## ANNUAL OPERATING PLAN FRYINGPAN-ARKANSAS PROJECT WATER YEAR 2007 OPERATIONS

#### I. GENERAL

This is the 38th annual operating plan for the Fryingpan-Arkansas Project. The project, completed in 1990, imports spring snowmelt runoff from Colorado's west slope to the semi-arid Arkansas River basin on Colorado's east slope. The project consists of federally owned dams, reservoirs, stream diversion structures, conduits, tunnels, pumping plants, a pumped-storage powerplant, electric transmission lines, substations, and recreation facilities. These features are located in the Fryingpan River and Hunter Creek watersheds of the upper Colorado River basin, and in the Arkansas River basin in central and southeastern Colorado. The project provides water for irrigation, municipal and industrial use, hydroelectric power generation, recreation, and wildlife habitat. The project also provides for flood control.

The project was authorized under Public Law 87-590 on August 16, 1962. This law provides that the project will be operated under the operating principles adopted by the State of Colorado on April 30, 1959, as amended on December 30, 1959, and on December 9, 1960. These operating principles were published as House Document 130 (87th Congress, 1st Session), and are included in Appendix E.

This annual operating plan is a summary of the actual project operation in water year 2007 (October 1, 2006 through September 30, 2007).

#### II. PROJECT FEATURES IN OPERATION DURING WATER YEAR 2007

Ruedi Dam and Reservoir are located on the Fryingpan River, a tributary of the Roaring Fork River, on Colorado's west slope about 13 miles east of Basalt, Colorado. Ruedi Reservoir has a total capacity of 102,373 acre-feet at a water surface elevation of 7766.0 feet. The reservoir is operated on an annual cycle. Steady winter releases draft the reservoir such that it is filled with the spring snowmelt runoff, while releases to the Fryingpan River are maintained below the safe channel capacity. The reservoir provides replacement water for out-of-priority depletions to the Colorado River by the project as well as water for west slope irrigation, municipal, and industrial uses on a contractual basis. The reservoir is also operated to provide for recreation, wildlife habitat, and flood control.

The west slope collection system, located upstream of Ruedi Reservoir in the upper Fryingpan River and Hunter Creek watersheds, is a series of 16 stream diversion structures and 8 tunnels. The system collects spring snowmelt runoff for diversion, by gravity, to the inlet of the Charles H. Boustead Tunnel. The Boustead Tunnel conveys water collected by the west slope collection system under the continental divide and into Turquoise Lake on the east slope. The tunnel is 5 miles long and has a water conveyance capacity of 945 cubic feet per second (cfs).

Sugarloaf Dam and Turquoise Lake are located on Lake Fork Creek, a tributary of the Arkansas River, about 5 miles west of Leadville, Colorado. The lake has a total capacity of 129,398 acre-feet at a water surface elevation of 9869.4 feet. The lake is operated to provide regulation of both project and non-project water imported from the west slope. Turquoise Lake is operated on an annual cycle, as is Ruedi Reservoir. The lake is drafted through the Mt. Elbert Conduit during the winter to provide adequate space for the spring imports of west slope water. Most of the native inflow from Lake Fork Creek is impounded in the lake and returned to the Arkansas River via the Mt. Elbert Conduit, the Mt. Elbert Powerplant, and Twin Lakes. The lake is also operated to provide for recreation and wildlife habitat.

The Mt. Elbert Conduit conveys project, non-project, and native Lake Fork Creek water from Turquoise Lake to Twin Lakes. The conduit is 10.7 miles long and has a water conveyance capacity of 370 cfs. Native water from Halfmoon Creek is also added to the conduit and returned to the Arkansas River from Twin Lakes Dam. All conduit flow which reaches the Mt. Elbert Forebay is used to generate electricity at the Mt. Elbert Powerplant as it is delivered to Twin Lakes.

The Mt. Elbert Powerplant is a pumped-storage facility located on the shore of Twin Lakes. It has two 100-megawatt turbine generators, which can be reversed and used as 340,000-horsepower pumps. In addition to being used to generate energy with the Mt. Elbert Conduit flow, the plant is used to follow daily peak power loads. This load following is accomplished by pumping water to the Mt. Elbert Forebay, an 11,143-acrefoot regulating pool at the terminus of the Mt. Elbert Conduit, from Twin Lakes during off-peak load hours using surplus or low cost energy. That water is then returned to Twin Lakes through the turbines during peak load hours, along with the Mt. Elbert Conduit flow. The energy generated at the plant is transmitted and marketed by the Western Area Power Administration, with the revenues applied to the repayment of the project.

Twin Lakes Dam and Twin Lakes are located on Lake Creek, a tributary of the Arkansas River, about 13 miles south of Leadville, Colorado. Twin Lakes has a capacity of 140,855 acre-feet at a maximum water surface elevation of 9200 feet. The reservoir is operated to regulate both project and non-project water imported from the west slope. The project water stored in the reservoir is released to Lake Creek for storage in Pueblo Reservoir during the winter months, in anticipation of spring imports from the west slope. Native inflows into Turquoise Lake, native flows diverted from Halfmoon Creek, and native inflows into Twin Lakes, are all released to Lake Creek from the Twin Lakes Dam. The cities of Colorado Springs and Aurora take direct delivery of water from the reservoir through the Otero Pipeline. The operation of Twin Lakes also provides for recreation and wildlife habitat.

Pueblo Dam and Reservoir are located on the Arkansas River 6 miles west of the city of Pueblo, Colorado. The reservoir is the terminal storage facility for the Fryingpan-Arkansas Project and has a total storage capacity of 349,940 acre-feet at a water

surface elevation of 4898.7 feet. The upper 26,991 acre-feet of storage space are reserved for flood control at all times, and an additional 66,000 acre-feet of space are reserved from April 15 through November 1. Non-project water may be stored in the reservoir under temporary contract. Native inflow can be stored when the project storage right is in priority or under the winter water storage program (WWSP). Under the WWSP, irrigators are permitted to store native Arkansas River water in Pueblo Reservoir during the winter months for an additional supply of irrigation water, on the condition that the water is used before May 1 of the next water year. The majority of project water deliveries is made from the reservoir. The Fountain Valley Authority, the Pueblo West Metropolitan District, and the Pueblo Board of Water Works take direct delivery of municipal water through the south outlet works and joint-use manifold. A direct irrigation delivery is made to the Bessemer Ditch. Other project deliveries are made as releases to the Arkansas River for diversion downstream. Pueblo Reservoir is also operated to provide for recreation and wildlife habitat.

# III. HYDROLOGIC CONDITIONS AND MAJOR WEATHER EVENTS — WATER YEAR 2007

Water year 2007 presented a below average winter, spring and summer for the Fryingpan River basin. The water year began with above average precipitation which lasted until March. Even with precipitation below average, Ruedi Reservoir was able to fill and the collection system was able to divert approximately 54,000 acre-feet to the east slope.

Given the below average precipitation over the area during the winter months, inflow to Ruedi remained normal through the season. As temperatures began to rise in early April, so did the runoff. Initially most of the runoff came from the lower elevations. Once the snow in the higher elevations began to melt, most of the runoff was captured by the Fryingpan-Arkansas Project west slope collection system.

As spring progressed, the below average conditions in the basin remained the same. By September the total precipitation for the water year was 57 percent of average. The months of July, August and September were extremely dry months and dropped what was a 78 percent of average precipitation total to the 57 percent level.

The inflow for the year was sufficient to bring the reservoir level within one acre-foot of the top of the spillway. Inflow total for October of 2006 through September of 2007 was 83 percent of average, with an accumulated total volume of 107,600 acre-feet.

#### IV. REPORT ON OPERATIONS DURING WATER YEAR 2007

## A. Ruedi Reservoir

Ruedi Reservoir began water year 2007 with a storage content of 82,064 acre-feet, which is 87 percent of average. Precipitation over the Fryingpan River basin was below average during the winter and early spring months. By April 1 the snow-water content

in the Fryingpan River Basin was estimated at 11.60 inches, which represents 79 percent of average, higher than the previous year. Releases during the winter and spring months were made through the city of Aspen's hydroelectric powerplant.

The spring forecast for runoff in the Fryingpan River basin predicted below average inflows for Ruedi Reservoir in water year 2007, even though the previous three springs had experienced high inflows; there was below average snowpack collected during the months of November through January. A decent runoff season was considered to be a possibility for water year 2007. Winter releases at Ruedi Reservoir began higher than normal and were increased as winter progressed. The releases for November were set at 80 cfs and increased in early February to 120 cfs. On February 14 releases out of Ruedi were increased once again to 140 cfs, and continued at that rate until April. By April 12 Ruedi Reservoir had reached its lowest water surface level of water year 2007, an elevation of 7727.60 feet with a storage content of 68,527 acre-feet. That elevation represented 113 percent of average predicated on a 30-year average. On April 13 releases were dropped to 85 cfs. On May 1 the minimum instream flow at the Fryingpan below Ruedi gage increased to 110 cfs and the releases were increased to approximately 100 cfs, which combined with the Rocky Fork Creek contribution to meet the instream flow. As Ruedi Reservoir began to reach a physical fill, the releases were adjusted to keep Ruedi from spilling and averaged 200 cfs through July. Ruedi Reservoir did reach a maximum elevation of 7765.95 feet and 102,323 acre-feet on June 29, which was one acre-foot from being full, and was at 105 percent of average at the end of June. The reservoir never spilled, as it remained over 102,000 acre-feet until July 30. During that time period, the inflows steadily dropped off and Ruedi Reservoir began to drop in storage.

The reservoir storage observed this summer was deemed adequate to make the 4-outof-5-year 5,000 acre-feet pool available to the endangered fish this year. The total volume of water released from Ruedi to support the target flows at the 15-Mile Reach in Grand Junction was 14,273 acre-feet, which included 5,000 acre-feet from the firm fish pool and 9,273 acre-feet from the 10,825 acre-feet of mitigation water. The 4-out-of-5 year 5,000 acre-feet pool was never used because the water was then left in storage to increase the winter releases to help with fish spawning and redds. Flow down the Colorado River was sufficient during most of the summer to keep the 15-Mile Reach well above the required level at the Palisade stream gage. Flow augmentation releases for the endangered fish began August 8 and continued through September 26. The 5,000 acre-feet of water in the firm fish pool were exhausted by August 20, and the 10,825 acre-feet of mitigation water were never fully used. That follows the order of release from the various sources of Ruedi water available to support the endangered fish. Since the Shoshone Powerplant was down, the Cameo call came on August 13 to August 23, and then again on August 31 to September 21. Contract releases were made during the call periods for a total of 884 acre-feet. Ruedi Reservoir finished the water year with 86,044 acre-feet in storage, which is 98 percent of average. Total cumulative precipitation for the year was 9.64 inches, or 56 percent of average. Discretionary releases for the water year totaled 19,013 acre-feet.

## B. West Slope Collection System and Project Diversions

The import of project water through the Boustead Tunnel began on April 20, 2007, and concluded on August 21, 2007. The daily discharge record for the diversion structures is included as Appendix D. A total of 54,248 acre-feet was imported during the 2007 water year, which is 112 percent of average. There was no Busk-Ivanhoe water imported through the Boustead Tunnel. The maximum mean daily import was 700 cfs on June 17, 2007. The most probable forecasts for the first of February, March, April, and May were 59,800 acre-feet, 55,100 acre-feet, 51,300 acre-feet, and 49,700 acre-feet, respectively.

The total imports for the water year; the accumulated imports to the Arkansas River; the water used for the Twin Lakes Reservoir and Canal Company exchange; and the import water available for allocations by the Southeastern Colorado Water Conservancy District, are shown on Table 4. The 36 years of accumulated imports total 1,753,000 acre-feet, for an average of 48,694 acre-feet per year. A plot of the Boustead Tunnel imports during water year 2007 is shown on Exhibit 5.

# C. Twin Lakes Reservoir and Canal Company/Fryingpan-Arkansas Project Exchange

The Bureau of Reclamation is obligated to maintain minimum streamfiows in the Roaring Fork River by the authorizing legislation of the project. This is accomplished through an exchange of water with the Twin Lakes Reservoir and Canal Company. On October 1, 2006, the company began bypassing water into the Roaring Fork River on the west slope in exchange for project water stored in Twin Lakes on the east slope. The total amount of the exchange at Twin Lakes Reservoir was 3,000 acre-feet. The operating criteria and the monthly summary of the exchange are shown in Appendix C.

## D. Turquoise Lake

On September 30, 2006, there were 109,720 acre-feet (elevation 9858.13 feet) of water stored in Turquoise Lake, which is 124 percent of average. Releases made to Twin Lakes through the Mt. Elbert Conduit drafted Turquoise Lake to 65,929 acre-feet (elevation 9830.49 feet), the lowest storage of the water year, by April 18, 2007. There were 123,626 acre-feet (elevation 9866.15 feet) of water in storage at the end of the water year, which is 139 percent of average.

Homestake Tunnel imports totaled 20,700 acre-feet during the water year, 119 percent of average. Busk-Ivanhoe imports totaled 4,210 acre-feet, 81 percent of average, and were divided between the Pueblo Board of Water Works and the City of Aurora. Project water imports through the Boustead Tunnel totaled 54,248 acre-feet, which is 111 percent of average.

Exhibits 8 and 9 show the precipitation and pan evaporation at Turquoise Lake. Exhibits 5, 6, and 7 show the monthly imports through the Boustead, Homestake, and

Busk-Ivanhoe Tunnels, respectively. Table 5 and Exhibit 10 depict the monthly operation of Turquoise Lake during the 2007 water year.

## E. Mt. Elbert Conduit/Halfmoon Creek Diversion

During water year 2007, 81,415 acre-feet of water released from Turquoise Lake, and 15,036 acre-feet of water diverted from Halfmoon Creek, were conveyed through the Mt. Elbert Conduit to the Mt. Elbert Forebay, and subsequently to Twin Lakes through the Mt. Elbert Powerplant. An additional 3,910 acre-feet of water were released into the conduit from Turquoise Lake for use by the Leadville Federal Fish Hatchery. The water delivered to the hatchery was returned to the Arkansas River and stored in Pueblo Reservoir.

## F. Twin Lakes/Mt. Elbert Forebay and Mt. Elbert Pumped-Storage Powerplant

The storage in Twin Lakes was 121,850 acre-feet (elevation 9192.71 feet) on September 30, 2006. The combined storage of Twin Lakes and the Mt. Elbert Forebay was 129,440 acre-feet. Twin Lakes Reservoir releases to Lake Creek were made throughout the winter to pass the entire flow of the Mt. Elbert Conduit, and to transfer the project water stored in the reservoir to Pueblo Reservoir. The native inflow was stored in the Twin Lakes Reservoir and Canal Company storage space from November 15 through March 15. A total of 33,958 acre-feet of project water was released to Lake Creek during this time. This water was released such that the flow in the Arkansas River at the Wellsville gage was maintained as close to the average October 15 to November 15 trout-spawning flow as possible. The combined reservoir and forebay storage reached a low point of 112,916 acre-feet on January 29, 2007, and was at its high point of 141,445 acre-feet on July 3, 2007. A total of 2,219 acre-feet of project water was released beginning on July 15 and ending on August 3, to augment rafting flows in the Arkansas River.

At least one generating/pumping unit was available at the Mt. Elbert Powerplant throughout the 2007 water year. The capacity of one unit is greater than the capacity of the Mt. Elbert Conduit. A total of 313,466 megawatt-hours of energy was generated at the powerplant, with 920,589 acre-feet of water; 98,078 acre-feet came through the Mt. Elbert Conduit; and 829,773 acre-feet were first pumped to the Mt. Elbert Forebay from Twin Lakes during off-peak electric demand hours. Table 7 depicts the monthly powerplant operation for the 2007 water year.

#### G. Pueblo Reservoir

The storage content of Pueblo Reservoir was 117,913 acre-feet (elevation 4842.03 feet) on September 30, 2006, which is 88 percent of average. Project water released from Turquoise Lake, through the Leadville Federal Fish Hatchery, and from Twin Lakes, was stored in Pueblo Reservoir through the winter and spring. A total of 51,140 acre-feet of native inflow was stored in the reservoir under the winter water storage program from November 15, 2006, through March 14, 2007. During the water year, a

total of 23,653 acre-feet of winter water and 7,045 acre-feet of winter water carryover were released, and 3,011 acre-feet evaporated. The reservoir reached a high point in storage of 198,865 acre-feet (elevation 4866.63 feet) on June 30, 2007. There were 154,384 acre-feet (elevation 4854.09 feet) in storage on September 30, 2007. This is 115 percent of average, and 102,565 acre-feet less than a full conservation pool.

Table 8 and Exhibit 20 depict Pueblo Reservoir monthly operations during the 2007 water year. The 2006-07 winter water storage is shown on Exhibit 17, and the winter water releases are shown on Exhibit 18. The pan evaporation at the reservoir is shown on Exhibit 19.

## H. Storage Contracts

There were eight contracts for storage of non-project water in project storage space on the east slope in effect in water year 2007. Six of those were long-term contracts: the Twin Lakes Reservoir and Canal Company for 54,452 acre-feet; the City of Colorado Springs for 17,416 acre-feet; the City of Aurora for 5,000 acre-feet; the Pueblo Board of Water Works for 5,000 acre-feet; Busk-Ivanhoe, Inc., for 10,000 acre-feet; and the Homestake Project for 30,000 acre-feet. There were two long-term, non-firm contracts-Pueblo Board of Water Works and City of Aurora. The remaining contracts were interim one-year contracts for "if-and-when" storage space. Under "if-and-when" contracts, non-project water may be stored in project storage space as long as that storage space is not required for project water.

## I. Project Water Sales and Deliveries

The project made available 40,400 acre-feet of water to the Southeastern Colorado Water Conservancy District during water year 2007. The district purchased 35,351 acre-feet and called for 18,693 acre-feet of project and project carryover water during the year. Evaporation reduced the project water in storage by 5,885 acre-feet. By the end of the water year (September 30, 2007), the district had 24,888 acre-feet of 2007 allocated water and 80,231 acre-feet of carryover water remaining in storage. Of the 18,693 acre-feet of project water released, 2,912 acre-feet were for municipal and industrial use, and 15,781 acre-feet were for irrigation. The monthly release of project water from Pueblo Reservoir is shown on Exhibit 21.

#### J. Reservoir Storage Allocation Data

Table 9 presents the reservoir storage allocations for the five project reservoirs.

## K. Reservoir Evaporation and Precipitation

Tables 11 and 12 present the monthly average evaporation and precipitation at the four weather stations near project facilities. When an evaporation pan is not in service and a reservoir is not completely ice-covered, the daily water surface evaporation is computed using seasonal evaporation factors. Those factors are listed in Table 10. It

is assumed that there is no evaporation from a reservoir water surface when the reservoir is completely covered by ice.

## L. Flood Control Benefits

The Corps of Engineers determined that Ruedi Reservoir prevented flood damage in water year 2007.

Ruedi Reservoir provided limited flood protection to properties, local residents, and the general public along the Fryingpan River by attenuating the peak flows during the runoff season and capturing significant volumes of inflow during the spring months. The reservoir prevented \$103,000 in flood damages during water year 2007, according to the U.S. Army Corps of Engineers, Sacramento District. Since impoundment, Ruedi Reservoir has prevented a total of \$9,946,300 in flood damages.

Table 13 shows the historic flood control benefits provided by Pueblo and Ruedi Dams.

