117	115
BOYSEN RESERVOIR	358.9	375.2	390.6	401.1	413.4	442.0	447.0	453.5	489.8	533.2	513.1	515.2
% of Average	62	66	72	77	81	89	94	90	79	87	88	91
ANCHOR RESERVOIR	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.4	0.4	0.4	0.4	0.4
% of Average[1]	126	127	137	162	124	184	48	21	10	17	60	130
BUFFALO BILL RESERVOIR	444.7	450.5	458.0	463.7	468.6	483.6	473.9	442.4	519.3	521.4	463.7	438.8
% of Average[2]	110	112	114	117	120	127	135	111	94	93	94	101
BIGHORN LAKE	812.2	806.5	773.7	715.3	699.3	682.5	656.1	662.0	675.3	677.8	673.3	710.3
% of Average	81	83	84	83	83	82	80	76	66	65	66	70
E. A. PATTERSON LAKE	6.2	6.3	6.3	6.4	9.2	9.0	8.6	8.2	7.8	7.7	6.3	5.9
% of Average	100	101	103	102	136	116	110	109	105	109	95	92
LAKE TSCHIDA	55.1	55.7	56.2	56.6	57.7	72.4	68.4	68.2	65.4	60.3	57.6	56.7
% of Average	93	94	95	96	94	101	99	101	96	93	96	96
JAMESTOWN RESERVOIR	27.9	27.8	27.9	27.9	27.8	30.8	46.7	34.6	31.4	29.8	29.8	26.1
% of Average	104	106	106	105	104	90	97	81	84	85	90	90
SHADEHILL RESERVOIR	75.9	75.1	74.5	73.3	83.3	111.6	111.1	108.9	106.2	104.1	102.0	99.3
% of Average	69	69	69	69	77	92	91	88	87	86	88	89
ANGOSTURA RESERVOIR	82.6	84.1	86.4	88.3	92.3	96.3	96.9	89.2	81.6	68.2	56.1	54.7
% of Average	86	87	88	88	88	85	83	75	69	63	58	59
DEERFIELD RESERVOIR	15.1	15.1	15.2	15.2	15.2	15.5	15.2	15.1	14.9	14.7	14.3	14.1
% of Average	113	111	108	106	104	104	103	102	101	102	103	105
PACTOLA RESERVOIR	48.0	48.1	48.2	48.4	48.7	49.6	50.5	48.6	47.8	45.5	43.1	42.6
% of Average	99	98	99	100	100	100	99	93	91	90	88	89
KEYHOLE RESERVOIR	109.9	109.7	110.3	110.5	113.8	114.7	113.8	111.1	108.5	105.2	98.1	94.4
% of Average	108	108	109	108	109	102	100	95	94	96	95	94
BELLE FOURCHE RESERVOIR	64.7	74.8	84.7	93.0	104.1	117.6	125.1	122.6	106.1	82.2	43.4	31.5
% of Average	79	81	84	84	87	86	84	79	72	73	55	47
CORPS RESERVOIRS	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
FORT PECK RESERVOIR	10,444.0	10,294.0	10,049.0	9,806.0	9,603.0	9,837.0	9,740.0	9,507.0	9,565.0	9,357.0	9,121.0	8,969.0
GARRISON RESERVOIR	13,301.0	13,046.0	12,881.0	12,446.0	11,891.0	12,197.0	11,989.0	12,121.0	12,426.0	12,401.0	11,914.0	11,645.0
OAHE RESERVOIR	11,377.0	11,033.0	11,049.0	11,204.0	11,504.0	12,110.0	12,056.0	11,338.0	11,045.0	10,540.0	10,112.0	10,316.0
BIG BEND RESERVOIR	1,703.0	1,741.0	1,705.0	1,718.0	1,748.0	1,708.0	1,683.0	1,727.0	1,668.0	1,710.0	1,699.0	1,689.0
FORT RANDALL RESERVOIR	2,784.0	2,430.0	2,643.0	2,669.0	3,172.0	3,494.0	3,466.0	3,584.0	3,535.0	3,428.0	3,351.0	2,796.0
LEWIS AND CLARK LAKE	401.0	401.0	395.0	352.0	388.0	364.0	352.0	389.0	352.0	390.0	393.0	386.0

[1] Percent of average content of Anchor Reservoir is based on a 13-year average, 1991-2003; this is due to the availability of data for Anchor Reservoir.

