Table 1

Pertinent data for existing dams that influence the regulation of major floods at Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.

Dam	Reservoir	River	Drainage area*	Usable storage space below spillway crest	Purpose
			Square miles	Acre-feet	
Coolidge	San Carlos	Gila	12,886	1,205,000	Irrigation & power
Lake Pleasant	Lake Pleasant	Agua Fria	1,460	163,800	Irrigation
Roosevelt	Roosevelt Lake	Salt	5,830	1,382,000	Irrigation & power
Horse Mesa	Apache Lake	....do	5,940	245,000	Do.
Mormon Flat	Canyon Lake	....do	6,100	58,000	Do.
Stewart Mountain.	Saguaro Lake	....do	6,211	70,000	Do.
Horseshoe	Horseshoe	Verde	5,991	142,800	Irrigation
Bartlett	Bartlett	....do	6,185	179,500	Do.

* Excluding all closed drainages.

Table 2

Summary of climatological data at Gila Bend, Ariz., Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Month	Temperature			Precipitation		
	Mean monthly	Record highest	Record lowest	Mean monthly	Maximum monthly	Minimum monthly
	Degrees Fahrenheit	Degrees Fahrenheit	Degrees Fahrenheit	Inches	Inches	Inches
Jan.	53.0	90	11	0.62	3.32	0
Feb.	56.7	95	23	.44	2.87	0
Mar.	62.6	101	27	.61	3.74	0
Apr.	69.5	108	30	.21	2.29	0
May	77.5	116	39	.10	1.50	0
Jun.	86.9	121	42	.06	1.01	0
Jul.	93.0	123	47	.80	3.36	0
Aug.	91.4	118	55	.99	5.60	0
Sep.	85.8	120	37	.42	3.29	0
Oct.	74.1	109	35	.36	2.36	0
Nov.	61.6	99	22	.42	3.84	0
Dec.	53.8	95	15	.64	2.92	0
Period of record	72.2	123	11	**5.67	5.60	0

* Latitude 32° 57' N.; longitude 112° 43' W.; elevation 737 ft. above mean sea level (see pl. 4).

** Mean seasonal.

Note.--Period of record for temperature values is as follows: Mean 62 years (1897-1958); maximum 46 years (1913-58); minimum 45 years (1914-58). Period of record for precipitation values 71 years (1888-1958). No snowfall reported during 18-year period (1941-58). Previous to that period no observations for snowfall were made.

Table 3

Summary of climatological data at Payson, Ariz., Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Month	Temperature			Precipitation			Snowfall		
	Mean monthly	Record highest	Record lowest	Mean monthly	Maximum monthly	Minimum monthly	Mean monthly	Maximum monthly	Minimum monthly
	Degrees Fahrenheit	Degrees Fahrenheit	Degrees Fahrenheit	Inches	Inches	Inches	Inches	Inches	Inches
Jan.	34.9	78	-18	2.41	7.85	T	7.0	37.3	0
Feb.	38.7	81	-18	2.30	7.85	T	5.9	40.0	0
Mar.	43.3	84	1	2.02	6.65	0	3.3	13.0	0
Apr.	48.7	88	16	1.09	5.90	0	1.0	11.0	0
May	57.1	97	19	.40	1.91	0	.2	4.0	0
Jun.	65.8	103	25	.50	2.67	0	0	T	0
Jul.	72.9	107	33	2.56	6.33	.45	0	0	0
Aug.	71.5	102	37	3.09	9.38	.39	0	T	0
Sep.	63.9	101	27	1.94	5.78	0	0	T	0
Oct.	54.2	93	12	1.46	4.80	0	T	1.0	0
Nov.	39.7	85	-6	1.50	6.95	0	1.7	20.0	0
Dec.	37.3	84	-12	2.09	8.43	0	4.4	26.0	0
Period of record	52.3	107	-18	**21.36	9.38	0	**23.5	40.0	0

* Latitude 34° 14' N.; longitude 111° 20' W.; elevation 4,848 ft. above mean sea level (see pl.4).
** Mean seasonal.

Note.--Period of record for temperature values 41 years (1918-58). Period of record for precipitation values 56 years (1903-58). Period of record for mean snow values 47 years (1912-58). Period of record for maximum and minimum snowfall values 50 years (1909-58). "T" represents trace.