Ruedi Reservoir Water Year 2007 Operations Unit: 1,000 Acre-Feet

Year	Month	Inflow	Evaporation	Outflow	End of Month Content	Water Surface Elevation (FEET)
2006	Sep				82.2	7744.37
	Oct	7.3	0	8.2	81.4	7743.35
	Nov	4.5	0	4.9	81.0	7742.91
	Dec	3.1	0	4.7	79.4	7741.02
	-					
2007	Jan	2.5	0	5.0	76.9	7738.08
	Feb	2.6	0	7.5	72.1	7732.12
	Mar	5.3	0	8.5	68.8	7728.00
	Apr	9.2	0	6.2	71.9	7731.87
	May	24.5	0	6.0	90.4	7753.49
	Jun	23.4	0.5	11.0	102.3	7765.94
	Jul	11.3	0.3	11.7	101.6	7765.24
	Aug	8.4	0	17.0	92.9	7756.22
	Sep	5.6	0	12.5	86.0	7748.69
Total		107.7	0.8	103.2		

#### FRYINGPAN-ARKANSAS PROJECT RUEDI RESERVOIR RELEASES FOR ENDANGERED FISH WATER YEAR 2007 April-07

DAY	DATE	ELEV. <u>FT)</u>	STORAGE (AC-FT	INFLOW (CFS)	EVAP. <u>CFS</u>	TOTAL RESERVOIR RELEASE (CFS)	ROCKY FORK CREEK (CFS)	FRYINGPAN RIVER GAGE BELOW DAM <u>CFS</u>	(1= YES)	REQUIRED T MIN FLOW BELOW RUED w/o FISH REL <u>CFS)</u>	REQUIRED FISH RELEASE <u>CFS</u>	CUMULATIVE FISH I RELEASE (AC-FT	PALISADE GAGE (CFS)
						400.44		407.04		20.00	0.00	0.00	0.00
SUN	4/1/2007	7,727.89	68,750.27	90.69	0.00	133.41	4.43	137.84 137.86	N N		0.00	0.00	0.00
MON	4/2/2007	7,727.78	68,665.35	90.68	0.00	133.49	4.37	137.73			0.00	0.00	0.00
TUE	4/3/2007	7,727.71	68,611.66	106.28	0.00	133.35	4.38	137.73	N N		0.00	0.00	0.00
WED	4/4/2007	7,727.64	68,557.99	106.43	0.00	133.49	4.27 4.45	137.75	N N		0.00	0.00	0.00
THU	4/5/2007	7,727.63	68,550.11	129.55	0.00	133.53		137.84	N N		0.00	0.00	0.00
FRI	4/6/2007	7,727.59	68,519.35	117.73	0.00	133.24	4.59 4.64	137.78	N		0.00	0.00	0.00
SAT	4/7/2007	7,727.59	68,519.35	133.14 129.32	0.00 0.00	133.14 133.10	4.64	137.76	N N		0.00	0.00	0.00
SUN	4/8/2007	7,727.58	68,511.85		0.00	133.10	4.03	137.78	N		0.00	0.00	0.00
MON	4/9/2007	7,727.57 7,727.55	68,503.98 68,488.61	129.11 125.26	0.00	133.01	4.70	137.84	N		0.00	0.00	0.00
TUE WED	4/10/2007		68,488.61	123.20	0.00	123.43	4.86	128.29	N		0.00	0.00	0.00
THU	4/11/2007 4/12/2007	7,727.55 7,727.60	68,527.23	97.52	0.00	78,05	4.86	82.91	N		0.00	0.00	0.00
FRI	4/12/2007	7,727.60	68.550.11	91.52	0.00	79.99	4.66	84.65	N		0.00	0.00	0.00
	4/13/2007	7,727.64	68,557.99	91.44	0.00	87.47	4.54	92.00	N		0.00	0.00	0.00
SAT	4/14/2007	7,727.67	68,580.88	99.10	0.00	87.56	4.43	91.99	N N		0.00	0.00	0.00
SUN			68,649.95	122.42	0.00	87.60	4.42		N		0.00	0.00	0.00
MON	4/16/2007	7,727.76	68,773.21	149.81		87.66	4.42		N N		0.00	0.00	0.00
TUE	4/17/2007	7,727.92	,		0.00 0.00	87.54	4.42	91.96	N		0.00	0.00	0.00
WED	4/18/2007	7,728.07	68,888.72	145.77 143.68	0.00	87.58	4.43	92.00	N		0.00	0.00	0.00
THU	4/19/2007	7,728.21	69,000.00			87.49	4.43	91.97	N		0.00	0.00	0.00
FRI	4/20/2007	7,728.35	69,105.06	140.46	0.00	87.48	4.40	92.18	N		0.00	0.00	0.00
SAT	4/21/2007	7,728.61	69,306.02	188.79	000	87.14	4.71	92.10	N		0.00	0.00	0.00
SUN	4/22/2007	7,728.85	69,492.23	181.02	0.00	87.14 87.32	4.00 5.12		N		0.00	0.00	0.00
MON	4/23/2007	7,729.13	69,709.55	196.88	0.00 0.00	87,94	5.53		N		0.00	0.00	0,00
TUE	4/24/2007	7,729.50	69,997.77	233.25 182.25	0.00	87,94 87.70	5.87	93.57			0.00	0.00	0.00
WED THU	4/25/2007 4/26/2007	7,729.74 7.729.96	70,185.31		0.00	87.35	6.21	93.56	N		0.00	0.00	0.00
		,	70,357.16	173.99 182.07	0.00	87.35 87.17	6.40		N		0.00	0.00	0.00
FRI SAT	4/27/2007	7,730.20	70,545.38 70,827.97		0.00	87.12	6.65		N		0.00	0.00	0.00
	4/28/2007	7,730.56	70,827.97	229.59 321.06	0.00	90.57	6.76		N		0.00	0.00	0.00
SUN	4/29/2007	7,731.14				106.83	7.46		N		0.00	0.00	0.00
MON	4/30/2007	7,731.87	71,863.30	398.32	0.00	100.63	7.40	114.30	Į,	33.00	0.00	5.00	0.00
Averag	es	7,728.48	69,212.34	155.02	0.00	104.13	5.01	109.14			0.00		0
Totals (		,	,	9,224	0	6,196	298	6,494			0	0	0

#### FRYINGPAN-ARKANSAS PROJECT RUEDI RESERVOIR RELEASES FOR ENDANGERED FISH WATER YEAR 2007 May-07

<u>DAY</u>	<u>DATE</u>	ELEV. <u>(FT)</u>	STORAGE I AC-FT)	NFLOW <u>CFS)</u>	EVAP. <u>CFS)</u>	TOTAL RESERVOIR RELEASE (CFS	ROCKY FORK CREEK (CFS)	FRYINGPAN RIVER GAGE BELOW DAM (CFS)	(1= YES)	REQUIRED T MIN FLOW EN BELOW RUED W/o FISH REL (CFS)	NDANGEREC: FISH RELEASE (CFS)		PALISADE GAGE (CFS)
	= / / / / / / / = =	<b></b>	70 404 44	104.74	2.52	405.05	40.00	115.26	N	110.00	0.00	0.00	0.00
TUE	5/1/2007	7,732.65	72,484.44	421.74	3.53	105.05 104.66	10.30 14.87	115.36 119.52	N N		0.00	0.00	0.00
WED	5/2/2007	7,733.52	73,181.84	459.79	3.53 3.53	95.34	17.77	113.11	N		0.00	0.00	0.00
THU	5/3/2007	7,734.40	73,891.70	456.75		95.34 95.47	19.79	115.25	N		0.00	0.00	0.00
FRI	5/4/2007	7,735.22	74,557.67	434.75	3.53 3.53	95.47 95.42	19.79	114.78	N		0.00	0.00	0.00
SAT	5/5/2007	7,735.91	75,120.77	382.84	3.53	95.42 96.27	17.79	114.76	N		0.00	0.00	0.00
SUN	5/6/2007	7,736.44	75,554.98	318.70 286.48	3.53	96.27	16.07	112.37	N		0.00	0.00	0.00
MON	5/7/2007	7,736.89	75,925.19		3.53	96.09	14.33	110.42	N		0.00	0.00	0.00
TUE	5/8/2007	7,737.24 7,737.65	76,213.86 76,552.53	245.15 270.65	3.53	96.38	13.04	109.42	N		0.00	0.00	0.00
WED	5/9/2007 5/10/2007	7,737.65	76,552.53 76,875.93	262.36	3.53	95.79	12.54	108.33	N		0.00	0.00	0.00
THU		7,738.54	,	309.17	3.53	96.05	12.87	108.93	N		0.00	0.00	0.00
FRI	5/11/2007 5/12/2007	7,738.54	77,291.64 77,834.08	373.66	3,53	96.66	14.65	111.31	N		0.00	0,00	0.00
SAT		,	77,634.06 78,530.34	451.67	3.53	97.11	19.05	116.16	N		0.00	0.00	0.00
SUN	5/13/2007	7,740.02 7,740.95	79,315.32	495.40	3.53	96.12	28.24	124.36	N		0.00	0.00	0.00
MON	5/14/2007	,	80,165.02	528.52	3.53	96.61	32.01	128.62	N		0.00	0.00	0.00
TUE	5/15/2007	7,741.95	80,165.02	553.62	3.53	97.12	33.77	130.89	N		0.00	0.00	0.00
WED	5/16/2007	7,743.00	,			97.66	34.17	131.84	N N		0.00	0.00	0.00
THU	5/17/2007	7,743.93	81,865.12	505.34	3.53 3.53	97.62	33.74	131.36	N		0.00	0.00	0.00
FRI	5/18/2007	7,744.75	82,575.94	459.52		98.84	35.74 35.61	134.45	N		0.00	0.00	0.00
SAT	5/19/2007	7,745.64	83,352.16	493.71	3.53	99.20	36.63	135.83	N		0.00	0.00	0.00
SUN	5/20/2007	7,746.57	84,167.47	514.28	4.03		36.96	137.12	N		0.00	0.00	0.00
MON	5/21/2007	7,747.50	84,987.88	517.81	4.03	100.15 100.69	38.47	139.16	N		0.00	0.00	0.00
TUE	5/22/2007	7,748.44	85,821.64	525.07	4.03		34.21	132.93	N		0.00	0.00	0.00
WED	5/23/2007	7,749.17	86,472.45	430.87	4.03	98.72 97.78	30.33		N		0.00	0.00	0.00
THU	5/24/2007	7,749.77	87,009.62	372.63	4.03		27.01	125.37	N		0.00	0.00	0.00
FRI	5/25/2007	7,750.28	87,467.48	333.23	4.03	98.36		123.36	N		0.00	0.00	0.00
SAT	5/26/2007	7,750.75	87,891.19	315.70	4.03	98.05	25.31 25.14		N		0.00	0.00	0.00
SUN	5/27/2007	7,751.21	88,306.94	311.47	4.03	97.83		122.97	N	,	0.00	0.00	0.00
MON	5/28/2007	7,751.74	88,787.81	344.84	4.03	98.37	26.51	124.88	N		0.00	0.00	0.00
TUE	5/29/2007	7,752.36	89,351.87	386.98	4.03	98.57	29.52				0.00	0.00	0.00
WED	5/30/2007	7,752.95	89,891.38	374.85	4.03	98.82	29.96		N		0.00	0.00	0.00
THU	5/31/2007	7,753.49	90,386.77	353.19	4.03	99.40	30.71	130.11	Ν	110.00	0.00	0,00	0.00
Average	es	7,743.23	81,383.69	402.93	3,72	97.95	24.86	122.81			0.00		0
Totals (		,	,	24,775	229	6,023	1,529	7,552			0	0	0

#### FRYINGPAN-ARKANSAS PROJECT RUEDI RESERVOIR RELEASES FOR ENDANGERED FISH WATER YEAR 2007 June-07

<u>DAY</u>	DATE	ELEV. STORAGE I FT) (AC-FT)		VAP. CES)	TOTAL RESERVOIF RELEASE (CFS)	ROCKY FORK CREEK (CFS)	FRYINGPAN RIVER GAGE BELOW DAM (CFS)	(1= YES)	REQUIRED MIN FLOW EN BELOW RUED W/O FISH REL (CFS)	NDANGEREE.', FISH RELEASE (CFS)		PALISADE GAGE (CFS)
FRI	6/1/2007	7,754.09 90,938.86	387.52	9.58	99.60	31.42	131.03	N	110.00	0.00	0.00	0.00
SAT	6/2/2007	7,754.72 91,521.59	403.56	9.58	100.19	32.35		N	110.00	0.00	0.00	0.00
SUN	6/3/2007	7,755.40 92,152.63	429.11	10.08	100.89	33.96	134.85	N	110.00	0.00	0.00	0.00
MON	6/4/2007	7,756.12 92,824.48	450.03	10.08	101.23	34.19		N	110.00	0,00	0.00	000
TUE	6/5/2007	7,756.85 93,508.84	455.48	10.08	100.37	35.31	135.68	N	110.00	0.00	0.00	0.00
WED	6/6/2007	7,757.62 94,234.44	495.66	10.08	119.76	36.79	156.56	N	110.00	0.00	0.00	0.00
THU	6/7/2007	7,758.09 94,678.93	419.97	10.08	185.79	34.89	220.68	N	110.00	0.00	0.00	0.00
FRI	6/8/2007	7.758.43 95.001.85	397.58	10.08	224.70	31.96	256.66	N	110.00	0.00	0.00	0.00
SAT	6/9/2007	7,758.72 95,277.65	374.30	10.08	225.17	30.07	255.25	N	110.00	0.00	0.00	0.00
SUN	6/10/2007	7.759.07 95,610.80	402.71	10.08	224.67	29.37	254.04	N	110.00	0.00	0.00	0.00
MON	6/11/2007	7,759.46 95,983.49	422.11	10.08	224.13	28.99	253.12	N	110.00	0.00	0.00	0.00
TUE	6/12/2007	7,760.10 96,597.13	544.66	10.08	225.21	31.81	257.02	N	110.00	0.00	0.00	0.00
WED	6/13/2007	7,760.54 97,020.34	440.38	10.08	216.93	32.70	249.63	N	110.00	0.00	0.00	0.00
THU	6/14/2007	7,761.09 97,550.93	455.26	10.08	177.68	31.69	209.37	N	110.00	0.00	0.00	0.00
FRI	6/15/2007	7,761.58 98,025.62	427,57	10.08	178.17	30.82	208.99	N	110.00	0.00	0.00	0.00
SAT	6/16/2007	7,762.10 98,530.77	443.19	10.08	178.43	30.24	208.67	N	110.00	0.00	0.00	0.00
SUN	6/17/2007	7,762.61 99,027.59	439.11	10.08	178.55	29.57	208.12	N	110.00	0.00	0.00	0.00
MON	6/18/2007	7,763.11 99,516.45	435.18	10.59	178.13	29.16	207.29	N	110.00	0.00	0.00	0.00
TUE	6/19/2007	7,763.56 99,957.95	410.73	10.59	177.56	27.81	205.37	N	110.00	0.00	0.00	0.00
WED	6/20/2007	7,763.93 100,321.85	371.46	10.59	177.41	26.03	203.44	N		0.00	0.00	0.00
THU	6/21/2007	7,764.34 100,725,77	392.73	10.59	178.51	24.31	202.82	N		0.00	0.00	0,00
FRI	6/22/2007	7,764.69 101,071.66	363.43	10.59	178.45	22.99	201.45	N		0,00	0.00	0.00
SAT	6/23/2007	7,765.02 101,397.92	353.58	10.59	178.51	21.54		N		0.00	0.00	0.00
SUN	6/24/2007	7,765.32 101,696.23	340.26	10.59	179.28	19.95		N		0.00	0.00	0.00
MON	6/25/2007	7,765.61 101,985.00	351.35	10.59	195.18	18.50		N		0.00	0.00	0.00
TUE	6/26/2007	7,765.77 102,144.17	326.22	10.59	235.38	16.44	251.82	N		0.00	0,00	0.00
WED	6/27/2007	7,765.86 102,233,00	318.33	10.59	262.96	15.03		N	,	0.00	0.00	0.00
THU	6/28/2007	7,765.90 102,273.41	306.48	10.59	275.53	14.18	289.71	N		0,00	0.00	0.00
FRI	6/29/2007	7,765,95 102,323.45	312.33	10.59	276.52	13.53	290.04	N		0.00	0.00	0.00
SAT	6/30/2007	7,765.94 102,313.24	302.69	10.59	297.25	12.92	310.17	N	110.00	0.00	0.00	0.00
Averag	es	7,761.39 97,881.54	399.10	10.27	188.40	26.95				0,00		0
Totals (	(acft)		23,748	611	11,211	1,604	12,815			0	0	0

#### FRYINGPAN-ARKANSAS PROJECT RUEDI RESERVOIR RELEASES FOR ENDANGERED FISH WATER YEAR 2007 July-07

<u>DAY</u>	<u>DATE</u>	ELEV. STORAGE FT) (AC-FT)	INFLOW (CFS)	EVAP. (CFS)	TOTAL RESERVOIR RELEASE (CFS)	ROCKY FORK CREEK (CFS)	FRYINGPAN RIVER GAGE BELOW DAM <u>CFS)</u>	(1= YES)	REQUIRED T MIN FLOW EN BELOW RUED WO FISH REL (CF)	NDANGEREEN FISH RELEASE (CFS)		PALISADE GAGE (CFS)
CUN	7/1/2007	7,765.79 102,164.09	240.94	9.58	306.56	12.36	318.92	N	110.00	0.00	0.00	0.00
SUN MON	7/1/2007	7,765.66 102,164.09	191.02	9.58	246.59	11.82		N		0.00	0.00	0.00
TUE	7/3/2007	7,765.63 102,004.00	195.89	9.58	201.87	11.14	213.01	N		0.00	0.00	0.00
WED	7/4/2007	7,765.58 101,954.00	186.20	9.58	201.83	10.72	212.55	N		0.00	0.00	0.00
THU	7/5/2007	7,765.63 102,004.00	237.06	9.58	202.28	10.19	212.46	N		0.00	0.00	0.00
FRI	7/6/2007	7,765.62 101,994.00	190.46	9.58	185.92	9.70	195.63	N		0.00	0.00	0.00
SAT	7/7/2007	7,765.63 102,004.00	188.65	9.58	174.03	9.49	183.52	N		0.00	0.00	0.00
SUN	7/8/2007	7,765.65 102,024.00	192.92	9.58	173.26	9.33	182.59	N	110.00	0.00	0.00	0.00
MON	7/9/2007	7,765.64 102,014.00	167.73	9.58	163.19	8.96	172.15	N		0.00	0.00	0.00
TUE	7/10/2007	7,765.68 102,054.00	179.05	9.58	149.30	8.64	157.95	N	110.00	0.00	0.00	0.00
WED	7/11/2007	7,765.72 102,094.00	178.99	9.58	149.25	8.32	157.57	N	110.00	0.00	0.00	0.00
THU	7/12/2007	7.765.79 102.163.00	192.97	9.58	148.61	8.07	156.68	N	110.00	0.00	0.00	0.00
FRI	7/13/2007	7,765.84 102,213.64	183.52	9.58	148.41	7.70	156.11	N	110.00	0.00	0.00	0.00
SAT	7/14/2007	7,765.84 102,213.64	166.88	9.58	157.31	7.62	164.92	N	110.00	0.00	0.00	0.00
SUN	7/15/2007	7,765.81 102,184.01	165.67	9,58	171.03	7.69	178,72	N	110.00	0.00	0.00	0.00
MON	7/16/2007	7,765,78 102,153,88	165.60	9.58	171.21	7.54	178.75	N	110.00	0.00	0.00	0.00
TUE	7/17/2007	7,765.73 102,104.33	156.06	9.58	171.46	7.26	178.72	N	110.00	0.00	0.00	0.00
WED	7/18/2007	7,765.71 102,084,41	171.21	9,58	171.67	6.96	178.63	N	110.00	0.00	0.00	0.00
THU	7/19/2007	7,765.69 102,064.49	172.65	9.58	173.12	6.87	179.98	N	110.00	0.00	0.00	0.00
FRI	7/20/2007	7,765.67 102,044.00	174.12	9.58	174.87	6,68	181.55	N	110.00	0.00	0.00	0,00
SAT	7/21/2007	7,765.79 102,163.00	245.80	9.58	176.23	7.09	183.31	N	110.00	0.00	0.00	0.00
SUN	7/22/2007	7,765.82 102,193.00	199.35	9,58	174.64	7.03	181.67	N	110.00	0.00	0.00	0.00
MON	7/23/2007	7,765.86 102,233.00	204,49	9.58	174.74	6.84	181.58	N	110.00	0.00	0.00	0.00
TUE	7/24/2007	7,765.84 102,213,00	174.76	9.58	175.26	6.68	181.94	N	110.00	0.00	0.00	0.00
WED	7/25/2007	7,765.87 102,243.00	213.02	9.58	188,31	6.54	194.86	N	110.00	0.00	0.00	0.00
THU	7/26/2007	7,765.80 102,173.00	173.09	9.58	198.81	6.40	205.21	N	110.00	0.00	0.00	0.00
FRI	7/27/2007	7,765.80 102,173,00	209.20	9.58	199.62	6.38	205.99	N	110.00	0.00	0.00	0.00
SAT	7/28/2007	7,765.80 102,173.00	228.41	9.58	218.83	6.18	225.01	N	110.00	0.00	0.00	0.00
SUN	7/29/2007	7.765.64 102.014.00	186,56	9.58	257.14	6.13	263.27	N	110.00	0.00	0.00	0.00
MON	7/30/2007	7,765.45 101,825.00	171.52	9.58	257.23	6.12		N	110.00	0.00	0.00	0.00
TUE	7/31/2007	7,765,24 101,617.03	162.27	9,58	257.54	5.92		N	110.00	0.00	0.00	0.00
Average	es	7,765.71 102,083.56	189.23	9.58	190.97	8.01	198.98			0.00		0
Totals (a			11,635	589	11,743	493	12,235			0	0	0
(	(-)											

#### FRYINGPAN-ARKANSAS PROJECT RUEDI RESERVOIR RELEASES FOR ENDANGERED FISH WATER YEAR 2007 August-07

DAY	DATE		DRAGE INFLO C-FT) CFS		TOTAL RESERVOIR RELEASE (CFS)	ROCKY FORK CREEK (CFS)	FRYINGPAN RIVER GAGE BELOW DAM (CFS)		REQUIRED MIN FLOW EN BELOW RUED W/o FISH REL (CFS)	NDANGEREL2/ FISH RELEASE (CFS)		PALISADE GAGE (CFS)
DAT	DATE	<u>F1) AC</u>	<u> </u>	<u>Cl 3)</u>	(01 0)	10101	10.01		10.07			
WED	8/1/2007	7,765.01 101,3	387.72 148	64 6.55	257.70	5.84	263.54	N	110.00	100.00	198.35	0.00
THU	8/2/2007	7,764.76 101,1			257.67	5.60	263.27	N	110.00	100.00	396.70	0.00
FRI	8/3/2007	7,764.60 100,9			257.59	5.36	262.95	N	110.00	100.00	595.05	0.00
SAT	8/4/2007	7,764.41 100,				5.23	261.80	N	110.00	100.00	793.40	0.00
SUN	8/5/2007	7,764.25 100,6			256.77	5.10	261.87	N	110.00	100.00	991.75	0.00
MON	8/6/2007	7,764.14 100,5				5.03	261.18	N	110.00	100.00	1,190.10	0.00
TUE	8/7/2007	7,764.03 100,4			255.15	4.99	260.14	N	110.00	100.00	1,388.45	0.00
WED	8/8/2007	7,763.94 100,3			254.51	5.21	259.73	N	110.00	149.73	1,685.43	0.00
THU	8/9/2007	7,763.75 100,1				5.36	259.99	N	110.00	149.99	1,982.94	0.00
FRI	8/10/2007		879.32 151		279.05	5.23	284.27	N	110.00	174.27	2,328.61	0.00
SAT	8/11/2007		555.66 138.			4.96	299.69	N	110.00	189.69	2,704.86	0.00
SUN	8/12/2007	, ,	213.11 128		294.57	4.76	299.33	N	110.00	189.33	3,080.40	0.00
MON	8/13/2007		871.80 129		294.60	4.53	299.14	Y	133.61	155.26	3,388.36	0.00
TUE	8/14/2007		540.27 133			4.43	298.34	Y	137.76	150.32	3,686.53	0.00
WED	8/15/2007		219.41 137			4.32	296.98	Y	141.76	145.01	3,974,15	0.00
THU	8/16/2007	,	947.98 162			4.21	296.66	Y	166.37	120.13	4,212.43	0.00
FRI	8/17/2007		715.30 181.		291.86	4.21	296.07	Y	185.32	100.52	4,411,81	0.00
SAT	8/18/2007	, ,	425.42 151		291.43	4.21	295.64	Y	156.05	129.33	4,668.33	0.00
SUN	8/19/2007		087,63 127		290.88	4.21	295.09	Υ	131.34	153.53	4,972.86	0.00
MON	8/20/2007		760.45 131			4.15	294.12	Υ	135.73	148.38	5,267.16	0.00
TUE	8/21/2007		385.73 107			4.07	293.57	Y	111.21	163.07	5,590.60	0.00
WED	8/22/2007		021.80 112		289.46	4.00	293.46	V	116.53	163.02	5,913.95	0.00
THU	8/23/2007	, ,	658.79 112			3.89	293.08	Υ	116.63	161.71	6,234.71	0.00
FRI	8/24/2007	,	325.06 127	01 6.55	288.71	3.81	292.52	N	110.00	182.52	6,596.73	0.00
SAT	8/25/2007		954.09 106			3.66	290.59	N	110.00	176.93	6,947.67	0.00
SUN	8/26/2007		555.88 92			3.60		N	96.30	176.91	7,298.57	0.00
MON	8/27/2007	, ,	196.62 111			3.60	289.90	N	110.00	176.31	7,648.28	0.00
TUE	8/28/2007		828.61 107			3.60		N	110.00	176.02	7,997.40	0.00
WED	8/29/2007		508.84 123			3.60		N	110.00	171.62	8,337.81	0.00
THU	8/30/2007		208.13 100			3.60				135.61	8,606.80	0.00
FRI	8/31/2007		918.13 105			3.60		Y		130.27	8,865.19	0.00
1 131	0/31/2007	1,100.22 32,	0.10.10	- 000	2.5.17	3.00		-				
Average	29	7.761.20 97.0	682.14 141	99 6.55	276.91	4.45	281.36			144.18		0
Totals (		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	8,7			274				8,865	8,865	0
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#### FRYINGPAN-ARKANSAS PROJECT RUEDI RESERVOIR RELEASES FOR ENDANGERED FISH WATER YEAR 2007 September-07