[2] Percent of average content of Buffalo Bill Reservoir is based on an 11-year average, 1993-2003; 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 2004
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	7.3	8.3	9.3	8.5	8.4	7.5	3.9	4.6	5.1	6.0	6.1	5.7	80.5
% of Average	31	37	48	53	58	40	18	17	14	22	32	28	30
CANYON FERRY RESERVOIR	136.5	177.8	179.8	155.4	180.8	214.9	192.2	184.4	301.8	167.5	103.5	136.9	2,131.5
% of Average	48	60	74	70	82	80	55	32	39	50	61	64	54
HELENA VALLEY RESERVOIR	-2.2	4.8	-0.3	-0.3	-0.3	-0.2	11.2	17.8	18.1	18.7	19.6	10.4	97.3
% of Average	N/A	N/A	N/A	N/A	N/A	N/A	207	160	125	124	122	133	142
GIBSON RESERVOIR	10.7	10.3	8.4	7.2	6.5	14.7	57.7	108.4	96.1	44.3	19.9	14.6	398.8
% of Average	56	60	54	52	53	102	144	64	48	64	75	76	65
WILLOW CREEK	-0.3	0.0	0.0	0.1	0.1	0.1	4.4	7.4	1.0	-1.1	0.0	0.1	11.7
% of Average	N/A	N/A	11	23	17	6	220	177	23	N/A	N/A	22	80
PISHKUN RESERVOIR	3.2	-0.4	-0.4	-0.3	-0.3	-0.4	11.6	37.6	71.0	78.3	46.8	8.6	255.4
% of Average	116	N/A	N/A	N/A	N/A	N/A	165	105	122	114	111	67	113
LAKE ELWELL (TIBER DAM)	5.3	9.3	10.5	9.1	11.1	22.7	35.8	92.9	62.5	25.6	10.3	8.9	304.1
% of Average	24	42	56	56	51	46	57	55	33	41	53	56	45
SHERBURNE LAKE	4.1	3.0	2.6	2.7	1.7	3.9	15.5	27.5	30.0	18.8	16.7	11.8	138.3
% of Average	68	53	69	98	69	131	172	85	72	89	176	185	96
FRESNO RESERVOIR	0.4	-0.5	0.0	-1.2	-0.8	16.3	19.0	41.3	32.8	27.2	27.3	25.0	187.0
% of Average	5	N/A	4	N/A	N/A	54	48	94	72	77	83	96	70
NELSON RESERVOIR	-0.9	-1.9	-1.7	-1.5	-0.9	5.3	8.2	4.5	8.6	5.2	7.1	6.7	38.9
% of Average	N/A	N/A	N/A	N/A	N/A	411	118	67	113	109	104	116	98
BULL LAKE	2.8	1.6	1.4	1.5	1.1	1.1	4.6	17.8	47.4	47.5	20.5	14.4	161.6
% of Average	54	54	58	70	73	61	146	67	77	98	95	153	86
PILOT BUTTE RESERVOIR[1]	17.8	-0.3	-0.1	-0.1	0.1	-0.1	9.6	16.1	41.7	31.1	41.8	26.9	184.4
