

GILA RIVER BASIN, ARIZONA

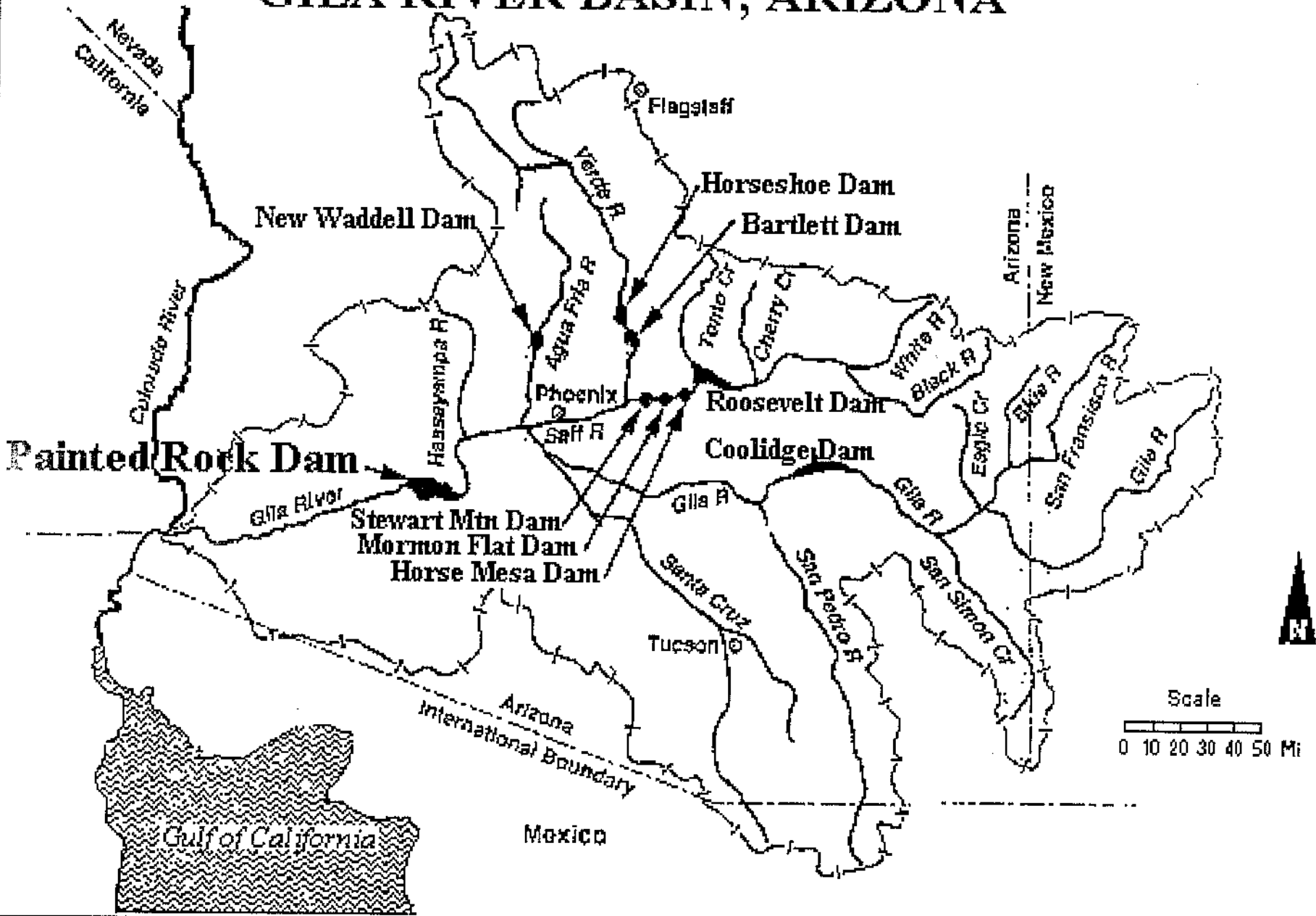


Figure 2-1

Painted Rock Dam and Reservoir
Maricopa County, Arizona
PERTINENT DATA
APRIL 1993