DAY	<u>DATE</u>	ELEV. <u>(FT)</u>	STORAGE <u>SAC-FT)</u>	INFLOW (CFS	EVAP. (CFS)	TOTAL RELEASE (CFS)	ROCKY FORK CREEK (CFS)	FRYINGPAN RIVER GAGE BELOW DAM SCES)	` ,	REQUIRED MIN FLOW EN BELOW RUED W/o FISH REL (CFS)	NDANGERECO FISH RELEASE (CF)		PALISADE GAGE (CFS)
											404.04	0.400.57	0.00
SAT	9/1/2007	7,755.89	92,609.59	93.29	4.03	244.81	3.60		Y		134.81	9,132.57 9,399.94	0.00 0.00
SUN	9/2/2007	7,755.55	92,292.19	88.52	4.03	244.51	3.60		Y		134.79	9,666.02	0.00
MON	9/3/2007	7,755.22	91,985.52	93.58	4.03	244.15	3.52		Y		134.15	,	0.00
TUE	9/4/2007	7,754.90	91,688.14	98.41	4.03	244.31	3.41	247.71	Y		134.31	9,932.42	0.00
WED	9/5/2007	7,754.58	91,391.84	98.30	4.03	243.65	3.43		Y		133.65	10,197.51	0.00
THU	9/6/2007	7,754.30	91,132.69	115.86	4.03	242.49	3.41	245.89	Y		116.90	10,429.39	
FRI	9/7/2007	7,753.98	90,837.55	98.84	4.03	243.61	3.43		Y		133.61	10,694.39	0.00
SAT	9/8/2007	7,753.63	90,515.16	85.79	4.03	244.30	3.60		Y		134.30	10,960.77	0.00 0.00
SUN	9/9/2007	7,753.29	90,202.93	91.94	4.03	245.32	3.60		Y		135.32	11,229.17	0.00
MON	9/10/2007	7,752.93	89,873.05	82.06	4.03	244.34	3.57		Y		134.34	11,495.64	0.00
TUE	9/11/2007	7,752.55	89,525.23	72.16	4.03	243.49	3.42		Y		133.49	11,760.41	0.00
WED	9/12/2007	7,752.08	89,096.89	31.15	4.03	243.06	3.32		Y		133.17	12,024.56	0.00
THU	9/13/2007	7,751.70	88,751.45	71.14	4.03	241.26	3.22		Y		131.26	12,284.92	0.00
FRI	9/14/2007	7,751.32	88,406.43	70.79	3.53	241.21	3.22		Y		131.21	12,545.17	
SAT	9/15/2007	7,750.95	88,071.98	75.85	3.53	240.94	3.20		Y		130.94	12,804.89	0.00 0.00
SUN	9/16/2007	7,750.63	87,782.83	98.13	3.53	240,38	3.19		Y		130.38	13,063.50	0.00
MON	9/17/2007	7,750.57	87,728.68	216.67	3.53	240.44	3.36		Y		13.40	13,090.08	0.00
TUE	9/18/2007	7,750.39	87,566.80	162.03	3.53	240.12	3.32		V		67.72	13,224.40	
WED	9/19/2007	,	87,323.91	121.77	3.53	240.70	3.95		Y		108.56	13,439.72	0.00
THU	9/20/2007	7,749.86	87,090.21	115.31	3.53	229.60	4.43		Y		103.90	13,645.81	0.00
FRI	9/21/2007	7,749.69	86,937.83	96.02	3.53	169.32	4.43		Y		59.32	13,763.46	0.00
SAT	9/22/2007	7,749.53	86,794.34	93.40	3.53	162.21	4.16		N		52.28	13,867.16	0.00
SUN	9/23/2007	7,749.40	86,678.09	106.71	3.53	161.79	3.92		N		51.80	13,969.90	0.00
MON	9/24/2007	7,749.28	86,570.65	110.72	3.53	161.36	3.69		N		51.36	14,071.77	0.00
TUE	9/25/2007	7,749.14	86,445.84	101.41	3.53	160.80	3.58		N		50.80	14,172.53	0.00
WED	9/26/2007	7,748.97	86,294.12	87.94	3.53	160.90	3.50		N		50.90	14,273.50	0.00
THU	9/27/2007	7,748.89	86,222.67	80.61	3.53	113.10	3.41	116.51	N		0.00	14,273.50	0.00
FRI	9/28/2007	7,748.82	86,159.96	82.51	3.53	110.59	3.41	114.00	N		0.00	14,273.50	0.00
SAT	9/29/2007	7,748.76	86,106.42	87.23	3.53	110.69	3.39		N		0.00	14,273.50	0.00
SUN	9/30/2007	7,748.69	86,044.20	82.12	3.53	109.96	3.28	113.25	N	85.41	0.00	14,273.50	0.00
Average	es	7,751.52	88,604.24	97.01	3.75	208.78	3.55				90.89		0
Totals (				5,773	223	12,423	211	12,635			5,408	14,273	0

Fryingpan-Arkansas Project Transmountain Diversions Water Year 2007 Unit: Acre-Feet

<u>Diversion</u>	<u>Apr</u>	May	Jun	Jul	Aug	<u>Sep</u>	<u>Total</u>
No Name		1,508	768	55			2,331
Hunter		1,666	3,522	108			5,296
Sawyer	12	585	1,056	163			1,816
Midway	1	1,652	829	1			2,483
Chapman'	70	1,963	1,900	107			4,040
South Fork	60	3,230	5,197	583			9,070
Subtotal	143	10,604	13,272	1,017			25,036
Carter	15	950	871	83			1,919
North Fork		205	348	25			578
Mormon	45	1,270	850	7			2,172
N. Cunningham	10	691	661				1,362
M. Cunningham	1	614	956				1,571
Ivanhoe	175	2,226	2,207	108			4,716
Lily Pad	19	465	445	38			967
Granite	13	804	1,109	283	118		2,327
Fryingpan	114	4,712	6,522	1,472			12,820
Subtotal	392	11,937	13,969	2,016	118		28,432
Total	535	22,541	27,241	3,033	118		53,468
Boustead Tunnel <sup>3</sup>	55	22,553	27,831	3,094	128	23	54,184

Does not include No Name, Hunter, Sawyer and Midway

<sup>&</sup>lt;sup>2</sup>Includes South Cunningham

<sup>&</sup>lt;sup>5</sup>The difference between total diversion and Charles H. Boustead Tunnel results from the accuracy limitations of the measurement

## Fryingpan-Arkansas Project Imports Charles H. Boustead Tunnel Outlet Unit: 1,000 Acre-feet

**	<b>T</b>	Acumulated	Twin Lakes Exchange	Available for Allocations
<u>Year</u>	<u>Imports</u>	<u>Imports</u>	Exchange	Anocations
1972	32.0	32.0	0	0.0
1973	36.8	68.8	0	16.0
1974	34.1	102.9	0	18.6
1975	37.2	140.1	0	25.0
1976	26.9	167.0	0	24.0
1977	11.4	178.4	0	25.0
1978	49.2	227.6	0	25.0
1979	53.7	281.3	0	25.6
1980	55.7	337.0	0	70.0
1981	34.6	371.6	0	25.0
1982	75.2	446.8	2.7	68.0
1983	90.8'	537.6	0.3	125.0
1984	110.12	647.7	1.9	210.0
1985	70.2	717.9	1.7	289.9
1986	30.3	748.2	1.5	300.3
1987	2.2	750.4	1.1	288.0
1988	13.4	763.8	2.0	247.8
1989	36.2	800.0	1.7	197.6
1990	46.6	846.6	1.7	142.1
1991	59.1	905.7	1.5	58.7
1992	54.8	960.5	1.2	32.9
1993	86.6	1,047.1	2.3	70.1
1994	52.2	1,099.3	1.3	51.7
1995	90.5	1,189.8	2.3	55.0
1996	36.9	1,226.7	1.8	110.0
1997	78.6	1,305.3	1.8	116.0
1998	51.3	1,356.6	2.6	102.0
1999	40.8	1,397.4	2.1	127.5
2000	44.8	1,442.2	1.7	171.6
2001	45.3	1,487.5	2.1	67.5
2002	13.2	1,500.7	1.5	8.5
2003	54.9	1,555.6	2.4	37.5
2004	27.4	1,583.0	1.3	15.3
2005	54.6	1,637.6	3.0	40.8
2006	61.2	1,698.8	3.0	49.2
2007	54.2	1,753.0	3.0	40.4

Restriction: Not to exceed 120,000 acre-feet in 1 year but not to exceed 2,352,800 acre-feet in 34 consecutive years.

Includes 3,120 acre-feet imported through Twin Lakes Tunnel

<sup>2</sup>Includes 2,080 acre-feet imports through Boustead Tunnel in October and 420 acre-feet in November. All other years are water year totals.

Turquoise Lake Water Year 2007 Operations Unit: 1,000 Acre-Feet

\_\_\_\_\_ Inflow\_\_\_\_

			-Ivanhoe nports	Homestake Imports	Project Imports	Native Inflow	Total Inflow	Evap	Total Outflow	End of Month Content	Water Surface Elevation (FEET)
Year	Month	Through Carlton	Through Boustead								, ,
2006	Sep Oct Nov Dec	0.1 0.1 0.1	0 0 0	0 0 0	0 0 0	1.2 0.6 0.8	1.3 0.7 0.9	0.4 0.2 0	4.8 1.3 4.8	109.7 105.8 105.0 101.1	9858.13 9855.82 9855.35 9852.99
2007	Jan Feb Mar Apr May Jun Jul Aug Sep	0.1 0.1 0.1 0.1 1.3 1.5 0.4 0.2 0.1	0 0 0 0 0 0 0 0	0 0 9.7 2.5 8.5 0 0 0	0 0.1 0.5 22.6 27.8 3.1 0.1	1.0 1.3 1.7 2.1 8.4 7.7 2.1 1.4 0.7	1.1 1.4 11.6 5.2 40.8 37.0 5.6 1.7 0.8	0 0 0 0.1 0.3 0.7 0.5 0.3	11.0 17.3 19.3 5.6 11.6 10.3 2.3 1.9	91.2 75.3 67.7 67.2 96.0 122.1 124.9 124.5 123.6	9846.99 9836.87 9831.70 9831.35 9849.93 9865.30 9866.89 9866.63 9866.15
Subtota	al	4.2	0								
Total		4.2	2	20.7	54.2	29.0	108.1	2.9	91.5		

Twin Lakes/Mt. Elbert Forebay Water Year 2007 Operations Unit: 1,000 Acre-Feet

				Inflow							
		Twin Canal C	Lakes ompany	Mt. Elbert	Conduit	Native Inflow	Total Inflow	Evap	Total Outflow	End of Month Content'	Water Surface Elevation2 (FEET)
Year	Month	Imports	Other	Halfmoon	Project Water						
2006	Sep									129.4	9192.71
	Oct	3.6	2.1	0	3.8	3.9	13.4	0.6	12.3	129.9	9192.15
	Nov	1.3	1.3	0	0.8	1.2	4.6	0.3	7.0	127.2	9191.37
	Dec	0.7	2.2	0	4.3	0	7.2	0	14.4	118.9	9187.77
2007	Jan	0.5	1.2	0	10.4	0	12.1	0	17.7	112.9	9184.79
	Feb	0.3	1.0	0	16.8	0	18.1	0	16.8	113.4	9185.15
	Mar	0.4	0.5	0	18.7	0	19.6	0	12.9	120.1	9188.16
	Apr	0.8	0	0	5.2	2.1	8.1	0.4	7.5	120.3	9187.61
	May	14.8	0.7	3.4	10.5	17.0	46.4	0.9	36.5	129.3	9192.71
	Jun	21.1	0.6	5.8	8.7	23.7	59.9	1.3	47.8	140.1	9196.56
	Jul	6.3	0.5	2.8	1.0	11.3	21.9	1.1	23.1	137.7	9196.04
	Aug	2.9	0.8	2.0	0.6	6.1	12.4	0.7	17.4	132.0	9193.81
	Sep	0.9	0.8	1.0	0.6	3.5	6.8	0.8	3.6	134.5	9194.84
Subtota	1	53.6	11.7	15.0	81.4						
Total		65.3	<b>;</b>	96	.4	68.8	230.5	6.1	217.0		

<sup>&#</sup>x27; Contents of both Twin Lakes and Mt. Elbert Forebay

<sup>&</sup>lt;sup>2</sup>Elevation of Twin Lakes

# Mt. Elbert Pumped-Storage Powerplant Operations Water Year 2007

Year	Month	Mt. Elbert Conduit Inflow to Mt. Elbert Forebay (acre-ft)	Water Pumped from Twin Lakes to Mt. Elbert Forebay (acre-ft)	Water through Generator (acre-ft)	Megawatt- Hours Net Generation* (mWh)
2006	Oct	3,960	47,673	49,456	16,375
	Nov	978	45,669	47,239	15,432
	Dec	4,521	51,618	55,185	18,332
2007	Jan	10,759	59,778	69,287	23,490
	Feb	17,131	50,130	66,512	22,761
	Mar	18,992	56,483	73,836	25,740
	Apr	5,108	57,001	60,149	20,286
	May	13,866	67,639	81,016	28,485
	Jun	14,731	98,641	112,634	38,862
	Jul	3,847	93,764	98,634	33,592
	Aug	2,596	94,763	98,306	33,425
	Sep	1,589	106,614	108,335	36,666
Total		98,078	829,773	920,589	313,446

<sup>\*</sup>Net Generation is gross plant generation less station service.

Pueblo Reservoir Water Year 2007 Operations Unit: 1,000 Acre-Feet

			Inf	low					
Year	Month	Project Water	Other	Native	Total Inflow	Evapo- ration	Outflow	End of month content	Water surface elevation (FEET)
2006	Sep Oct Nov Dec	0.3 0.8 5.9	2.8 2.4 2.4	31.8 25.2 20.6	34.9 28.4 28.9	0.8 0.4 0.4	37.7 18.0 8.8	117.9 114.4 124.4 144.1	4842.03 4840.77 4844.31 4850.86
2007	Jan Feb Mar Apr May Jun Jul Aug Sep	8.4 7.9 5.5 0.5 0.3 2.2 1.6 1.0 0.3	2.2 1.1 4.4 5.4 6.1 11.7 6.1 5.7 3.1	19.4 19.7 23.0 24.0 109.9 128.7 59.7 60.7 24.1	30.0 28.7 32.9 29.9 116.3 142.6 67.4 7 - 5	0.2 0.3 1.1 1.5 1.5 2.3 2.6 2.0 1.8	8.6 4.7 25.9 31.1 112.3 136.2 87.7 75.6 37.1	165.3 189.0 194.9 192.2 194.7 198.9 176.0 165.7 154.4	4857.36 4864.01 4865.60 4864.88 4865.54 4866.63 4860.45 4857.49 4854.09
Subto	tal	34.7	53.4	546.8					
Total					634.9	14.9	583.7		

# Fryingpan-Arkansas Project Reservoir Storage Allocation Data Unit: Acre-Feet

Reservoir	Dead	Inactive	Active conservation	Joint use	Flood control	Total capacity storage
Ruedi	63	1,095	101,278	0	0	102,373'
Turquoise	2,810	8,920	120,478	0	0	129,398'
Pueblo	2,329	28,121	228,828	66,000	26,991	349,9402
Twin Lakes	63,324	72,938	67,917	0	0	140,855
Mt. Elbert Forebay	561	3,825	7,318	0	0	11,143'

Note: Inactive includes dead storage

<sup>&#</sup>x27; New area-capacity tables (1984)

<sup>&</sup>lt;sup>2</sup> New area-capacity table (1994)

Fryingpan-Arkansas Project Monthly Evaporation Factors

	Meredith	Sugar Loaf	Twin Lakes	Pueblo
Month	Factor	Factor	Factor	Factor
Oct	1/	.220	.220	.247
Nov		.100	.100	.155
Dec		.030	.030	.133
Jan		.050	.050	.128
Feb		.080	.080	.173
Mar		.140	.140	.280
Apr		.233	.233	.308
May		.363	.363	-
Jun		.448	.448	-
Jul		.405	.405	-
Aug		.318	.318	_
Sep		.290	.290	-

Note: Factor is used when pan is not in operation. Factor divided by number of days in the month times reservoir area not covered by ice equals daily water surface evaporation in acre-feet.

<sup>1/</sup> Factors have not been determined for Meredith. Factors from Twin Lakes are used for Meredith.

Fryingpan-Arkansas Project Monthly Average vs. Current Water Year Evaporation (Unit = Inches)

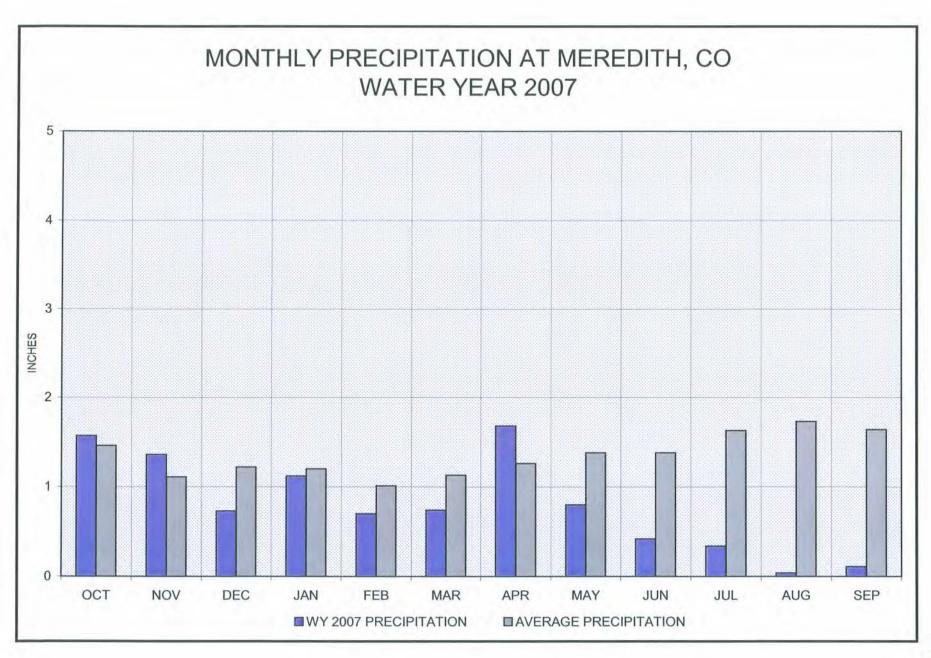
	<u>Meredith</u>		Sugar Loaf		Twin	Lakes	Pueblo	
Month	Ave Pan (In.)	WY 07	Ave Pan (In.)	WY 07	Ave Pan <u>(In.)</u>	WY 07	Ave Pan <u>(In.)</u>	WY 07
Oct	0.89	1.15	2.34	3.77	2.73	3.77	5.36	4.63
Nov	0	0	1.57	1.70	1.70	1.70	2.63	2.66
Dec	0	0	0.30	0.53	0.37	0.53	2.28	2.28
Jan	0.21	0	0	0	0	0	2.19	2.19
Feb	0	0	0	0	0	0	2.98	2.97
Mar	0	0	0.30	2.40	0.54	2.40	4.86	4.80
Apr	0.21	0	0.62	3.99	1.85	3.99	6.36	7.07
May	2.33	3.19	1.66	5.47	4.57	5.80	8.79	7.21
Jun	7.49	7.57	5.47	6.76	7.36	7.64	10.17	10.50
Jul	7.60	7.04	5.25	4.80	6.79	6.31	10.94	12.13
Aug	6.06	5.06	4.21	1.55	5.58	3.75	9.00	10.04
Sep	4.02	2.98	3.45	3.29	4.87	4.21	7.34	9.28