% of Average	225	N/A	N/A	N/A	N/A	N/A	111	71	108	73	128	112	102
BOYSEN RESERVOIR	29.3	37.4	37.0	32.6	33.2	51.0	44.0	69.5	97.2	110.0	39.6	47.0	627.7
% of Average	46	75	94	89	88	94	87	54	37	73	60	84	63
ANCHOR RESERVOIR	0.6	0.3	0.1	0.1	0.0	0.5	0.2	1.5	2.2	2.4	0.9	0.8	9.5
% of Average[2]	89	78	34	63	7	162	29	32	29	102	736	132	53
BUFFALO BILL RESERVOIR	16.4	12.1	14.0	12.2	10.9	21.7	38.6	71.9	169.2	107.3	41.7	45.4	561.3
% of Average	69	57	86	80	81	115	91	46	55	60	86	172	65
BIGHORN LAKE	118.8	78.9	56.4	29.5	65.4	70.7	62.0	108.9	115.9	105.4	100.2	129.5	1,041.6
% of Average	62	49	38	21	45	39	36	42	26	33	59	73	42
E. A. PATTERSON LAKE	-0.1	0.0	0.0	0.0	2.8	16.1	0.6	-0.3	-0.5	-0.1	0.4	-0.4	18.7
% of Average	-30	24	28	16	168	232	13	N/A	N/A	N/A	121	N/A	97
LAKE TSCHIDA	-0.1	1.1	1.0	1.0	1.7	59.8	4.0	1.3	-0.5	-0.9	0.2	-0.1	68.5
% of Average	N/A	73	102	100	32	200	21	17	N/A	N/A	11	N/A	84
JAMESTOWN RESERVOIR	0.7	-0.1	0.1	0.0	-0.1	3.0	36.9	15.1	18.1	11.3	2.8	4.2	92.1
% of Average	65	N/A	16	17	N/A	34	147	152	497	244	63	302	151
SHADEHILL RESERVOIR	-0.8	0.4	0.6	0.1	11.1	29.9	1.1	-0.6	-1.2	-0.5	-0.5	-1.2	38.3
% of Average	N/A	34	54	4	270	134	7	N/A	N/A	N/A	N/A	N/A	54
ANGOSTURA RESERVOIR	0.8	1.4	2.3	2.0	3.9	4.1	0.6	0.5	-0.4	0.0	-0.4	1.4	16.1
% of Average	32	45	115	80	71	29	7	3	N/A	N/A	N/A	144	21
DEERFIELD RESERVOIR	0.6	0.6	0.7	0.6	0.6	0.8	0.7	0.6	0.4	0.4	0.3	0.4	6.6
% of Average	73	85	91	87	94	84	50	36	27	42	34	56	58
PACTOLA RESERVOIR	1.2	1.3	1.4	1.4	1.4	2.1	2.2	1.7	1.2	1.1	0.7	1.0	16.6
% of Average	54	70	93	91	93	78	46	24	18	30	25	46	43
KEYHOLE RESERVOIR	-1.5	-0.2	0.6	0.1	3.3	0.9	-1.0	-1.5	-2.3	0.9	-2.7	-2.3	-5.6
% of Average	N/A	N/A	410	18	121	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BELLE FOURCHE RESERVOIR	8.5	10.1	9.9	8.4	11.1	13.5	7.5	4.0	0.5	9.5	-0.3	3.1	85.7
% of Average	68	96	105	82	114	78	57	28	4	220	N/A	56	72

