PREFACE

This report concerns the operation of all Bureau of Reclamation (Reclamation) facilities in the North Platte River Drainage Basin above and including Guernsey Dam as well as the four Inland Lakes near Scottsbluff, Nebraska. This area of the North Platte River Drainage Basin is simply referred to in this report as the Basin.

References to average in this document will refer to the average of the historical record for the years 1979-2008, except for water year 2010 information which uses the years 1980-2009. In each coming year this period will be advanced by 1 year to maintain a running 30-year average.

INTRODUCTION

The System of dams, reservoirs, and powerplants on the North Platte River (referred to as the "System" in this text) is monitored and in most cases operated and managed from the Wyoming Area Office (WYAO), in Mills, Wyoming. The operation and management of the System is aided by the use of a Programmable Master Supervisory Control, computerized accounting process, extensive Hydromet stations, control crest measurement weirs at gaging stations, SNOTEL stations, and a snowmelt runoff forecasting procedure which is used by the Water Management Branch. The System consists of a number of individual water resource projects that were planned and constructed by Reclamation. The individual projects and features are operated as an integrated system to achieve efficiency and to produce increased multipurpose benefits. The drainage basin which affects the System covers an area from northern Colorado to southeastern Wyoming, encompassing 16,224 square miles. Storage reservoirs affected by the System include four off stream reservoirs known as the Inland Lakes in western Nebraska as shown in Figure 21.

Approximately 70 to 80 percent of the annual North Platte River streamflow above Seminoe Dam occurs from snowmelt runoff during the April-July period. Primary water demand is irrigation, and the period of delivery of irrigation water normally extends from May through September. Figure 20 represents historical watershed runoff above Pathfinder Reservoir from 1906 through 2009. The System furnishes irrigation water to over 440,000 acres of land in Wyoming and Nebraska.

The System includes the Kendrick Project (formerly Casper-Alcova) in Wyoming; with major features of the project being Seminoe Dam and Powerplant, Alcova Dam and Powerplant, and Casper Canal. Project lands lie in an irregular pattern on the northwest side of the North Platte River between Alcova Reservoir and Casper, Wyoming. The North Platte Project in Wyoming and Nebraska consists of Pathfinder Dam, and Reservoir Guernsey Dam, Reservoir and Powerplant, Whalen Dam, Northport, Fort Laramie, and Interstate canals and four off stream inland reservoirs on the Interstate Canal. The Kortes Unit of the Pick-Sloan Missouri Basin Program (PS-MBP) consists of Kortes Dam, Reservoir, and Powerplant, in a narrow gorge of the North Platte River 2 miles below Seminoe Dam. The Glendo Unit of the PS-MBP is a multiple-purpose natural resource development. It consists of Glendo Dam, Reservoir, and Powerplant, Fremont Canyon Powerplant, and Gray Reef Dam and Reservoir which is a re-regulating reservoir.

Major rivers which affect the water supply in the System are the North Platte River in Colorado, and Wyoming, and the Medicine Bow, and Sweetwater Rivers in Wyoming.

The System has seven main stem reservoirs, six of which have powerplants with generating capacities totaling 237,200 kilowatts (kw). Table 12 depicts a breakdown of generating units and their capacity for each North Platte Powerplant. Table 1 below depicts North Platte River Reservoir Data.

The Department of Energy, by Executive Order dated October 1, 1977, assumed the responsibility of marketing power from Federal resources, and operation and maintenance of federal transmission facilities.

Western Area Power Administration (WAPA) of the Department of Energy, headquartered in Lakewood, Colorado, now operates and maintains the nearly 3,500 miles of interconnected electrical transmission lines within the System. The power generating facilities are also interconnected with other federal, public, and private power facilities. Power from Reclamation Powerplants is marketed by WAPA.

Table 1 North Platte River Reservoir Data

Reservoir	Dead Storage [1] Acre-feet (AF)	Active Storage [2] (AF)	Total Storage (AF)	Minimum Storage (AF)	Minimum Elevation (feet)
Seminoe	556	1,016,717	1,017,273	31,670 [4]	6239.00 [4]
Kortes	151	4,588	4,739	1,666 [4]	6092.00 [4]
Pathfinder	7	1,016,500	1,016,507	31,405 [4]	5746.00 [4]
Alcova	91	184,314	184,405	137,610 [5]	5479.50 [5]
Gray Reef	56	1,744	1,800	56 [6]	5312.00 [6]
Glendo	11,033	778,369	789,402 [3]	63,148	4570.00 [7]
Guernsey	0	45,612	45,612	0	4370.00 [8]
Total	11,894	3,047,844	3,059,738	265,555	

[1] Storage capacity below elevation of lowest outlet
[2] Total storage minus dead storage
[3] Top of Conservation capacity 517,485 AF (Elevation 4635.00 ft) with an additional 271,917 AF allocated to Flood Control (elevation 4653.00 ft)
[4] Minimum water surface elevation and capacity required for power generation This level is the top of inactive capacity
[5] Content and minimum elevation required for power generation, however water cannot be delivered to Casper Canal when reservoir level is below 5487.00 ft (153,802 AF), the elevation of the Casper Canal Gate sill.
[6] Top of dead capacity – spillway crest
[7] Minimum water surface elevation for power generation
[8] Elevation of the North Spillway Crest

SYSTEM PLANNING AND CONTROL

The North Platte River storage, power generation, and water delivery facilities are operated for irrigation, hydroelectric power production, municipal, and industrial water supply. The facilities provide year round flows in the river below each North Platte Dam except for Guernsey Dam. These facilities also provide flood control, recreation, fish, wildlife preservation, and other purposes. Each project of the System must be operated under the purposes for which it was authorized and constructed. The objective of an integrated system is to obtain optimum benefits from the individual projects.

The System's integrated operation is planned and coordinated by Reclamation's WYAO in Mills, Wyoming. This office collects and analyzes information daily and makes the decisions necessary for successful operation of the System. The water management function involves coordination between Reclamation, the Department of Energy, and many other local, state, and Federal agencies. When water levels rise into the exclusive flood control pool at Glendo Reservoir, the flood control operation of Glendo Dam is directed by the U.S. Army Corps of Engineers, Omaha District, in Omaha, Nebraska.

Experience has proven that proper utilization of the available water resource in a system such as this can be achieved only through careful budgeting of the anticipated water supply. The technical end product of this budgeting process is an Annual Operating Plan (AOP).

The System is operated on a water year basis (October 1 through September 30). Early in the water year an AOP is prepared, reviewed, and presented to the public. The AOP consists of three operation studies using reasonable minimum, reasonable maximum, and most probable inflow conditions determined from statistical analysis of historical inflow conditions. The AOP, as developed and reflected in the three operation studies, provides the flexibility to adjust operations as conditions change during the water year. Reclamation makes use of computer programs to revise and adjust the operating plan each month to reflect changing conditions. A computerized process of forecasting the anticipated water supply also aids the revision process during the months of February, March, April, and May. Figure 1 depicts North Platte Reservoirs Total Storage End of September Content for water years 1912 through 2009. Table 2 depicts A Summary of Reservoir Storage Content for water year 2009 (End of Month). Table 9 depicts the Actual Reservoir Operations for water year 2009.

Table 2 Summary of Reservoir Storage Content for Water Year 2009 (End of Month)

Seminoe Reservoir			Pathfinder Reservoir			Alcova Reservoir		
Month	Storage	Record [1]	Month	Storage	Record [1]	Month	Storage	Record [1]
October	525,614		October	377,895		October	157,872	
November	520,249		November	385,066		November	156,718	
December	511,754		December	388,843		December	156,786	
January	507,780		January	395,384		January	156,628	
February	506,732		February	401,515		February	156,470	
March	528,612		March	404,822		March	158,552	
April	534,164		April	400,289		April	180,229	
May	715,808		May	468,007		May	180,278	
June	932,091		June	556,037		June	180,620	
July	889,649		July	612,822		July	180,376	
August	773,947		August	661,787		August	180,571	
September	684,730		September	700,306		September	179,473	
Glendo Reservoir			Guernsey Reservoir			Total System [2]		
Month	Storage	Record [1]	Month	Storage	Record [1]	Month	Storage	Record [1]
October	156,930		October	8,467		October	1,233,034	
November	192,490		November	11,130		November	1,271,873	
December	224,010		December	13,375		December	1,301,100	
January	258,458		January	15,719		January	1,340,189	
February	296,298		February	17,759		February	1,385,073	
March	334,551		March	20,138		March	1,453,182	
April	476,601		April	25,517		April	1,623,016	
May	448,376		May	27,456		May	1,846,125	
June	540,194		June	30,179		June	2,245,443	
July	361,576		July	26,990		July	2,077,574	
August	164,735		August	27,906		August	1,815,023	
September	125,179		September	4,480		September	1,700,382	

[1] Record is the 30 year period from 1979-2008

[2] Total North Platte systems includes storage in Seminoe, Kortes, Pathfinder, Alcova, Gray Reef, Glendo and Guernsey Reservoirs

[3] Alcova Reservoir is normally maintained within either a winter operating range (between contents of 153,802 AF to 158,302 AF) or a summer operating range (between contents 177,070 AF to 181,943 AF)

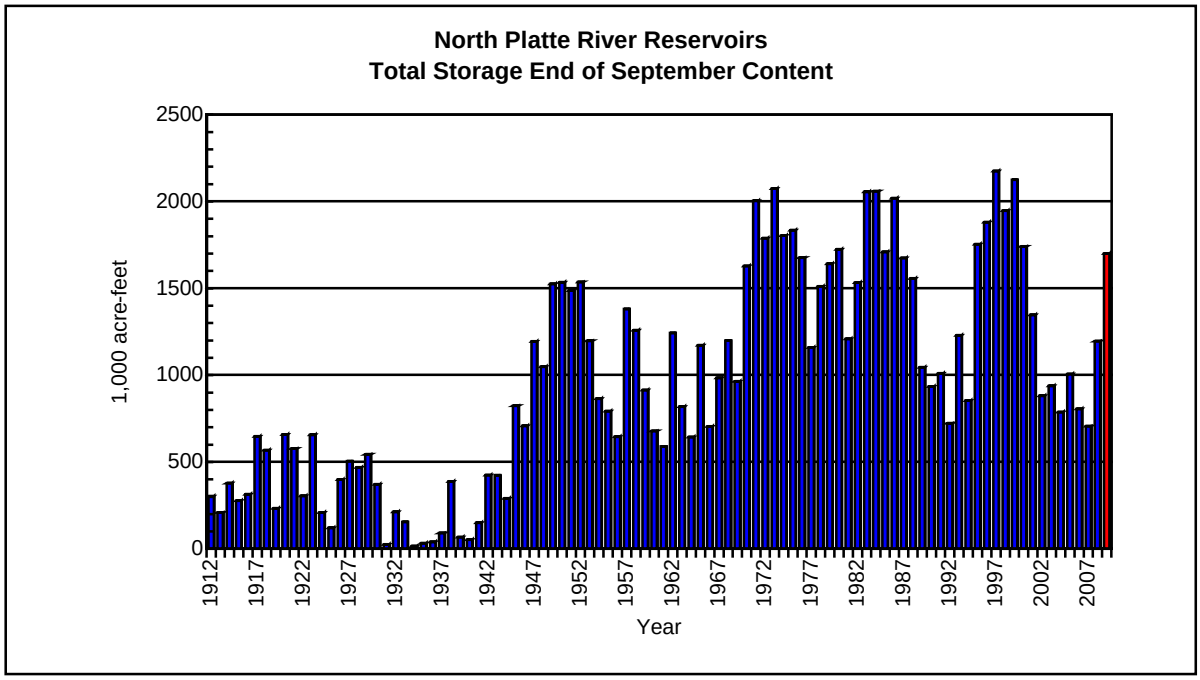


Figure 1 North Platte River Reservoirs Total Storage End of September Content (1912-2009)

SYSTEM OPERATIONS WATER YEAR 2009
Seminoe Reservoir Inflow

Seminoe Reservoir inflows were average or above average for the months October and January through September. A total of 1,225,456 acre-feet (AF) or 129 percent of the 30 year average entered the system above Seminoe Reservoir during the water year. The monthly inflows ranged from a high of 149 percent of average in May 2009 to a low of 92 percent in November 2008. The actual April through July inflow totaled 963,629 AF, which was 137 percent of the 30 year average of 703,500 AF. The Seminoe computed inflow peaked for the water year on June 5, 2009, at 10,718 cubic feet per second (cfs) compared to 10,904 cfs in water year 2008. Figure 2 depicts a comparison of average, water year 2009 and water year 2008 monthly inflow.

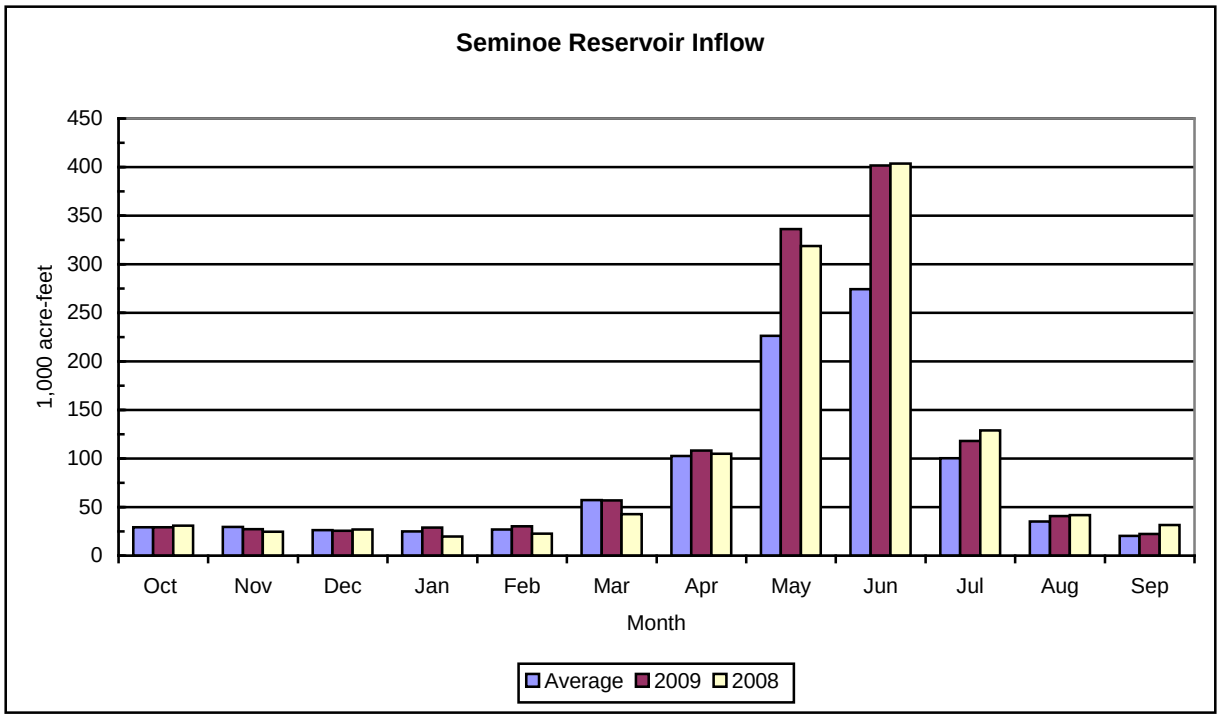


Figure 2 Seminoe Reservoir Inflow

Seminoe Reservoir Storage and Releases

Seminoe Dam and Reservoir, on the North Platte River, is the main storage facility for the Kendrick Project. Construction of the dam was completed in 1939, providing a storage capacity of 1,017,273 AF. The powerplant contains three electrical generating units with a total capacity of 51 mega-watts (MW) at a full release capability of about 4,050 cfs.

The spillway consists of a concrete-lined tunnel through the right abutment controlled by three fixed-wheel gates with a release capability of close to 48,000 cfs. Two 60 inch jet flow valves provide a low level river outlet with a flow capacity of 3,420 cfs.

At the start of water year 2009, Seminoe Reservoir had a storage content of 534,527 AF, which was 84 percent of average and 53 percent of capacity. Seminoe storage content increased to above average during the water year. The maximum Seminoe Reservoir content was reached on July 3, 2009, at 932,470 AF. At the end of water year 2009, Seminoe Reservoir storage content was 684,730 AF, which was 110 percent of average and 67 percent of capacity. See Figure 3 for a comparison of average, water year 2008 and water year 2009 monthly storage.

Releases from Seminoe Dam averaged approximately 535 cfs from October 2008, through March 2009. The release was increased to approximately 2,400 cfs by the end of April then flows increased to 2,700 cfs by the end of May and 4,300 cfs in June. The release was decreased to 2,500 cfs in July. The water release was reduced to approximately 530 cfs on September 28, 2009, which would be the flow for the winter. Table 3 depicts a summary of Seminoe Reservoir information for water year 2009.

Table 3 Seminoe Reservoir Hydrologic Data for Water Year 2009

Reservoir Allocations	Elevation (FT)	Storage (AF)	Storage Allocation (AF)
Top of Inactive and Dead	6239.00	31,670	31,670
Top of Active Conservation	6357.00	1,017,273	985,603
Crest of Dam (without Camber)	6361.00		

Storage-Elevation Data	Elevation (FT)	Storage (AF)	Date
Beginning of water year	6326.73	534,527	Oct 1, 2008 [2]
End of water year	6337.94	684,730	Sep 30, 2009
Annual Low	6324.28	505,454	Feb 23, 2009
Historic Low [1]	6253.30	56,390	Apr 20, 1961
Annual High	6352.68	932,470	July 3, 2009
Historic High [1]	6359.29	1,073,050	Jun 20, 1949

[1] The daily records for this table are only available from water year 1946.
[2] Represents 0001 hours on October 1

Inflow-Outflow Data	Inflow [3]	Date	Outflow	Date
Annual Total (AF)	1,225,456	Oct' 08 – Sep' 09	1,030,737	Oct' 08 – Sep' 09
Daily Peak (CFS)	10,718	June 5, 2009	4,367 [4]	Jun 24, 2009
Daily Minimum (CFS)	64	Oct 19, 2008	496 [4]	Nov 19, 2008
Peak Jet Flow Valve (CFS)				
Total Jet Flow Valve (CFS)				

[3] Inflows are a computed number.
[4] Daily peak and minimum are releases to the river.