Table 4

Summary of climatological data at Flagstaff, Ariz. (Municipal Airport), Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Month	Temperature			Precipitation			Snowfall		
	Mean monthly	Record highest	Record lowest	Mean monthly	Maximum monthly	Minimum monthly	Mean monthly	Maximum monthly	Minimum monthly
	Degrees Fahrenheit	Degrees Fahrenheit	Degrees Fahrenheit	Inches	Inches	Inches	Inches	Inches	Inches
Jan.	25.3	61	-15	1.69	6.46	0.22	18.9	44.3	2.2
Feb.	28.8	65	-16	1.74	3.63	.38	13.0	33.5	T
Mar.	34.4	70	-9	1.57	3.90	.08	13.8	44.4	1.0
Apr.	42.1	75	7	1.26	1.74	.28	5.0	14.8	T
May	50.0	87	16	.53	2.02	T	1.6	7.1	0
Jun.	58.3	94	22	.53	2.92	T	T	T	0
Jul.	65.2	92	32	2.49	4.47	.75	0	0	0
Aug.	63.4	89	35	2.60	5.50	1.42	0	0	0
Sep.	57.0	90	23	1.85	6.60	T	0	0	0
Oct.	46.1	83	13	1.46	3.66	T	.8	3.9	0
Nov.	35.8	71	-13	.89	4.24	.05	7.5	25.0	T
Dec.	28.4	68	-11	1.86	5.45	T	7.3	16.4	T
Period of record	44.6	94	-16	**18.47	6.60	T	**67.9	44.4	0

* Latitude 35° 08' N.; longitude 111° 40' W.; elevation 6,993 ft. above mean sea level (see pl. 4).
** Mean seasonal.

Note.--Period of record for maximum and minimum temperature and precipitation values 10 years (1950-59). Period of record for mean temperature and precipitation values 30 years (1921-50). Period of record for all snowfall values 10 years (1950-59). "T" represents trace.

Table 5

Summary of climatological data at Phoenix, Ariz. (Sky Harbor Airport), Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Month	Temperature			Precipitation		
	Mean monthly	Record highest	Record lowest	Mean monthly	Maximum monthly	Minimum monthly
	Degrees Fahrenheit	Degrees Fahrenheit	Degrees Fahrenheit	Inches	Inches	Inches
Jan.	49.7	85	17	0.60	2.14	0
Feb.	54.3	88	22	.79	2.23	.06
Mar.	59.9	92	29	.66	4.16	0
Apr.	67.1	104	32	.35	2.10	T
May	75.5	113	42	.17	.94	0
Jun.	83.9	117	50	.06	.95	0
Jul.	90.1	118	61	.70	4.19	T
Aug.	88.3	115	60	.99	5.56	.07
Sep.	82.7	118	49	1.00	4.23	0
Oct.	70.8	104	36	.40	2.66	0
Nov.	58.4	91	25	.47	3.04	0
Dec.	52.1	88	22	.97	3.94	0
Period of record	69.4	118	17	**7.16	5.56	0

* Latitude 33° 26' N.; longitude 112° 01' W.; elevation 1,109 ft. above mean sea level (see pl. 4).

** Mean seasonal.

Note.--Period of record for maximum and minimum temperature and precipitation values 21 years (1938-58). Period of record for mean temperature and precipitation values 30 years (1921-50). "T" represents trace. Maximum monthly snowfall reported during 21-year record (1938-58) was 0.6 inch.

Table 6

Summary of climatological data at Tucson, Ariz. (Municipal Airport), Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Month	Temperature			Precipitation			Snowfall		
	Mean monthly	Record highest	Record lowest	Mean monthly	Maximum monthly	Minimum monthly	Mean monthly	Maximum monthly	Minimum monthly
	Degrees Fahrenheit	Degrees Fahrenheit	Degrees Fahrenheit	Inches	Inches	Inches	Inches	Inches	Inches
Jan.	49.7	87	16	0.63	2.37	T	0.4	4.7	0
Feb.	53.2	92	20	.92	2.27	0.02	.1	1.1	0
Mar.	57.9	92	26	.68	2.26	0	.2	3.4	0
Apr.	65.0	102	27	.32	1.66	0	.1	1.0	0
May	73.1	107	38	.21	.89	0	0	0	0
Jun.	82.1	111	47	.30	1.46	0	0	0	0
Jul.	86.2	111	63	1.80	5.20	.27	0	0	0
Aug.	83.8	109	61	2.15	7.93	.46	0	0	0
Sep.	80.1	107	48	1.48	3.59	0	0	0	0
Oct.	69.6	101	35	.47	2.62	0	T	T	0
Nov.	58.2	90	24	.76	1.90	0	.3	6.4	0
Dec.	52.0	84	18	.94	2.01	0	.1	1.4	0
Period of record	67.6	111	16	**10.66	7.93	0	**1.2	6.4	0