[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 13-year average, 1991-2003, this is due to the availability of data for Anchor Reservoir.

FIGURE CEG1

ANNUAL GENERATION AT USBR PLANTS

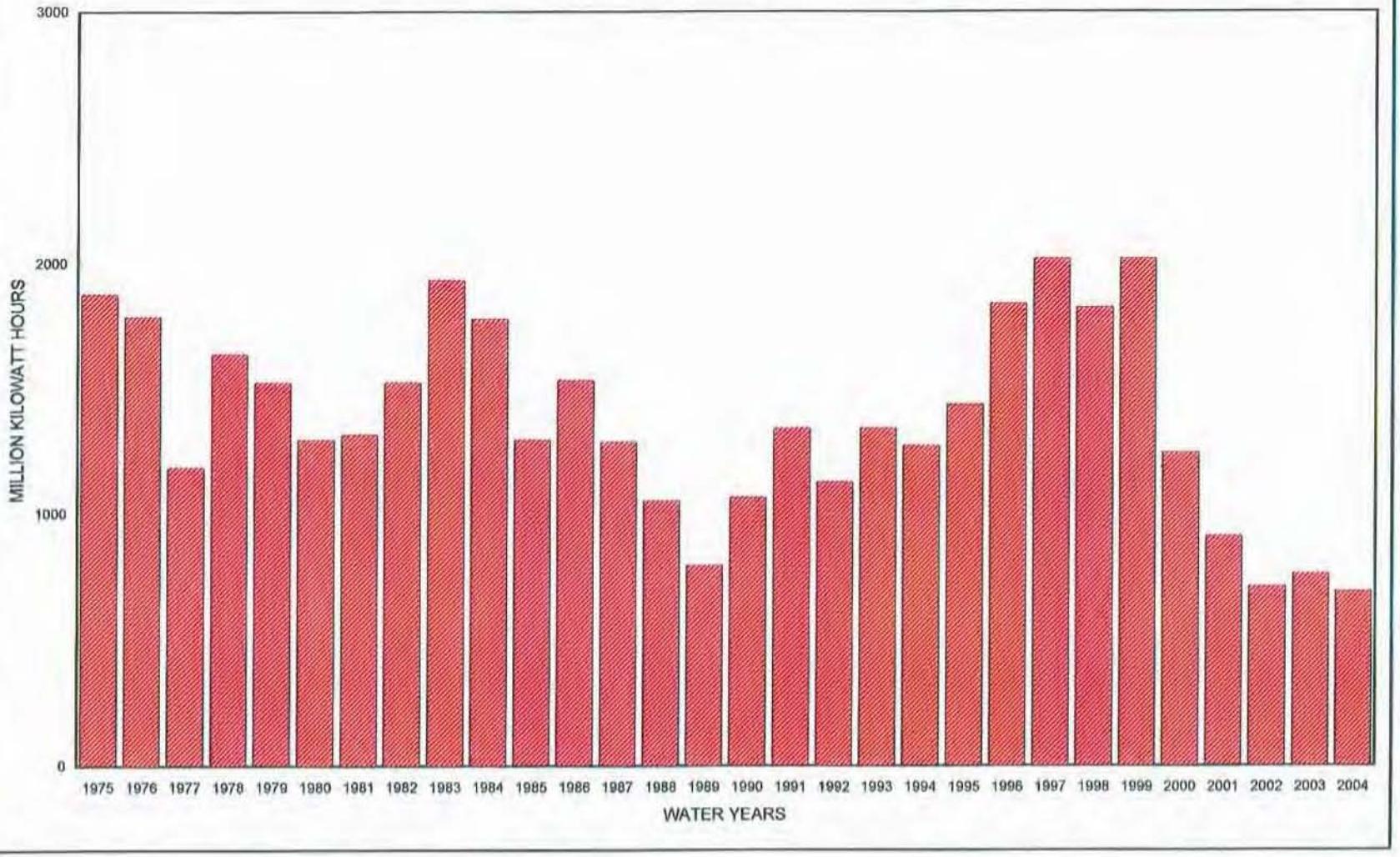


FIGURE CEG2

MONTHLY GENERATION AT USBR PLANTS

FIGURE CEG3