Stream System		Gila River
Drainage Area	sq. mi.	50,800
Reservoir:		
Elevation		
Streambed	ft., msl	524
Debris Pool	ft., msl	550
Flood Control Pool (Spillway Crest)	ft., msl	661
Spillway Design Surcharge level	ft., msl	696.3
Top of Dam	ft., msl	705
Area*		
Debris Pool	acres	620
Flood Control Pool (Spillway Crest)	acres	53,200
Spillway Design Surcharge Level	acres	81,500
Top of Dam	acres	89,600
Capacity*		
Debris Pool	ac-ft	3,515 (0.00**)
Flood Control Pool (spillway crest)	ac-ft	2,476,339 (.91**)
Spillway Design Surcharge Level	ac-ft	4,816,544 (1.79**)
Top of Dam	ac-ft	5,561,470 (2.05**)
Allowance for Sediment (50-yr)	ac-ft	200,000 (0.07**)
Dam: - Type		Earthfill
Height Above Original Streambed	ft	181
Top of Length (excluding saddle dike and spillway)	ft	4,780
Top Width	ft	20
Freeboard	ft	8.7
Spillway: - Type		Ungated, Broad-crested
Crest Length	ft	610
Design Surcharge	ft	35.3
Design Discharge	cfs	401,700
Outlets:		
Gates - type		Tainter
Number and Size		3 - 10'W X 18'H
Gate and Sill Elevation	ft., msl	530
Conduits		
Number and Size - Inside Diameter	ft	1 - 25
Length	ft	925
Maximum Capacity at Spillway Crest	cfs	30,480
Regulated Capacity at Spillway Crest	cfs	23,000
Reservoir Design Flood:		
Duration (Inflow)	days	18
Total Volume	ac-ft	2,800,000 (1.03**)
Inflow Peak	cfs	300,000
Spillway Design Flood		
Duration (Inflow)	days	18
Total Volume	ac-ft	7,680,000 (2.83**)
Inflow Peak	cfs	620,000
Historic Maximums		
Maximum Release	cfs	26,000
Date		2/27/93
Maximum Water Surface Elevation	ft., msl	667.00
Date		2/27/93