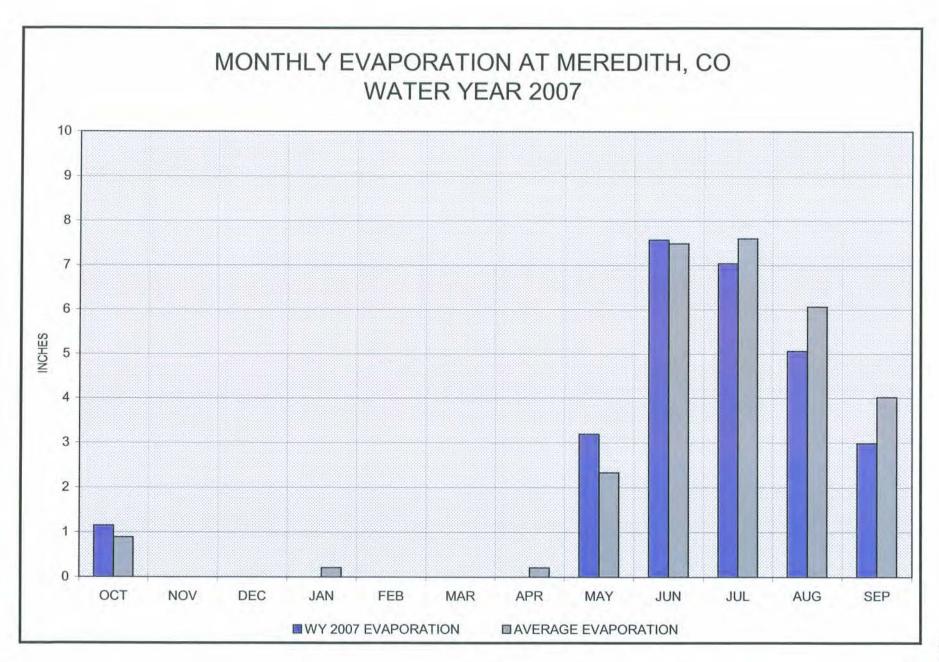
Fryingpan-Arkansas Project Monthly Average Vs. Current Water Year Precipitation (Unit = Inches)

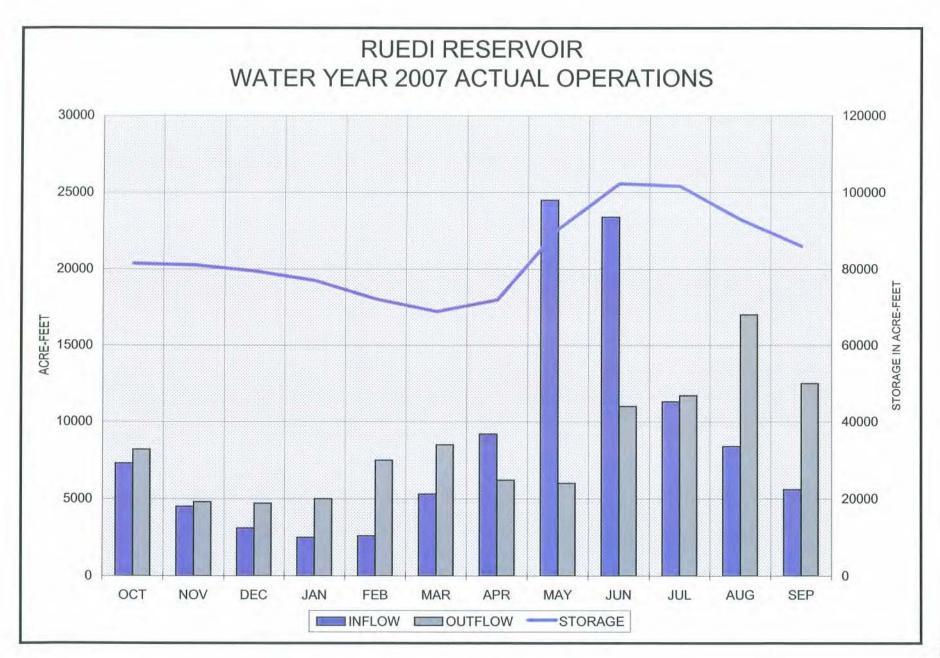
	Mer	edith	Suga	ar Loaf	Twin	Lakes	Pu	eblo	Rock	xy Ford
Month	Avg.	WY 07	Avg.	WY 07	Avg.	WY 07	Avg.	WY 07	Avg.	WY 07
Oct	1.46	1.57	0.97	1.16	0.64	0.90	0.65	2.39	0.78	2.30
Nov	1.11	1.36	1.28	1.38	0.51	0.70	0.54	0.28	0.46	0.15
Dec	1.22	0.73	1.23	0.75	0.47	0.28	0.37	0.95	0.32	1.64
Jan	1.20	1.12	1.43	1.18	0.40	0.48	0.28	0.33	0.26	0.35
- Feb	1.01	0.70	1.21	1.31	0.49	0.33	0.25	0.13	0.29	0.13
Mar	1.13	0.74	1.46	0.57	0.73	0.47	0.85	0.45	0.68	0.11
Apr	1.26	1.68	1.42	2.19	0.76	1.12	1.36	2.56	1.32	2.21
May	1.38	0.80	1.27	1.02	0.92	0.72	1.58	5.11	1.83	1.48
Jun	1.38	0.42	1.15	0.38	0.87	0.62	1.34	1.66	1.40	3.27
Jul	1.63	0.34	1.97	1.20	1.59	0.82	1.94	2.44	1.97	0.39
Aug	1.73	0.04	2.01	3.42	1.51	1.84	1.93	3.76	1.54	2.08
Sep	1.64	0.11	1.35	1.06	0.96	1.03	0.93	0.26	0.90	0.85
Total 1	1116.15	9.61	16.75	15.62	19.85	9.31	12.02	20.32	' 11.75	14.96
Max. <u>Annual</u>	/ 26.70	(1984)	I 25.95	/ (1957)	17.27	(1952)	' 20.32	(2007)	22.75	(1999)

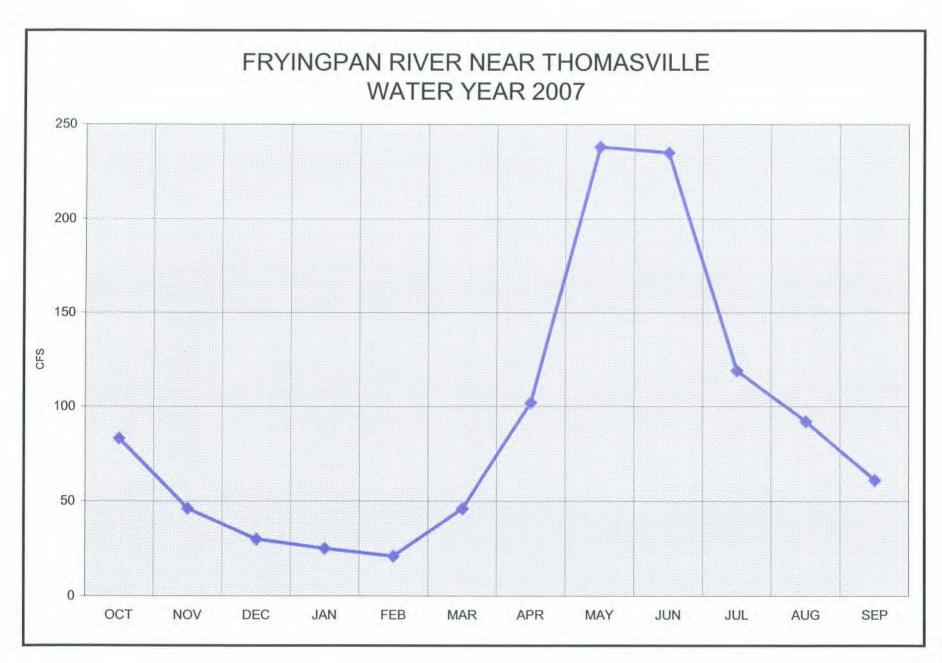
# Fryingpan-Arkansas Project Flood Control Benefits in Dollars

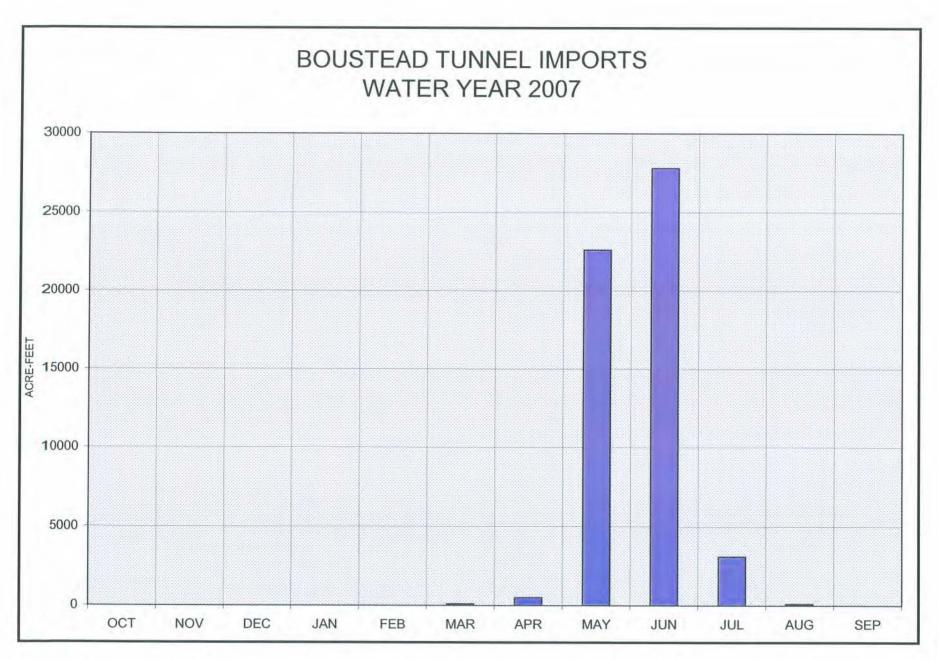
	Ruedi	Reservoir	Pueblo Reservoir			
		Accumulated		Accumulated		
	Benefits Benefits	<u>Benefits</u>	<u>Benefits</u>	<u>Benefits</u>		
1976			320,000	320,000		
1979			90,000	410,000		
1980			86,000	496,000		
1981			111,000	607,000		
1982			836,000	1,443,000		
1983	80,000	80,000	47,000	1,490,000		
1984	330,000	410,000	1,039,000	2,529,000		
1985	91,000	501,000	234,000	2,763,000		
1986	70,000	571,000	0	2,763,000		
1987	0	571,000	90,000	2,853,000		
1988	0	571,000	0	2,853,000		
1989	0	571,000	0	2,853,000		
1990	0	571,000	0	2,853,000		
1991	0	571,000	482,000	3,335,000		
1992	0	571,000	266,000	3,601,000		
1993	4,000	575,000	496,000	4,097,000		
1994	280,000	855,000	290,000	4,387,000		
1995	1,770,000	2,625,000	832,000	5,219,000		
1996	1,550,000	4,175,000	0	5,219,000		
1997	1,207,000	5,382,000	320,200	6,539,200		
1998	0	5,382,000	0	6,539,200		
1999	116,000	5,498,000	4,778,000	11,317,200		
2000	1,061,000	6,559,000	0	11,317,200		
2001	0	6,559,000	0	11,317,200		
2002	0	6,559,000	0	11,317,200		
2003	1,515,100	8,074,100	0	11,317,200		
2004	0	8,074,100	0	11,317,200		
2005	970,200	9,044,300	0	11,317,200		
2006	799,000	9,843,300	20,159,000	31,476,200		
2007	103,000	9,946,300	0	31,476,200		