Month	Inflow		Outflow		Content [6]	
	KAF	% of Avg. [5]	KAF	% of Avg. [5]	KAF	% of Avg. [5]
October	29.3	100	33.9	70	525.6	36
November	27.9	92	32.0	63	520.2	88
December	25.5	97	32.5	54	511.8	92
January	28.9	116	32.4	52	507.8	98
February	30.3	112	30.0	50	506.7	105
March	57.0	100	33.1	45	528.6	114
April	108.1	105	100.4	115	534.2	112
May	336.1	149	149.8	152	715.8	119
June	401.5	146	178.9	133	932.1	127
July	118.0	118	152.4	131	889.6	126
August	40.7	115	148.8	184	773.9	118
September	22.3	110	106.5	227	684.7	110
Annual	1225.5	129	1030.7	92		

[5] The 30 year average is the period (1979-2008)
[6] End of Month

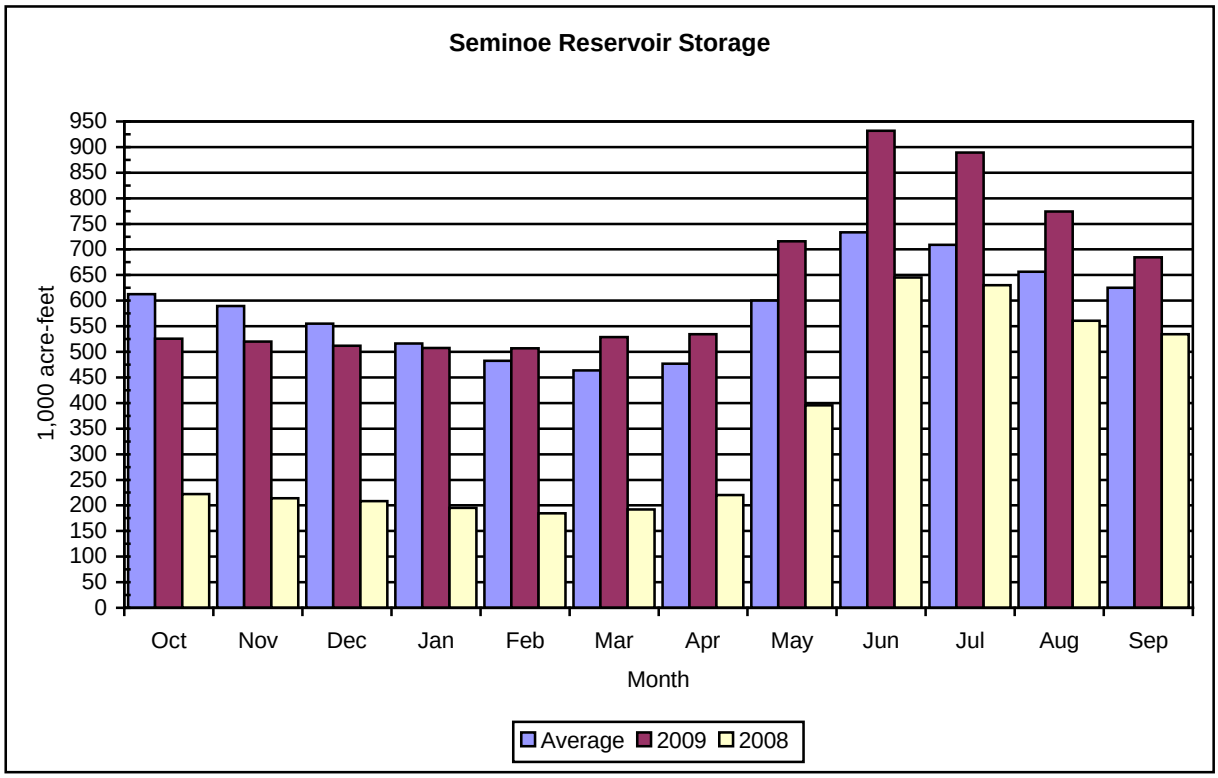


Figure 3 Seminoe Reservoir Storage

Kortes Reservoir Storage and Releases

Completed in 1951, Kortes Dam, Reservoir, and Powerplant of the Kortes Unit (Pick-Sloan Missouri Basin Project) are located about 2 miles below Seminoe Dam. It was the first unit initiated by the Bureau of Reclamation under the Missouri River Basin Project. Kortes Reservoir provides a maximum storage capacity of 4,739 AF at elevation 6165.7 feet. Kortes Powerplant has three electrical generating units with a total capacity of 36 MW and a release capability of approximately 3,000 cfs. Water released from Seminoe Dam to Pathfinder Reservoir passes through the Kortes turbines to generate power. Maximum benefits are obtained when Kortes Reservoir remains full and the power releases are coordinated with those from Seminoe powerplant to maintain a full reservoir.

The spillway on the right abutment consists of an uncontrolled crest with a concrete-lined tunnel and has a capacity of 50,000 cfs.

Senate Bill 2553 which was passed in the 90th Congress authorized the modification of the operation of Kortes Dam and Powerplant to provide a minimum streamflow of 500 cfs in the North Platte River between Kortes Reservoir and the normal headwaters of Pathfinder Reservoir. The minimum flow permits maintenance of a fishery in a stretch of the North Platte River commonly referred to as the "Miracle Mile".

Kortes releases averaged approximately 535 cfs from October 2008 through March 2009. The release was increased to approximately 2,400 cfs by the end of April then flows increased to 2,700 cfs by the end of May and 4,300 cfs in June. The release was decreased to 2,500 cfs in July. The water release was reduced to approximately 530 cfs on September 28, 2009, which would be the flow for the winter. In water year 2009 most releases were made through the Kortes Powerplant, except for occasions, when testing or maintenance required bypass releases. Bypass releases were also required when Seminoe releases increased above 2,700 cfs.

Gains to the North Platte River from Kortes Dam to Pathfinder Dam

Kortes Dam to Pathfinder Dam river gains were below average for February 2009 through September 2009. The Kortes Dam to Pathfinder Dam river gains ranged from 171 percent in October 2008 to 36 percent of average in May 2009. The Kortes to Pathfinder river gains for August and September 2009 were the lowest in the last 30 years. The actual April through July river gains was 53,172 AF, which is 62 percent of the 30 year average of 85,400 AF. Figure 4 depicts a comparison of average, water year 2008 and water year 2009 monthly river gains.

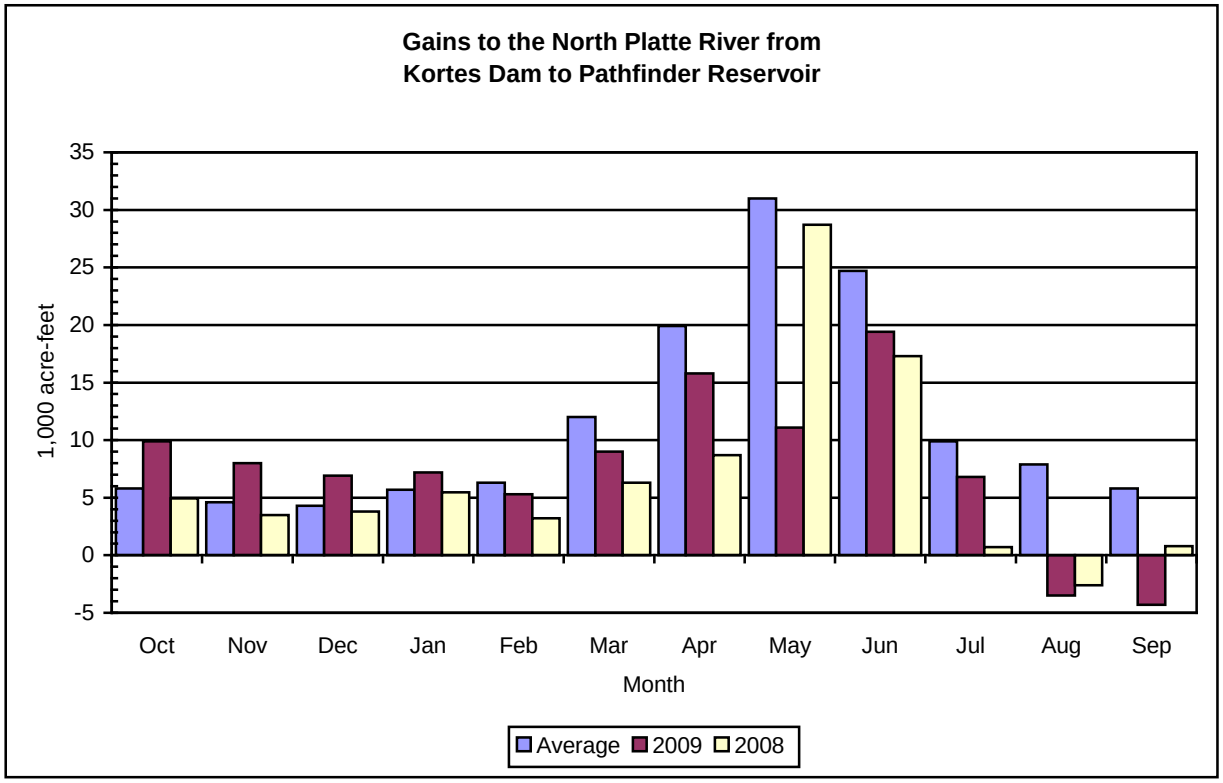


Figure 4 Gains to the North Platte River from Kortes Dam to Pathfinder Reservoir

Pathfinder Reservoir Storage and Releases

Pathfinder Dam and Reservoir, a major storage facility of the North Platte Project, has a total capacity of 1,016,507 AF at elevation 5850.10 feet. Construction of the dam was completed in 1909. Operationally, this structure is a bottleneck in the System with its restricted release capability of approximately 6,000 cfs. The rated capacity of the left abutment outlet works through the two 60-inch jet flow gates is 2,928 cfs at elevation 5850.10 feet. The flow capacity range of the 30-inch jet flow gate is from approximately 50 to 450 cfs. Depending on the elevation of the reservoir, as much as 2,900 cfs can be released through the Fremont Canyon Power conduit and discharged from the Fremont Canyon turbines at the powerplant 3 miles downstream. Fremont Canyon Powerplant has been reconditioned to a generation capacity of 66.8 MWs under full reservoir operating head. The uncontrolled spillway is a flat-crested weir of natural rock over the left abutment of the dam and any time the reservoir water surface exceeds 5850.10 feet a spill occurs. The calculated discharge capacity of the spillway is 33,940 cfs at reservoir elevation 5858.10 feet.

At the start of water year 2009, storage in Pathfinder Reservoir was 348,178 AF, which was 72 percent of average and only 34 percent of capacity. Pathfinder storage remained below average until July 2009. (See Figure 5). The maximum Pathfinder Reservoir content for the water year was reached on September 26, 2009, at 700,641 AF which is 69 percent of capacity. The water year ended with 700,306 AF of water in storage in Pathfinder Reservoir, which was 146 percent of average and 69 percent of capacity. A continual release of water from Pathfinder Reservoir during October was maintained during the gradual drawdown of Alcova Reservoir to its winter operating range. At the request of the Wyoming Game and Fish Department a year round flow of 75 cfs was provided through the Pathfinder Reservoir 30 inch Jet-Flow Valve to the river below Pathfinder Dam. Table 4 depicts a summary of Pathfinder Reservoir information for water year 2009.

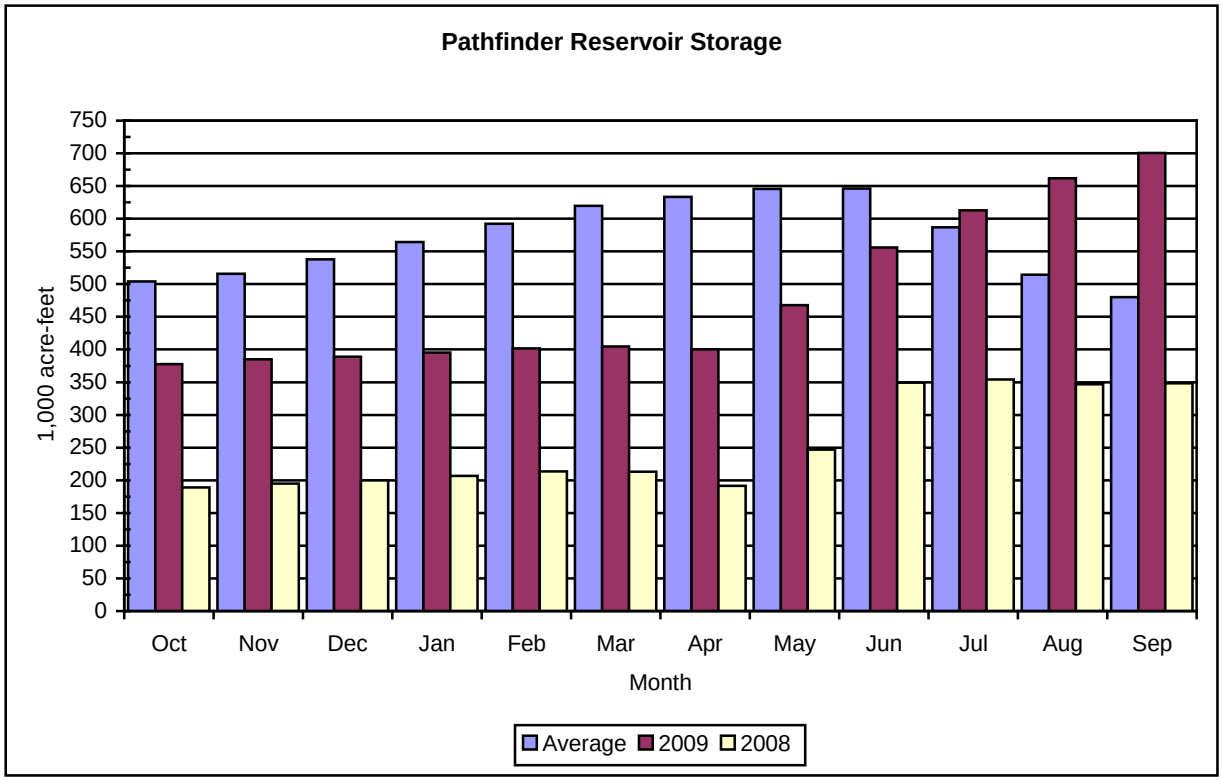


Figure 5 Pathfinder Reservoir Storage

Table 4 Pathfinder Reservoir Hydrologic Data for Water Year 2009

Reservoir Allocations	Elevation (FT)	Storage (AF)	Storage Allocation (AF)
Top of Inactive and Dead	5746.00	31,405	31,405
Top of Active Conservation	5850.10	1,016,507	985,102
Crest of Dam (without Camber)	5858.10		

Storage-Elevation Data	Elevation (FT)	Storage (AF)	Date
Beginning of water year	5805.92	348,178	Oct 1, 2008[3]
End of water year	5833.83	700,306	Sep 30, 2009
Annual Low	5805.92	348,178	Oct 1, 2008
Historic Low [2, 3]	5690.00	0	Sep 9, 1958
Annual High	5833.85	700,641	Sep 26, 2009
Historic High [1]	5853.11	1,083,755	Jul 7, 1983

[1] Daily record for this table is only available from water year 1946

[2] From September 1958 through January 1959, Pathfinder Reservoir was drained for construction of Fremont Canyon Tunnel.

[3] Represents 0001 hours on October 1.

Inflow-Outflow Data	Inflow	Date	Outflow	Date
Annual Total (AF)	1,122,327	Oct, 2008 – Sep, 2009	729,832	Oct, 2008 – Sep, 2009
Daily Peak (CFS)	5,012	June 25, 2009	2,829	Apr 4, 2009
Daily Minimum (CFS)	442	Jan 5, 2009	26	Oct 7, 2008
Peak Jet Flow Valve (CFS)			84 [4]	Sep 14, 2009
Total Jet Flow Valve (AF)			55,216	Oct, 2008 – Sep, 2009

[4] At the request of the Wyoming Game and Fish Department a yearly flow of 75 cfs will be provided through the Pathfinder Reservoir 30 inch Jet-Flow Valve to the river below Pathfinder Dam.

Month	Gain from Kortes		Inflow [6]		Outflow		Content [8]	
	KAF	% of Avg. [5]	KAF	% of Avg. [5]	KAF	% of Avg. [5]	KAF	% of Avg. [5]
October	9.9	171	43.8	84	11.2	38	377.9	75
November	8.0	163	40.1	72	31.9	75	385.1	75
December	6.9	160	39.3	62	34.3	83	388.8	72
January	7.2	126	39.6	58	32.7	80	395.4	70
February	5.3	84	35.3	53	28.0	75	401.5	68
March	9.0	75	42.1	49	37.0	65	404.8	65
April	15.8	79	116.3	109	119.1	134	400.3	63
May	11.1	36	160.9	124	88.0	79	468.0	72
June	19.4	79	198.2	125	105.7	70	556.0	86
July	6.8	69	159.3	126	94.8	54	612.8	104
August	-3.5	NA [7]	145.3	164	90.2	59	661.8	129
September	-4.3	NA [7]	102.2	194	56.9	69	700.3	146
Annual	91.8	66	1122.3	106	729.8	72		

[5] 30 year average is the period (1979-2008)

[6] The inflow includes the gain from Kortes Dam to Pathfinder Dam.

[7] Represents a negative number that makes the percentage meaningless.

[8] End of Month

Alcova and Gray Reef Reservoirs Storage and Releases

Alcova Dam and Reservoir is part of the Kendrick Project. The dam serves as a diversion dam for the Casper Canal and the reservoir as a forebay for the Alcova Powerplant. The dam, located about 10 miles downstream from Pathfinder Dam, was completed in 1938. Reservoir storage capacity is about 184,405 AF at elevation 5500 feet, of which only the top 30,600 AF is active capacity available for irrigation of the Kendrick Project. The powerplant consists of two electrical generating units with a total installed capacity of 36 MW at a full release capability of about 4,100 cfs. The spillway is a concrete lined open channel in the left abutment of the dam controlled by three 25 by 40 foot gates with a capacity of 55,000 cfs at a reservoir level of 5500 feet. The reservoir is operated within a 2 foot range during summer and winter but at levels 10 feet apart. A higher operating level is maintained during the summer months to provide adequate head on the Casper Canal, while the lower winter operating level reduces the potential for ice damage to the canal gate.

The annual drawdown of Alcova Reservoir began on October 1, 2008, and continued through October 31, 2008, when the reservoir reached its normal winter operating range of 5488 $\pm$ one foot. The refill of Alcova Reservoir was initiated on March 31, 2009. The water surface elevation was raised above 5497 feet on April 23, 2009, and the reservoir was maintained within 1 foot of elevation 5498 throughout the summer.

Gray Reef Dam and Reservoir is part of the Glendo Unit, Oregon Trail Division, Pick-Sloan Missouri Basin Program. The dam which was completed in 1961 is a three-zoned rock and earthfill structure located about 2.5 miles below Alcova Dam. The reservoir has an active capacity of 1,744 AF. Gray Reef Reservoir is operated to re-regulate widely fluctuating water releases from the Alcova Powerplant, and provide stable flow for irrigation, municipal, industrial, and fish and wildlife interests along the 147 miles of river between Alcova and Glendo Dams.

The Gray Reef releases were maintained at 550 cfs from October 2008 until January 21, 2009, and decreased to 500 cfs until March 30, 2009. At the request of the Wyoming Game and Fish Department, a series of flushing flows were initiated on March 30, 2009, and continued through April 3, 2009, during which the flows were varied each day from 500 cfs to 4,000 cfs, for the purpose of flushing silt from spawning gravels used by trout. At the completion of the flushing flows, releases from Gray Reef were set at 2,000 cfs until April 7, 2009. Releases for the remainder of the water year were adjusted to meet irrigation demands below Guernsey Reservoir. The largest daily release of water for the water year occurred on June 1, 2009, at 2,404 cfs.