* Based on October 1985 survey

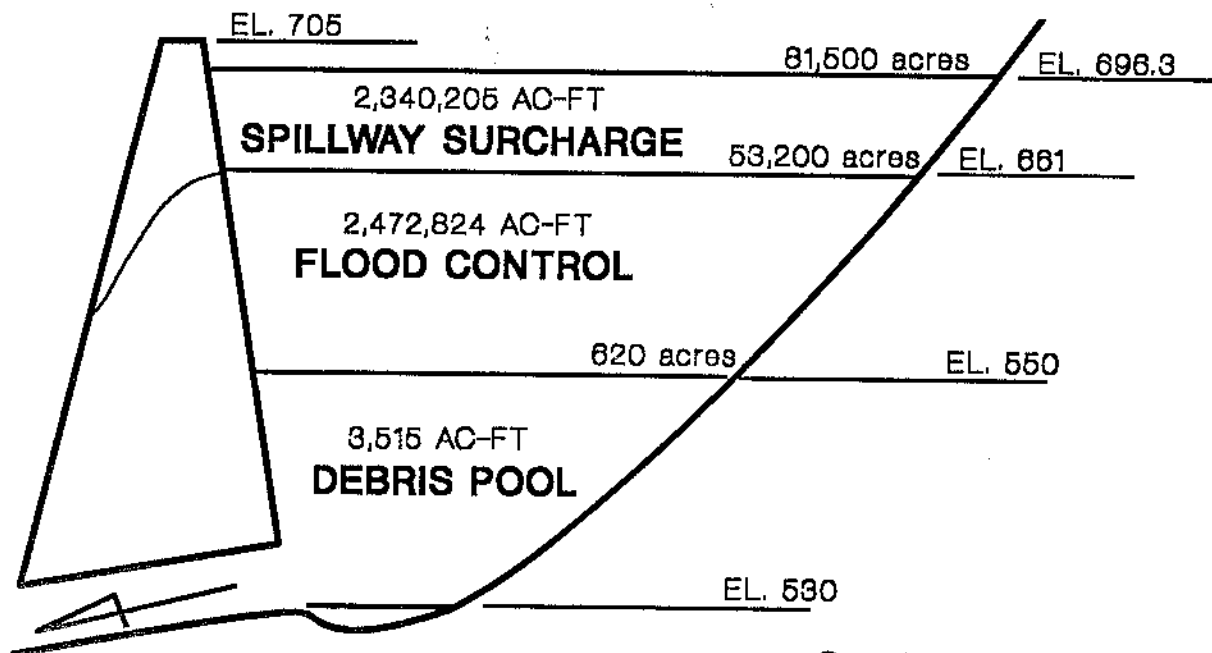
**Inches of runoff

Figure 2-2

PAINTED ROCK RESERVOIR

GILA RIVER BASIN, ARIZONA

REVISED: April 1993



October 1985 Survey

Figure 2-3

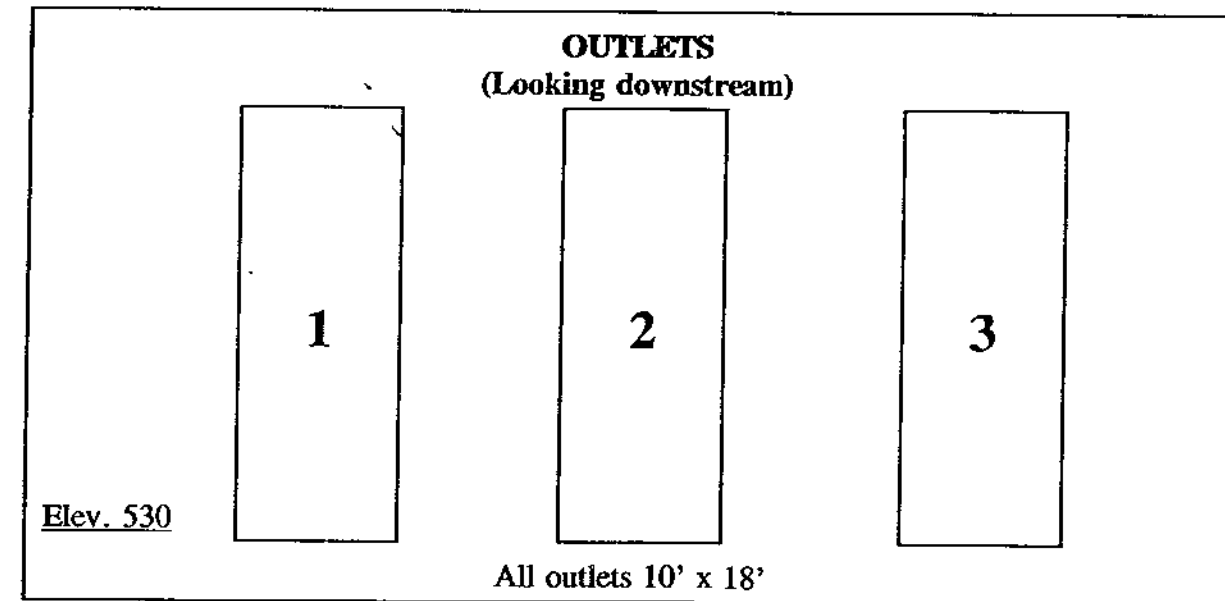
PLAN A - OUTLET GATE OPERATION SCHEDULE *
PAINTED ROCK DAM and RESERVOIR, GILA RIVER BASIN