* Latitude 32° 07' N.; longitude 110° 56' W.; elevation 2,584 ft. above mean sea level (see pl. 4).
** Mean seasonal.

Note.--Period of record for maximum and minimum temperature and precipitation values 19 years (1941-59). Period of record for mean temperatures and precipitation values 30 years (1921-50). Period of record for all snowfall values 19 years (1941-59). "T" represents trace.

Table 7

Summary of climatological data at Prescott, Ariz. (Municipal Airport), Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Month	Temperature			Precipitation			Snowfall		
	Mean monthly	Record highest	Record lowest	Mean monthly	Maximum monthly	Minimum monthly	Mean monthly	Maximum monthly	Minimum monthly
	Degrees Fahrenheit	Degrees Fahrenheit	Degrees Fahrenheit	Inches	Inches	Inches	Inches	Inches	Inches
Jan.	35.3	71	-5	1.10	3.06	0.04	6.7	35.5	0
Feb.	39.4	76	-3	1.33	2.15	.03	3.3	14.5	0
Mar.	44.8	78	8	.98	2.57	0	3.8	18.8	0
Apr.	52.9	87	18	.80	2.07	.04	.5	3.1	0
May	60.9	97	28	.30	1.24	T	T	T	0
Jun.	70.1	102	34	.23	1.87	0	0	0	0
Jul.	76.0	103	48	2.71	9.61	.71	0	0	0
Aug.	73.9	101	45	3.70	5.53	.12	0	0	0
Sep.	68.2	101	37	2.16	3.06	T	0	0	0
Oct.	57.0	91	21	.68	1.99	0	.1	1.5	0
Nov.	45.6	79	9	.62	1.87	0	1.3	7.8	0
Dec.	37.8	73	0	1.37	2.41	T	1.6	5.1	0
Period of record	55.2	103	-5	**15.98	9.61	0	**17.3	35.5	0

* Latitude 34° 39' N.; longitude 112° 26' W.; elevation 5,014 ft. above mean sea level (see pl. 4).
** Mean seasonal.

Note.--Period of record for maximum and minimum temperature and precipitation values 17 years (1943-59). Period of record for mean temperature and precipitation values 30 years (1921-50). Period of record for all snowfall values 17 years (1943-59). "T" represents trace.

Table 8

Summary of climatological data at Yuma, Ariz. (Yuma County Airport), Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Month	Temperature			Precipitation		
	Mean monthly	Record highest	Record lowest	Mean monthly	Maximum monthly	Minimum monthly
	Degrees Fahrenheit	Degrees Fahrenheit	Degrees Fahrenheit	Inches	Inches	Inches
Jan.	55.3	86	30	0.33	1.29	T
Feb.	60.1	94	28	.29	1.82	T
Mar.	65.7	95	32	.26	.62	0
Apr.	72.8	107	42	.10	.40	0
May	80.4	115	49	.02	.05	0
Jun.	87.8	120	54	.01	T	0
Jul.	94.6	119	63	.23	1.07	T
Aug.	93.7	117	64	.50	1.31	0
Sep.	88.3	115	58	.64	.02	0
Oct.	76.4	109	44	.32	2.68	0
Nov.	64.2	94	30	.14	.37	0
Dec.	57.1	86	28	.55	1.07	0
Period of record	74.7	120	28	**3.39	2.68	0

* Latitude 32° 40' N.; longitude 114° 36' W.; elevation 199 ft. above mean sea level (see pl. 4).

** Mean seasonal.

Note.--Period of record for maximum and minimum temperature and precipitation values 9 years (1951-59). Period of record for mean temperature and precipitation values 30 years (1921-50). "T" represents trace. No snowfall reported during 9-year period (1951-59).