Gains to the North Platte River from Alcova Dam to Glendo Reservoir

River gains from Alcova Dam to Glendo Reservoir were below average for the water year except for April, June, and July, which were above average. The Alcova Dam to Glendo Reservoir river gains ranged from highs of 183 percent in April 2009 and 117 percent of average in June 2009. The Alcova to Glendo river gains for October, November, and December 2009, were the lowest river gains in the last 30 years. The actual April through July gain was 160,700 AF, which was 132 percent of average. The maximum computed daily river gain of 2,742 cfs occurred on April 24, 2009, and the daily computed Glendo Reservoir inflow peaked on April 25, 2009, at 4,385 cfs. Figure 6 depicts a comparison of average, water year 2008 and water year 2009 monthly river gains.

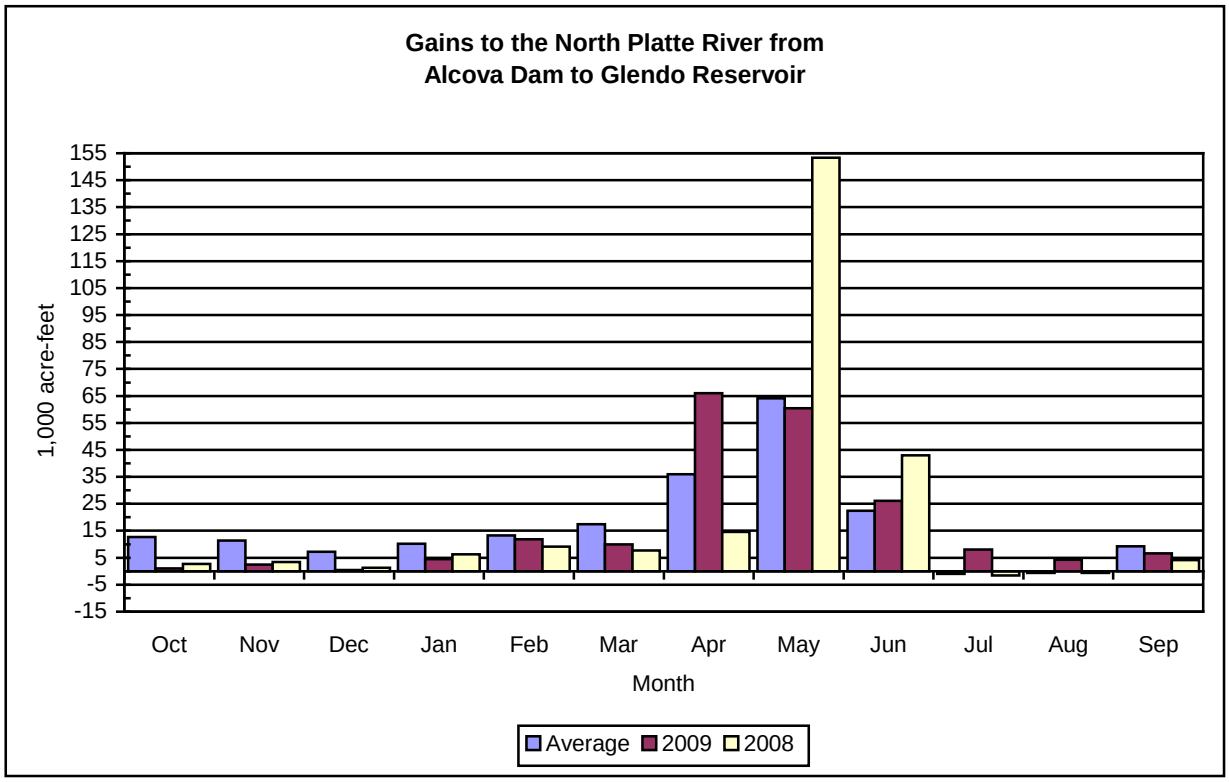


Figure 6 Gains to the North Platte River from Alcova Dam to Glendo Reservoir

Glendo Reservoir Storage and Releases

Glendo Dam and Reservoir is the only storage facility for the Glendo Unit. The reservoir has a storage capacity of 789,402 AF, including 271,917 AF allocated to flood control. Glendo Powerplant consists of two electrical generating units, with a total installed capacity of 38 MW. With both generating units operating at capacity and the reservoir water surface at elevation 4635.0 feet, approximately 3,920 cfs can be released through Glendo Powerplant. The reinforced concrete spillway has an ungated ogee crest. The spillway capacity at elevation 4669.0 feet, (6 feet below the crest of the dam), is 10,335 cfs.

The outlet works from Glendo Dam consist of the primary outlet works which discharge at the powerplant, and the low-flow outlet which discharges to the river immediately below the dam. The three primary outlet gates can release a combined discharge of 13,000 cfs with the powerplant shut down. During normal operation when the reservoir elevation is below the top of conservation storage (4635 feet), outlet works discharges should typically remain below 5,500 cfs. This precautionary practice is to minimize the potential for damage to the stilling basin and training walls. The low-flow outlet works are operated to maintain a continuous release of approximately 25 cfs. This provides a reliable water source for the downstream wetland area and results in associated fish and wildlife benefits.

Glendo Reservoir storage was 119,888 AF at the beginning of water year 2009, which was 108 percent of average but only 23 percent of active conservation of 517,485 AF. Water releases from Glendo Reservoir were initiated on April 20, 2009, in order to move water to the Inland Lakes. The reservoir reached a maximum storage for the year of 544,594 AF (elevation 4637.14 feet) on June 26, 2009. At the end of the water year, Glendo Reservoir contained 125,179 AF of water (water surface elevation 4586.09 feet) which was 113 percent of average and only 24 percent of active conservation of 517,485 AF. Figure 7 depicts water year 2008 and water year 2009 end of month reservoir storage compared to average. Table 5 depicts a summary of Glendo Reservoir information for water year 2009.

Table 5 Glendo Reservoir Hydrologic Data for Water Year 2009

Reservoir Allocations	Elevation (FT)	Storage (AF)	Storage Allocation (AF)
Top of Inactive and Dead	4570.00	63,148	63,148
Top of Active Conservation	4635.00	517,485	454,337
Top of Exclusive Flood Control	4653.00	789,402	271,917
Maximum water	4669.00	1,118,653	329,251
surface(surcharge)	4675.00		
Crest of Dam (without Camber)			

Storage-Elevation Data	Elevation (FT)	Storage (AF)	Date
Beginning of water year	4584.94	119.888	Oct 1, 2008 [1]
End of water year	4586.09	125,179	Sep 30, 2009
Annual Low	4580.93	102,567	Sep 17, 2009
Historic Low	4548.10	15,140	Sep 28, 1966
Annual High	4637.14	544,594	Jun 26, 2009
Historic High	4650.94	758,830	May 28, 1973

[1] Represents 0001 hours on October 1.

Inflow-Outflow Data	Inflow	Date	Outflow [2]	Date
Annual Total (AF)	865,023	Oct, 2008 – Sep,2009	832,195	Oct, 2008 – Sep, 2009
Daily Peak (CFS)	4,385	April 25, 2009	7,501	Jul 28, 2009
Daily Minimum (CFS)	104	January 27, 2009	18 [3]	March 9, 2009
Peak Bypass Release (CFS)			4,086	Jul 28, 2009
Total Bypass Release (AF)			137,848 [3]	Oct, 2008 – Sep, 2009

[2] Includes the average daily release of approximately 25 cfs from the low flow outlet works.

[3] A low flow outlet works was completed in 1993 and an average release of 25 cfs is maintained all year.

Month	Gain from Alcova		Inflow [7]		Outflow		Content [9]	
	KAF	% of Avg. [5]	KAF	% of Avg. [5]	KAF	% of Avg. [5]	KAF	% of Avg. [5]
October	1.0	8	39.7	59	1.7	71 [6]	156.9	86
November	2.5	22	37.9	69	1.6	100 [6]	192.5	87
December	0.4	6	34.4	71	2.1	111 [6]	224.0	83
January	4.5	44	36.6	73	1.6	80 [6]	258.5	81
February	11.9	89	39.7	81	1.3	59 [6]	296.3	82
March	9.9	57	41.3	59	1.7	11 [6]	334.6	82
April	66.0	183	160.1	158	16.2	27	476.6	107
May	60.4	94	130.0	81	153.6	129	448.4	93
June	26.1	117	121.9	80	25.1	15 [8]	540.2	116
July	8.1	NA [4]	82.4	53	255.1	81	361.6	121
August	4.2	NA [4]	83.5	62	277.0	95	164.7	119
September	6.6	72	57.4	67	95.3	85 [8]	125.2	113
Annual	243.1	120	911.2	81	883.4	80		

[4] Represents a negative number that makes the percentage meaningless.

[5] 30 year average is the period (1979-2008)

[6] 15 year average is the period (1994-2008) In 1993 a low flow valve was installed at Glendo Dam which allowed the release of 25 cfs during the non irrigation season. Therefore, a 15 year average is used for the months of October through March. The March average is skewed high due to evacuation of space in the upper system to allow for snow melt run off. The higher March average caused the percent of average to be lower than normal.

[7] Inflow includes the gain from Alcova Dam to Glendo Dam.

[8] Irrigation districts delayed irrigation deliveries in June due to heavy precipitation and discontinued their irrigation deliveries in mid September.

[9] End of Month

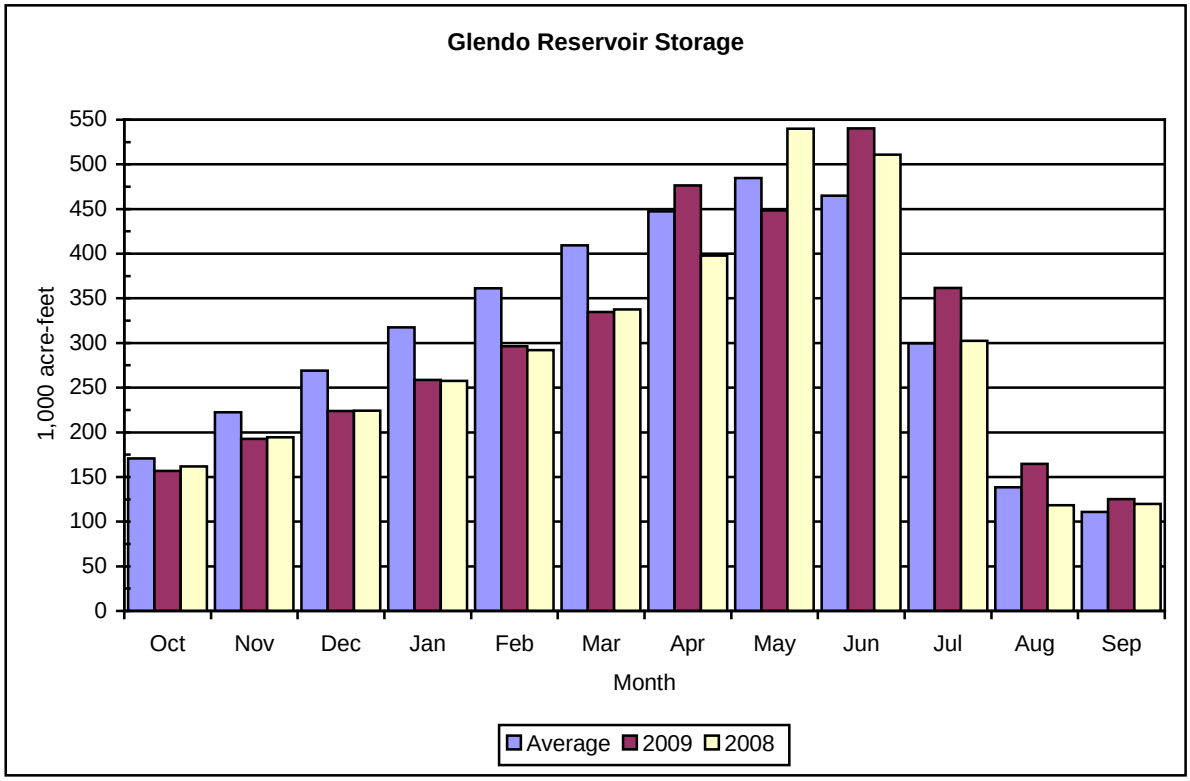


Figure 7 Glendo Reservoir Storage

Gains to the North Platte River from Glendo Dam to Guernsey Reservoir

The river gains between Glendo Dam and Guernsey Dam during water year 2009 were below average for 7 months with only the months of February, March, April, and July 2009 being above average. The Glendo Dam to Guernsey Reservoir river gains ranged from a high of 278 percent in April 2009 to only 47 percent of average in December 2008, with the month of August having a negative value making a percentage value meaningless. On July 27, 2009, daily computed inflow to Guernsey Reservoir peaked at 7,887 cfs. Figure 8 depicts a comparison of average, water year 2008 and water year 2009 monthly river gains.

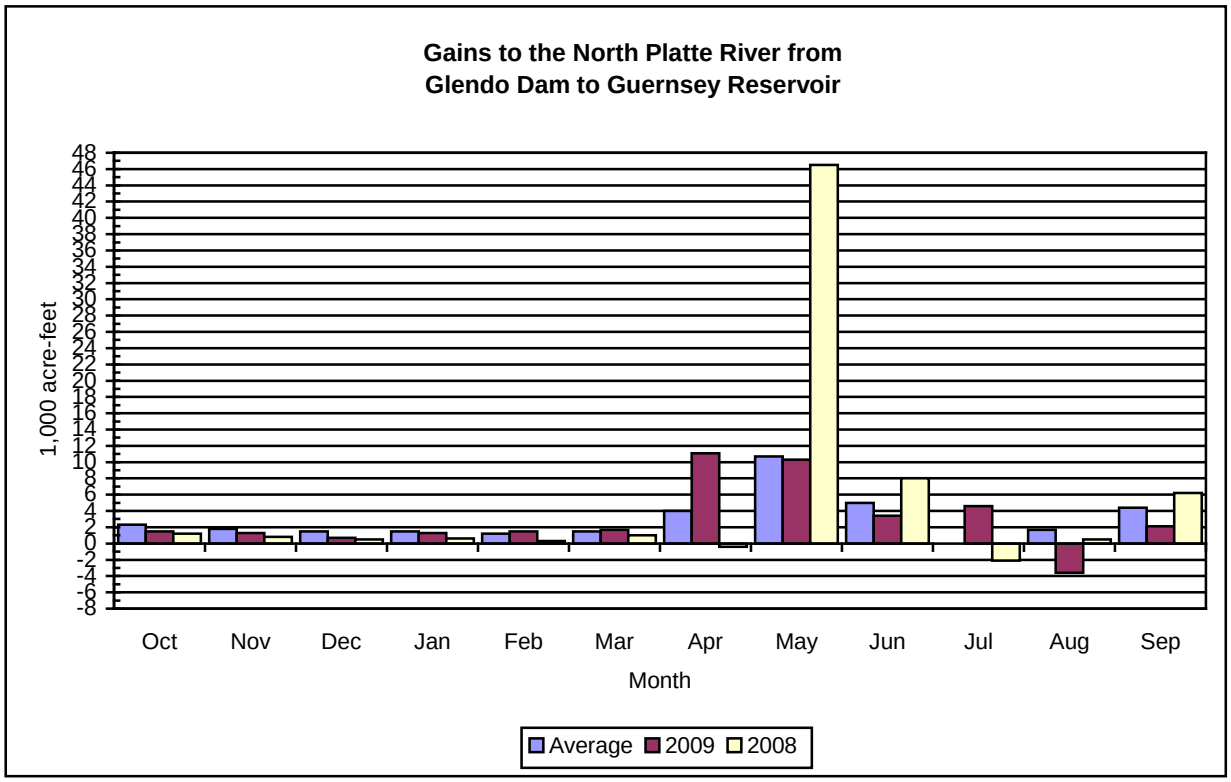


Figure 8 Gains to the North Platte River from Glendo Dam to Guernsey Reservoir

Guernsey Reservoir Storage and Releases

Guernsey Dam located about 25 miles below Glendo Dam, again stores and re-regulates the flow of the river prior to delivery of storage water to project lands of the North Platte Project and Glendo Unit. Guernsey Powerplant, located on the right abutment of the dam, has two 3.2 MW electrical generating units with a combined release capability of about 1,340 cfs. The windings of both units have been replaced resulting in the rating of 3.2 MW per unit. The north spillway gate, with a capacity of 50,000 cfs at a reservoir level of 4420 feet, is utilized for irrigation releases to supplement the maximum powerplant releases.

The original capacity of the reservoir was 73,800 AF, but this has been greatly reduced by deposition of silt. Utilizing data from the 1980 Sedimentation Survey of Guernsey Reservoir, the March 1982 - Area Capacity Tables and Curves shows about 45,600 AF of available storage.

At the beginning of water year 2009, storage in Guernsey Reservoir was at 5,632 AF. Releases from Guernsey Reservoir were started on April 19, 2009, as water was moved into the Inland Lakes. The annual "silt run" from the reservoir was initiated on July 12 and continued for 14 days. Reservoir storage was reduced to initiate the "silt run" and was maintained at a low level throughout the period. The minimum reservoir content during the "silt run" of 1,369 AF occurred on July 25, 2009. Following the "silt run," the reservoir was refilled to 27,126 AF by July 31, 2009, again making the reservoir suitable for recreation. At the end of the irrigation season, September 30, 2009, Guernsey Reservoir contained 4,480 AF. See Figure 9 for water year 2008 and water year 2009 storage compared to average.

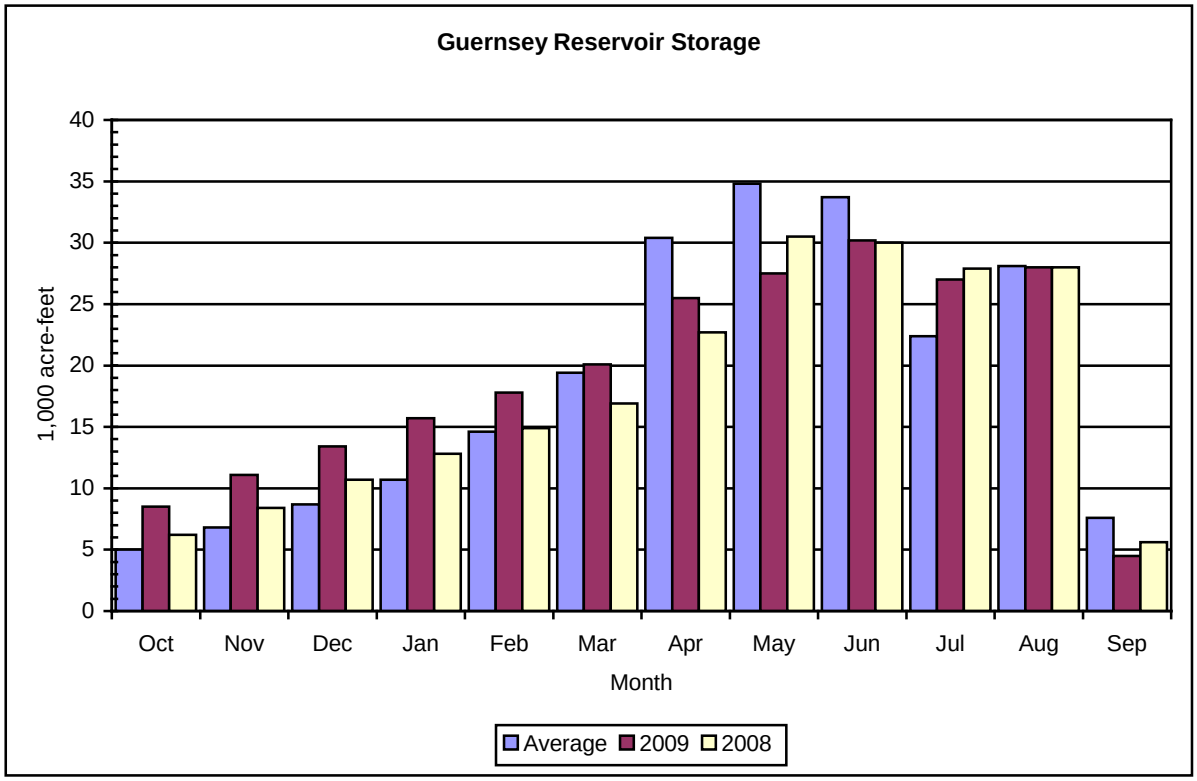


Figure 9 Guernsey Reservoir Storage

Precipitation Summary for Water Year 2009

Although the precipitation was quite variable from month to month throughout the North Platte River Basin, Seminoe, Pathfinder, and Glendo watersheds had above average total precipitation for the water year. Watershed precipitation is an average of the precipitation readings using several stations as indicators for each watershed.