Step No.	When reservoir water surface is between elevation	Gate setting for gates indicated**			Computed Discharge
		No. 1	No. 2	No. 3	
1	***530 - 550	0.0	0.0	0.0	0
2	550 - 554	2.7	2.7	2.7	2,350 - 2,600
3	554 - 558	2.5	2.5	2.5	2,430 - 2,650
4	558 - 563	2.2	2.2	2.2	2,360 - 2,575
5	563 - 568	2.1	2.1	2.1	2,470 - 2,660
6	568 - 577	1.8	1.8	1.8	2,300 - 2,570
7	577 - 583	1.7	1.7	1.7	2,440 - 2,600
8	583 - 589	1.6	1.6	1.6	2,450 - 2,600
9	589 - 591	1.5	1.5	1.5	2,440 - 2,480
10	591 - 602	3.0	3.0	3.0	4,710 - 5,140
11	602 - 603	2.9	2.9	2.9	4,980 - 5,015
12	603 - 614	6.0	6.0	6.0	9,665 - 10,415
13	614 - 618	5.8	5.8	5.8	9,960 - 10,215
14	618 - 626	11.9	11.9	11.9	19,530 - 20,490
15	626 - 635	11.3	11.3	11.3	19,550 - 20,530
16	635 - 640	10.8	10.8	10.8	19,690 - 20,200
17	640 - 648	11.9	11.9	11.9	22,090 - 22,950
18	648 - 657	11.4	11.4	11.4	22,060 - 22,950
19	****657 - 661.6	10.5	10.5	10.5	21,250 - 23,000
20	661.6 - 662.4	9.5	9.5	9.5	21,130 - 23,000
21	662.4 - 663.0	8.8	8.8	8.8	21,650 - 23,040
22	663.0 - 663.5	7.7	7.7	7.7	20,885 - 23,040
23	663.5 - 664.1	6.4	6.4	6.4	20,490 - 23,070
24	664.1 - 664.5	5.5	5.5	5.5	21,320 - 23,040
25	664.5 - 664.9	4.6	4.6	4.6	21,260 - 22,980
26	664.9 - 665.2	3.8	3.8	3.8	21,350 - 23,040
27	665.2 - 665.6	2.6	2.6	2.6	20,480 - 22,990
28	665.6 - 665.9	1.8	1.8	1.8	21,170 - 23,050
29	665.9 - 666.2	1.0	1.0	1.0	21,150 - 23,025
30	666.2 - 666.5	0.2	0.2	0.2	21,020 - 22,890
31	666.6 & above	0.0	0.0	0.0	spillway flow only

* Schedule applicable for rising or falling stages
 ** Gate openings were determined from the revised gate rating curve (dated JUNE 1982).
 *** Gates may be 1/2 ft open between elevations 530 - 535 ft to pass low flows
 **** Spillway crest elevation 661 ft. Computed discharge above this elevation includes spillway flow.

INSTRUCTIONS

1. **Communications with the District Office, existing.**
 - a. Notify the Reservoir Operations Center when a gate change will be required according to the schedule.
 - b. Notify the Reservoir Operations Center if unable to set gates as instructed.
2. **Communications with the District Office, interrupted.**
 - a. Follow the gate operation schedule.
 - b. If one or more of the gates cannot be operated, adjust the gates that are functioning so that the sum of the gate openings will equal the sum of the openings in the schedule.



NOTE: REVISION BASED ON JUNE 1982 GATE RATING CURVE.

REVISED APRIL 1993

Figure 2-4a

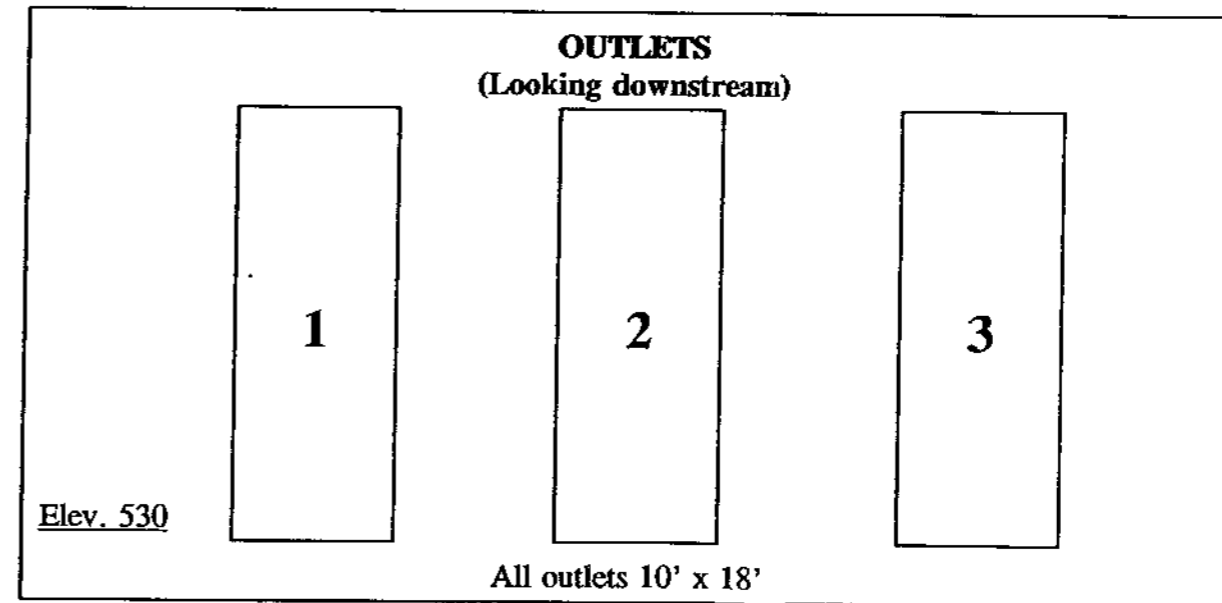
PLAN B - OUTLET GATE OPERATION SCHEDULE *
PAINTED ROCK DAM and RESERVOIR, GILA RIVER BASIN