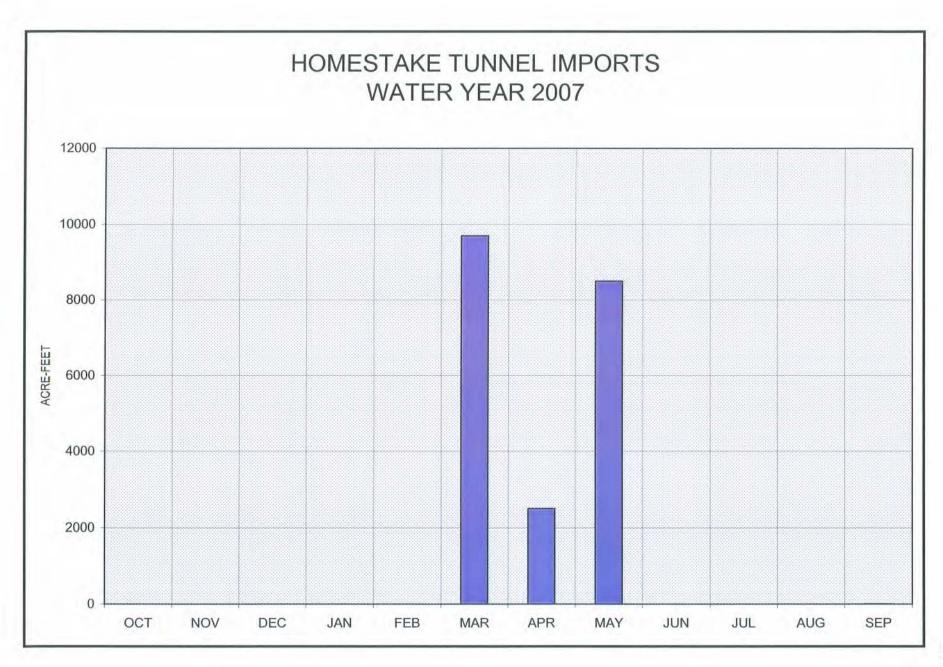


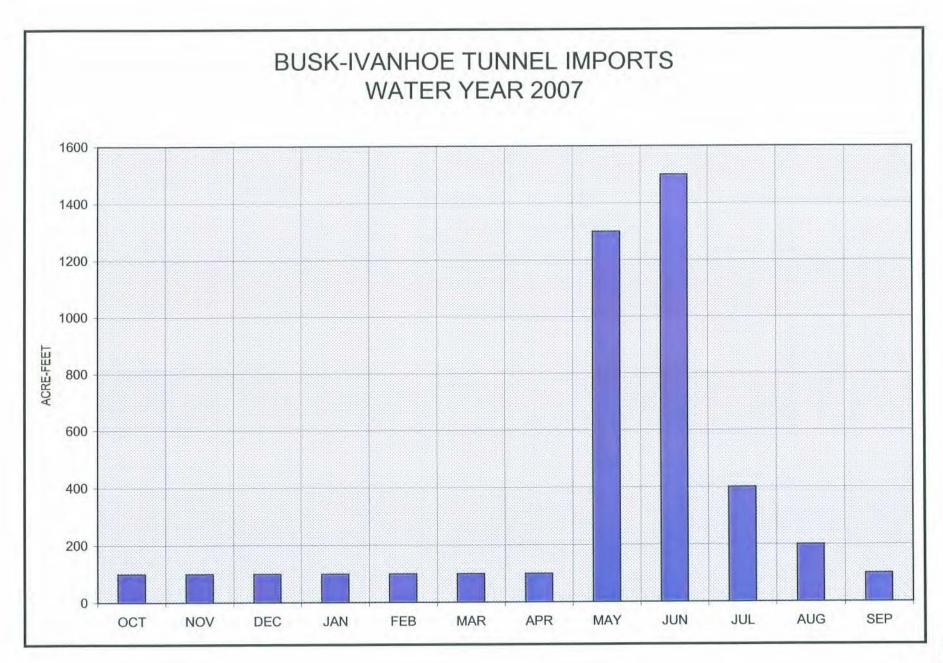


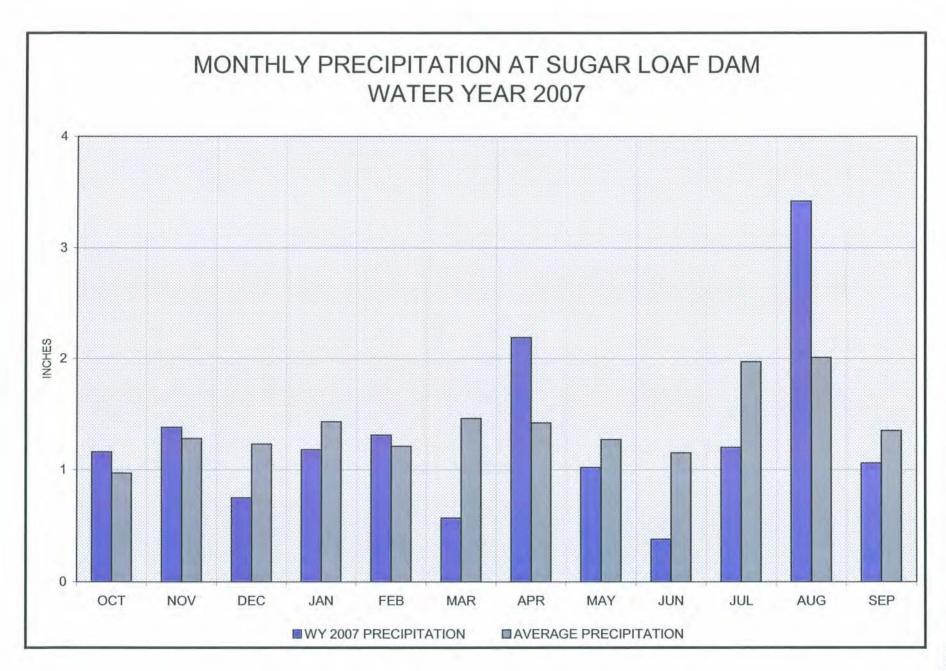


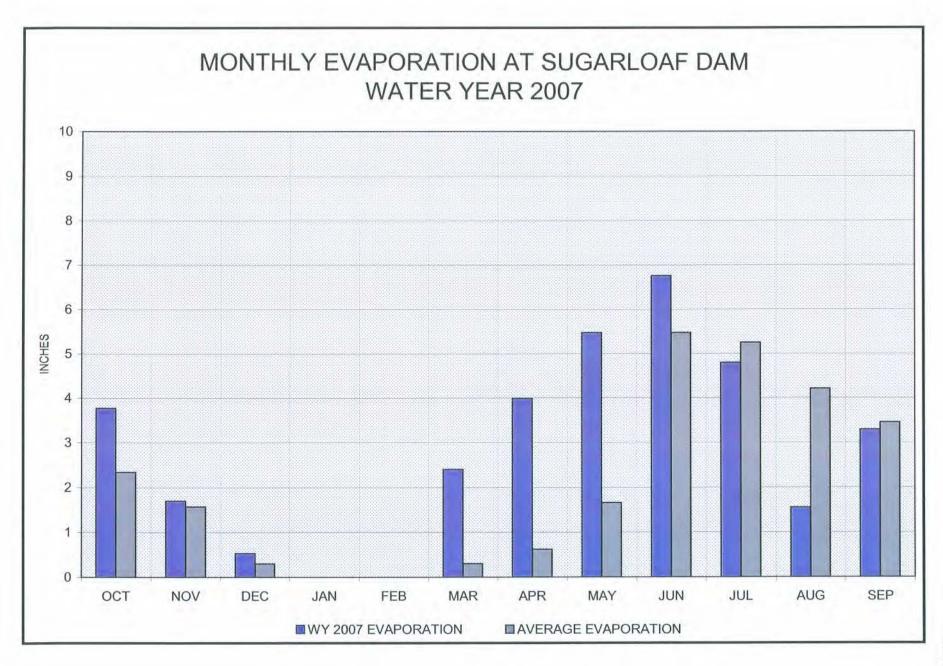


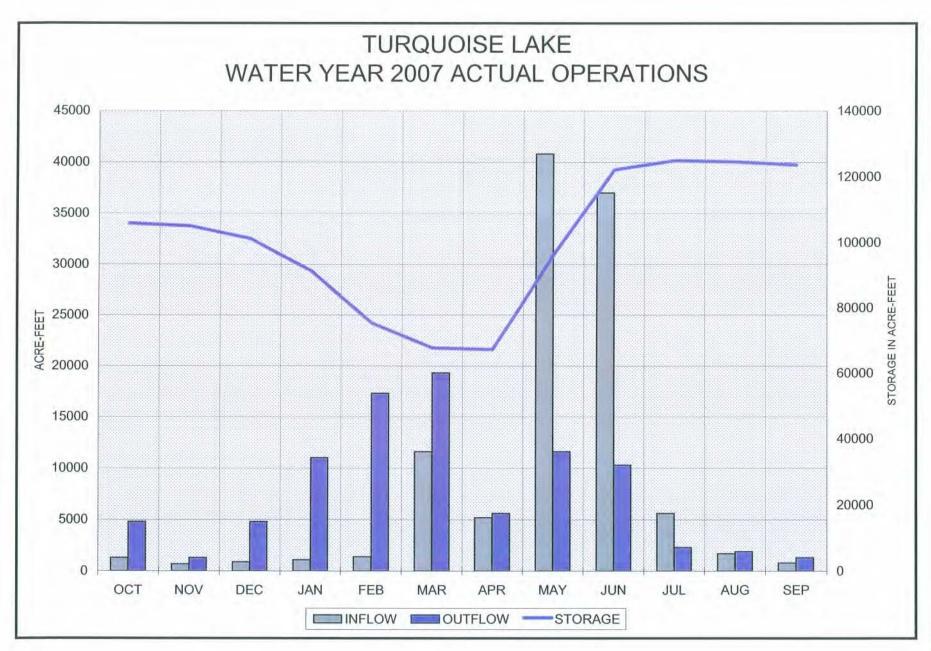


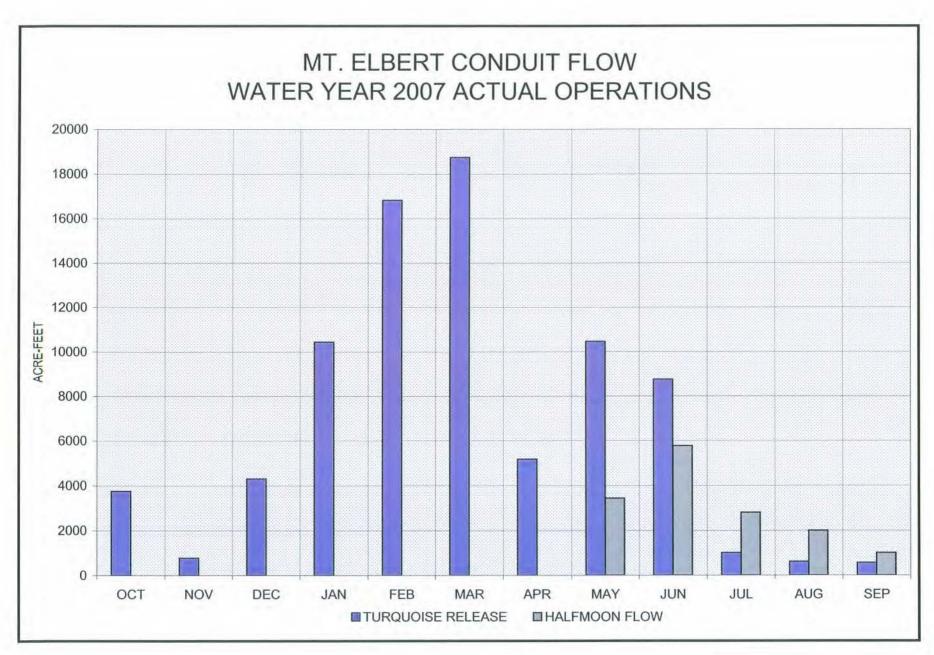


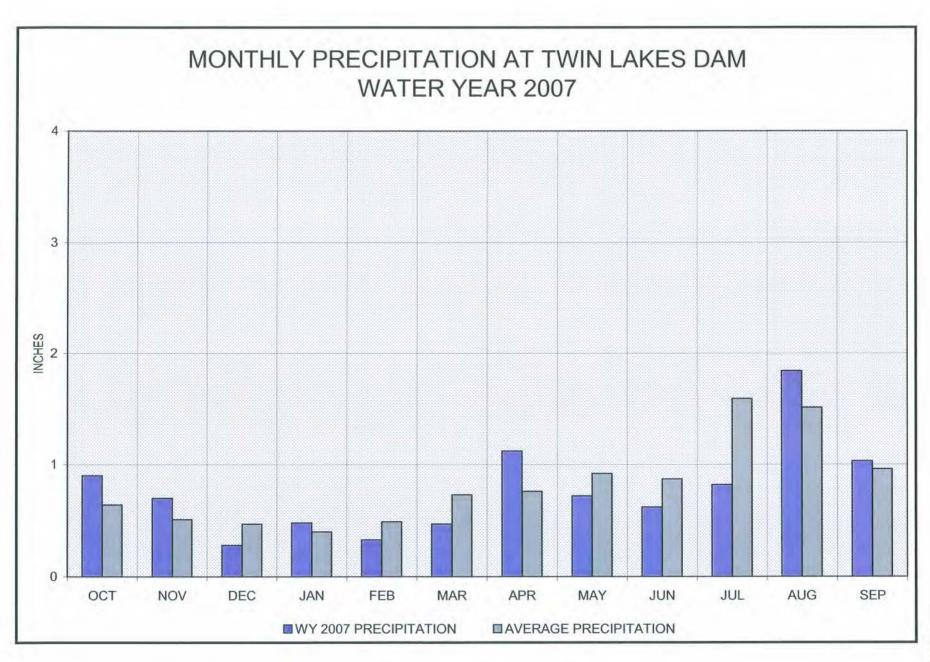


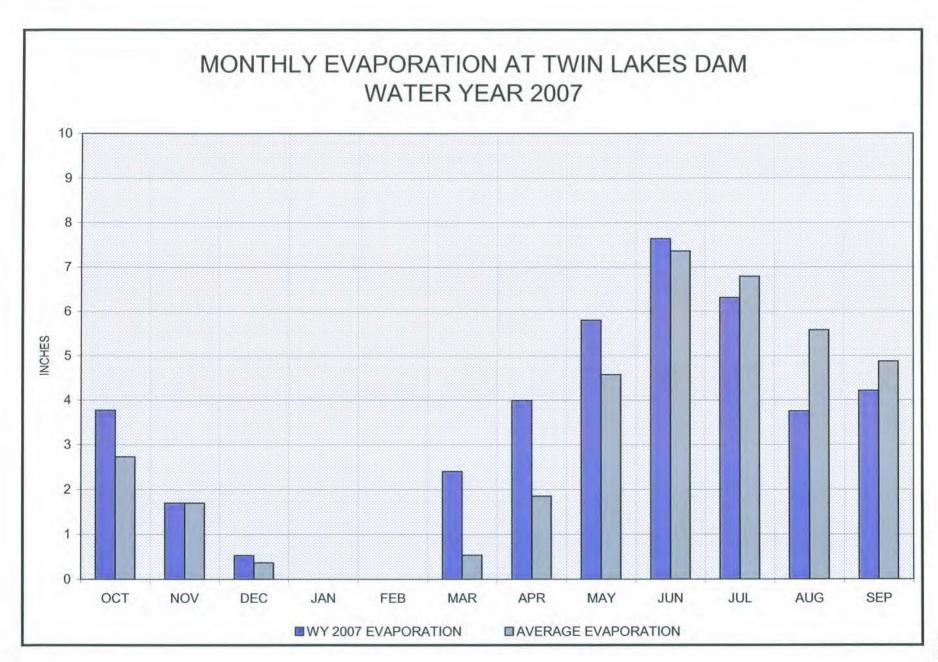


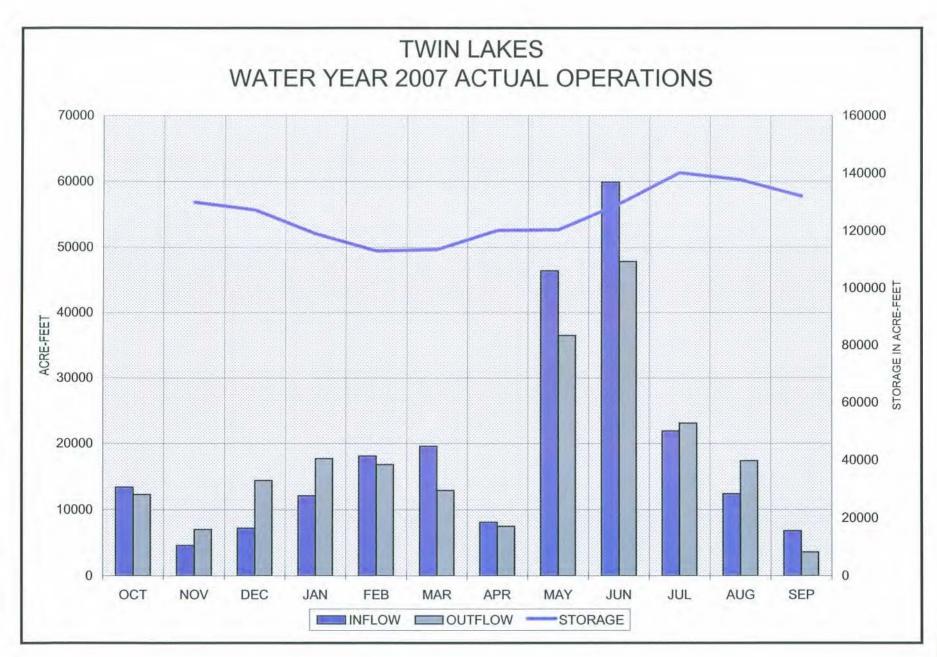


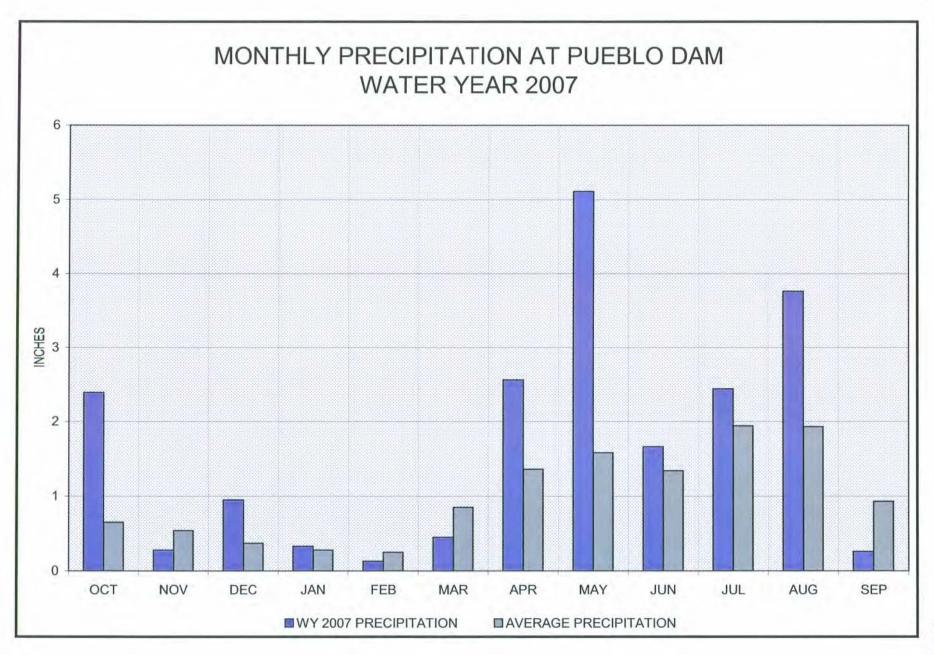


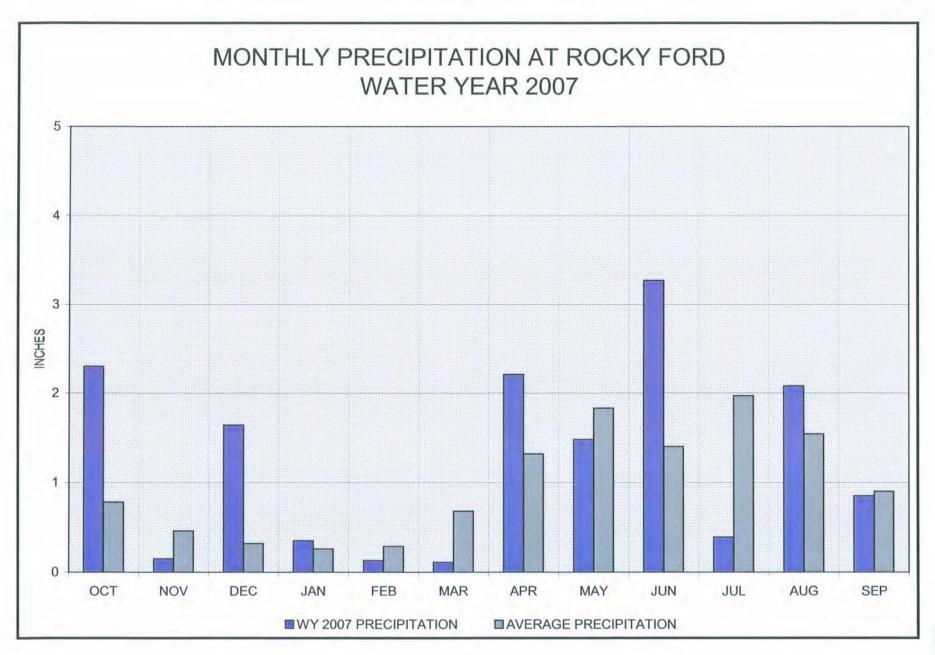


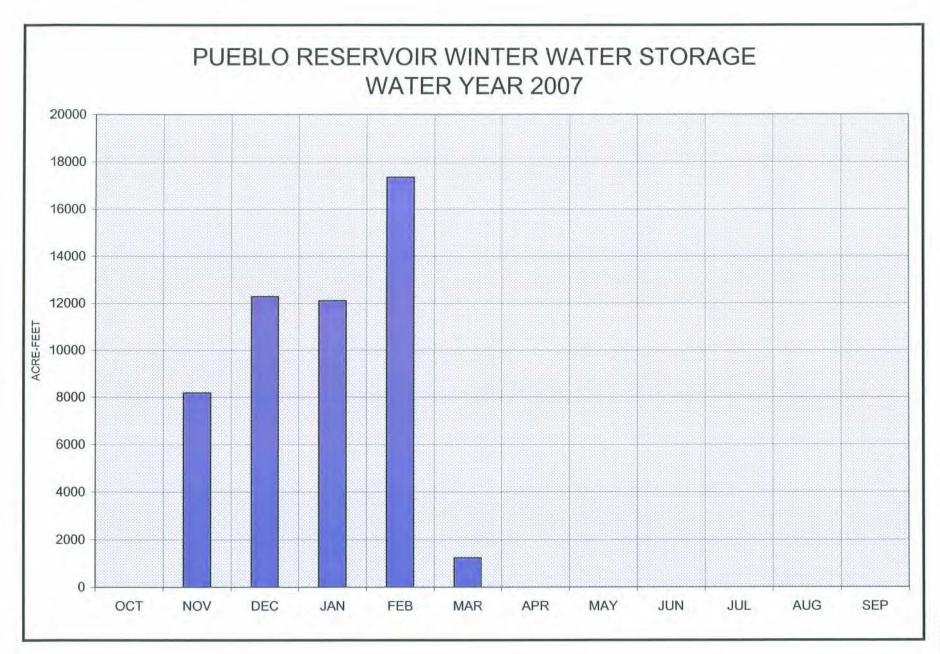


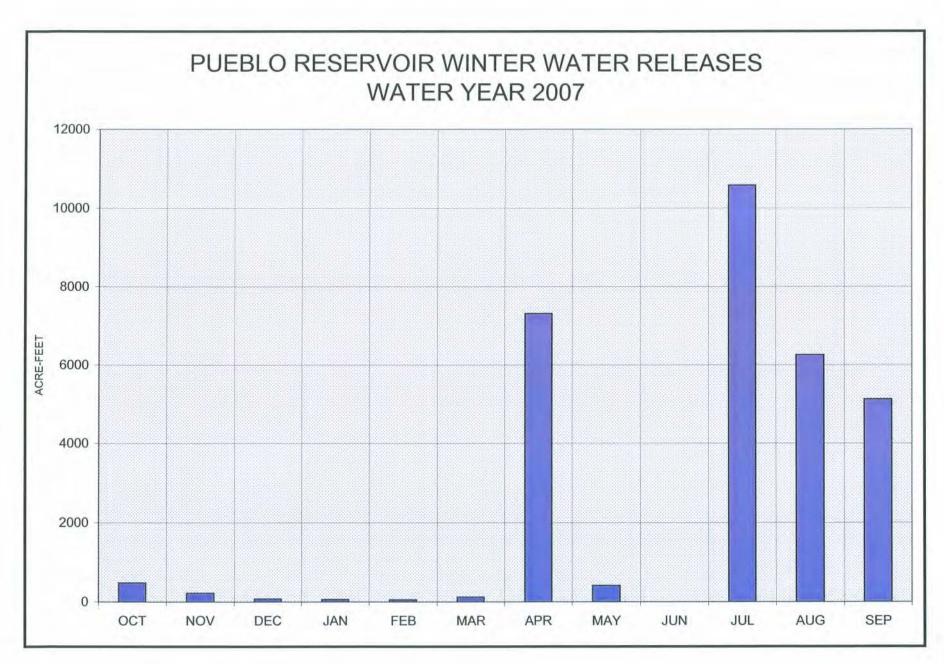


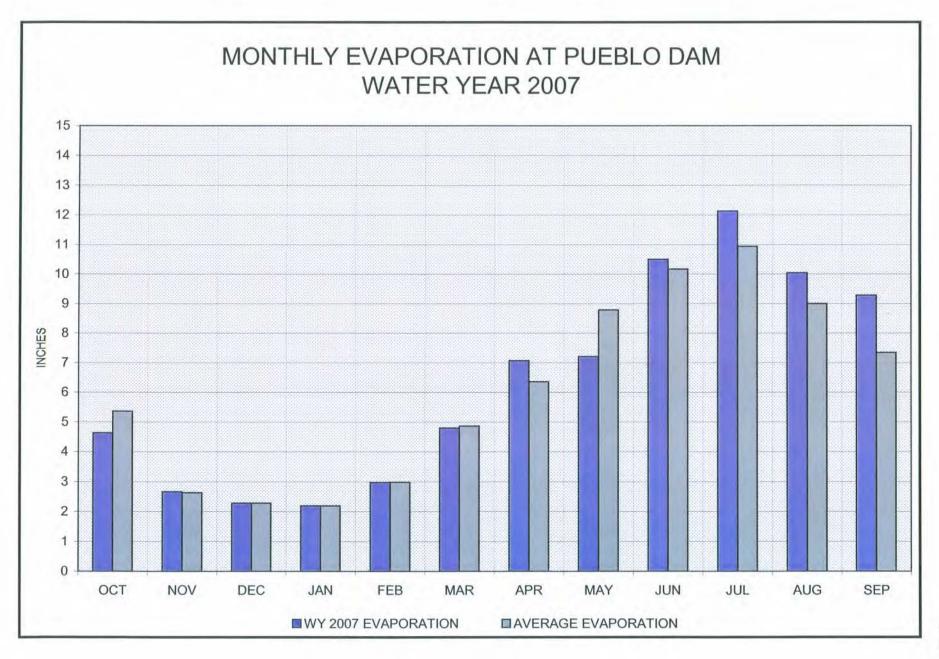


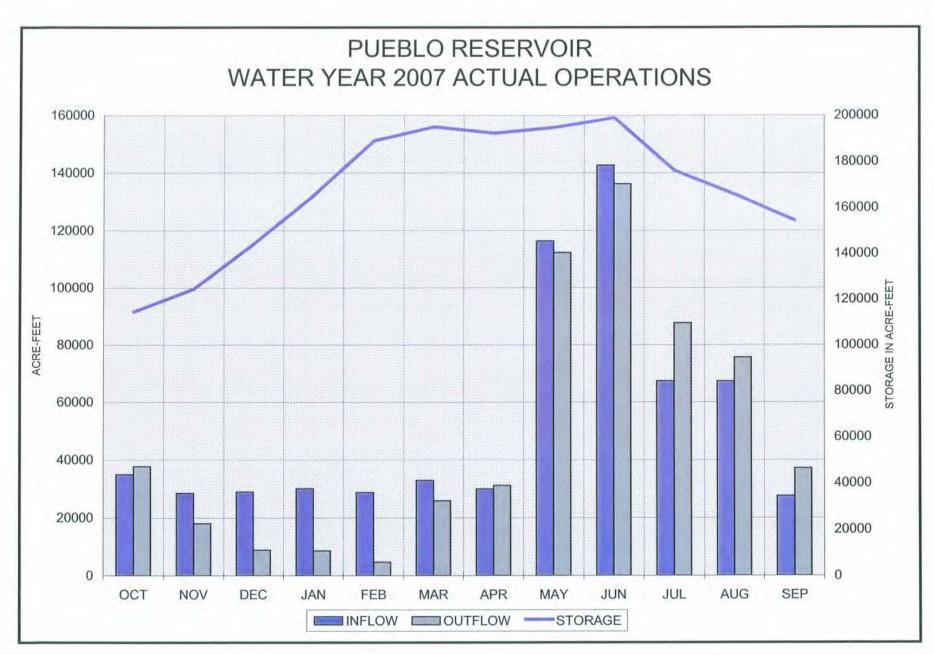


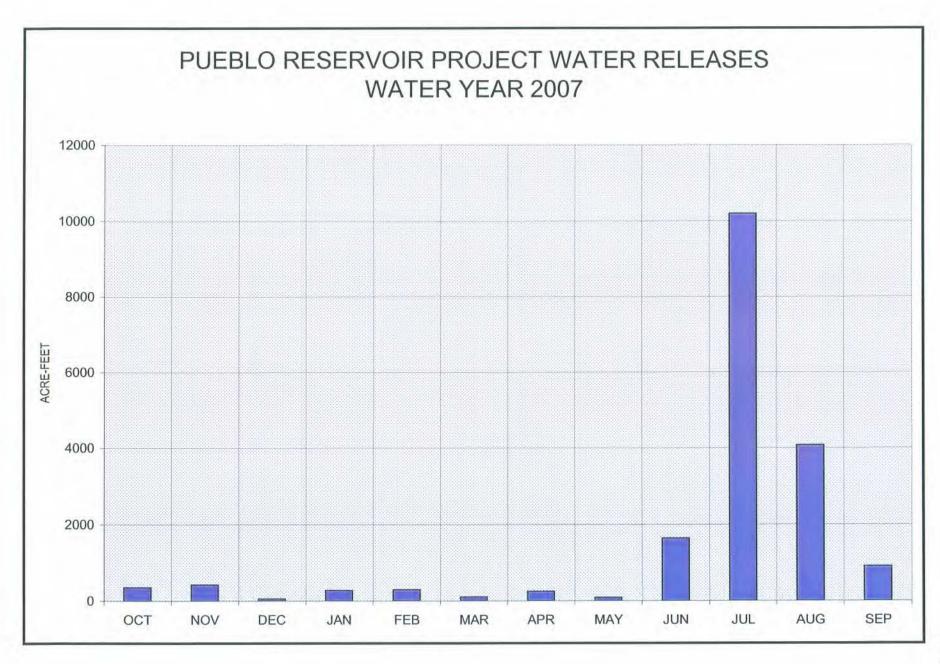












# Twin Lakes Reservoir and Canal Company Exchange with Fryingpan-Arkansas Project Water 2006-2007

Units = Acre-Feet

	Lincoln Creek below Grizzly Reservoir (1)	Roaring Fork River above Lost Man Creek (2)	Total (1 + 2) (3)	Twin Lakes Storage (3) x 0.9913' (4)
October	210	0	210	208
November	150	0	150	149
December	169	0	169	167
January	164	0	164	163
February	155	0	155	154
March	171	0	171	169
April	169	0	169	168
May	170	0	170	168
June	199	128	327	324
July	226	229	455	451
August	220	160	380	377
September	411	69	480	476
Total	2,414	586	3,000	2,974

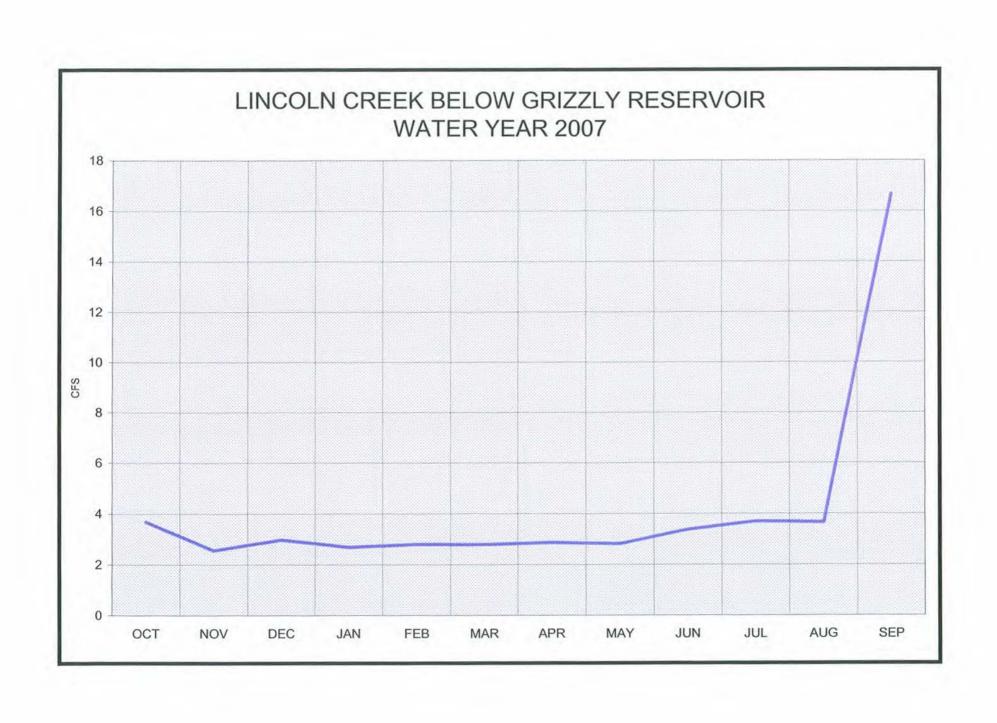
<sup>.87%</sup> transit loss from the outlet of Twin Lakes Tunnel to Twin Lakes normally taken on all Twin Lakes Reservoir and Canal Company imported water.