In the Seminoe watershed, precipitation at the Elk Mountain weather station recorded the highest April precipitation since 1968. The Seminoe watershed precipitation was over 200 percent of normal in April and June in water year 2009 and had an annual total of 115 percent of average for water year 2009.

In the Pathfinder watershed, precipitation at the Lander, Wyoming, weather stations recorded the third highest June and July precipitation in the last 30 years. In the Pathfinder watershed, precipitation at the Pathfinder, Wyoming, weather stations recorded the third highest April precipitation of record, the second highest January precipitation in the last 30 years and tied for the highest precipitation in the last 30 years for the month of July.

In the Glendo watershed, precipitation at the Glenrock, Wyoming weather station Pathfinder weather station recorded the second highest precipitation for the month of January in the last 30 years. The Glenrock weather station in the Glendo watershed recorded the fourth highest April precipitation of record. The Casper weather station recorded the third highest July precipitation on record since 1915. The Pathfinder Dam weather station is used as an indicator in both the Pathfinder and Glendo watersheds.

In the Guernsey watershed, the Guernsey Dam, Wyoming, weather station and the Glendo Dam, Wyoming weather station recorded the second highest January precipitation in the last 30 years. The Guernsey weather station recorded no precipitation for the month of December.

See Figure 10 for a comparison of average, water year 2009, and water year 2008 total precipitation.

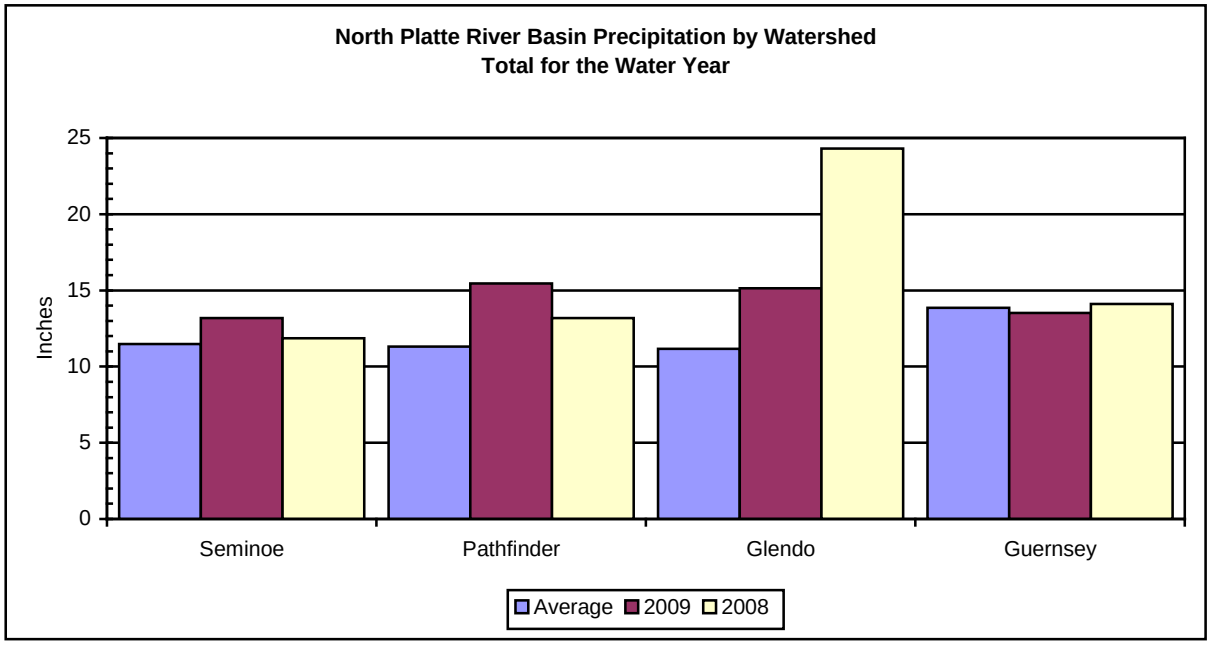


Figure 10 North Platte River Basin Precipitation by Watershed Total for Water Year

Snowpack Summary for Water Year 2009

Reclamation relies on the Natural Resources Conservation Service (NRCS) to provide snow water equivalent (SWE) information for the three drainage areas in which Reclamation forecasts snowmelt runoff. The watershed area above Seminoe Reservoir was above average for February, March, April, and May. The Sweetwater River and the watershed between Alcova Dam and Glendo Reservoir were below average for the February, March, April, and May. Table 6 shows a summary of snowpack for water year 2009.

Snowpack SWE for February was above average at 108 percent for the watershed above Seminoe Reservoir; below average at 61 percent for the Sweetwater River watershed which flows into Pathfinder Reservoir and below average at 80 percent for the Alcova to Glendo watershed.

Snowpack on March 1, 2009, had declined slightly, with SWE at 105 percent of average for the watershed above Seminoe Reservoir; it decreased to 54 percent of average for the Sweetwater River watershed which flows into Pathfinder Reservoir and increased to 86 percent of average for the Alcova to Glendo watershed.

Snowpack for April 1, 2009, declined slightly with SWE at 101 percent of average for the watershed above Seminoe Reservoir, and improving to 57 percent of average for the Sweetwater River watershed which flows into Pathfinder Reservoir and increased to 93 percent of average for the Alcova to Glendo watershed.

Snowpack for May 1, 2009, improved with SWE at 105 percent of average for the watershed above Seminoe Reservoir; 75 percent of average for the Sweetwater River watershed which flows into Pathfinder Reservoir; and 106 percent of average for the Alcova to Glendo watershed.

Table 6 North Platte Snowpack Water Content for 2009

	Feb 1		Mar 1		Apr 1		May 1	
Watershed	SWE[1]	% of Avg.[2]	SWE[1]	% of Avg.[2]	SWE[1]	% of Avg.[2]	SWE[1]	% of Avg.[2]
Seminoe Reservoir	14.3	108	18.3	105	21.3	101	22.8	105
Pathfinder Reservoir	5.9	61	6.6	54	8.3	57	10.9	75
Glendo Reservoir	5.9	80	7.9	86	11.1	93	12.0	106

[1] SWE (Snow Water Equivalent is the amount of water in the snowpack expressed in inches).
[2] Average is based on the 1971-2000 period.

Allocation for Water Year 2009

No allocation of storage water was required in water year 2009. The most consecutive allocation years historically are now 2002, 03, 04, 05, 06, and 2007 with 1953, 54, 55, 56, and 1957 being the second longest consecutive allocation years.

Ownerships for Water Year 2009

Stored water which is held in accounts for various entities is referred to as their ownership. At the beginning of water year 2009, the North Platte Project ownership (includes North Platte Pathfinder and North Platte Guernsey), contained 572,718 AF of water, which is 144 percent of average. The Kendrick ownership contained 530,788 AF of water, which is 61 percent of average; and the Glendo ownership contained 85,417 AF of water, which is 69 percent of average. Pathfinder, Inland Lakes, and Guernsey ownerships filled to their permitted amount during water year 2009.

The total amount of water stored at the end of water year 2008 in the mainstem reservoirs for use in water year 2009 was 1,195,828 AF which was 85 percent of average. This total does not include 39,160 AF of water remaining in the four Inland Lakes in Nebraska.

At the end of water year 2009, the North Platte Project ownership (includes North Platte Pathfinder and North Platte Guernsey), contained 555,423 AF of water which is 139 percent of average. The Glendo ownership contained 121,723 AF of water which is 98 percent of average. The Kendrick ownership contained 1,014,703 AF, which is 116 percent of average and the operational/re-regulation water account contained 2,741 AF. Also stored in the North Platte storage system was 3,792 AF for the city of Cheyenne and 2,000 AF for Pacific Power. See Figure 11 for the last two water years ownership carryover compared with average. Table 8 shows a summary of ownership for water year 2009.

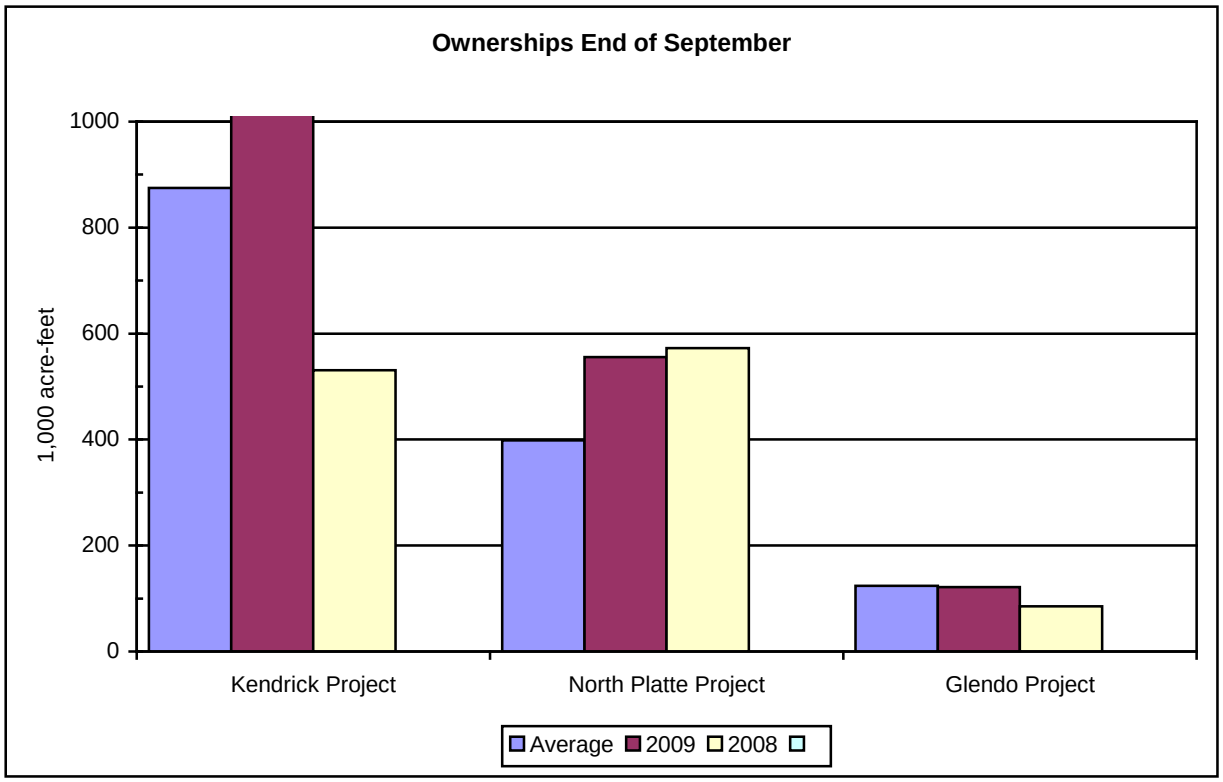


Figure 11 Ownerships End of September

North Platte River Forecast 2009

Reservoir inflow forecasts are prepared at the first of February, March, April, and May to estimate the inflows expected for the April through July runoff period.

Runoff forecasts for the Seminoe Reservoir watershed, the Sweetwater River above Pathfinder Reservoir, and the North Platte River from Alcova Dam to Glendo Reservoir are based on snow telemetry (SNOTEL) and/or snow course sites, precipitation sites, and calculated November inflow. Reclamation maintains a database consisting of historic monthly data for reservoir inflows, snow and precipitation stations. WYAO staff coordinates with NRCS Portland Office staff to exchange forecasted numbers. Reclamation forecasts and NRCS forecasts are then reviewed by WYAO management. All the information available is considered and judgment is applied to result in a final forecast of reservoir inflow. The forecasted information is then made available to the public through a news release and is used in updating monthly reservoir operating plans. Table 7 depicts a summary of the monthly forecasts for water year 2009.

Table 7 Summary of Forecasts of April-July Runoff for Water Year 2009

Forecast Points	Feb 1 KAF	Feb 1 % of Avg.	Mar 1 KAF	Mar 1 % of Avg.	Apr 1 KAF	Apr 1 % of Avg.	May 1 KAF	May 1 % of Avg.	Actual April-July KAF	% of Apr-Jul Avg.[1]
Seminoe Reservoir	750	107	700	99	700	99	770 [2]	109	963.6	137
Sweetwater River	40	66	25	41	30	49	45 [3]	74	53.2	78
Alcova to Glendo	85	70	85	70	100	82	170 [4]	139	160.7	132

[1] Average is based on the 1978-2008 period.
[2] The May 1 forecast includes an actual April inflow of 108,100 AF.
[3] The May 1 forecast includes an actual April inflow of 10,000 AF.
[4] The May 1 forecast includes an actual April inflow of 66,000 AF.

Table 8 Summary of North Platte River System Ownership for Water Year 2009

SUMMARY OF NORTH PLATTE RIVER SYSTEM OWNERSHIPS FOR WATER YEAR 2009 (Acre-feet)

MONTHS	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
PATHFINDER OWNERSHIP														
ACCRUAL		43276	37983	32061	35033	35052	62580	119060	99390	0	0	0	0	464435
EVAPORATION		4635	1744	2167	766	2043	3200	3288	9665	7674	11431	8085	6140	60838
DELIVERY B/		0	0	0	0	0	0	0	0	0	93524	225987	102446	421957
PP&L PAYBACK A/		0	0	0	0	0	0	0	806 A/	259 A/	0	0	0	1065
OWNERSHIP	572718	611359	647598	677492	711759	744768	804148	919920	1010451	1003036	898081	664009	555423	
KENDRICK OWNERSHIP														
ACCRUAL		0	0	0	0	0	0	0	151135	392958	10451	0	8162	562706
EVAPORATION		3948	1221	1449	486	1331	1964	1870	4220	6263	9105	8553	6773	47183
DELIVERY B/		0	0	0	0	0	0	0	266	0	11581	12649	7112	31608
OWNERSHIP	530788	526840	525619	524170	523684	522353	520389	518519	665168	1051863	1041628	1020426	1014703	
GLENDO OWNERSHIP														
ACCRUAL		0	0	0	0	0	0	20934	18179	18880	0	0	5110	63103
EVAPORATION		644	477	370	346	8	373	541	1116	2189	2543	2337	2100	13044
DELIVERY & LOSS B/		0	0	0	0	0	0	0	3	3	4259	5178	4310	13753
OWNERSHIP	85417	84773	84296	83926	83580	83572	83199	103592	120652	137340	130538	123023	121723	
PACIFIC POWER & LIGHT														
ACCRUAL		0	0	0	0	0	0	0	442	504	558	558	51	2113
DELIVERY B/		0	0	0	0	0	0	0	2000	1	0	0	0	2001
EVAPORATION		14	6	5	2	2	6	5	1	0	15	26	30	112
IN STORAGE	2000	1986	1980	1975	1973	1971	1965	1960	401	904	1447	1979	2000	
GUERNSEY OWNERSHIP														
ACCRUAL		0	0	713	5281	12778	10879	15961	0	0	0	0	0	45612
EVAPORATION		0	0	9	42	103	295	385	965	891	492	0	0	3182
DELIVERY B/		0	0	0	0	0	0	0	0	0	42430	0	0	42430
OWNERSHIP	0	0	0	704	5943	18618	29202	44778	43813	42922	0	0	0	

Table 8 (Continued) Summary of North Platte River System Ownership for Water Year 2009

SUMMARY OF NORTH PLATTE RIVER SYSTEM OWNERSHIPS FOR WATER YEAR 2009 (Acre-feet)

MONTHS	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
INLAND LAKES OWNERSHIP														
ACCRUAL		2374	3687	0	0	0	0	39939	0	0	0	0	0	46000
EVAPORATION		0	17	16	6	6	19	91	36	0	0	0	0	191
TRANSFER C/		0	0	0	0	0	0	21291	24518	0	0	0	0	45809
OWNERSHIP	0	2374	6044	6028	6022	6016	5997	24554	0	0	0	0	0	
CITY OF CHEYENNE														
ACCRUAL		930	742	687	642	682	753	314	239	1490	866	859	1204 D/	9408
EVAPORATION		31	8	11	1	12	21	35	32	0	16	27	28	222
DELIVERY		96	96	203	216	121	220	909	6196	449	113	61	83	8763
OWNERSHIP	3369	4172	4810	5283	5708	6257	6769	6139	150	1191	1928	2699	3792	
OPERATIONAL														
ACCRUAL		0	0	0	0	0	0	0	0	2946	0	0	1250	4196
EVAPORATION		6	4	4	2	2	5	4	16	70	81	29	32	255
RELEASED		0	0	0	0	0	0	0	0	0	1242	611	883	2736
OWNERSHIP	1536	1530	1526	1522	1520	1518	1513	1509	1493	4369	3046	2406	2741	
RE-REGULATION														
ACCRUAL		0	0	0	0	0	0	0	0	0	0	0	0	0
EVAPORATION		0	0	0	0	0	0	0	0	0	0	0	0	0
RELEASED		0	0	0	0	0	0	0	0	0	0	0	0	0
OWNERSHIP	0	0	0	0	0	0	0	0	0	0	0	0	0	
WWDC Water (In Glendo)														
TRANSFERRED E/		0	0	0	0	0	0	2048	2000	0	0	0	0	4048
EVAPORATION		0	0	0	0	0	0	3	38	38	35	0	0	114
RELEASED		0	0	0	0	0	0	0	10	141	2877	425	481 D/	3934
OWNERSHIP	0	0	0	0	0	0	0	2045	3997	3818	906	481	0	

Table 8 (Continued) Summary of North Platte River System Ownership for Water Year 2009

A/ In 1992 the Wyoming State Engineer granted an exchange which allows Pacific Power to exchange direct flows in the winter months (Oct-Apr) for direct flow in the summer months. During the winter months some direct flows which are available for storage under Pathfinder's storage right are not stored but instead are allowed to pass downstream for use by Pacific Power. In exchange starting on May 1 Pacific Power allows some of its available direct flow to pass downstream to Glendo Reservoir to be stored as Pathfinder ownership. The exchange water was returned to Pathfinder at a rate of 26 AF daily starting on May 1, 2009, until June 10, 2009, when the last 25 AF of the exchange water was returned.