Step No.	When reservoir water surface is between elevation	Gate setting for gates indicated **			Computed discharge
		No. 1	No. 2	No. 3	
1	***530 - 550	0.0	0.0	0.0	0
2	550 - 554	4.4	4.4	4.4	3,530 - 3,935
3	554 - 558	5.4	5.4	5.4	4,640 - 5,090
4	558 - 562	6.2	6.2	6.2	5,700 - 6,180
5	562 - 566	7.1	7.1	7.1	6,910 - 7,420
6	566 - 570	7.9	7.9	7.9	8,140 - 8,670
7	570 - 574	8.7	8.7	8.7	9,415 - 9,965
8	574 - 578	9.6	9.6	9.6	10,830 - 11,410
9	578 - 582	10.4	10.4	10.4	12,210 - 12,800
10	582 - 586	11.2	11.2	11.2	13,650 - 14,260
11	586 - 590	12.0	12.0	12.0	15,145 - 15,800
12	590 - 594	12.7	12.7	12.7	16,625 - 17,260
13	594 - 598	13.5	13.5	13.5	18,270 - 18,950
14	598 - 602	14.1	14.1	14.1	19,780 - 20,470
15	602 - 611	14.8	14.8	14.8	21,510 - 23,060
16	611 - 617	14.2	14.2	14.2	22,090 - 23,010
17	617 - 624	13.6	13.6	13.6	22,020 - 23,000
18	624 - 631.5	13.0	13.0	13.0	21,995 - 22,960
19	631.5 - 640	12.4	12.4	12.4	21,960 - 22,955
20	640 - 649.5	11.8	11.8	11.8	21,920 - 22,930
21	649.5 - 657	11.3	11.3	11.3	22,030 - 22,760
22	****657 - 661.6	10.5	10.5	10.5	21,250 - 23,000
23	661.6 - 662.4	9.5	9.5	9.5	21,130 - 23,000
24	662.4 - 663.0	8.8	8.8	8.8	21,650 - 23,040
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33	666.2 - 666.5	0.2	0.2	0.2	21,020 - 22,890
34	666.5 & above	0.0	0.0	0.0	Spillway flow only