ANNUAL GENERATION AT COE PLANTS

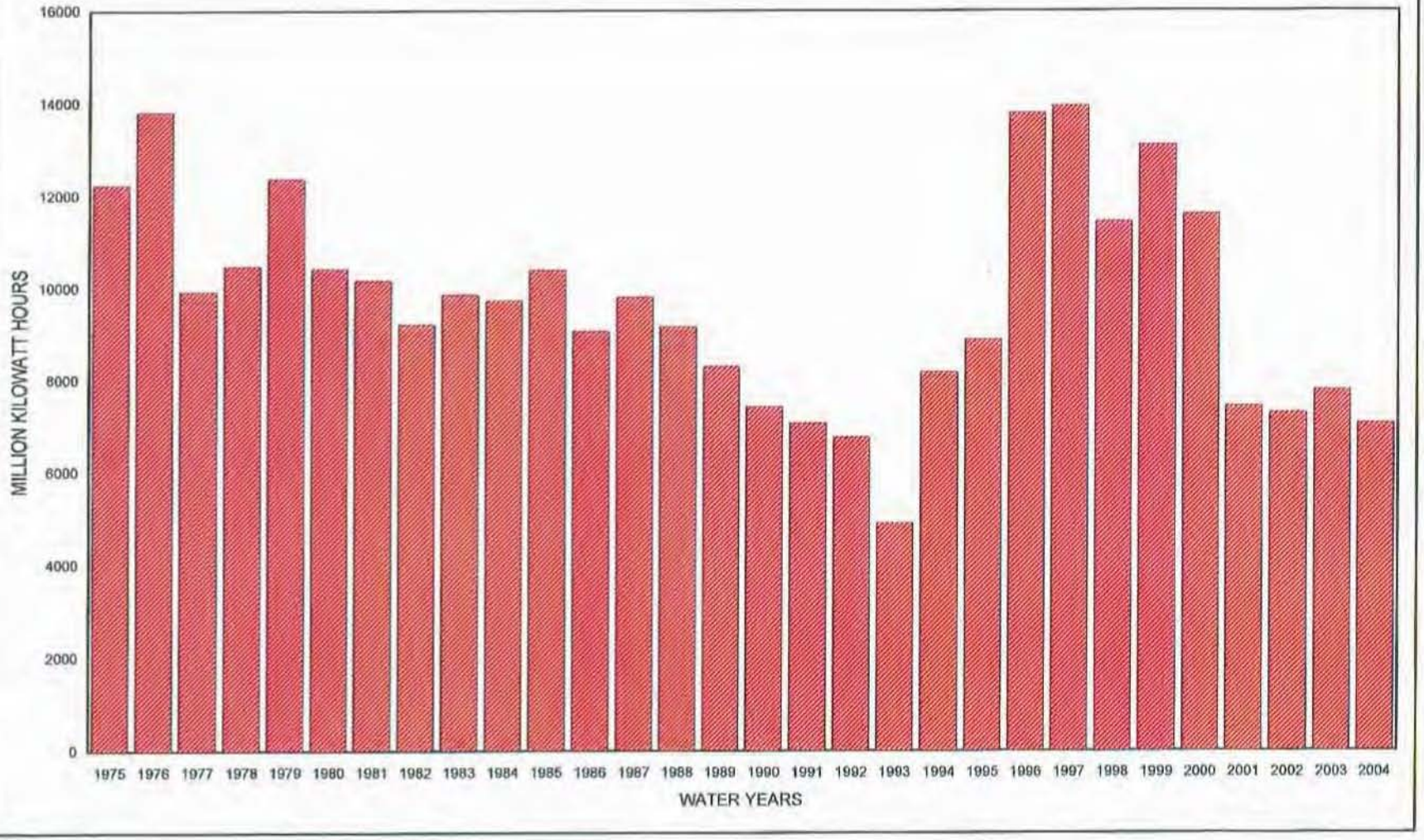


FIGURE CEG4

MONTHLY GENERATION AT COE PLANTS

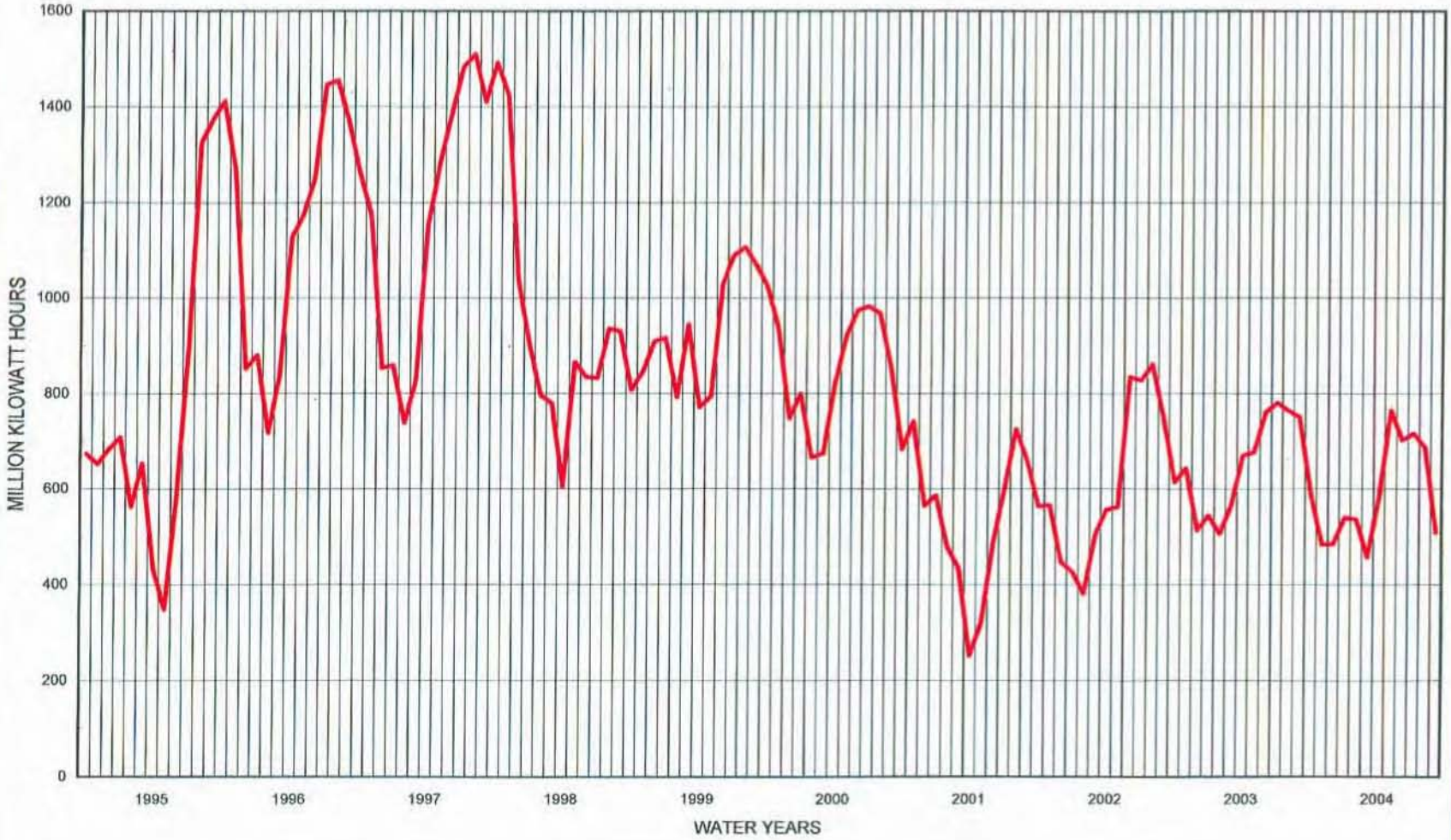