B/ Amounts shown as delivery are storage water only. Natural flow which was delivered is not shown in this table.

C/ Transfer refers to Inland Lakes ownership water which was delivered from storage in Glendo or Guernsey Reservoirs. In April and May, 45,809 AF was transferred to the Inland Lakes.

D/ The WWDC returned 214 AF of water to the city of Cheyenne on September 30, 2009.

E/ Wyoming Water Development Commission (WWDC) contracted with the Bureau of Reclamation for storage space of 7,000 AF in Glendo Reservoir for a one water year period to store non-project water for irrigation purposes.

Table 9 Actual Reservoir Operations for Water Year 2009

NPRAOP V1.1K 21-Mar-2003 Run: 14-Oct-2009 10: 7 Page 1

NORTH PLATTE RIVER OPERATING PLAN
Year Beginning Oct 2008

HYDROLOGY OPERATIONS

Seminoe Reservoir Operations — Initial Content 534.5 Kaf — Operating Limits: Max 1017.3 Kaf, 6357.00 Ft. Min 31.7 Kaf, 6239.02 Ft.

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total Inflow	kaf	29.3	27.9	25.5	28.9	30.3	57.0	108.1	336.1	401.5	118.0	40.7	22.3
Total Inflow	cfs	477.	469.	415.	470.	546.	927.	1817.	5466.	6747.	1919.	662.	375.
Turbine Release	kaf	33.9	32.0	32.5	32.4	30.0	33.1	100.4	149.8	171.3	152.4	148.8	106.5
Jetflow Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0
Spillway Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Release	kaf	33.9	32.0	32.5	32.4	30.0	33.1	100.4	149.8	178.9	152.4	148.8	106.5
Total Release	cfs	551.	538.	528.	527.	540.	538.	1688.	2436.	3007.	2479.	2421.	1790.
Evaporation	kaf	4.3	1.2	1.5	0.5	1.4	2.1	2.1	4.7	6.3	8.1	7.5	5.0
End-month content	kaf	525.6*	520.2*	511.8*	507.7#	506.7*	528.6*	534.2*	715.8*	932.1*	889.6*	773.9*	684.7*
End-month elevation	ft	6326.0	6325.5	6324.8	6324.5	6324.4	6326.2	6326.7	6340.0	6352.7	6350.4	6343.7	6337.9

Kortes Reservoir Operations — Initial Content 4.7 Kaf — Operating Limits: Max 4.8 Kaf, 6142.73 Ft. Min 1.7 Kaf, 6092.73 Ft.

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total Inflow	kaf	33.9	32.0	32.5	32.4	30.0	33.1	100.4	149.8	178.9	152.4	148.8	106.5
Total Inflow	cfs	551.	538.	528.	527.	540.	538.	1688.	2436.	3007.	2478.	2421.	1790.
Turbine Release	kaf	33.9	32.0	32.5	32.4	30.0	33.1	100.4	149.8	142.6	131.6	148.8	106.5
Spillway Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	20.9	0.0	0.0
Total Release	kaf	33.9	32.0	32.5	32.4	30.0	33.1	100.5	149.7	178.8	152.5	148.8	106.5
Total Release	cfs	551.	538.	528.	527.	540.	538.	1688.	2435.	3004.	2480.	2420.	1789.

Pathfinder Reservoir Operations — Initial Content 348.2 Kaf — Operating Limits: Max 1016.5 Kaf, 5850.10 Ft. Min 31.4 Kaf, 5746.00 Ft.

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Sweetwater Inflow	kaf	3.9	4.0	2.2	1.6	1.4	3.6	10.0	10.8	19.4	7.9	3.2	1.6
Kortes-Path Gain	kaf	6.0	4.0	4.7	5.6	3.9	5.4	5.8	0.3	0.0	-1.1	-6.7	-5.9
Inflow from Kortes	kaf	33.9	32.0	32.5	32.4	30.0	33.1	100.5	149.7	178.8	152.5	148.8	106.5
Total Inflow	kaf	43.8	40.1	39.3	39.6	35.3	42.1	116.3	160.9	198.2	159.3	145.3	102.2
Total Inflow	cfs	712.	674.	640.	644.	636.	685.	1954.	2616.	3330.	2591.	2364.	1717.
Turbine Release	kaf	6.5	27.3	29.6	28.0	23.9	32.5	114.6	83.3	105.2	90.2	85.5	52.2
Jetflow Release	kaf	4.7	4.6	4.7	4.7	4.1	4.5	4.5	4.7	4.5	4.6	4.7	4.7
Spillway Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Release	kaf	11.2	31.9	34.3	32.7	28.0	37.0	119.1	88.0	105.7	94.8	90.2	56.9
Total Release	cfs	183.	536.	558.	531.	504.	602.	2001.	1432.	1777.	1542.	1467.	957.
Evaporation	kaf	2.9	1.0	1.3	0.4	1.2	1.8	1.8	5.1	4.4	7.7	6.2	6.7
End-month content	kaf	377.9	385.1	388.8	395.4	401.5	404.8	400.3	468.0	556.0	612.8	661.8	700.3
End-month elevation	ft	5809.1	5809.8	5810.2	5810.8	5811.4	5811.8	5811.3	5817.5	5824.4	5828.3	5831.5	5833.8

Alcova Reservoir Operations — Initial Content 181.1 Kaf — Operating Limits: Max 184.4 Kaf, 5500.00 Ft. Min 145.3 Kaf, 5483.12 Ft.

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total Inflow	kaf	11.2	31.9	34.3	32.7	28.0	37.0	119.1	88.0	105.7	94.8	90.2	56.9
Total Inflow	cfs	183.	536.	558.	531.	504.	602.	2001.	1432.	1777.	1542.	1467.	957.
Turbine Release	kaf	33.9	32.8	33.8	32.8	27.8	34.3	97.2	79.4	94.8	80.0	76.4	46.0
Spillway Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Casper Canal Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	9.7	13.6	12.6	10.8
Total Release	kaf	33.9	32.8	33.8	32.8	27.8	34.3	97.2	86.9	104.5	93.6	89.0	56.8
Total Release	cfs	549.	552.	552.	532.	503.	561.	1630.	1413.	1756.	1522.	1447.	955.
Evaporation	kaf	0.7	0.2	0.3	0.1	0.3	0.4	0.4	1.1	0.9	1.3	1.0	1.0
End-month content	kaf	157.9*	156.7*	156.8*	156.6*	156.5*	158.6*	180.2*	180.3*	180.6*	180.4*	180.6*	179.5*
End-month elevation	ft	5488.8	5488.3	5488.3	5488.3	5488.2	5489.1	5498.3	5498.3	5498.5	5498.4	5498.4	5498.0

Table 9 (Continued) Actual Reservoir Operations for Water Year 2009

NORTH PLATTE RIVER OPERATING PLAN
Year Beginning Oct 2008

Gray Reef Reservoir Operations — Initial Content 1.8 Kaf — Operating Limits: Max 1.1 Kaf, 5327.42 Ft. / Min 0.0 Kaf, 5306.00 Ft.

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total Inflow	kaf	33.8	32.8	33.9	32.7	27.9	34.5	97.0	79.4	94.9	80.1	76.4	46.2
Total Inflow	cfs	549.	552.	552.	532.	503.	561.	1630.	1291.	1594.	1303.	1242.	777.
Total Release	kaf	33.9	32.8	33.8	32.8	27.8	34.3	97.2	79.4	94.8	80.0	76.4	46.0
Total Release	cfs	552.	552.	550.	534.	501.	558.	1634.	1291.	1594.	1301.	1242.	774.

Glendo Reservoir Operations — Initial Content 119.9 Kaf — Operating Limits: Max 789.4 Kaf, 4653.00 Ft. / Min 63.2 Kaf, 4570.02 Ft.

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Alcova-Glendo Gain	kaf	1.0	2.5	0.4	4.5	11.9	9.9	66.0	60.4	26.1	8.1	4.2	6.6
Infl from Gray Reef	kaf	33.9	32.8	33.8	32.8	27.8	34.3	97.2	79.4	94.8	80.0	76.4	46.0
Total Inflow	kaf	39.7	37.9	34.4	36.6	39.7	41.3	160.1	130.0	121.9	82.4	83.5	57.4
Total Inflow	cfs	646.	637.	560.	596.	714.	671.	2690.	2114.	2049.	1340.	1358.	965.
Turbine Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	14.3	149.5	22.6	197.5	227.5	83.0
Low Flow Release	kaf	1.5	1.5	1.5	1.5	1.5	1.5	1.9	1.5	1.5	1.5	1.5	1.5
Spillway Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	1.0	56.1	48.0	10.8
Total Release	kaf	1.7	1.6	2.1	1.6	1.3	1.7	16.2	153.6	25.1	255.1	277.0	95.3
Total Release	cfs	27.	27.	34.	27.	23.	27.	272.	2497.	422.	4150.	4505.	1601.
Evaporation	kaf	1.0	0.8	0.8	0.5	0.6	1.3	1.9	4.7	5.0	5.9	3.3	1.7
End-month content	kaf	156.9*	192.5*	224.0*	258.5*	296.3*	334.6*	476.6*	448.4*	540.2*	361.6*	164.7*	125.2*
End-month elevation	ft	4592.4	4598.5	4603.2	4608.0	4612.8	4617.3	4631.6	4629.0	4636.8	4620.3	4593.8	4586.1

Guernsey Reservoir Operations — Initial Content 5.6 Kaf — Operating Limits: Max 45.6 Kaf, 4419.99 Ft. / Min 0.0 Kaf, 4370.00 Ft.

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Glendo-Guerns Gain	kaf	1.5	1.3	0.7	1.3	1.5	1.7	11.1	10.3	3.4	4.6	-3.6	2.1
Inflow from Glendo	kaf	1.7	1.6	2.1	1.6	1.3	1.7	16.2	153.6	25.1	255.1	277.0	95.3
Total Inflow	kaf	3.2	2.9	2.8	3.0	2.8	3.4	27.2	163.9	28.5	259.8	273.4	97.3
Total Inflow	cfs	52.	49.	45.	48.	50.	55.	458.	2665.	479.	4225.	4447.	1636.
Turbine Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	18.8	61.3	19.6	27.5	61.9	30.5
Seepage	kaf	0.3	0.2	0.3	0.4	0.3	0.3	0.4	1.2	3.0	3.1	2.5	0.3
Spillway Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	2.3	98.6	2.4	231.9	207.2	89.5
Total Release	kaf	0.2	0.1	0.4	0.5	0.6	0.8	21.5	161.1	25.0	262.5	271.6	120.3
Total Release	cfs	3.	2.	6.	8.	11.	12.	362.	2621.	420.	4270.	4417.	2022.
Evaporation	kaf	0.2	0.1	0.2	0.1	0.1	0.3	0.3	0.8	0.8	0.4	0.9	0.4
End-month content	kaf	8.5*	11.1*	13.4*	15.7*	17.8#	20.1#	25.5*	27.5*	30.2*	27.0*	27.9*	4.5*
End-month elevation	ft	4398.8	4401.3	4403.1	4404.8	4406.2	4407.6	4410.6	4411.6	4413.0	4411.4	4411.9	4393.6

Flood Benefits for Water Year 2009

Because of the existence of dams on the North Platte River, The Corps of Engineers, Omaha District, estimates that in water year 2009 flood damages of $2,147,600 were prevented. Table 10 is a breakdown of flood damage prevented by Dams.

Table 10 Flood Damage Prevented by Dams for Water Year 2009 (on the North Platte River Basin System)

DAMS	WATER YEAR 2009	PRIOR TO 2009 [2]	ACCUMULATED TOTAL [1]
SEMINOE	$824,300	$30,964,000	$31,788,300
PATHFINDER	$420,300	$9,204,500	$9,624,800
ALCOVA	$500	$547,900	$548,400
GLENDO	$902,500	$82,835,700	$83,738,200
GUERNSEY	$0	$434,000	$434,000
TOTAL	$2,147,600	$123,986,100	$126,133,700

[1] This data is received from the Army Corps of Engineers Omaha District Office and is revised every October.

[2] The period of assessment is 1970 through 2008 except for Glendo Dam, which is 1965 through 2008.

Generation for Water Year 2009

Power generation was below average for all powerplants on the North Platte River Basin except Seminoe and Kortes powerplants in water year 2009. See Table 11 for a breakdown of generation by powerplant.

Table 11 Power Generation Water Year 2009

Powerplant	Gross generation [1](GWh)	Percent of Average [2]
Seminoe	161.9	123
Kortes	171.1	122
Fremont Canyon	171.2	74
Alcova	83.6	72
Glendo	69.2	88
Guernsey	15.1	82
Total Basin	672.1	94

[1] Generation is reported in giga-watt hours (GWh).
[2] 30 year average (1979-2008)

The number of generation units at each powerplant, their capacity and output at rated head is shown in Table 12.

Table 12 North Platte River Powerplant Data

Powerplant	Number of Units	Capacity Each Unit (kw)	Total [2] Installed Capacity (kw)	Normal Operating Head (feet)	Output At rated Head (cfs)	30 year Average [1] (GWh)
Seminoe	3	17,000	51,000	97-227	4,050	131.8
Kortes	3	12,000	36,000	192-204	2,910	140.5
Fremont Canyon	2	33,400	66,800	247-363	3,080	232.3
Alcova	2	19,500	39,000	153-165	4,100	115.7
Glendo	2	19,000	38,000	73-156	3,400	78.9
Guernsey	2	3,200	6,400	89-91	1,340	18.5
Total	14	---	237,200	---	---	717.7

[1] 1979-2008
[2] Installed capacity from Monthly Report of Power Operations-Powerplant (Form PO&M 59)

Glossary

Annual Operating Plan (AOP) - An annual publication which is prepared, reviewed, and presented to the public, with a summary of the actual operations and outlook for the coming Water year.

Acre-Foot (AF) - A measure of volume of water equal to an area of 1 acre covered with water 1 foot deep. (43,560 cubic feet)

Basin - The watershed from which overland runoff flows into the North Platte River. When used alone in this report it refers to the North Platte River Drainage Basin upstream of Guernsey Dam.

Bypass - That amount of water released from a reservoir other than through the powerplant for those reservoirs which have a powerplant connected to them.

Cubic foot per second (cfs) - The rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute. The volume of water represented by a flow of 1 cubic foot per second for 24 hours is equivalent to 86,400 cubic feet, approximately 1.983 AF, or 646,272 gallons.

Evaporation Pool - A volume of water set aside in the accounting process from which reservoir evaporation is subtracted as it occurs. (Used in Glendo storage accounting).

Flood Pool - A physical space in the reservoir which is to be occupied only by water from flood events. In Glendo Reservoir, the volume between reservoir elevations 4635.0 feet and 4653.0 feet is reserved exclusively for flood control.

Gains - Water which enters a river in a defined reach from a source other than an upstream release. When flow released into a reach is greater than the river flow exiting the lower end of the reach, the net gain is negative (loss of water in the reach).

Giga Watt hour (GWh) - A unit of power equal to one billion watt hours.

Head - The difference in elevation between the reservoir water surface and the power generating turbines at a powerplant which is connected to a reservoir.

Hydromet - Computer software designed for the acquisition, processing, storage and retrieval of hydrological and meteorological data which is gathered via satellite from remote sites.

Inflow - As used in this report is any water which enters a reservoir irrespective of whether it originated in the reach or was released from an upstream storage reservoir.

Glossary (continued)

Inland Lakes - A series of four off-stream storage reservoirs on the Interstate Canal system in Nebraska which are used to store and re-release irrigation water. (Lake Alice, Lake Minatare, Little Lake Alice, and Lake Winters Creek).

Megawatt (MW) – A unit of power equal to one million watts.

Natural Flow - River flow which has originated from a source other than reservoir storage.

NRCS. – The Natural Resources Conservation Service which is a government agency under the Department of Agriculture.

Power Pool - That space in a reservoir which must be full in order to efficiently generate electrical power through an associated turbine generator.

Precipitation - A deposit on the earth of hail, mist, rain, sleet, or snow.

Runoff - That part of precipitation on the Basin which appears as flow in the North Platte River.

Silt Run - The name given to the practice of flushing silt from Guernsey Reservoir into the North Platte River downstream where the silt laden water is diverted by irrigators. The silt tends to settle in the slower moving water of canals and laterals helping to seal the wetted perimeter and reduce seepage losses.

SNOTEL - Snowpack telemetry network. A network of NRCS automated sites which continually monitor snowpack and weather conditions and transmit data to a data retrieval center in Portland, Oregon.

System - As used in the report the System includes all storage, delivery, and power generating facilities on the mainstem of the North Platte River in Wyoming.

SWE – Snow Water Equivalent is the amount of water in the snowpack expressed in inches.

Water Year - October 1 through September 30.