Table 9

Summary of climatological data at Clifton, Ariz., Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Month	Temperature			Precipitation			Snowfall		
	Mean monthly	Record highest	Record lowest	Mean monthly	Maximum monthly	Minimum monthly	Mean monthly	Maximum monthly	Minimum monthly
	Degrees Fahrenheit	Degrees Fahrenheit	Degrees Fahrenheit	Inches	Inches	Inches	Inches	Inches	Inches
Jan.	45.0	79	10	0.94	3.77	0	1.0	20.0	0
Feb.	50.8	84	16	1.00	6.22	0	.2	4.0	0
Mar.	56.6	92	26	.82	6.07	0	T	T	0
Apr.	64.1	99	26	.40	2.35	0	T	T	0
May.	72.6	107	39	.33	1.80	0	0	0	0
Jun.	81.9	113	49	.44	2.60	0	0	0	0
Jul.	84.3	114	42	2.16	5.78	.34	0	0	0
Aug.	82.8	113	54	2.40	6.20	.29	0	0	0
Sep.	78.3	110	45	1.60	5.36	T	0	0	0
Oct.	67.9	102	34	.95	4.30	0	0	0	0
Nov.	54.2	94	22	.59	2.87	0	T	T	0
Dec.	45.8	78	18	.99	5.95	0	T	.5	0
Period of record	65.4	114	10	**12.62	6.22	0	**1.2	20	0

* Latitude 33° 03' N.; longitude 109° 17' W.; elevation 3,465 ft. above mean sea level (see pl. 4).
** Mean seasonal.

Note.--Period of record for temperature values 50 years (1909-58). Period of record for precipitation values 68 years (1891-1958). Period of record for snowfall values 20 years (1940-59). "T" represents trace.

Table 10

Runoff data, Gila River below Gillespie Dam, Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Season**	Maximum peak discharge	Maximum gage height	Date	Maximum mean daily discharge	Date
	Cubic feet per second	Feet		Cubic feet per second	
1920-21	26,800	.....	22 Aug	(#)	.....
1921-22	32,700	.....	4 Jan	(#)	.....
1922-23	13,100	.....	20 Sep	(#)	.....
1923-24	85,000	16.00	28 Dec	(#)	.....
1924-25	15,200	2.30	20 Sep	12,500	20 Sep
1925-26	38,300	3.95	30 Sep	25,200	8 Apr
1926-27	67,300	5.45	18 Feb	60,000	18 Feb
1927-28	9,220	1.70	6 Feb	7,270	6 Feb
1928-29	20,700	2.74	6 Apr	15,900	6 Apr
1929-30	13,900	2.19	10 Aug	11,100	10 Aug
1930-31	17,500	2.50	16 Feb	16,500	16 Feb
1931-32	44,500	4.47	11 Feb	32,400	12 Feb
1932-33	2,180	.70	9 Oct	820	22 Jan
1933-34	3,100	.88	30 Aug	1,810	30 Aug
1934-35	7,470	.....	10 Feb	6,280	10 Feb
1935-36	3,240	.90	29 Jul	2,390	29 Jul
1936-37	45,800	3.48	9 Feb	24,500	9 Feb
1937-38	60,000	4.95	5 Mar	35,800	5 Mar
1938-39	3,240	.97	13 Sep	2,720	13 Sep
1939-40	2,620	.87	19 Aug	1,540	19 Aug
1940-41	45,800	4.45	16 Mar	29,900	17 Mar
1941-42	580	.30	13 Dec	530	14 Dec
1942-43	2,200	.75	5 Aug	1,640	5 Aug
1943-44	580	.29	25 Feb	380	12 Aug
1944-45	1,350	.53	14 Aug	1,050	14 Aug
1945-46	4,290	1.26	19 Sep	2,530	23 Sep
1946-47	4,390	1.23	9 Aug	1,880	9 Aug
1947-48	330	.23	9 Aug	158	7 Aug
1948-49	976	.42	7 Aug	665	19 Sep
1949-50	1,460	.56	19 Oct	655	19 Oct
1950-51	16,600	2.55	28 Aug	10,900	28 Aug
1951-52	430	5.23	22 Jan	372	22 Jan
1952-53	1,000	.....	2 Aug	78	20 Nov
1953-54	1,760	5.64	12 Aug	1,490	12 Aug
1954-55	3,660	.....	28 Aug	3,140	27 Aug
1955-56	0	.....	.....	0	.....
1956-57	959	.....	13 Jan	65	13 Jan
1957-58	976	10.48	13 Sep	474	13 Sep
1958-59	480	10.22	17 Aug	430	17 Aug
1959-60	640	10.31	19 Jan	580	19 Jan
1960-61	380	10.21	23 Jul	82	23 Jul