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REVISED APRIL 1993

Figure 2-4b

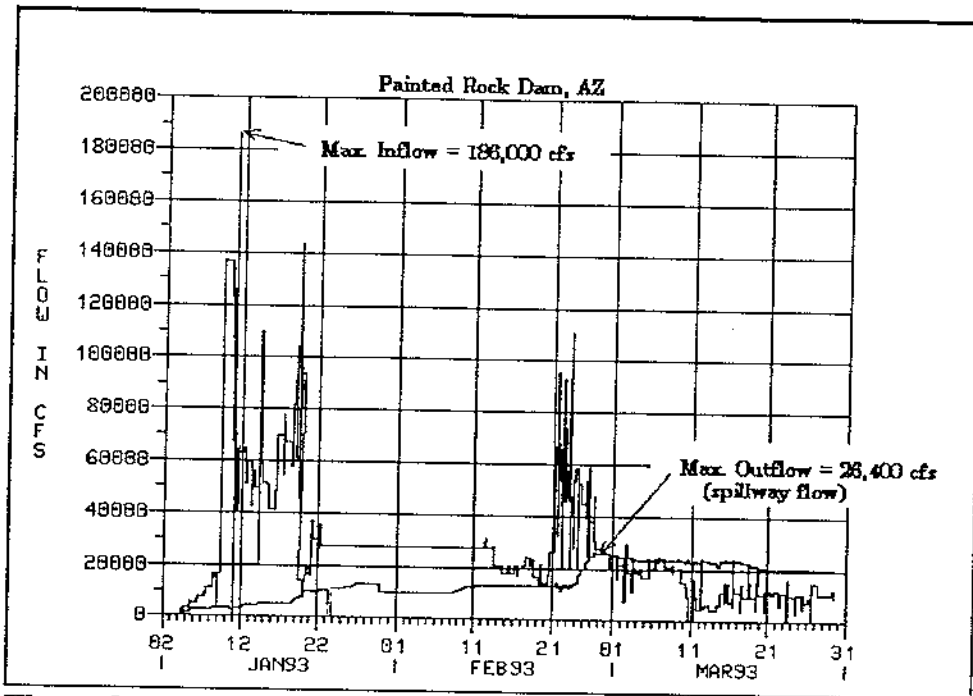


Figure 2-5. 1 Jan - 15 Mar 1993 Inflow-Outflow Hydrograph at Painted Rock Dam.

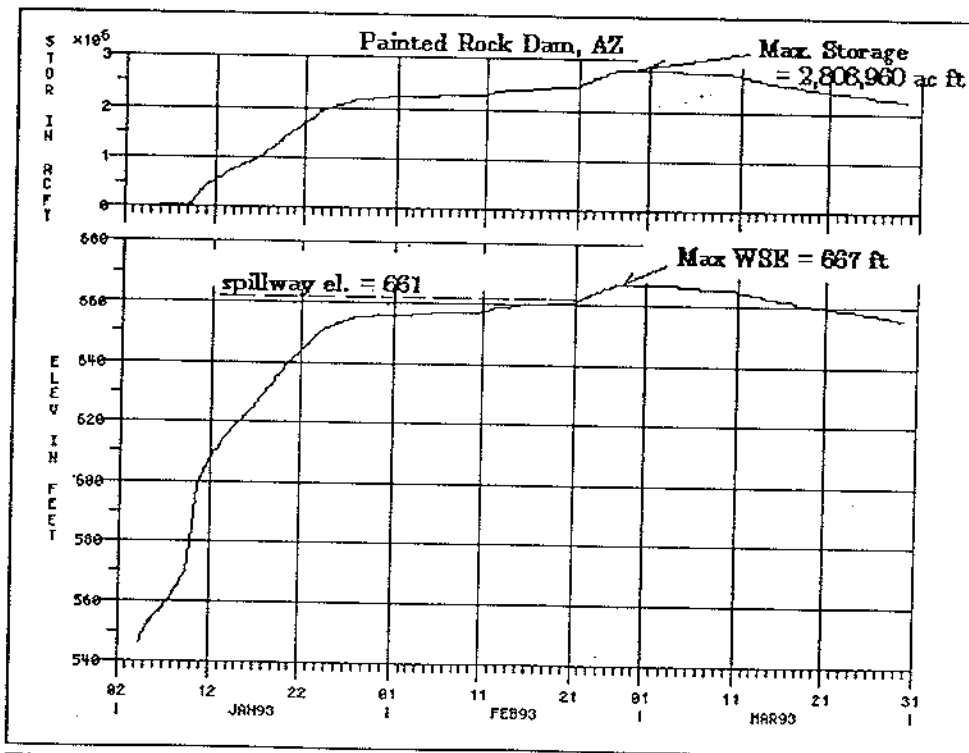


Figure 2-6. 1 Jan - 15 Mar 1993 WSE and Storage at Painted Rock Dam.