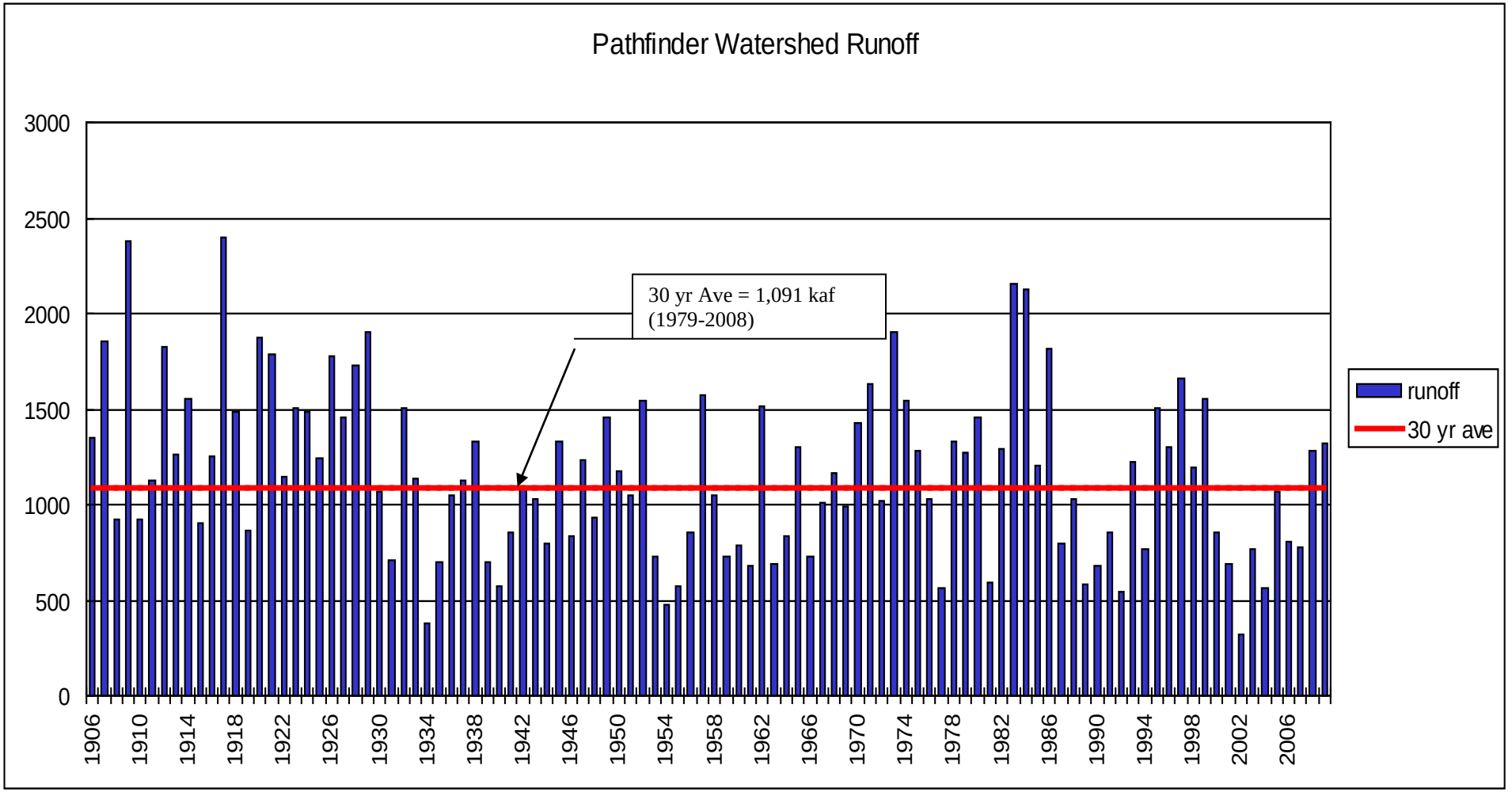


Figure 20 Pathfinder Watershed Runoff 1906-2009

Reservoir Data Definitions Sheets

A. General:

Dam design and reservoir operation utilize reservoir capacity and water surface elevation data. To insure uniformity in the establishment, use, and publication of these data the following standard definitions of water surface elevations and reservoir capacities shall be used.

B. Water Surface Elevation Definitions:

Maximum Water Surface - the highest acceptable water surface elevation with all factors affecting the safety of the structure considered. Normally it is the highest water surface elevation resulting from a computed routing of the inflow design flood through the reservoir on the basis of established operating criteria. It is the top of surcharge capacity.

Top of Exclusive Flood Control Capacity - the reservoir water surface elevation at the top of the reservoir capacity allocated to exclusive use for the regulating of flood inflows to reduce damage downstream.

Maximum Controllable Water Surface Elevation -the highest reservoir water surface elevation at which gravity flows from the reservoir can be completely shut off.

Top of Joint Use Capacity - the reservoir water surface elevation at the top of the reservoir capacity allocated to joint use, i.e., flood control and conservation purposes.

Top of Active Conservation Capacity - the reservoir water surface elevation at the top of the capacity allocated to the storage of water for conservation purposes only.

Top of Inactive Capacity -the reservoir water surface elevation below which the reservoir will not be evacuated under normal conditions.

Top of Dead Capacity - the lowest elevation in the reservoir from which water can be drawn by gravity.

Streambed at the Dam Axis - the elevation of the lowest point in the streambed at the axis of the dam prior to construction. This elevation normally defines the zero for the area-capacity tables.

C. Capacity Definitions:

Surcharge Capacity - the reservoir capacity provided for use in passing the inflow design flood through the reservoir. It is the reservoir capacity between the maximum water surface elevation and the highest of the following elevations:

a) Top of exclusive flood control capacity

b) Top of joint use capacity

c) Top of active conservation capacity

Total Capacity - the reservoir capacity below the highest of the elevations representing the top of exclusive flood control capacity, the top of joint use capacity, or the top of active conservation capacity. In the case of a natural lake which has been enlarged, the total capacity includes the dead capacity of the lake. Total capacity is used to express the total quantity of water which can be impounded and is exclusive of surcharge capacity.

Live Capacity - the part of the total capacity from which water can be withdrawn by gravity. It is equal to the total capacity less the dead capacity.

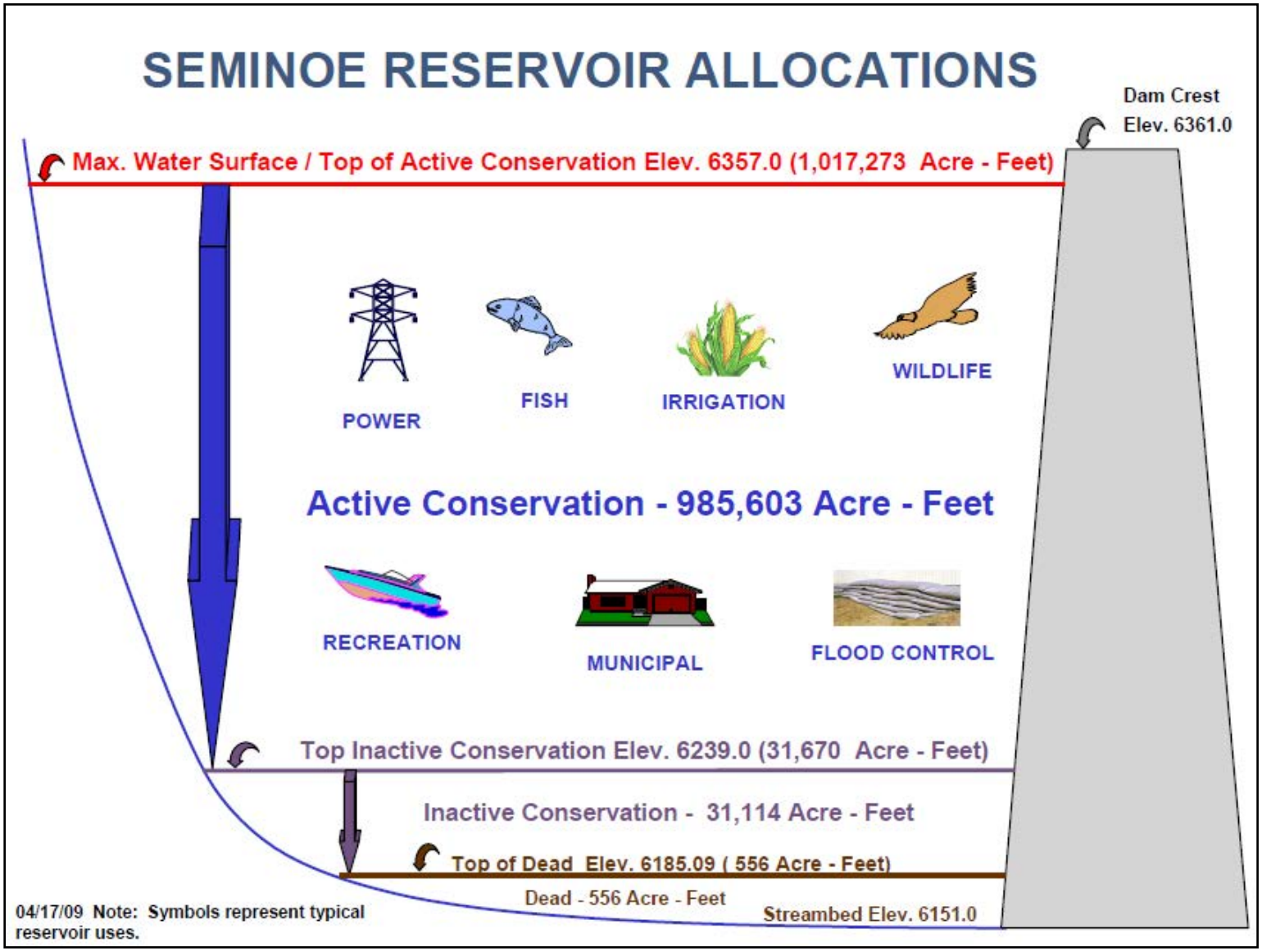
Active Capacity - the reservoir capacity normally usable for storage and regulation of reservoir inflows to meet established reservoir operating requirements. Active capacity extends from the highest of the top of exclusive flood control capacity, the top of joint use capacity, or the top of active conservation capacity to the top of inactive capacity. It is the total capacity less the sum of the inactive and dead capacities.

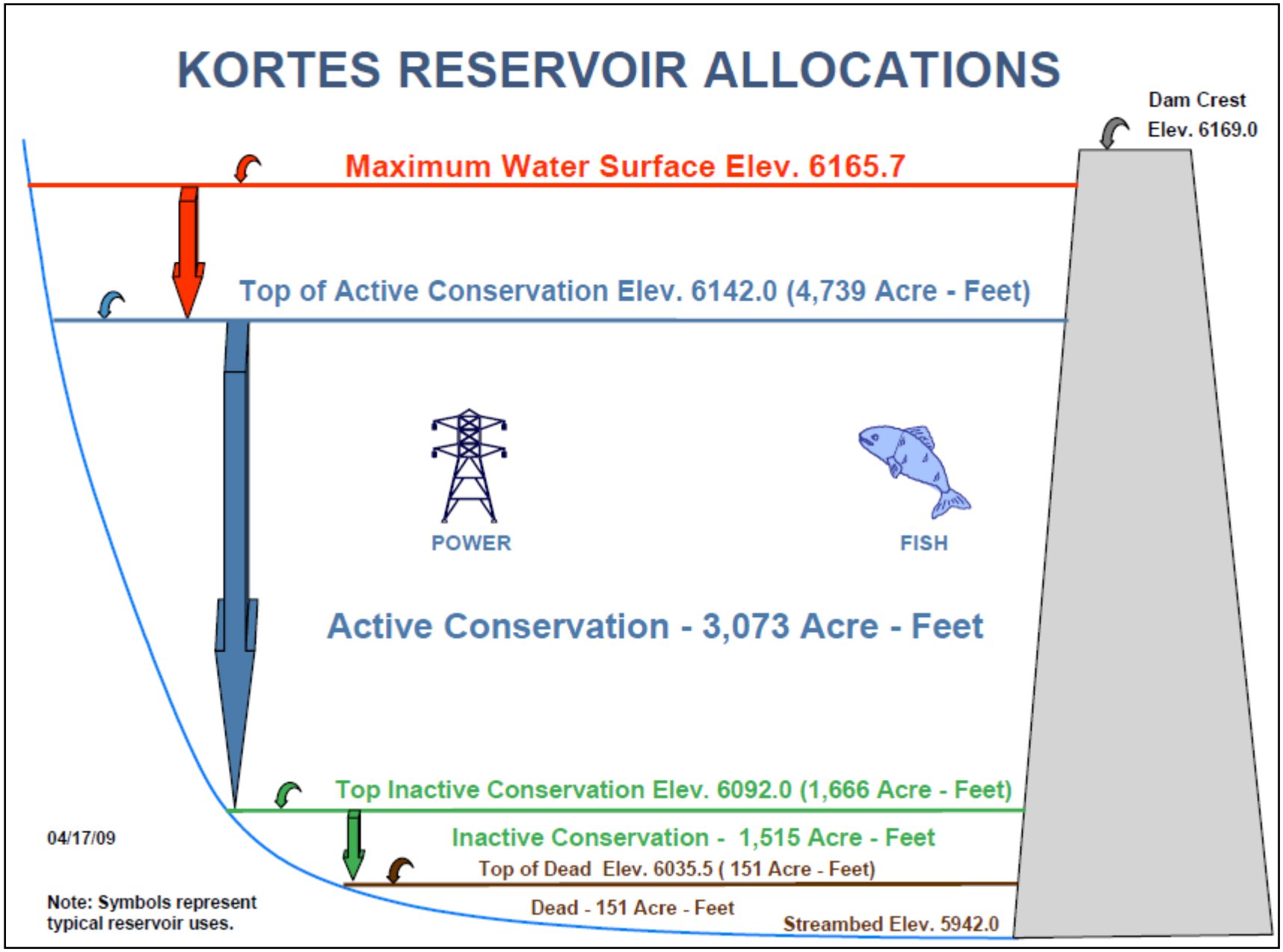
Exclusive Flood Control Capacity - the reservoir capacity assigned to the sole purpose of regulating flood inflows to reduce flood damage downstream.

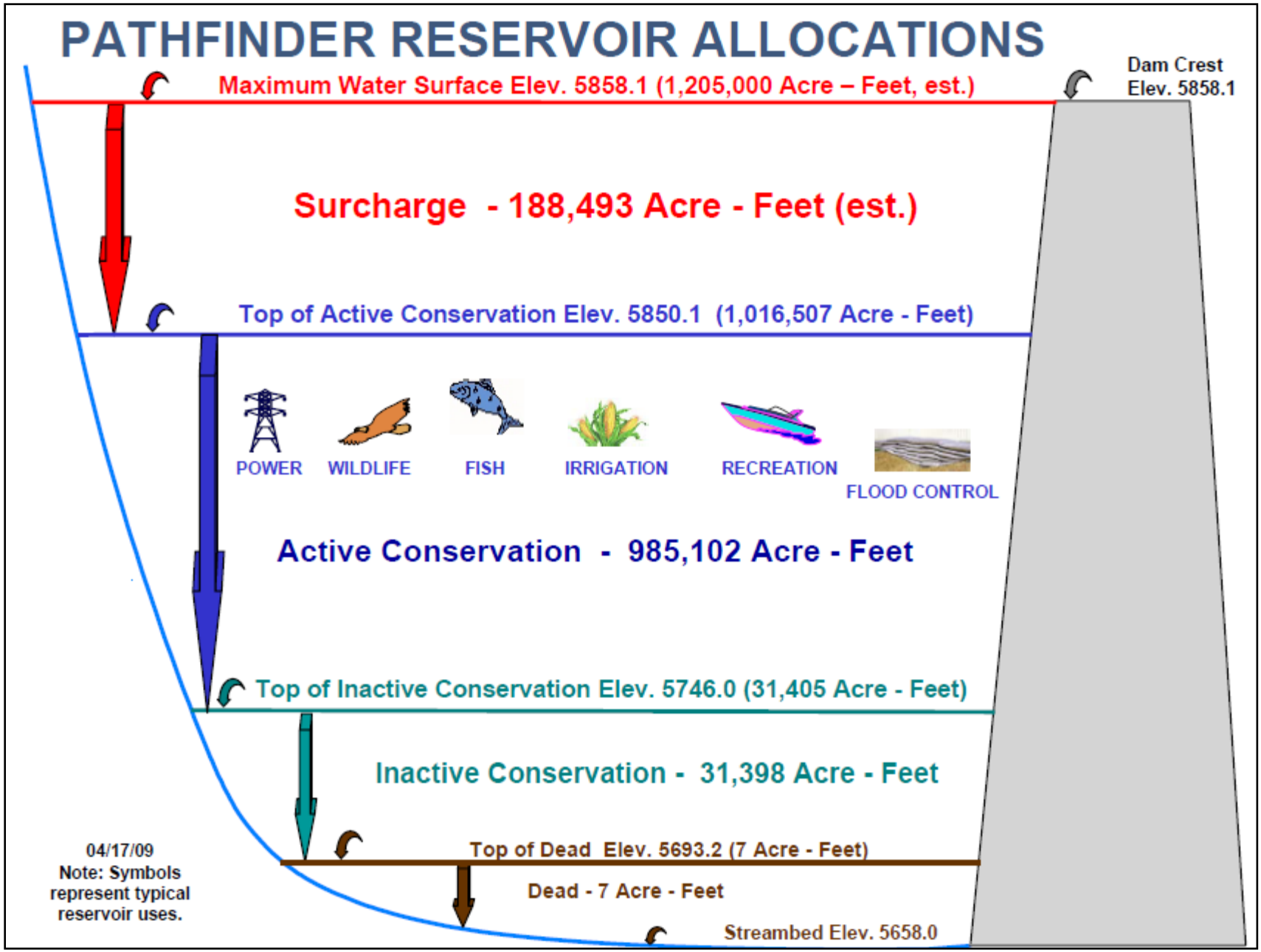
Joint Use Capacity - the reservoir capacity assigned to flood control purposes during certain periods of the year and to conservation purposes during other periods of the year.

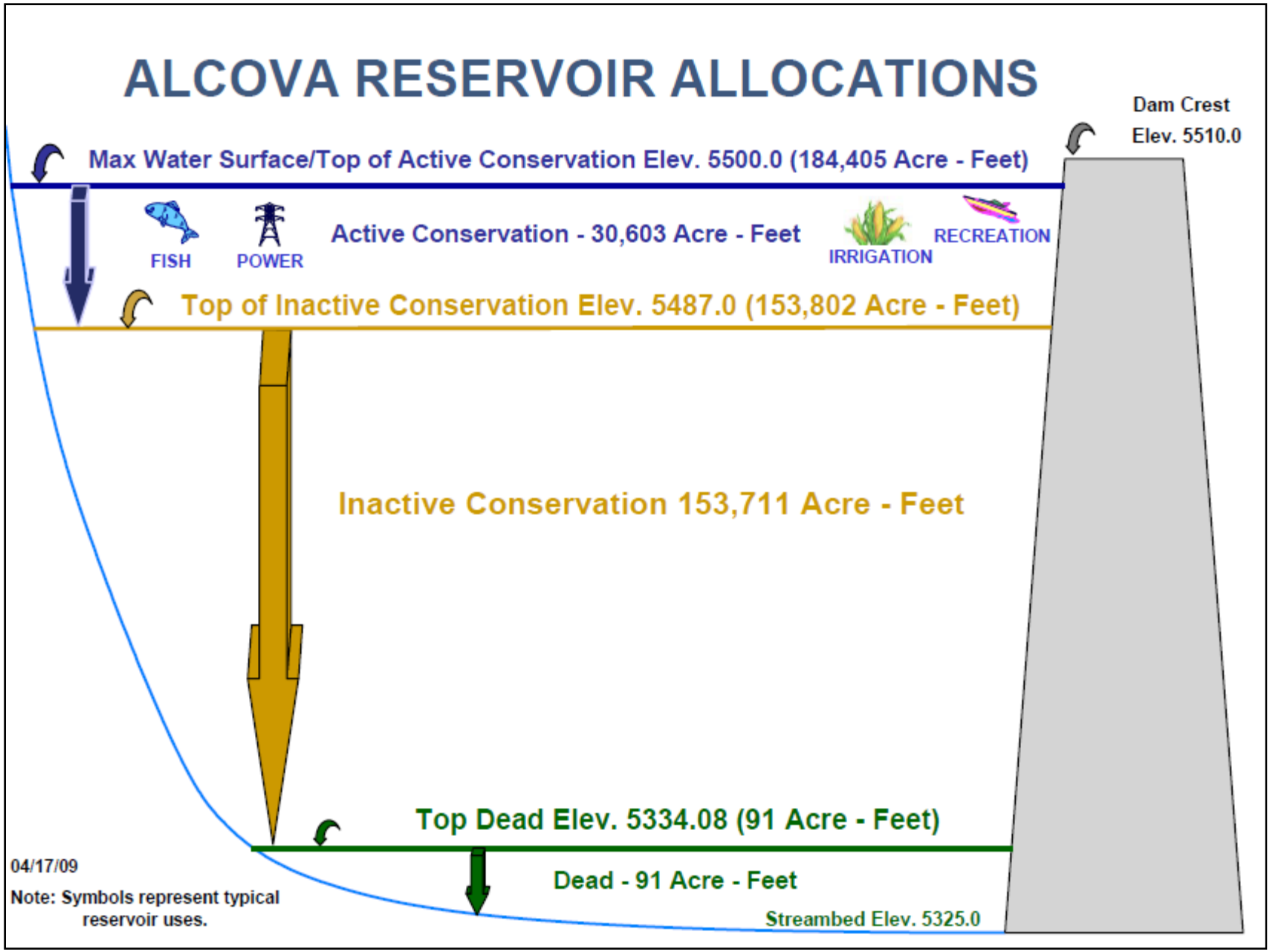
Active Conservation Capacity - the reservoir capacity assigned to regulate reservoir inflow for irrigation, power, municipal, and industrial, fish and wildlife, navigation, recreation, water quality, and other purposes. It does not include exclusive flood control or joint use capacity. The active conservation capacity extends from the top of the active conservation capacity to the top of the inactive capacity.