* Data from U. S. Geological Survey Water Supply Paper. Gaging station located at left end of Gillespie Dam, 8 miles downstream from Hassayampa River (See pl. 4 for location). Drainage area 49,620 sq. miles.

** 1 October-30 September, inclusive.

\# Records unreliable

Table 11

Runoff data, Gila River near Dome, Ariz., Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Season**	Maximum peak discharge	Maximum gage height	Date	Maximum mean daily discharge	Date
	Cubic feet per second	Feet		Cubic feet per second	
1928-29	1,500	.....	9 Aug	530	10 Sep
1929-30	3,600	10.50	14 Aug	2,340	14 Aug
1930-31	11,400	13.78	19 Feb	10,200	19 Feb
1931-32	20,700	16.75	15 Feb	16,800	15 Feb
1932-33	770	3.90	10 Oct	338	10 Oct
1933-34	220	3.44	5 Aug	82	5 Aug
1934-35	757	5.35	16 Feb	651	16 Feb
1935-36	0	.....	.....	0	.....
1936-37	8,530	12.68	24 Mar	8,110	24 Mar
1937-38	8,670	12.92	10 Mar	7,920	10 Mar
1938-39	905	7.47	13 Sep	632	13 Sep
1939-40	0	.....	.....	0	.....
1940-41	14,000	13.93	22 Apr	13,500	22 Apr
1941-42	0	.....	.....	0	.....
1942-43	0	.....	.....	0	.....
1943-44	0	.....	.....	0	.....
1944-45	0	.....	.....	0	.....
1945-46	0	.....	.....	0	.....
1946-47	380	5.25	9 Aug	119	9 Aug
1947-48	0	.....	.....	0	.....
1948-49	0	.....	.....	0	.....
1949-50	0	.....	.....	0	.....
1950-51	1,100	7.94	7 Sep	1,080	7 Sep
1951-52	293	5.24	30 Oct	91	30 Oct
1952-53	47	4.36	17 Sep	32	23 Aug
1953-54	56	4.33	3 Sep	33	22 Mar
1954-55	1,070	9.62	17 Aug	581	5 Sep
1955-56	86	4.99	12 Oct	32	3 Oct
1956-57	66	4.70	29 Aug	32	29 Aug
1957-58	719	8.63	31 Jul	217	31 Jul
1958-59	802	9.45	8 Aug	590	8 Aug
1959-60	2,130	12.12	1 Sep	675	1 Sep
1960-61	168	5.93	3 Aug	113	13 Jan

* Data from U. S. Geological Survey Water Supply Paper. Gaging station located on right bank, 400 ft. upstream from Arizona State Highway 95 bridge, 3 miles west of Dome and 12 miles upstream from mouth (See pl. 4 for location). Drainage area 58,080 sq. miles.

** 1 October-30 September, inclusive.

Table 12

Damages on the Gila River between Texas Hill and Gila siphon resulting from floods or reservoir releases, Gila River basin, Ariz. and N. Mex.

Flood magnitude	Reservoir releases*	Total damages	
Cubic feet per second	Cubic feet per second		
92,000**		$21,440,000	summer?
50,000		16,450,000	
20,000		7,650,000	
10,000		1,420,000	
5,000		540,000	
	22,500	11,110,000	winter?
	10,000	7,560,000	
	5,000	960,000	

* For a period of time ranging from a few days to a couple of months.
** Standard project flood at Dome.

NOTE.--Prices based on 1959 price level.