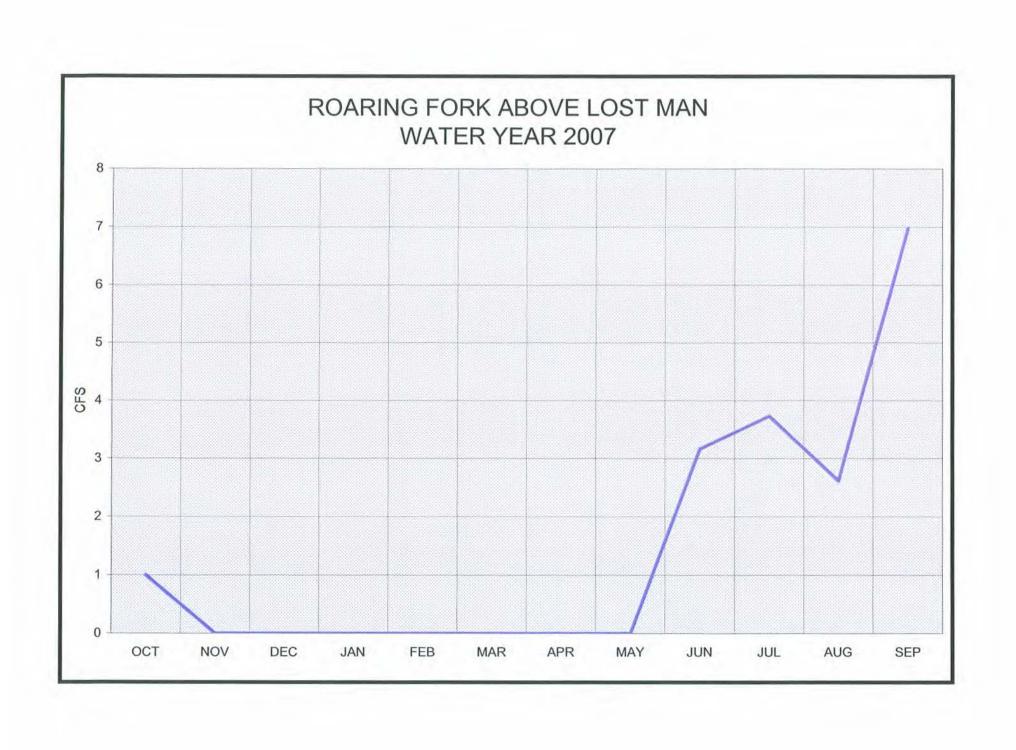
# OPERATING CRITERIA

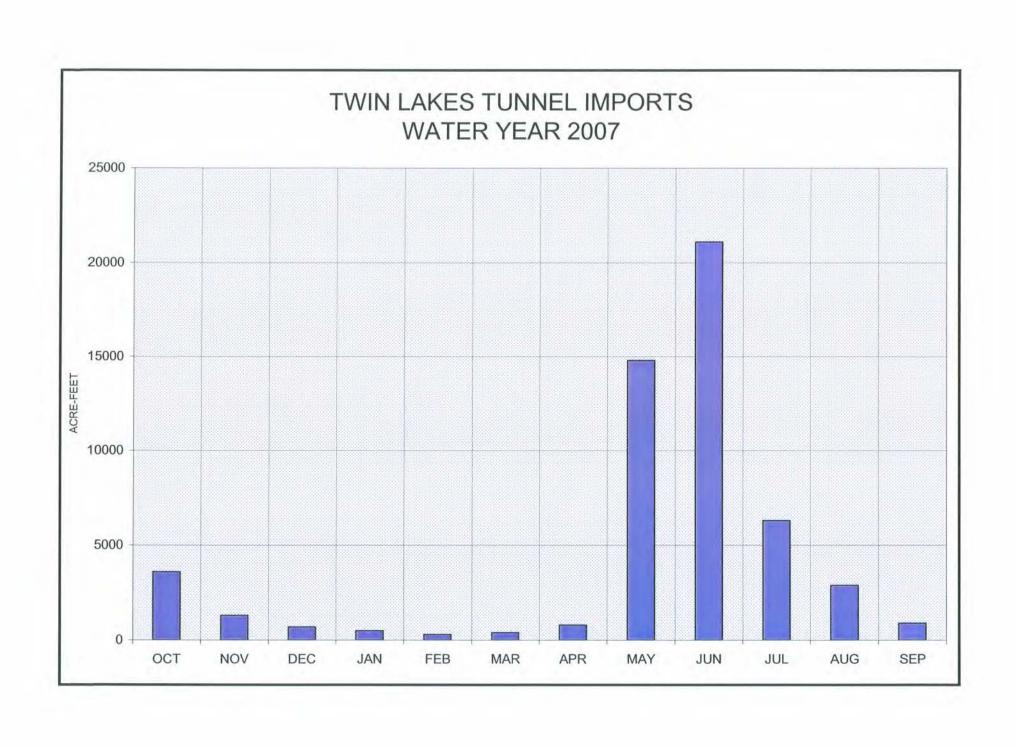
- 1. The water exchange will be implemented October 1 through September 30.
- 2. The releases to the Roaring Fork River at the Roaring Fork Diversion Dam and Lincoln Creek at the Grizzly Diversion Dam shall be accounted as follows:

<u>Month</u>	<u>Grizzly Diversion(es)</u>	Roaring Fork D version(ft <sup>3</sup> /s)
October	3.0	0.0
November	3.0	0.0
December	3.0	0.0
January	3.0	0.0
February	3.0	0.0
March	3.0	0.0
April	3.0	0.0
May	3.0	0.0
June	4.0	4.0
July	4.0	4.0
August	4.0	3.0
September	4.0	3.0

- 3. At any time the Twin Lakes Reservoir and Canal Company (Company) is bypassing water, in addition to that designated above, it will be assumed that the Company could not have diverted that water and will not receive any credit for exchange in excess of the above amounts.
- 4. In the event less water than the above amounts is bypassed, only the amount actually bypassed will be credited.
- 5. The total volume of the release at both gages combined shall not exceed 3,000 acre-feet in any one water year.
- 6. No credit for exchange will be made on days when there is no documentation of such bypasses.
- 7. No credit will be given for water bypassed when diversions are called out by the State Engineer.







### Appendix I) (I of 15) Carter Creek Feeder Conduit near Norrie, CO

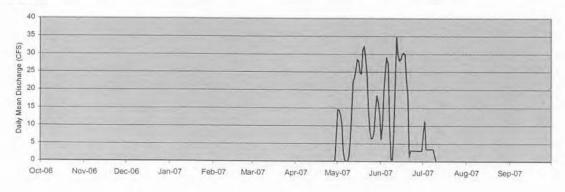
Location. --Lat 39°22'00", long 106°32'40", Eagle County, Hydrologic Unit 14010004, on left bank at concrete diversion structure, and 6.7 mi northeast of Norrie, and 0.6 mi above confluence with North Fork Fryingpan River.

Gage.—Water-stage recorder and standard 8 foot suppressed rectangular weir. Elevation of gage is 10,125 ft from topographic map. Remarks.—This is a trans-mountain diversion from Carter Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 30-April-2007 and ceased 09-July-2007. Recorder was operated 06-April-2007 through 10-September-2007. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	-	Appropriate Control				-		15	6	8	0	0
2		Seminar .	( )	The same of				14	10	11	0	0
3								13	20	3	0	0
4		*****		******				10	25	3	0	0
5						-		3	29	3	0	0
6						70000	0	1	27	3	0	0
7				-			0	0	11	3	0	0
8	20000	*****					0	0	1	3	0	0
9		-			1-1		0	1	0	2	0	0
10		-	(markets)				0	6	8	0	0	0
11			-		1404		0	14	21	0	0	
12		Jerrer C	Designation of	******		*****	0	22	35	0	0	
13				-			0	23	-30	0	0	-
14	Samuel 1		-				0	26	28	0	0	-
15		-	-				0	28	29	0	0	-
16	B	inere		******			0	28	30	0	0	
17							0	25	30	0	0	-
18	*****		Contract 1				0	24	30	0	0	-
19			1				0	31	23	0	0	
20			Terror				0	32	19	0	0	
21		-			-		0	29	1	0	0	-
22	1			( consecutive )	******	******	0	25	3	0	0	
23		-	Canada .				0	14	3	0	0	-
24	-	*****		-			0	9	3	0	0	
25			-		-	-	0	6	3	0	0	-
26	العسدوا	Security			******		0	7	3	0	0	
27	-						0	8	3	0	0	-
28	*****	( Deserted )				Later	0	14	3	0	0	
29							0	18	3	0	0	
30	- I		- must				7	17	3	0	0	
31			3500	_		-		14		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	7	32	35	11	0	0
Mon Mean	0	0	0	0	0	0	0	15	15	1	0	0
Div Mean	0	0	0	0	0	0	7	17	16	3	0	0
Ac-Ft	0	0	0	0	0	0	15	950	871	83	0	0

Water Year total — 1919 Ac-Ft, Maximum Discharge 39 CFS at 1515 hours, 12-June-2007, Monthly Mean is average of all recorded values, Diversion Mean is average of all recorded values above zero, ----- indicates no data were collected, Daily Mean Discharge Values below 1 may be reported as 0.



#### Appendix D (2 of 15) North Fork Fryingpan River Feeder Conduit near Norrie, CO

Location. --Lat 39°21'42", long 106°32'16", Eagle County, Hydrologic Unit 14010004, on left bank at concrete diversion structure, and 6.7 mi northeast of Norrie, and 0.2 mi above confluence with Mormon Creek.

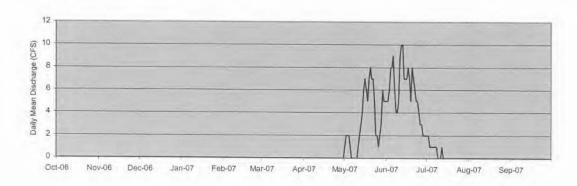
Gage.—Water-stage recorder and standard 6 foot suppressed rectangular weir. Elevation of gage is 10,200 feet from topographic map.

Remarks.—This is a trans-mountain diversion from the North Fork Fryingpan River in the Roaring. Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 29-April-2007 and ceased 13-July-2007. Recorder was operated 06-April-2007 through 10-September-2007. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

			Discharge,	Cubic Feet	Per Second	, Daily Mea	in Values			4	
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Samuel	California (ii)		*****				1	5	2	0	0
							2	5	2	0	0
		*****			Deninger,		2	6	1	0	0
******	*****	*****	*****	****			2	8	1	0	0
	******						1	8	1	0	0
	*****	*****				0	0	9	1	0	0
				4		0	0	6	1	0	0
			******			0	0	4	1	0	0
					( market	0	0	4	0	0	0
				******		0	0	5	0	0	0
					I	0	1	9	0	0	
					-	0	2	10	1	0	
						0	3	10	0	0	
	*****		*****		*****	0	4	7	0	0	
( Second	40000	-				0	6	7	0	0	
			*****			0	7	7	0	0	
Seneral S		herein.	-	-	Section 1	0	6	8			
*****	352220	-				0	5	7			
		-				0	7	5	0	0	
*****					*****	0	8	8	0	0	
		******			-	0	7	7	0	0	*****
	*****		******			0	7	6			
				22222		0				-	
						0			0		
******					- Carlotte	0			0		200
			******								
			*****								
See and the	10	- China					5		0	0	
0	0	0	0	0	0	0	0	2	0	0	0
0	0										0
		-								_	0
									-		0
0	0	0	0	0	0	0	205	348	25	0	0
			Oct Nov Dec	Oct Nov Dec Jan	Oct Nov Dec Jan Feb	Oct Nov Dec Jan Feb Mar	Oct         Nov         Dec         Jan         Feb         Mar         Apr	1	Oct         Nov         Dec         Jan         Feb         Mar         Apr         May         Jun	Oct         Nov         Dec         Jan         Feb         Mar         Apr         May         Jun         Jul	Oct         Nov         Dec         Jan         Feb         Mar         Apr         May         Jun         Jul         Aug

Water Year total - 578 Ac-Ft, Maximum Discharge 11 CFS at 0000 hours, 16-June-2007



#### Appendix D (3 of 15) Mormon Creek Feeder Conduit near Norrie, CO

 $\hbox{Location. --Lat } 39^\circ 21^\prime 19^\prime \hbox{, long } 106^\circ 32^\prime 02^\prime \hbox{, Pitkin County, Hydrologic Unit } 14010004, on left bank at concrete diversion structure, 0.5 mi upstream from unnamed tributary, 1.0 mi above Carter Creek and 6.8 mi northeast of Non ie.$ 

Gage.—Water-stage recorder and standard 5 foot suppressed rectangular weir. Elevation of gage is 10.090 ft from topographic map.

Remarks.—This is a trans-mountain diversion from Mormon Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project

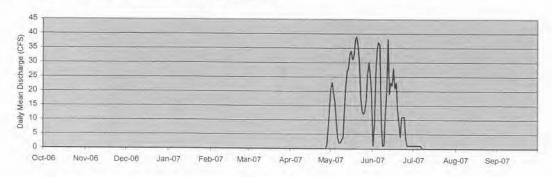
Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 28-April-2007 and ceased 07-July-2007.

Recorder was operated 05-April-2007 through 10-September-2007. Record is complete and reliable, except for 28-April through 17-May when it is fair due to gage-height corrections.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1			44444	The same of		in the same	-	21	1	1	0	0
2			*****					23	8	1	0	0
3			<del></del>	-		277777		19	26	1	0	0
4		*****	*****		*****	*****		16	35	1	0	0
5		· ·		-			0	9	37	1	0	0
6	******		******			*****	0	4	36	1	0	0
7							0	2	10	0	0	0
8					-	******	0	2	1	0	0	0
9		*****		******		(2000)	0	3	. 1	0	0	0
10						******	0	4	12	0	0	0
11						Carrows .	0	12	19	0	0	
12	*****	******			*****	******	0	22	38	0	0	
13				-		Jane 1	0	27	19	0	0	
14	*****		*****			*****	0	28	23	0	0	
15		200					0	33	22	0	0	-
16					******	******	0	34	28	0	0	
17				amount/			0	31	21	0	0	
18							0	32	23	0	0	
19		-		******	-		0	38	14	0	0	-
20		*****					0	39	9	0	0	
21		24.00		******	-		0	36	4	0	0	
22		*****	******		*****		0	30	11	0	0	
23	-					******	0	18	11	0	0	100
24				*****	*****	*****	0	13	11	0	0	
25	-	******	5555cc	- Carrier			0	12	4	0	0	1 34440
26	22222	*****					0	13	1	0	0	
27		-				*****	0	17	1	0	0	-
28	*****	******					1	26	1	0	0	Carrie
29						water and	7	30	1	0	0	
30			*****				15	25	1	0	0	
31								19		0	0	100
Min	0	0	0	0	0	0	0	2	1	0	0	0
Max	0	0	0	0	0	0	15	39	38	1	0	0
Mon Mean	0	0	0	0	0	0	1	21	14	0	0	0
Div Mean	0	0	0	0	0	0	8	21	14	1	0	0
Ac-Ft	0	0	0	0	0	0	45	1270	850	7	0	0

Water Year total - 2172 Ac-Ft Maximum Discharge 55 CFS at 1300 hours, 12-June-2007



## Appendix D (4 of 15) North Cunningham Feeder Conduit near Norrie, CO

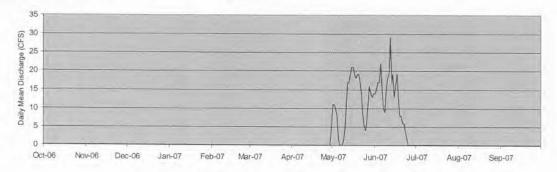
Location. --Lat 39°20'12", long 106°32'35", Pitkin County, Hydrologic Unit 14010004, on right bank at concrete diversion structure, 0.8 mi upstream from Middle Cunningham Creek. and 6.2 mi east of Norrie.

Gage.—Water-stage recorder and standard 6 foot suppressed rectangular weir. Elevation of gage is 10,100 ft from topographic map. Remarks.—This is a trans-mountain diversion from North Cunningham Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 30-Apr-2007 and ceased 24-June-2007. Recorder was operated 05-April-2007 through 10-September-2007. Record is complete and reliable, except 05-April through I7-May when backup gage height record was used. during which it was complete and fair.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1								11	14	0	0	0
2		*****						11	15	0	0	0
3								10	17	0	0	0
4		******						8	17	0	0	0
5	Same I			SILLING	10000	1 5500	0	2	22	0	0	0
6							0	0	16	0	0	0
7				- COUNTY		Called a	0	0	10	0	0	0
8							0	0	9	0	0	0
9							0	1	15	0	0	0
10							0	4	18	0	0	0
11							0	10	19	0	0	-
12							0	17	29	0	0	
13					1	The same of	0	17	17	0	0	1
14							0	19	19	0	0	
15			*****				0	21	13	0	0	
16						******	0	21	16	0	0	
17							0	19	19	0	0	
18	*****						0	18	13	0	0	
19	7					1	0	19	8	0	0	
20							0	19	8	0	0	
21				1	222		0	17	6	0	0	
22					-		0	14	6	0	0	
23					1		0	8	4	0	0	
24							0	5	2	0	0	
25				-			0	4	0	0	0	
26	*****					******	0	6	0	0	0	
27							0	11	0	0	0	
28					*****	*****	0	16	0	0	0	
29							0	14	0	0	0	
30							5	13	0	0	0	
31				- Allend				14		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	5	21	29	0	0	0
Mon Mean	0	0	0	0	0	0	0	11	11	0	0	0
Div Mean	0	0	0	0	0	0	1	14	11	0	0	0
Ac-Ft	0	0	0	0	0	0	10	691	661	0	0	0

Water Year total - 1362 Ac-Ft Maximum Discharge 42 CFS at 1200 hours, 12-June-2007



#### Appendix D (5 of 15) Middle Cunningham Feeder Conduit near Norrie, CO

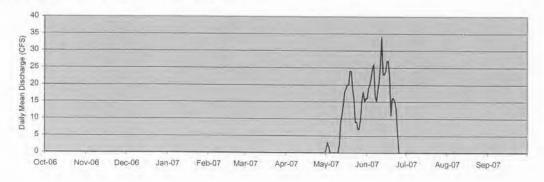
Location. --Lat 39°19'43", long 106°33'08", Pitkin County, Hydrologic Unit 14010004, on left bank at concrete diversion structure, 0.4 mi upstream from Cunningham Creek, and 5.7 mi east of Norrie.

Gage.—Water-stage recorder and standard 5 foot suppressed rectangular weir. Elevation of gage is 10,050 ft from topographic map. Remarks.—This is a trans-mountain diversion from Middle Cunningham Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 29-April-2007 and ceased 24-June-2007. Recorder was operated 09-April-2007 through 10-September-2007. Record is complete and reliable, except 09-April through 17-May, when it is fair due to gage height corrections.

Discharge Cubic Feet Per Second Daily Maan Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1				******				1	16	0	0	0
2								3	19	0	0	0
3					*****			2	20	0	0	0
4								0	22	0	0	0
5				*****	72222			0	25	0	0	0
6								0	26	0	0	0
7					(11111)			0	17	0	0	0
8					******			0	15	0	0	0
9							0	0	18	0	0	0
10					*****		0	0	21	0	0	
11					******		0	3	26	0	0	-
12	*****						0	9	34	0	0	
13						-	0	11	23	0	0	22//
14					*****	*****	0	14	23	0	0	
15				******			0	18	24	0	0	
16		200		******	******	******	0	19	27	0	0	
17							0	20	27	0	0	
18	*****		*****		*****		0	20	22	0	0	
19		*****	*****				0	24	11	0	0	
20	*****				******	*****	0	24	16	0	0	
21							0	19	16	0	0	
22		******	******	******			0	16	15	0	0	
23				-			0	9	13	0	0	
24							0	9	6	0	0	
25				-			0	7	0	0	0	
26		*****					0	7	0	0	0	
27							0	10	0	0	0	
28			*****	******	******	******	0	15	0	0	0	
29			******	( ) ( ) ( ) ( ) ( ) ( )			0	18	0	0	0	
30				*****			0	15	0	0	0	
31			(2000)					16		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	24	34	0	0	0
Mon Mean	0	0	0	0	0	0	0	10	16	0	0	0
Div Mean	0	0	0	0	0	0	0	13	20	0	0	0
Ac-Ft	0	0	0	0	0	0	1	614	956	0	0	0

Water Year total - 1571 Ac-Ft Maximum Discharge 38 CFS at 1200 hours, 12-June-2007



# Appendix D (6 of 15) Ivanhoe Creek Feeder Conduit near Norrie, CO

Location. --Lat 39°17'15", long 106°33'32", Pitkin County, Hydrologic Unit 14010004, on left bank 300 feet downstream from diversion point on Ivanhoe Creek, 2.3 mi east of Nast, and 5.8 mi southeast of Norrie.