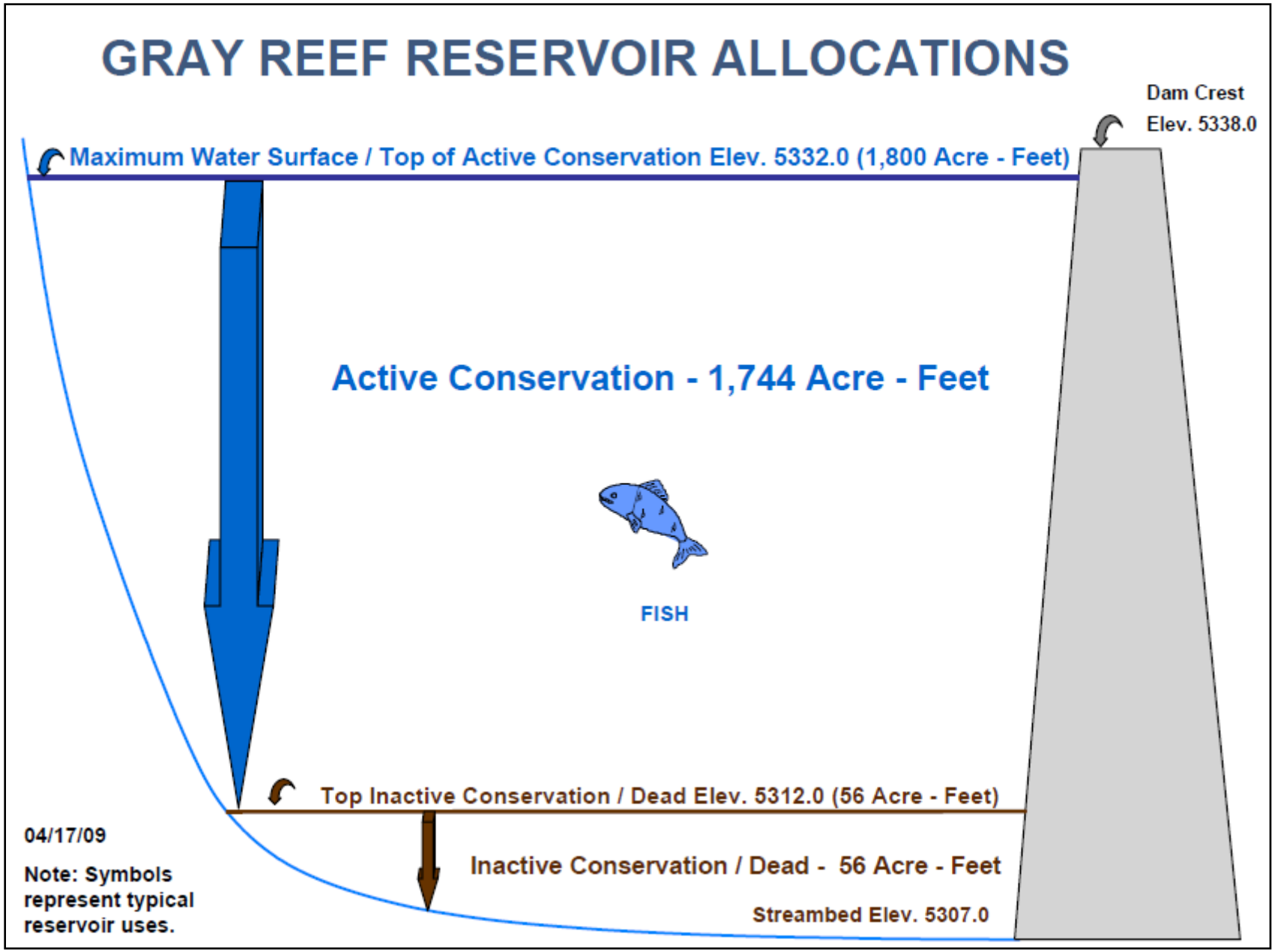
Reservoir Allocation Sheets

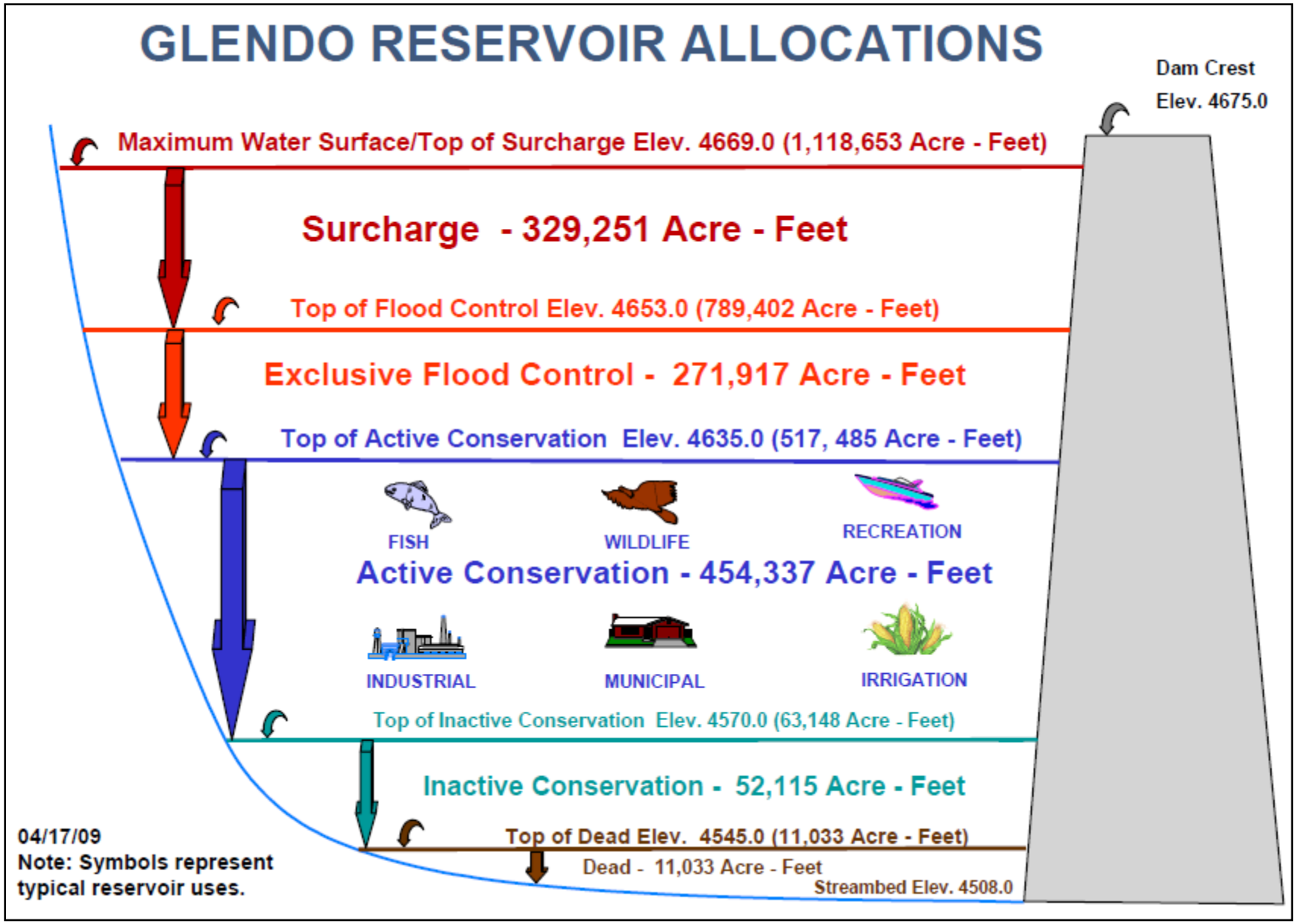


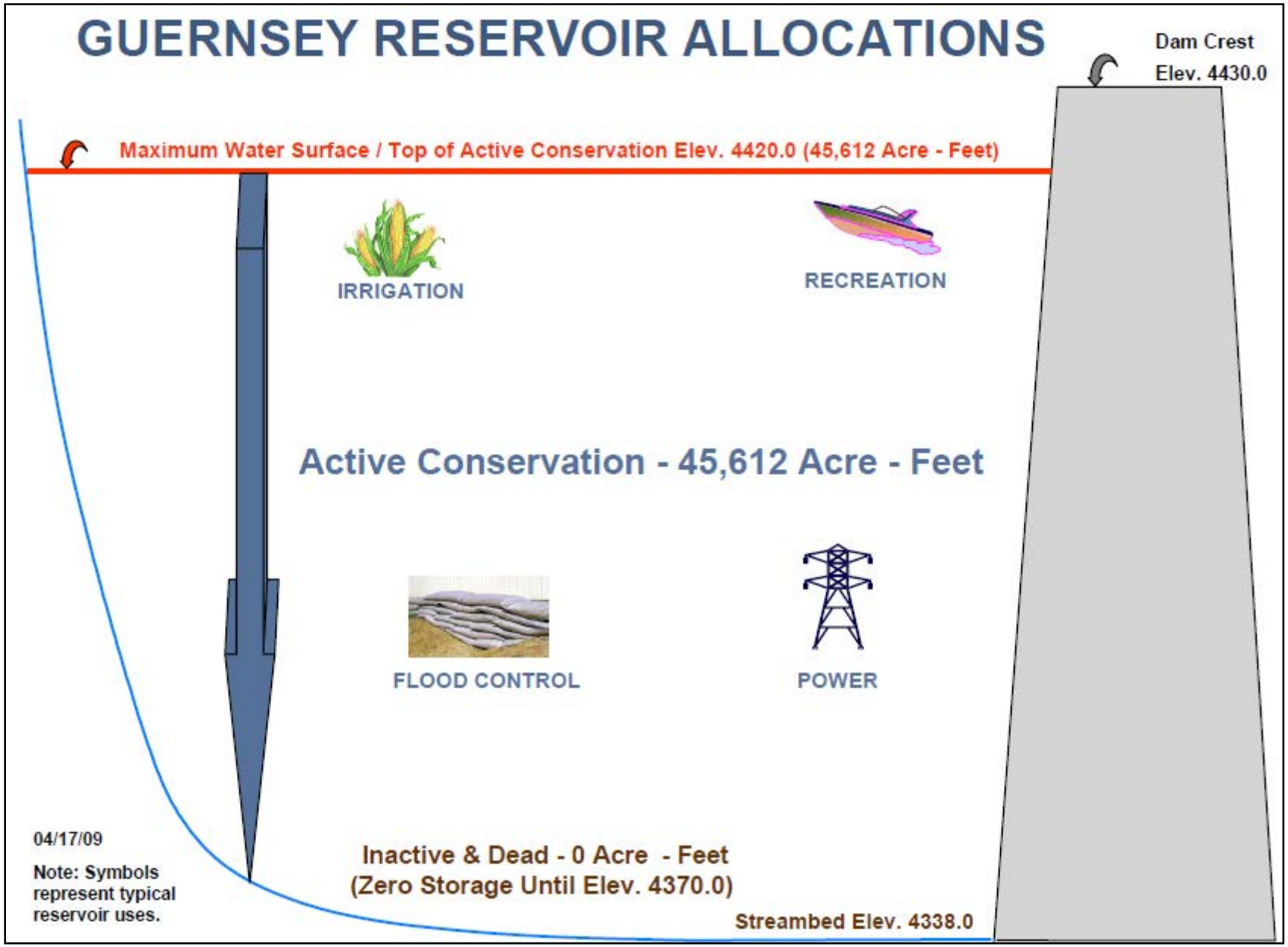

KORTES RESERVOIR ALLOCATIONS
Dam Crest
Elev. 6169.0
Maximum Water Surface Elev. 6165.7
Top of Active Conservation Elev. 6142.0 (4,739 Acre - Feet)
POWER
FISH
Active Conservation - 3,073 Acre - Feet
Top Inactive Conservation Elev. 6092.0 (1,666 Acre - Feet)
Inactive Conservation - 1,515 Acre - Feet
Top of Dead Elev. 6035.5 (151 Acre - Feet)
Dead - 151 Acre - Feet
Streambed Elev. 5942.0
04/17/09
Note: Symbols represent typical reservoir uses.

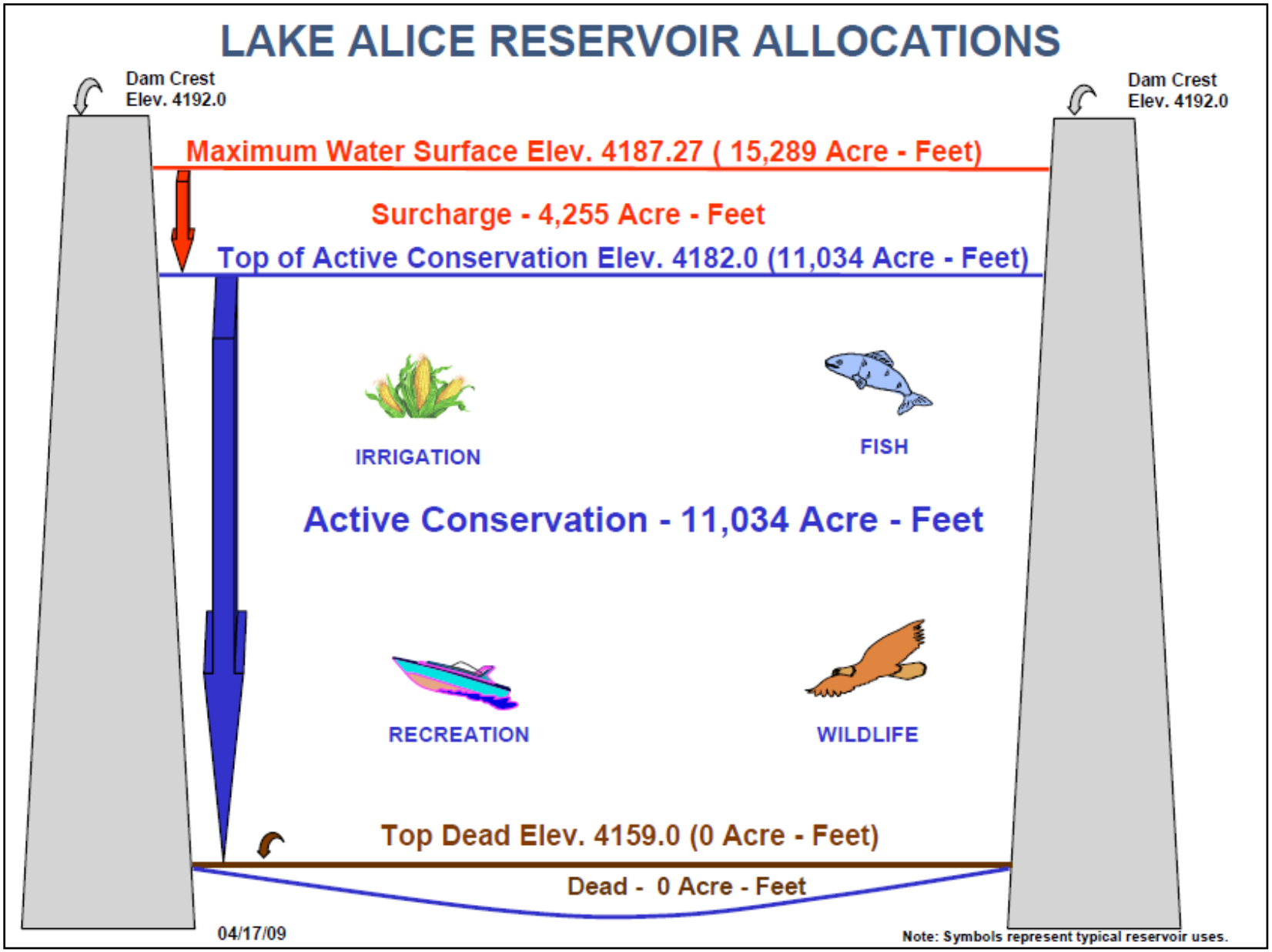

PATHFINDER RESERVOIR ALLOCATIONS
Maximum Water Surface Elev. 5858.1 (1,205,000 Acre – Feet, est.)
Dam Crest
Elev. 5858.1
Surcharge - 188,493 Acre - Feet (est.)
Top of Active Conservation Elev. 5850.1 (1,016,507 Acre - Feet)
POWER
WILDLIFE
FISH
IRRIGATION
RECREATION
FLOOD CONTROL
Active Conservation - 985,102 Acre - Feet
Top of Inactive Conservation Elev. 5746.0 (31,405 Acre - Feet)
Inactive Conservation - 31,398 Acre - Feet
Top of Dead Elev. 5693.2 (7 Acre - Feet)
Dead - 7 Acre - Feet
Streambed Elev. 5658.0
04/17/09
Note: Symbols represent typical reservoir uses.