Table 13

Area and Gross Capacity
Painted Rock Reservoir, Gila River Basin, Ariz. and N. Mex.*

Elevation (Feet above mean sea level)	Capacity (Acre-feet)	Area (Acres)	Elevation (Feet above mean sea level)	Capacity (Acre-feet)	Area (Acres)	Elevation (Feet above mean sea level)	Capacity (Acre-feet)	Area (Acres)	Elevation (Feet above mean sea level)	Capacity (Acre-feet)	Area (Acres)
530	83	27	553	17,400	1,960	576	119,800	7,590	599	399,000	16,700
531	160	68	554	19,500	2,130	577	127,800	7,980	600	416,800	17,100
532	250	108	555	21,700	2,300	578	136,200	8,370	601	435,000	17,700
533	390	149	556	24,000	2,470	579	144,500	8,760	602	453,000	18,300
534	560	189	557	26,500	2,640	580	154,300	9,160	603	471,000	18,800
535	760	230	558	29,100	2,810	581	164,000	9,520	604	490,000	19,400
536	990	270	559	31,800	2,980	582	174,000	9,890	605	510,000	19,900
537	1,280	311	560	34,700	3,150	583	184,000	10,300	606	530,000	20,400
538	1,580	351	561	37,900	3,400	584	194,000	10,600	607	550,000	20,800
539	1,920	392	562	41,400	3,650	585	205,000	11,000	608	571,000	21,200
540	2,320	432	563	45,200	3,900	586	216,000	11,400	609	592,000	21,700
541	2,800	504	564	49,200	4,150	587	227,000	11,800	610	613,300	22,100
542	3,360	575	565	53,500	4,450	588	239,000	12,300	611	635,000	22,700
543	4,000	647	566	58,100	4,680	589	252,000	12,700	612	657,000	23,200
544	4,700	718	567	63,000	4,970	590	265,600	13,100	613	680,000	23,800
545	5,500	790	568	68,200	5,250	591	279,000	13,500	614	703,000	24,300
546	6,400	922	569	73,700	5,530	592	292,000	13,900	615	727,000	24,800
547	7,400	1,050	570	79,500	5,800	593	305,000	14,300	616	751,000	25,300
548	8,600	1,190	571	85,500	6,090	594	318,000	14,700	617	776,000	25,800
549	10,000	1,320	572	91,700	6,370	595	332,000	15,100	618	802,000	26,400
550	11,700	1,450	573	98,200	6,650	596	348,000	15,500	619	831,000	26,900
551	13,500	1,620	574	105,000	6,920	597	364,000	15,900	620	861,200	27,400
552	15,400	1,790	575	112,200	7,200	598	381,000	16,300	621	891,000	28,000

*See footnote at end of table.

Table 13--Continued

Area and Gross Capacity
Painted Rock Reservoir, Gila River Basin, Ariz. and N. Mex.*

Elevation (Feet above mean sea level)	Capacity (Acre-feet)	Area (Acres)	Elevation (Feet above mean sea level)	Capacity (Acre-feet)	Area (Acres)	Elevation (Feet above mean sea level)	Capacity (Acre-feet)	Area (Acres)	Elevation (Feet above mean sea level)	Capacity (Acre-feet)	Area (Acres)
622	920,000	28,500	643	1,643,000	41,000	664	2,650,000	55,300	685	3,970,000	70,800
623	949,000	29,000	644	1,683,000	41,600	665	2,706,000	55,800	686	4,042,000	71,700
624	978,000	29,600	645	1,723,000	42,100	666	2,763,000	56,700	687	4,115,000	72,600
625	1,007,000	30,200	646	1,764,000	42,800	667	2,821,000	57,400	688	4,189,000	73,500
626	1,036,000	30,700	647	1,808,000	43,600	668	2,880,000	58,100	689	4,264,000	74,400
627	1,066,000	31,200	648	1,854,000	44,300	669	2,940,000	58,800	690	4,339,000	75,300
628	1,098,000	31,800	649	1,901,000	45,000	670	3,006,000	59,600	691	4,415,000	76,300
629	1,130,000	32,300	650	1,948,800	45,700	671	3,061,000	60,200	692	4,492,000	77,300
630	1,162,500	32,800	651	1,997,000	46,400	672	3,122,000	60,900	693	4,570,000	78,200
631	1,195,000	33,400	652	2,045,000	47,000	673	3,184,000	61,600	694	4,649,000	79,200
632	1,228,000	34,100	653	2,093,000	47,600	674	3,246,000	62,200	695	4,729,000	80,200
633	1,261,000	34,700	654	2,142,000	48,300	675	3,309,000	62,900	696	4,810,000	81,200
634	1,295,000	35,300	655	2,191,000	48,900	676	3,372,000	63,600	697	4,892,000	82,200
635	1,330,000	35,900	656	2,240,000	49,600	677	3,436,000	64,300	698	4,974,000	83,100
636	1,366,000	36,600	657	2,290,000	50,400	678	3,500,000	65,000	699	5,057,000	84,100
637	1,405,000	37,300	658	2,340,000	51,100	679	3,565,000	65,700	700	5,141,000	85,100
638	1,444,000	38,000	659	2,390,000	51,800	680	3,630,500	66,400	701	5,226,000	86,100
639	1,483,000	38,700	660	2,440,200	52,500	681	3,696,000	67,300	702	5,312,000	87,100
640	1,523,400	39,400	661	2,491,700	53,200	682	3,763,000	68,200	703	5,399,000	88,100
641	1,563,000	39,900	662	2,543,000	53,900	683	3,831,000	69,000	704	5,487,000	89,100
642	1,603,000	40,500	663	2,596,000	54,600	684	3,900,000	69,900	705	5,575,000	90,100