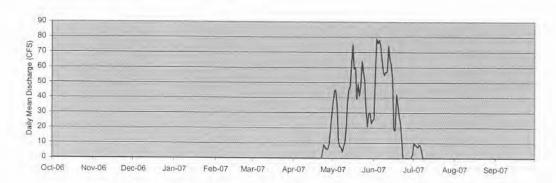
Gage.—Water-stage recorder and modified 8 foot Parshall flume. Elevation of gage is 10,000 ft from topographic map.

Remarks.—This is a trans-mountain diversion from Ivanhoe Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 23-April-2007 and ceased 07-Jul-2007. Recorder was operated 04-April-2007 through 10-September-2006. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

					1	Per Second		1				
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	*****	******	*****	*****			******	37	26	10	0	0
2	*****		*****		******		*****	44	55	9	0	0
3				*****				45	79	8	0	0
4			******	******		******	0	35	76	7	0	0
5	*****			577777			0	12	78	9	0	0
6			-		******	*****	0	8	74	8	0	0
7			*****				0	7	65	4	0	0
8					******	*****	0	4	57	0	0	0
9		Number				34444	0	7	55	0	0	0
10	-						0	11	57	0	0	0
11							0	21	57	0	0	-
12					*****	*****	0	37	74	0	0	
13	-					*****	0	45	65	0	0	-
14			*****	*****			0	47	62	0	0	
15			<u> </u>			*****	0	62	52	0	0	2017
16				*****			0	75	19	0	0	
17							0	59	18	0	0	9 300
18	-		*****	and the same			0	60	42	0	0	
19							0	39	35	0	0	
20			*****				0	49	28	0	0	
21							0	41	23	0	0	
22				*****			0	47	11	0	0	NAME OF THE PERSON NAMED IN
23				20.22			4	64	0	0	0	
24							9	57	0	0	0	
25		*****			*****		7	51	0	0	0	
26	*****						6	32	0	0	0	
27							6	21	0	0	0	
28	******					*******	9	29	0	0	0	
29				- Common			19	30	0	0	0	
30							28	23	3	0	0	
31	-					-		25		0	0	
Min	0	0	0	0	0	0	0	4	0	0	0	0
Max	0	0	0	0	0	0	28	75	79	10	0	0
Mon Mean	0	0	0	0	0	0	3	36	37	2	0	0
Div Mean	0	0	0	0	0	0	11	36	50	8	0	0
Ac-Ft	0	0	0	0	0	0	175	2226	2207	108	0	0

Water Year total - 4716 Ac-Ft, Maximum Discharge 143 CFS at 1600 hours, 16-May-2007



#### Appendix D (7 of 15) Lily Pad Creek Feeder Conduit near Norrie, CO

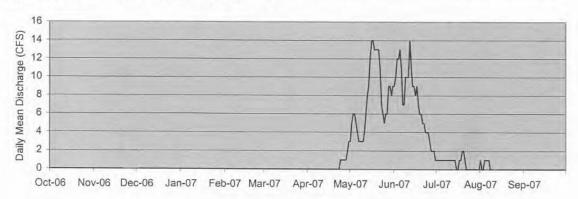
Location. --Lat 39°15'32", long 106°32'16", Pitkin County, Hydrologic Unit 14010004, on right bank at concrete diversion structure, 200 feet downstream from diversion point on Lily Pad Creek, and 7.7 mi southwest of Norrie.

Gage.—Water-stage recorder and standard 5 foot suppressed rectangular weir. Elevation of gage is 10,200 ft from topographic map. Remarks.—This is a trans-mountain diversion from Lily Pad Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began on 23-April-2007 and ceased on 21-July-2007. Recorder was operated 03-April-2007 through 10-September-2007. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	-							3	9	1	0	0
2	******				*****		******	5	10	1	0	0
3			-	-	-			6	12	1	0	0
4							0	6	12	1	0	0
5			*****		****		0	5	13	1	0	0
6							0	4	11	1	0	0
7				S			0	3	7	1	0	0
8		******		******			0	3	7	1	0	0
9							0	3	10	1	0	0
10						-	0	3	10	1	0	0
11						-	0	4	10	1	0	-
12				******			0	6	14	1	0	
13	) weeken		*****			-	0	8	11	1	0	-
14			*****		******	******	0	9	9	1	0	
15			-				0	12	9	0	0	
16			******				0	14	8	0	0	
17							0	14	9	1	0	
18							0	13	7	1	0	****
19		>					0	13	6	2	0	-
20		*****	*****	*****	i de la composition della comp	-	0	13	6	2	0	
21		-	1		2550		0	13	5	1	0	- Canada
22	-						0	11	5	0	0	
23			-	TOTAL T	-		0	7	4	0	0	
24					*****		1	6	4	0	0	
25						,	1	5	4	0	0	
26		*****	******	******			1	6	3	0	0	
27					*******		1	6	2	0	0	
28							1	9	2	0	0	
29			-				2	9	2	0	0	
30				******			3	8	1	0	0	
31	-							9	يعانعها	0	0	
Min	0	0	0	0	0	0	0	3	1	0	0	0
Max	0	0	0	0	0	0	3	14	14	2	0	0
Mon Mean	0	0	0	0	0	0	0	8	7	1	0	0
Div Mean	0	0	0	0	0	0	1	8	7	1	0	0
Ac-Ft	0	0	0	0	0	0	19	465	445	38	0	0

Water Year total - 967 Ac-Ft, Maximum Discharge 16 CFS at 1900 hours, 05-June-2007



# Appendix D (8 of 15) Granite Creek Feeder Conduit near Norrie, CO

Location. --Lat 39°16′03", long 106°33′15", Pitkin County, Hydrologic Unit 14010004, on right bank at concrete adit structure, LO mi through siphon from diversion point on Granite Creek. and 6.7 mi southeast of Norrie.

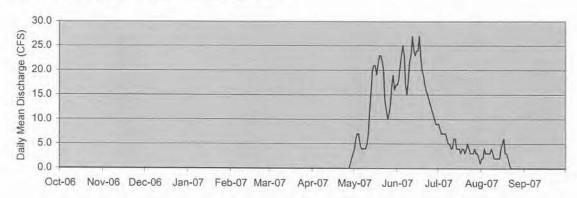
Gage.—Water-stage recorder and standard 3 foot Parshall flume. Elevation of aage is 10,000 ft from topographic map.

Remarks.—This is a trans-mountain diversion from Granite Creek in the Roaring Fork Basin through the Fiyingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 28-April-2007 and ceased 21-August-2007. Recorder was operated 04-April-2007 through 10-September-2007. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1		- reserve						4	17	9	2	0
2			*****		*****			6	18	8	2	0
3			-					7	21	7	4	0
4	- January						0	7	23	7	3	0
5		******		-			0	5	25	7	3	0
6							0	4	23	7	3	0
7							0	4	17	6	3	0
8	*****						0	4	15	5	4	0
9	*****	******	*****		-	*******	0	4	18	5	3	0
10				******	-		0	5	22	4	2	0
11			-	THERM			0	7	23	4	2	-
12			*****				0	12	27	6	2	
13	-						0	16	24	6	2	-
14						*****	0	20	23	4	2	
15							0	21	24	4	4	-
16	*****		******	******	*****		0	21	24	4	5	
17			*****	20000	211111	-	0	19	27	3	6	-
18	*****						0	21	23	4	3	
19					- Table -		0	23	20	4	3	-
20	******	*****					0	23	19	3	2	3000
21						-	0	22	17	4	1	-
22			*****			*****	0	20	16	5	0	
23	-		Timeseo Ti			*****	0	14	15	4	0	
24	*****					-	0	12	14	3	0	
25	3000	*****	2000			200000	0	10	13	3	0	-
26				*****		******	0	11	12	3	0	
27	-						0	13	11	4	0	-
28							1	17	10	3	0	
29				-			2	19	9	3	0	-
30							3	16	9	2	0	
31	*****		- waren	+				17		1	0	
Min	0	0	0	0	0	0	0	4	9	1	0	0
Max	0	0	0	0	0	0	3	23	27	9	6	0
Mon Mean	0	0	0	0	0	0	0	13	19	5	2	0
Div Mean	0	0	0	0	0	0	2	13	19	5	3	0
Ac-Ft	0	0	0	0	0	0	13	804	1109	283	118	0

Water Year total - 2327 Ac-Ft, Maximum Discharge 32 CFS at 2100 hours, 05-June-2007



#### Appendix D (9 of 15) No Name Creek Feeder Conduit near Norrie, CO

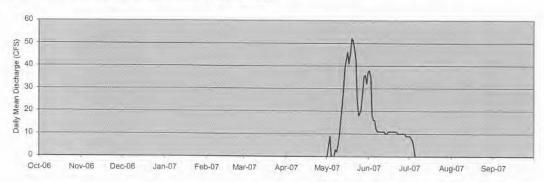
Location. --Lat 39°11'00", long 106°43'12", Pitkin County, Hydrologic Unit 14010004, on right bank at concrete diversion structure. 0.9 mi upstream from mouth, and 5.5 mi southeast of Aspen.

Gage.—Water-stage recorder and standard 8 foot suppressed rectangular weir. Elevation of gage is 10,165 ft from topographic map. Remarks. This is a trans-mountain diversion from No Name Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 02-May-2007 and ceased 04-July-2007. Reetwett, urac gnocatert 1 1-Anril-7M7.thro.jan.12Septtember-3117 F.ere-brils complete ....ti Zellaht.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1								0	38	9	0	0
2		*****	*****	*****	(mores	*****		5	35	8	0	0
3			J					9	18	7	0	0
4								0	16	4	0	0
5								0	16	0	0	0
6	*****			*****				0	12	0	0	0
7					*****			3	11	0	0	0
8				******	*****			2	11	0	0	0
9								5	11	0	0	0
10	******				*****		*****	10	11	0	0	0
11						-	0	16	- 11	0	0	0.
12	******				*****	*****	0	22	11	0	0	0
13					-		0	30	10	0	0	
14							0	39	10	0	0	
15				Person		-	0	43	11	0	0	
16			******	*****	*****	*****	0	46	11	0	0	
17							0	41	11	0	0	
18				*****	*****	Heese	0	45	11	0	0	****
19		Spinis	3				0	52	11	0	0	
20				*****			0	51	11	0	0	
21		(200200)					0	48	11	0	0	
22			******		******		0	43	10	0	0	
23							0	26	10	0	0	
24	*****	******	******	*****	*****		0	18	10	0	0	
25							0	19	10	0	0	
26		*****		******			0	21	10	0	0	
27	22,000						.0	28	10	0	0	
28			*****	******	*****		0	35	9	0	0	
29			****				0	36	9	0	0	
30	*****	******	Calabata				0	32	9	0	0	
31				*****				37		0	0	
Min	0	0	0	0	0	0	0	0	9	0	0	0
Max	0	0	0	0	0	0	0	52	38	9	0	0
Mon Mean	0	0	0	0	0	0	0	25	13	1	0	0
Div Mean	0	0	0	0	0	0	0	28	13	7	0	0
Ac-Ft	0	0	0	0	0	0	0	1508	768	55	0	0

Water Year total - 2331 Ac-Ft Maximum Discharge 66CFS at 2000 hours, 19-May-2007



#### Appendix D (10 of 15) Midway Creek Feeder Conduit near Norrie, CO

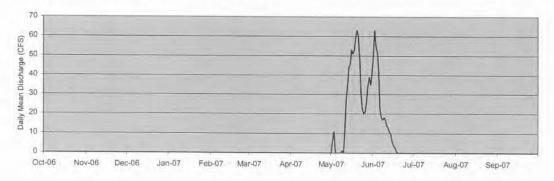
Location. --Lat  $39^{\circ}11'26''$ , long  $106^{\circ}41'07''$ , Pitkin County, Hydrologic Unit 14010004, on right bank at concrete diversion structure, 0.8 mi upstream from mouth, and 8.3 mi east of Aspen.

Gage.—Water-stage recorder and standard 8 foot suppressed rectangular weir. Elevation of gage is 10,180 ft from topographic map. Remarks.—This is a trans-mountain diversion from Midway Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 29-April-2007 and ceased 03-July-2007. Recorder was operated 12-April-2007 through I I-Sentemher-2007. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	ischarge, C	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	-							0	49	0	0	0
2					*****			7	63	0	0	0
3						-		11	55	0	0	0
4					*****			0	52	0	0	0
5	-			Herman				0	43	0	0	0
6		*****						0	22	0	0	0
7		*****				*****		0	18	0	0	0
8	*****			******			*****	0	17	0	0	0
9							222	1	18	0	0	0
10								0	17	0	0	0
11	Action C			*****				10	14	0	0	0
12							0	27	13	0	0	T
13							0	35	11	0	0	
14	*****			221212			0	44	10	0	0	
15				¥			0	46	6	0	0	1 24
16	*****	******	*****	******		*****	0	53	4	0	0	****
17							0	51	3	0	0	200
18							0	53	1	0	0	
19	******	10000	*****			-	0	60	0	0	0	1
20							0	63	0	0	0	
21						-	0	60	0	0	0	
22		*****			*****		0	48	0	0	0	
23							0	30	0	0	0	
24		*****	******				0	22	0	0	0	
25	-						0	20	0	0	0	-
26		*****					0	21	0	0	0	
27						2000	0	26	0	0	0	1 ==
28							0	34	0	0	0	
29					Beer to 1		0	39	0	0	0	1000
30			******				0	35	0	0	0	
31								40		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	63	63	0	0	0
Mon Mean	0	0	0	0	0	0	0	27	14	0	0	0
Div Mean	0	0	0	0	0	0	0	35	23	0	0	0
Ac-Ft	0	0	0	0	0	0	1	1652	829	1	0	0

Water Year total - 2483 Ac-Ft, Maximum Discharge 96 CFS at 1700 hours, 02-June-2007.



#### Appendix D (11 of 15) Hunter Creek Feeder Conduit near Norrie, CO

Location. --Lat 39°12'28", long 106°40'44", Pitkin County, Hydrologic Unit 14010004, on right bank at concrete diversion structure, 0.9 mi upstream from confluence with Midway Creek, and 8.3 nil east of Aspen.

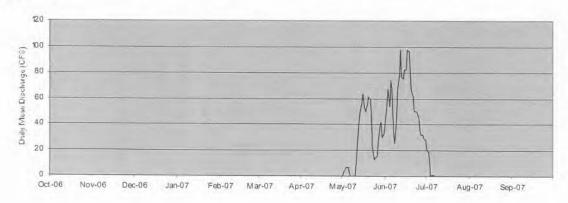
Gage.—Water-stage recorder and standard 8 foot suppressed rectangular weir. Elevation of gage is 10,180 ft from topographic map.

Remarks.—This is a trans-mountain diversion from Hunter Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 02-May-2007 and ceased 06-July-2007. Recorder was operated 12-April-2007 through 11-September-2007. Record is complete and reliable.

# Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1								0	40	21	0	0
2		*****			*****			3	56	19	0	0
3					Name of the last o			5	67	12	0	0
4								7	54	0	0	0
5				*******	Caracter 1	( ( married ( )		7	74	1	0	0
6							Comme	3	68	1	0	0
7								0	33	0	0	0
8	*****		*****	*****		- inter		0	25	0	0	0
9								0	45	0	0	0
10				*****				0	67	0	0	0
11		Section 1						9	78	0	0	0
12							0	33	98	0	0	
13	1757			i enter	F		0	42	77	0	0	
14		2		Total Control	*****		0	49	75	0	0	
15				******			0	57	82	0	0	
16			******	*****	*****		0	63	83	0	0	
17							0	52	98	0	0	
18						*****	0	50	96	0	0	
19		-	******				0	57	81	0	0	
20							0	61	66	0	0	
21		*****		*****		-	0	59	62	0	0	24
22	22.00					2	0	46	51	0	0	
23							0	23	50	0	0	
24							0	13	49	0	0	
25				*****			0	14.	45	0	0	-
26						******	0	16	36	0	0	
27				-	1		0	26	32	0	0	
28							0	40	32	0	0	
29		******			1	Carrier II	0	42	29	0	0	
30						-	0	30	28	0	0	
31				de la				33		0	0	
Min	0	0	0	0	0	0	0	0	25	0	0	0
Max	0	0	0	0	0	0	0	63	98	21	0	0
Mon Mean	0	0	0	0	0	0	0	27	59	2	0	0
Div Mean	0	0	0	0	0	0	0	32	59	11	0	0
Ac-Ft	0	0	0	0	0	0	0	1666	3522	108	0	0

Water Year total – 5296 Ac-Ft, Maximum Discharge 134 CFS at 2200 hours, 17-June-2007, Monthly Mean is average of all recorded values, Diversion Mean is average of all recorded values above zero, ——indicates no data were collected, Daily Mean Discharge Values below 1 may be reported as 0.



#### Appendix D (12 of 15) Sawyer Creek Feeder Conduit near Norrie, CO

Location. --Lat 39°15'58", long 106°38'21", Pitkin County, Hydrologic Unit 14010004, on right bank, 3100 ft downstream from diversion point on Sawyer Creek and 4.0 mi south of Norrie.

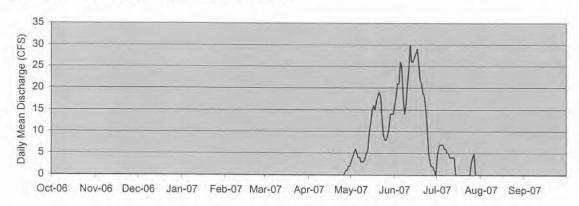
Gage.—Water-stage recorder and standard 24 inch Parshall flume. Elevation of gage is 10,050 ft from topographic map.

Remarks.—This is a trans-mountain diversion from Sawyer Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began 27-April-2007 and ceased 27-July-2007. Recorder was operated I0-April-2007 through 12-September-2007. Record is complete and fair.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1								3	16	4	0	0
2		*****						4	18	6	0	0
3		*****						5	21	7	0	0
4				*****				6	21	7	0	0
5								5	26	7	0	0
6				*****				4	25	6	0	0
7	******	-		*****				4	18	6	0	0
8	*****	*****						3	14	5	0	0
9								3	16	5	0	0
10		*****					0	3	21	4	0	0
11		-	S				0	4	24	4	0	0
12	*****	*****					0	5	30	4	0	0
13	200000			*****			0	6	26	4	0	-
14	******			*****		******	0	10	26	0	0	
15		-			-	· contract	0	12	27	0	0	-
16	-						0	15	28	0	0	
17		-		-			0	16	29	0	0	-
18		******					0	15	26	0	0	
19		*****		******			0	17	22	0	0	7-
20		*****	TENTET			*****	0	18	21	0	0	
21							0	19	19	0	0	( See
22				-			0	18	18	0	0	
23							0	13	15	0	0	
24			******				0	9	11	0	0	
25							0	8	5	3	0	
26							0	8	3	4	0	
27	-	20000			manua.	******	1	9	2	5	0	
28	*****						1	11	2	0	0	
29		Time !	COLD II				2	14	1	0	0	1
30							2	14	0	0	0	
31								14		0	0	
Min	0	0	0	0	0	0	0	3	0	0	0	0
Max	0	0	0	0	0	0	2	19	30	7	0	0
Mon Mean	0	0	0	0	0	0	0	10	18	3	0	0
Div Mean	0	0	0	0	0	0	2	10	18	5	0	0
Ac-Ft	0	0	0	0	0	0	12	585	1056	163	0	0

Water Year total – 1816 Ac-Ft, Maximum Discharge 32 CFS at 1500 hours, 12-June-2007 Monthly Mean is average of all recorded values, Diversion Mean is average of all recorded values above zero, ----- indicates no data were collected, Daily Mean Discharge Values below 1 may be reported as 0.



# Appendix D (13 of 15) Chapman Gulch Feeder Conduit near Norrie, CO

Location. --Lat 39°15'46", long 106°37'52", Pitkin County, Hydrologic Unit 14010004, on right bank. 180 ft downstream from diversion point on Chapman Gulch and 4.9 mi south of Norrie.

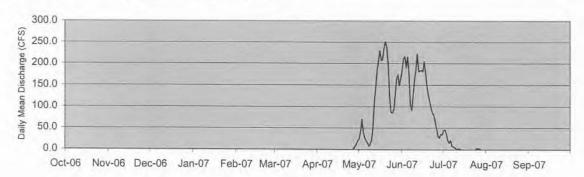
Gage.—Water-stage recorder and modified 10 ft Parshall tlume. Elevation of gage is 10,050 ft from topographic map.

Remarks.—This is a trans-mountain diversion from Chapman Gulch. Sawyer Creek, Hunter Creek, Midway Creek, and No Name Creek in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began on 27-April-2007 and ceased 27-July-2007. Recorder was operated 09-April-2007 through 12-September-2007. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	-		-	2				25	182	45	0	0
2	*****		******	*****	*****	*****		43	211	46	0	0
3	-1414-					*****		70	216	36	0	0
4		*****	******					39	190	22	0	0
5	-						-	28	215	15	0	0
6		******		*****	******	*****		20	173	22	0	0
7								15	103	9	0	0
8						-	*****	8	91	7	0	0
9					******	-	0	13	128	5	0	0
10				******		*****	0	23	163	2	0	0
11	-	-	Same?		/ alacta		0	52	184	0	0	0
12	needle.				******		0	113	222	2	0	0
13							0	148	181	1	0	-
14			*****				0	185	183	0	0	
15					-		0	205	184	0	0	
16					*****		0	230	181	0	0	
17					-		0	207	204	0	0	
18	*****		******				0	209	177	0	0	
19	10-100						0	236	146	0	0	
20							0	251	127	0	0	
21							0	239	111	0	0	
22							0	197	95	0	0	
23	-		*****				0	122	85	0	0	
24							0	87	79	0	0	
25			*****	-			0	85	62	3	0	
26					*****		0	92	47	3	0	-
27							2	124	31	2	0	-
28							7	164	27	0	0	
29			-				13	175	36	0	0	
30			******	******			20	149	34	0	0	
31	)		111211					165	1 1 2 2	0	0	Bo
Min	0	0	0	0	Ō	0	0	8	27	0	0	0
Max	0	0	0	0	0	0	20	251	222	46	0	0
Mon Mean	0	0	0	0	0	0	2	120	136	7	0	0
Div Mean	0	0	0	0	0	0	10	120	136	14	0	0
Ac-Ft	0	0.	0	0	0	0	83	7374	8075	434	0	0

Water Year total - 15966 Ac-Ft, Maximum Discharge 319 CFS at 2000 hours, 02-June-2007



#### Appendix D (14 of 15) South Fork Feeder Conduit near Norrie, CO

Location. --Lat 39°14'16", long 106°35'23", Pitkin County, Hydrologic Unit 14010004, on right bank, 110 ft downstream from diversion point on the South Fork Fryingpan River and 7.2 mi southeast of Norrie.