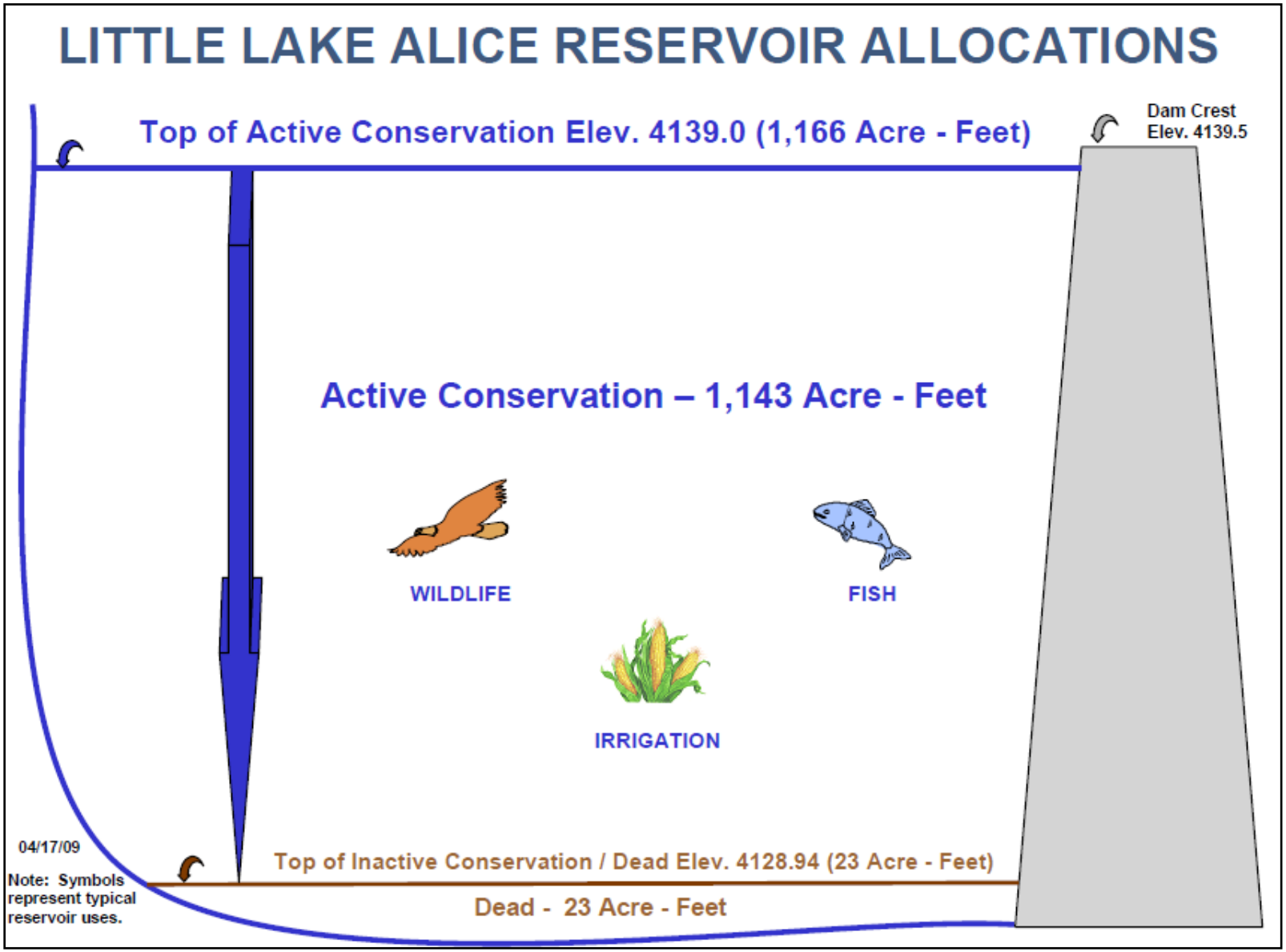

ALCOVA RESERVOIR ALLOCATIONS
Dam Crest
Elev. 5510.0
Max Water Surface/Top of Active Conservation Elev. 5500.0 (184,405 Acre - Feet)
FISH
POWER
Active Conservation - 30,603 Acre - Feet
IRRIGATION
RECREATION
Top of Inactive Conservation Elev. 5487.0 (153,802 Acre - Feet)
Inactive Conservation 153,711 Acre - Feet
Top Dead Elev. 5334.08 (91 Acre - Feet)
Dead - 91 Acre - Feet
Streambed Elev. 5325.0
04/17/09
Note: Symbols represent typical reservoir uses.

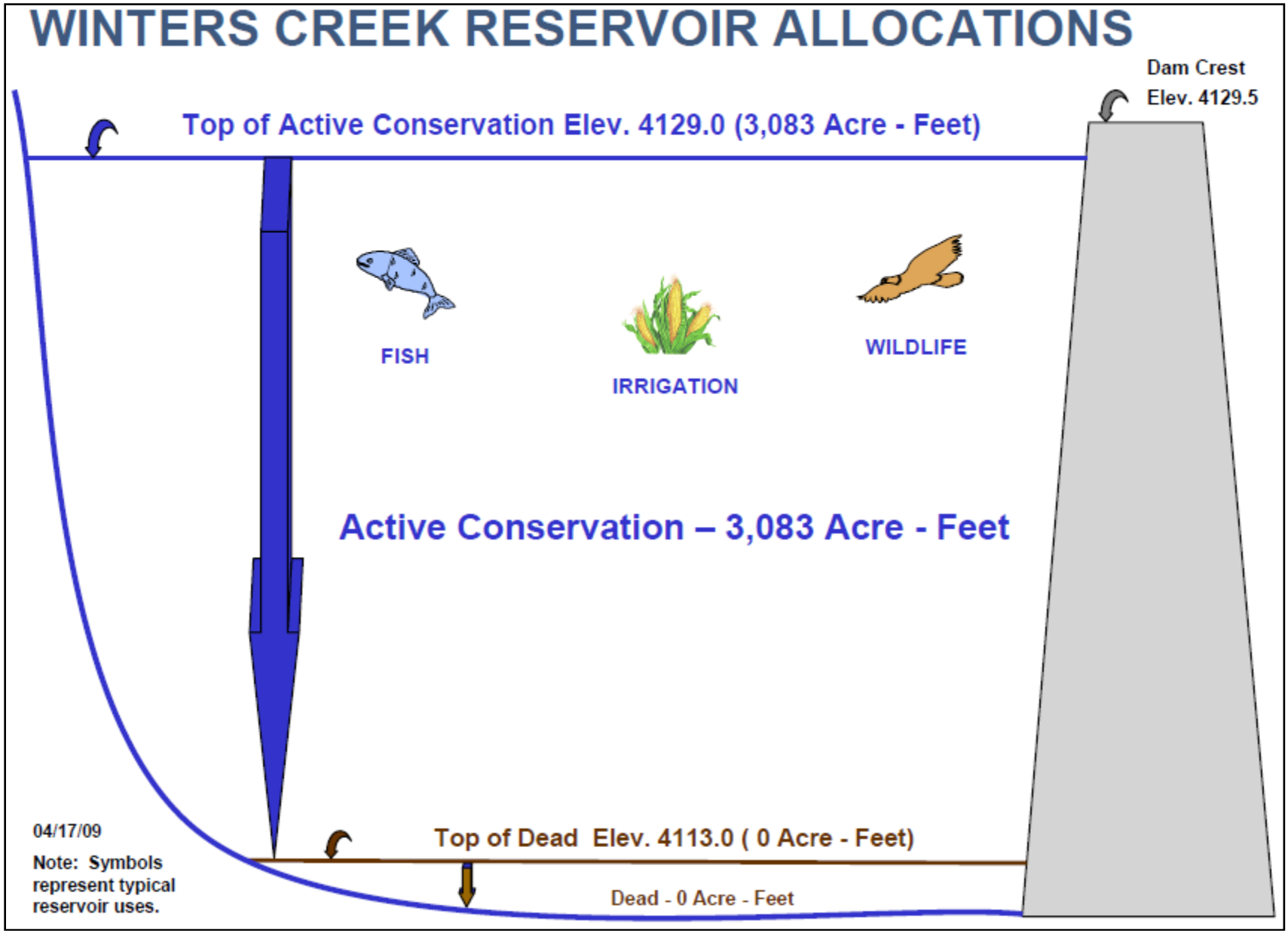

GRAY REEF RESERVOIR ALLOCATIONS
Dam Crest
Elev. 5338.0
Maximum Water Surface / Top of Active Conservation Elev. 5332.0 (1,800 Acre - Feet)
Active Conservation - 1,744 Acre - Feet
FISH
Top Inactive Conservation / Dead Elev. 5312.0 (56 Acre - Feet)
Inactive Conservation / Dead - 56 Acre - Feet
Streambed Elev. 5307.0
04/17/09
Note: Symbols represent typical reservoir uses.

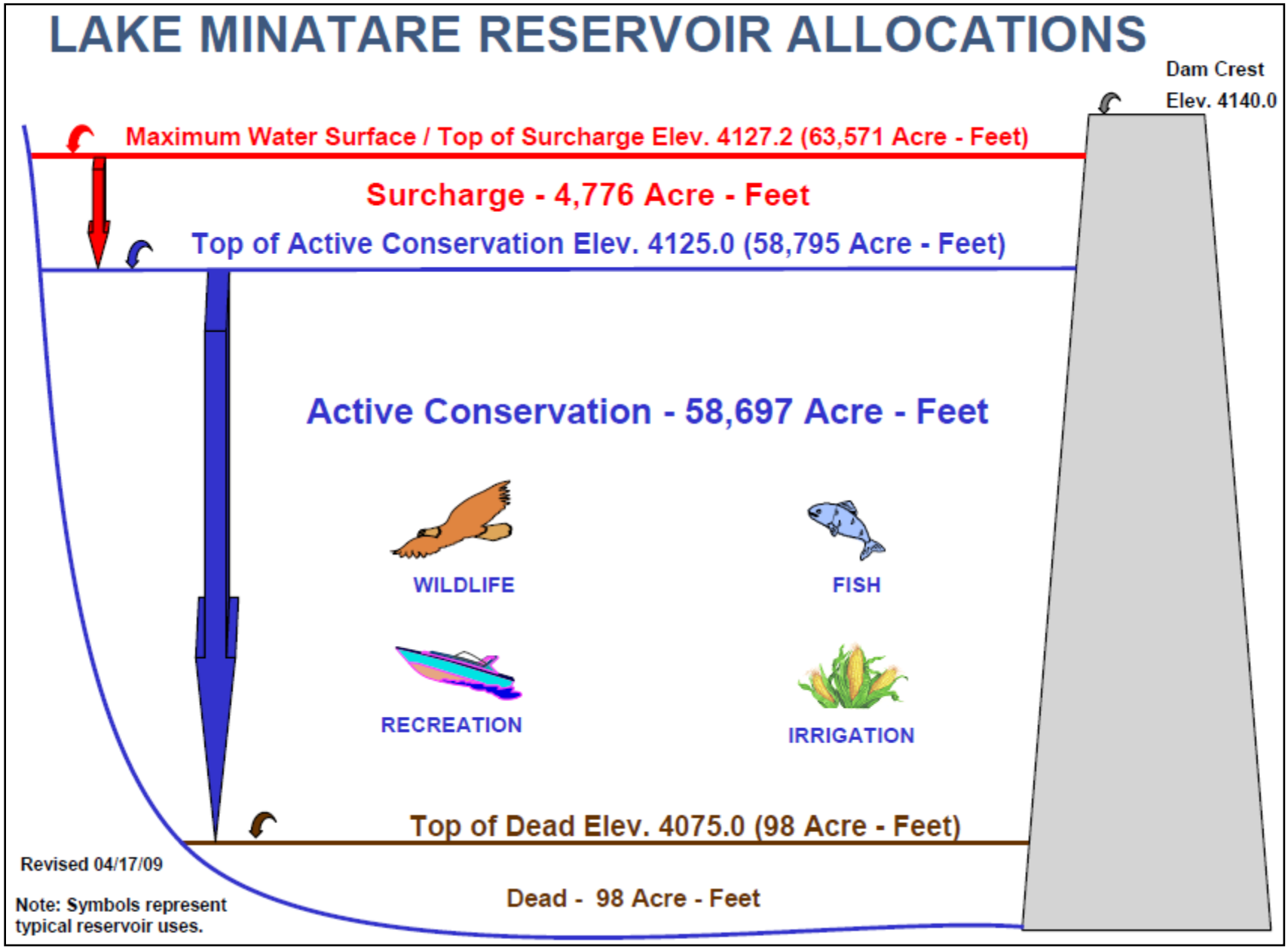

GLENDO RESERVOIR ALLOCATIONS
Dam Crest
Elev. 4675.0
Maximum Water Surface/Top of Surcharge Elev. 4669.0 (1,118,653 Acre - Feet)
Surcharge - 329,251 Acre - Feet
Top of Flood Control Elev. 4653.0 (789,402 Acre - Feet)
Exclusive Flood Control - 271,917 Acre - Feet
Top of Active Conservation Elev. 4635.0 (517, 485 Acre - Feet)
FISH
WILDLIFE
RECREATION
Active Conservation - 454,337 Acre - Feet
INDUSTRIAL
MUNICIPAL
IRRIGATION
Top of Inactive Conservation Elev. 4570.0 (63,148 Acre - Feet)
Inactive Conservation - 52,115 Acre - Feet
Top of Dead Elev. 4545.0 (11,033 Acre - Feet)
Dead - 11,033 Acre - Feet
Streambed Elev. 4508.0
04/17/09
Note: Symbols represent typical reservoir uses.


GUERNSEY RESERVOIR ALLOCATIONS
Dam Crest
Elev. 4430.0
Maximum Water Surface / Top of Active Conservation Elev. 4420.0 (45,612 Acre - Feet)
IRRIGATION
RECREATION
Active Conservation - 45,612 Acre - Feet
FLOOD CONTROL
POWER
04/17/09
Note: Symbols represent typical reservoir uses.
Inactive & Dead - 0 Acre - Feet
(Zero Storage Until Elev. 4370.0)
Streambed Elev. 4338.0


LAKE ALICE RESERVOIR ALLOCATIONS
Dam Crest
Elev. 4192.0
Dam Crest
Elev. 4192.0
Maximum Water Surface Elev. 4187.27 (15,289 Acre - Feet)
Surcharge - 4,255 Acre - Feet
Top of Active Conservation Elev. 4182.0 (11,034 Acre - Feet)
IRRIGATION
FISH
Active Conservation - 11,034 Acre - Feet
RECREATION
WILDLIFE
Top Dead Elev. 4159.0 (0 Acre - Feet)
Dead - 0 Acre - Feet
04/17/09
Note: Symbols represent typical reservoir uses.


LITTLE LAKE ALICE RESERVOIR ALLOCATIONS
Top of Active Conservation Elev. 4139.0 (1,166 Acre - Feet)
Dam Crest
Elev. 4139.5
Active Conservation – 1,143 Acre - Feet
WILDLIFE
FISH
IRRIGATION
04/17/09
Note: Symbols represent typical reservoir uses.
Top of Inactive Conservation / Dead Elev. 4128.94 (23 Acre - Feet)
Dead - 23 Acre - Feet


WINTERS CREEK RESERVOIR ALLOCATIONS
Dam Crest
Elev. 4129.5
Top of Active Conservation Elev. 4129.0 (3,083 Acre - Feet)
FISH
IRRIGATION
WILDLIFE
Active Conservation – 3,083 Acre - Feet
04/17/09
Note: Symbols represent typical reservoir uses.
Top of Dead Elev. 4113.0 (0 Acre - Feet)
Dead - 0 Acre - Feet


LAKE MINATARE RESERVOIR ALLOCATIONS
Dam Crest
Elev. 4140.0
Maximum Water Surface / Top of Surcharge Elev. 4127.2 (63,571 Acre - Feet)
Surcharge - 4,776 Acre - Feet
Top of Active Conservation Elev. 4125.0 (58,795 Acre - Feet)
Active Conservation - 58,697 Acre - Feet
WILDLIFE
FISH
RECREATION
IRRIGATION
Top of Dead Elev. 4075.0 (98 Acre - Feet)
Revised 04/17/09
Note: Symbols represent typical reservoir uses.
Dead - 98 Acre - Feet

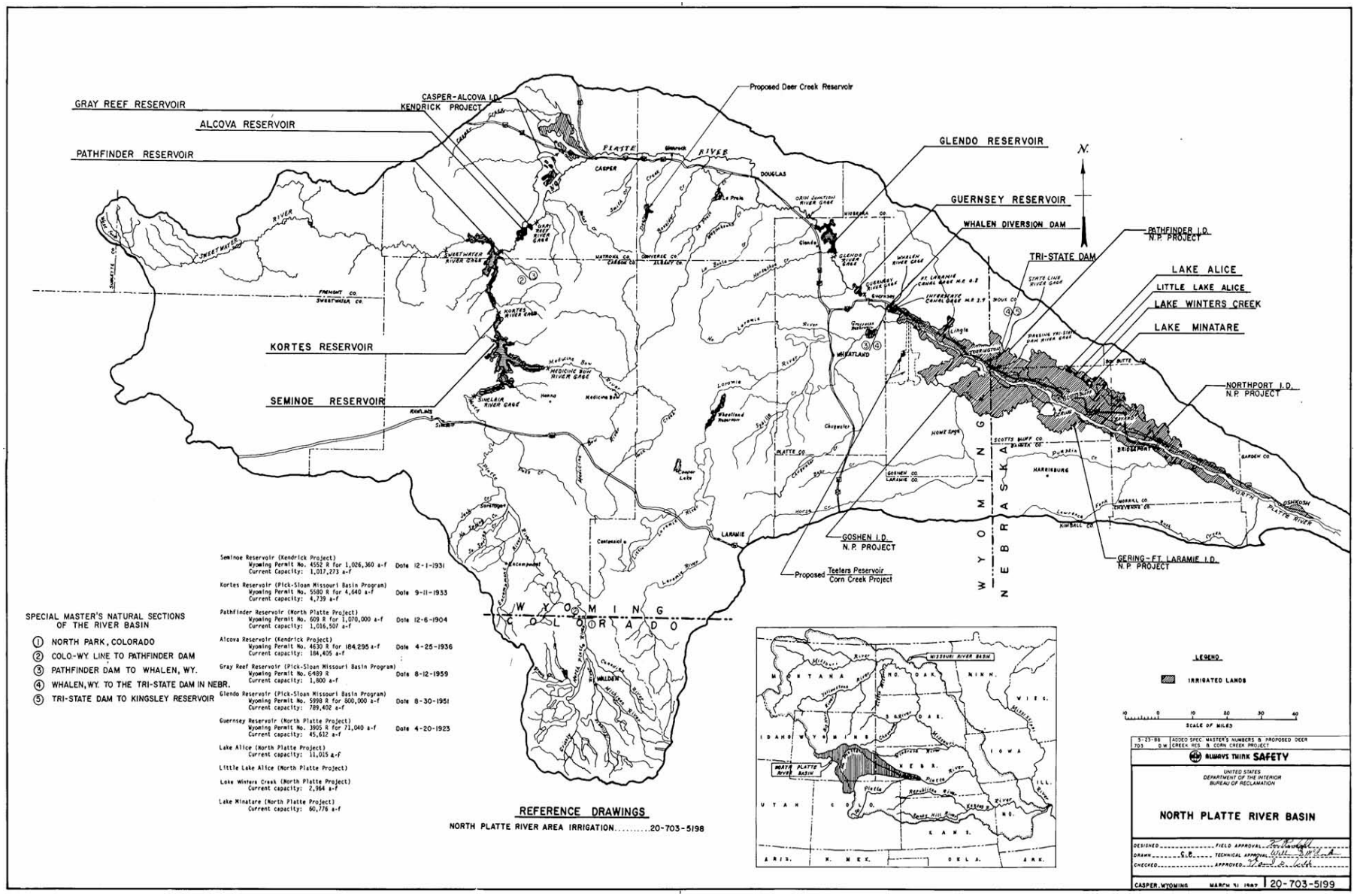


Figure 21 North Platte River Basin Map