FIGURE CEG5

ANNUAL GENERATION - USBR & COE PLANTS

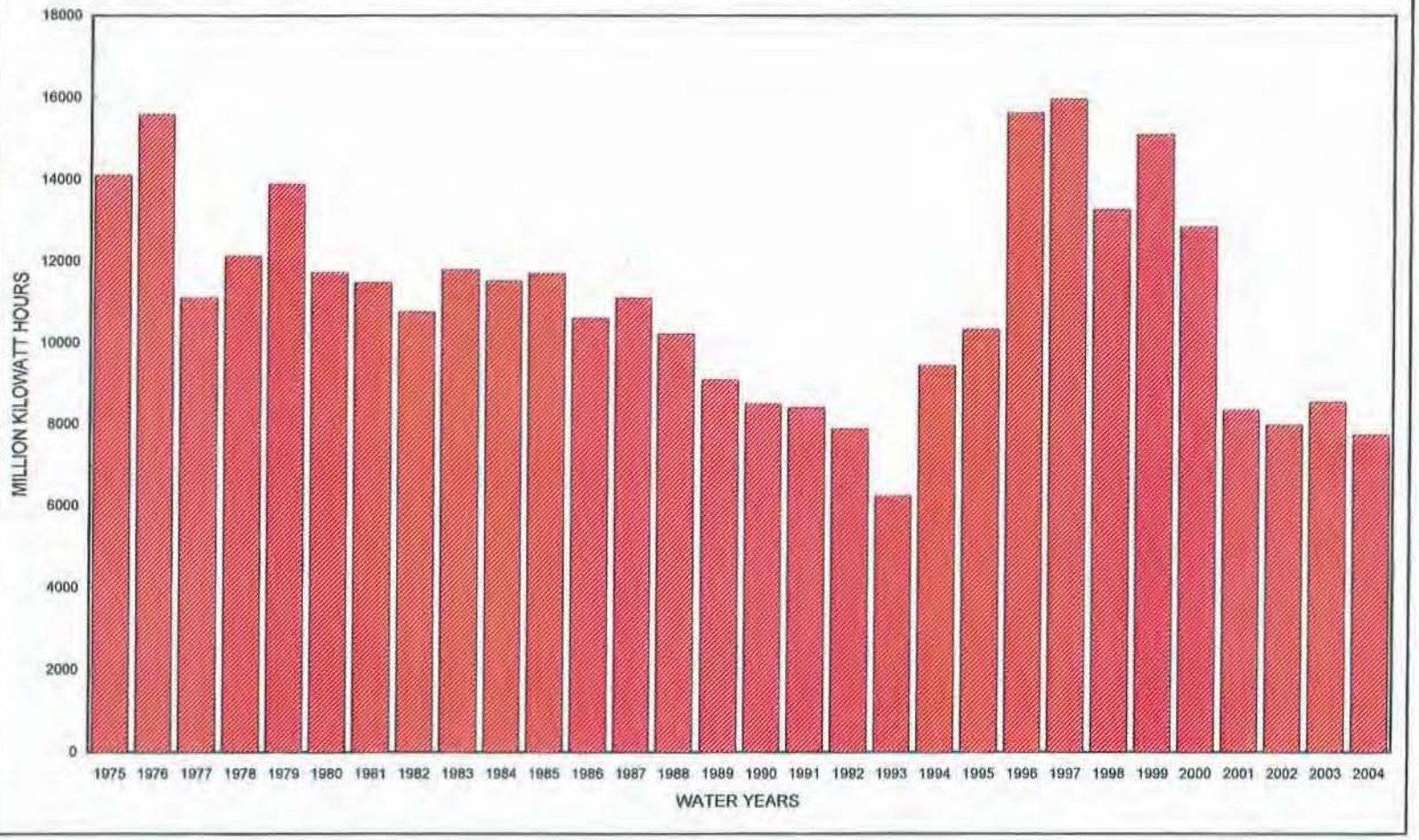


FIGURE CEG6

MONTHLY GENERATION - USBR & COE PLANTS