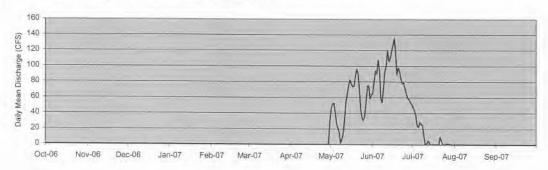
Gage.—Water-stage recorder and modified 8 ft Parshall flume. Elevation of gage is 10,000 ft from topographic map.

Remarks.—This is a trans-mountain diversion from the South Fork Fryingpan River in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began on 30-April-2007 and ceased 28-July-2007. Recorder was operated 10-April-2007 through 12-September-2007. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1								47	65	48	0	0
2								51	80	44	0	0
3				******	-		-	53	94	37	0	0
4					22.322			40	90	26	0	0
5				*****				27	108	22	0	0
6	-			*****	*****			20	94	29	0	0
7	-	and the same						16	58	27	0	0
8					*****			1	54	24	0	0
9								7	73	11	0	0
10	******						0	14	94	1	0	0
11	-	7-4-4			-		0	32	101	0	0	0
12	*****				******		0	55	119	5	0	0
13							0	64	106	3	0	
14					*****		0	75	110	0	0	-
15							0	83	119	0	0	
16				******	*****		0	77	126	0	0	
17	S				*****		0	74	136	0	0	
18				******			0	74	116	0	0	
19			444				0	86	89	0	0	
20	*****				*****		0	96	98	0	0	( Salar
21		inter.					0	91	93	10	0	
22							0	72	83	5	0	
23	1000000						0	45	78	0	0	
24					*****		0	34	79	0	0	Services
25							0	31	72	0	0	
26	*****	*****	1		*****		0	36	65	1	0	
27						-	0	54	60	1	0	
28					-		0	75	57	1	0	armir.
29				777777			0	75	54	.0	0	_
30	*****		******				30	58	52	0	0	- 3020
31								64		0	0	
Min	0	0	0	0	0	0	0	1	52	0	0	0
Max	0	0	0	0	0	0	30	96	136	48	0	0
Mon Mean	0	0	0	0	0	0	1	53	87	9	0	0
Div Mean	0	0	0	0	0	0	30	53	87	17	0	0
Ac-Ft	0	0	0	0	0	0	60	3230	5197	583	0	0

Water Year total - 9070 Ac-Ft, Maximum Discharge 179 CFS at 1930 hours, 17-June-2007



#### Appendix D (15 of 15) Fryingpan Feeder Conduit near Norrie, CO

Location. --Lat 39°14'42", long 106°31'52", Pitkin County, Hydrologic Unit 14010004, on right bank, 210 ft downstream from diversion point on the Fryingpan River and 9.1 mi southeast of Norrie.

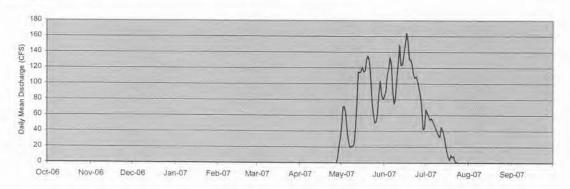
Gage.—Water-stage recorder and modified 12 ft Parshall flume. Elevation of gage is 9950 ft from topographic map.

Remarks.—This is a trans-mountain diversion from the Fryingpan River in the Roaring Fork Basin through the Fryingpan-Arkansas Project Collection system and Charles H. Boustead tunnel to the Arkansas River basin. Diversion began on 28-April-2007 and ceased 23-July-2007. Recorder was operated 03-April-2007 through 10-September-2007. Record is complete and reliable.

Discharge, Cubic Feet Per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1								48	84	67	0	0
2	******			******			*****	71	90	63	0	0
3							0	71	111	58	0	0
4	*****	-	*****	******			0	59	117	54	0	0
5			******	*****			0	39	133	56	0	0
6			******				0	26	124	52	0	0
7				*****	*****		0	19	91	48	0	0
8			*****				0	21	74	43	0	0
9							0	21	81	39	0	0
10	*****		*****	*****			0	25	107	35	0	
11	/	2-11/10				******	0	44	126	32	0	
12	*****						0	77	149	45	0	*****
13		Alleria .					0	115	123	41	0	-
14							0	114	124	34	0	
15	-				*****	******	0	116	135	24	0	
16			10000			******	0	121	149	14	0	
17							0	115	164	7	0	-
18	******					******	0	116	154	3	0	
19							0	131	131	10	0	
20							0	135	130	7	0	
21	Tallian.			1			0	128	124	8	0	-
22						*****	0	108	112	1	0	
23	Nortene	******	*****			******	0	75	107	1	0	
24				*****			0	61	109	0	0	
25			*****				0	50	103	0	0	1
26	*****		*****			*****	0	52	94	0	0	- 122
27	-						0	62	85	0	0	
28					******		6	89	71	0	0	
29							20	103	42	0	0	00.00
30		1 2		*****			31	85	44	0	0	
31	Research 1		ANTINA			3444		80		0	0	
Min	0	0	0	0	0	0	0	19	42	0	0	0
Max	0	0	0	0	0	0	31	135	164	67	0	0
Mon Mean	0	0	0	0	0	0	2	77	110	24	0	0
Div Mean	0	0	0	0	0	0	19	77	110	32	0	0
Ac-Ft	0	0	0	0	0.	0	114	4712	6522	1472	0	0

Water Year total – 12820 Ac-Ft, Maximum Discharge 203 CFS at 2100 hrs, 17-June-2007, Monthly Mean is average of all recorded values, Diversion Mean is average of all recorded values above zero, ——indicates no data were collected, Daily Mean Discharge Values below 1 may be reported as 0.



# **OPERATING PRINCIPLES**

# FRYINGPAN-ARKANSAS PROJECT

# ADOPTED BY THE STATE OF COLORADO

APRIL 30, 1959

(As amended December 30, 1959, and December 9, 1960)

MARCH 15, 1961----Ordered to be printed

# U. S. GOVERNMENT PRINTING OFFICE **WASHINGTON: 1961**

H. RES. 91

In the House of Representatives, U. S., March 15, 1961.

Resolved, That there be printed as a House document the publication entitled "Operating Principles, Fryingpan-Arkansas Project, Adopted by the State of Colorado, April 30, 1959 (as amended December 30, 1959, and December 9, 1960)", and that there be printed for the use of the Committee on Interior and Insular Affairs one thousand additional copies.

Attest:

Ralph R. Roberts, Clerk.

# OPERATING PRINCIPLES, FRYINGPAN-ARKANSAS PROJECT

# ADOPTED BY THE STATE OF COLORADO, APRIL 30, 1959

(As Amended December 30, 1959, and December 9, 1960)

The construction and operation of the project involve the diversion of water from the headwaters of the Fryingpan River and other tributaries of the Roaring Fork River to the Arkansas River Basin. The project contemplates—

- (a) The maximum conservation and use of water;
- (b) The protection of western Colorado water uses, both existing and potential, in accordance with the declared policy of the State of Colorado; and
- (c) The preservation of recreational values.

In order to accomplish such purposes, the project shall be operated by the United States in compliance with the Federal reclamation laws, the laws of the State of Colorado relating to the appropriation, use, or distribution of water, and the following operating principles:

- 1. As used herein:
  - (a) "Project" means that certain enterprise planned and designed by the Bureau of Reclamation, Department of the Interior, for the transmountain diversion of water from the headwaters of the Fryingpan River and other tributaries of the Roaring Fork River to the basin of the Arkansas River, together with all of its appurtenant works and facilities in both eastern and western Colorado.
  - (b) "Eastern Colorado" means that portion of the State of Colorado lying within the natural drainage basin of the Arkansas River.
  - (c) "Western Colorado" means that portion of the State of Colorado lying within the natural drainage basin of the Colorado River and served by diversions made from the Colorado River, or its tributaries, above its confluence with the Gunnison River.
  - (d) "Southeastern Colorado Water Conservancy District" means that entity created to contract for payment to the United States of an appropriate portion of project cost allocated to certain water uses in eastern Colorado.
  - (e) "Colorado River Water Conservation District" means that entity created by Colorado Revised Statutes 1953, 149-8, as amended.
  - (f) "Southwestern Water Conservation District" means that entity created by Colorado Revised Statutes 1953, 149-9, as amended.
  - (g) "Ruedi Reservoir" means the reservoir presently planned for construction on the Fryingpan River above the town of Basalt as part of the project.
  - (h) "Ashcroft Reservoir" means not only the reservoir contemplated for construction on Castle Creek, a tributary of the Roaring Fork River, but also, unless the context requires otherwise, any other reservoir that may be constructed in the Roaring Fork basin above the town of Aspen in lieu of that reservoir.
  - (i) "cfs" means cubic feet of water per second of time.

2. The Ruedi Reservoir shall be constructed and maintained on the Fryingpan River above the town of Basalt with an active capacity of not less than 100,000 acrefeet. In addition thereto and in order to offset adverse streamflow conditions on the Roaring Fork River above the town of Aspen which might occur as a result of the project enlargement of the Twin Lakes Reservoir, the Ashcroft Reservoir on Castle Creek, or some reservoir in lieu thereof, shall be constructed on the Roaring Fork drainage above Aspen to a capacity of approximately 5,000 acrefeet: <a href="Providing. However">Providing. However</a>. That the Ashcroft Reservoir shall be constructed only if the Secretary of the Interior after appropriate study shall determine that its benefits exceed the costs: And <a href="providing further">providing further</a>, That no part of the construction, operation, or maintenance of said Ashcroft Reservoir shall be chargeable to the Fryingpan-Arkansas project.

All of such stored water shall be released under the conditions and limitations hereinafter set forth.

- 3. The receipts from the sale of water from Ruedi Reservoir, as permitted in paragraph 6(b) hereof, shall be applied solely to the operation and maintenance costs and to those reimbursable construction costs of said reservoir which exceed \$7,600,000. The cost of perpetual operation and maintenance of the Ruedi Reservoir shall be borne by users of project water and users of water stored in Ruedi Reservoir in such proportion as may be determined by the Secretary of the Interior.
- 4. The inclusion of the Ruedi Reservoir in the project shall not preclude the construction of any other replacement or regulatory reservoirs on the Colorado River or its tributaries above Cameo gaging station.
- 5. The Ruedi Reservoir shall be completed and in operation before any water is diverted to eastern Colorado by means of the project.
- 6. (a) The replacement capacity of Ruedi Reservoir, and any reservoir constructed in addition thereto, is that portion of the total reservoir capacity required to permit project diversions at times when such diversions could not otherwise be made because of simultaneous demands of senior diversions in western Colorado existing at the time of the adoption of these operating principles, and shall be so operated to accomplish this purpose. Water stored in such capacity shall be released by the United States, upon the request of the Colorado State engineer, to the extent that water would have been available to said decreed rights except for stream depletion resulting from diversions by this project to the Arkansas Valley.
  - (b) The regulatory capacity of Ruedi Reservoir, and any reservoir constructed in addition thereto, is that portion of the total reservoir capacity not needed for replacement purposes. Water stored in such category may be sold or leased by the United States to water users in Colorado for any purpose recognized by the laws of the United States: <a href="Provided">Provided</a>, That the sale of water for use outside the natural basin of the Colorado River can only be made with the consent of the Colorado River Water Conservation District. Charges for the use of such water shall be established by the Secretary of

the Interior by appropriate contract in accordance with the payment ability of such water users.

7. The primary purpose of Ruedi Reservoir, and any reservoir constructed in addition thereto, is to furnish, to the extent of its capacity, in like manner as if the project were constructed by a water conservancy district organized pursuant to the laws of the State of Colorado, the water required for the protection of western Colorado water users by the provisions of Colorado Revised Statutes 1953, 149-6-13, reading as follows:

However, any works or facilities planned and designed for the exportation of water from the natural basin of the Colorado River and its tributaries in Colorado, by any district created under this article, shall be subject to the provisions of the Colorado River Compact and the Boulder Canyon Project Act. Any such works or facilities shall be designed, constructed and operated in such a manner that the present appropriations of water, and in addition thereto prospective uses of water for irrigation and other beneficial consumptive use purposes, including consumptive uses for domestic, mining, and industrial purposes, within the natural basin of the Colorado River in the State of Colorado, from which water is exported, will not be impaired nor increased in cost at the expense of the water users within the natural basin. The facilities and other means for the accomplishment of said purpose shall be incorporated in, and made a part of any project plans for the exportation of water from said natural basin in Colorado.

- 8. Project diversions from Lime Creek shall be made only in the months of May and June of each year, unless the Colorado River Water Conservation District shall, by written communication, advise the Colorado State engineer that additional diversions can be made.
- 9 The respective decrees which may be or have been awarded to the parties hereto as a part of the Fryingpan-Arkansas project and Basalt project shall be administered by the proper officials of the State of Colorado, in accordance with the applicable laws of the State of Colorado, and with the following principles and procedures, to wit:
  - (1) That the demand on the waters available under such decrees shall be allocated in the following sequence:
    - (a) For diversion to the Arkansas Valley through the collection system and the facilities of the Fryingpan-Arkansas project in an amount not exceeding an aggregate of 120,000 acre-feet of water in any year, but not to exceed a total aggregate of 2,352,800 acre-feet in any period of 34 consecutive years reckoned in continuing progressive series starting with the first full year of diversions, both limitations herein being exclusive of Roaring Fork exchanges as provided in (c) below, and exclusive of diversions for the Busk-Ivanhoe decree; and with the further and absolute limitation that in order to protect existing and future beneficial uses of water in Western Colorado, including recreational and fishing values, the State engineer shall so regulate the transmountain diversions above referred to, to the end that no diversions shall be made which will reduce the remaining aggregate streamflows to less than either of the following minimum standards:

- (i) The Fryingpan collection system at the points of diversion collectively, exclusive of Lime Creek: 15 cfs October 1 through March 31; 30 cfs April 1 through September 30.
- (ii) Near Norrie (immediately below the junction of North Fork and Fryingpan River): 30 cfs October 1 through March 31; 100 cfs April 1 through April 30; 150 cfs May 1 through May 31; 200 cfs June 1 through June 30; 100 cfs July 1 through July 31; 75 cfs August 1 through August 31; 65 cfs September 1 through September 30.

In maintaining the above minimum standards, the project diversions shall be regulated, so far as is practicable, in such a manner that the North Fork of the Fryingpan River, the Fryingpan River, and each of the tributaries of those streams, shall contribute to the residual streamflows required by those minimum standards quantities of water in proportion to their natural contributions.

- (b) For storage in Ruedi Reservoir to the extent of its actual capacity, which is to be not less than 100,000 acre-feet.
- (c) For 3,000 acre-feet annually, to the extent that it is available in excess of (a) and (b) above, or such part thereof as may be required, to be delivered to the Twin Lakes Reservoir and Canal Company in exchange for equivalent releases from the headwaters of the Roaring Fork River which would otherwise be diverted through such Twin Lakes Reservoir and Canal Company collection and diversion system.
- (d) For any other beneficial use in western Colorado in accordance with court decree, but not herein contemplated.
- (2) The effectuation of the above principles requires concurrent Fryingpan-Arkansas project diversion and Ruedi Reservoir storage to be accomplished in the manner following: The State engineer annually shall collect pertinent data, including information pertaining to snowpack and all other available evidence, and shall thereafter so divide and apportion the surface runoff as to achieve, as nearly as possible, the foregoing division of water and the maximum of concurrent diversions and storage. The diversions herein contemplated shall be on the basis of a water year hereby defined as that interim of October 1 through the following September 30.
- 10. For the protection of recreational values, including fishing, on the Fryingpan River below Ruedi Reservoir, releases of water from said reservoir, not to exceed the stream inflow, shall be made so that the streamflow immediately below the junction of the Fryingpan River and Rocky Fork shall not be reduced below 39 cfs from November 1 to April 30, and 110 cfs from May 1 to October 30, or as actual experience or court decree hereafter dictate.
- 11. An appropriate written contract may be made whereby Twin Lakes Reservoir and Canal Company shall refrain from diverting water whenever the natural flow of the Roaring Fork River and its tributaries shall be only sufficient to maintain a flow equal to or less than that required to maintain the recommended average flows in the Roaring Fork River immediately above its confluence with Difficult

Creek in a quantity proportionate to the respective natural flow of the Roaring Fork River. The recommended average flows above mentioned are flows in quantities equal to those recommended as a minimum immediately above its confluence with Difficult Creek according to the following schedule submitted by the United States Fish and Wildlife Service and the Colorado Game and Fish Commission:

Month	Average Second-feet	Acre-feet (thousands)	Month	Average Second-feet	Acre-feet (thousands)
October	44	2.7	May	100	6.2
November	35	2.1	June	120	7.1
December	29	1.8	July	100	6.2
January	26	1.6	August	63	3.9
February	25	1.4	September	44	<u>2.6</u>
March	24	1.5			
April	64	3.8	Total		40.9

In maintaining the above averages, at no time shall the flow be reduced below 15 cfs during the months of August to April, inclusive, or below 60 cfs during the months of May to July, inclusive, providing the natural flow during said period is not less than these amounts. The obligation to supply the minimum streamflow as set forth in the above table on the Roaring Fork River shall, to the extent of 3,000 acre-feet annually, be a project obligation to be supplied from any waters diverted from the south tributaries of Hunter Creek, Lime Creek, Last Chance Creek, or any of them.

The Twin Lakes Reservoir and Canal Company shall not be required to refrain from diverting water under its existing decrees from the Roaring Fork River except to the extent that a like quantity of replacement water is furnished to said company without charge therefore through and by means of project diversions and storage.

If by reason of storage capacity in the Ruedi Reservoir, or any reservoir constructed in addition thereto, the Twin Lakes Reservoir and Canal Company derives additional water or other benefits or advantages it would not have realized had this project not been constructed, then nothing herein contained shall prevent the project from making appropriate charges for such water or other benefits or advantages. All revenues derived from the use of water stored in Ashcroft Reservoir shall be used to assist in the repayment of the construction, operation, and maintenance costs of that reservoir, or any reservoir constructed in lieu thereof, as may be determined by the Secretary of the Interior.

- 12. All lands acquired and held for project construction and operation and water surfaces of project reservoirs will be open to the public for recreational purposes, excepting those areas reserved by the operating agency.
- 13. The project will be operated in such a manner that those in eastern Colorado using project water imported from the Colorado River Basin for domestic purposes shall have preference over those claiming or using water for any other purpose.

- 14. The project is to be operated in such a manner as to secure the greatest benefit from the use and reuse of imported project waters within project boundaries in the State of Colorado
- 15. Any and all benefits and rights of western Colorado water users in and to water stored in Green Mountain Reservoir, as described and defined in Senate Document 80, 75 th Congress, 1 st session, shall not be impaired or diminished by this project.
- 16. The project, its operation, maintenance, and use shall be subject to the provisions of the Upper Colorado River Basin Compact of October 11, 1948 (Public Law 37, 81 st Congress, 1 st session), and the Colorado River Compact of November 24, 1922 (House Document 605, 67 th Congress, 4th session).
- 17. The Colorado River Water Conservation District of the State of Colorado shall acquire title to storage of water in Ruedi Reservoir and any reservoir constructed in addition thereto, by appropriate proceedings in the courts of the State of Colorado. The Southeastern Colorado Water Conservancy District of the State of Colorado shall likewise acquire title to the water required by the project for diversion to the Arkansas Valley. The Secretary of the Interior shall at any time after the authorization of the project have the option to obtain or require the transfer to the United States of any and all rights initiated or acquired by appropriation as herein set forth: Provided, however. That the rights so taken shall be subject to a beneficial use of such water as may be provided in the repayment contract or contracts, and subject to all the operating principles herein set forth.
- 18. No transmountain diversion of water shall ever be made through the collection and diversion system of the Fryingpan-Arkansas Project in excess of the quantitative limitations and conditions established by this document: <a href="Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Provided\_Prov
- 19. To assure project operation in conformity with the operating principle heretofore stated, to provide a means for the collection and interchange of information, and to provide a method for the continued study of project operations to the end that, if the stated operating principles may be improved upon, recommendations for changes may be made to the contracting parties, a commission shall be created in an appropriate manner to be composed of one representative of the Southeastern Colorado Water Conservancy District, one representative of the Colorado River Water Conservation District, two representatives of the United States, and one representative of the State of Colorado appointed by the Colorado Water Conservation Board after

consultation with the Colorado Game and Fish Commission. The powers of such commission shall be limited to the collection of data, the making of findings of fact, and the suggestion of changes in operating principles.

These operating principles shall be deemed to have amended and take the place of those operating principles signed and executed on April 30, 1959. These operating principles shall be and do constitute a contract between the signatory parties, and shall inure to the benefit of and shall be and remain binding upon said parties, their respective successors and assigns.

Executed as amended at Denver, Colorado, this 9<sup>th</sup> day of December 1960.

# COLORADO WATER CONSERVATION BOARD

Steve McNichols, Chairman; Governor, State of Colorado

Attest:

Felix L. Sparks,
Director and Secretary

SOUTHEASTERN COLORADO WATER CONSERVANCY

**DISTRICT** 

By J. Selby Young, President

Attest:

J. G. Shoun, Secretary

COLORADO RIVER WATER CONSERVATION DISTRICT

By A. Allen Brown, President

Attest:

Philip P. Smith, Secretary

SOUTHWESTERN WATER CONSERVATION DISTRICT

By Ira E. Kelly, President

Attest:

Archie B. Toner, Secretary