* Table based on survey of March 1953.

Table 14

Pertinent data for snow courses in and near the Gila River basin, Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Station No.**	Name	Station elevation	Average water content of snow on indicated dates***			
			15 Jan	1 Feb	1 Mar	1 Apr
		Feet	Inches	Inches	Inches	Inches
7-S-1	Taylor Creek	7,850	0.5	0.6	0.4	0
7-S-2	Inman	7,800	.4	.5	.5	0
8-S-1	Frisco Divide	8,000	1.3	2.1	1.7	.5
8-S-2	Mogollon	7,000	.5	.7	1.3	.3
9-S-1	Baldy	9,125	3.6	5.5	5.9	3.4
9-S-2	Maverick Fork	9,050	4.9	6.4	7.5	5.5
9-S-4	Nutrioso	8,500	1.4	2.0	1.7	.5
9-S-5	Pacheta	7,800	2.4	2.7	2.4	.6
9-S-6	Beaver Head	8,000	2.1	2.9	2.3	.7
9-S-7	Coronado Trail	8,000	1.9	2.6	2.3	1.1
9-S-8	State Line	8,000	1.5	2.5	2.1	.5
9-R-1	Milk Ranch	7,000	.8	2.0	.9	0
9-R-2	McNary	7,200	1.5	2.7	2.4	.2
9-R-5	Fort Apache	9,160	4.4	6.1	6.8	6.4
10-T-1	Bear Wallow	8,100	2.2	3.0	2.6	.9
10-T-2	Rose Canyon	7,300	.7	1.6	.7	.3
10-S-1	Workman Creek	6,900	2.8	3.4	1.5	1.2
10-R-4	Heber	7,600	1.4	3.2	2.4	.4
10-R-5	Gentry	7,600	1.4	3.0	2.4	.3
10-R-6	Forest Dale	6,430	.6	1.5	1.0	0
10-R-7	Canyon Creek No.2.	7,500	.....	.....	.....	.....
11-R-1	Munds Park	6,500	1.5	2.6	1.6	.6
11-R-2	Casner Park	6,930	2.5	4.1	2.2	1.0
11-R-3	Mormon Mountain	7,500	3.0	5.1	4.6	2.4
11-R-4	Mormon Lake	7,350	2.6	5.2	4.9	3.5
11-R-5	Happy Jack	7,630	1.7	3.0	2.6	1.3
11-P-2	Fort Valley	7,350	2.0	2.9	2.3	1.2
12-R-1	Camp Wood	5,700	.9	1.5	.8	0
12-R-2	Iron Springs	6,200	1.3	1.7	1.2	0
12-R-3	Mingus Mountain	7,100	.8	1.7	1.1	0
12-R-4	Gaddes Canyon	7,600	1.3	3.4	2.7	1.6
12-P-1	Chalender	7,100	2.5	3.4	2.8	1.6

* See pl. 4 for location of snow courses.
** Soil Conservation Service number.
*** For period 1943-57.

Table 15

Plan A — See Plate 26 — Use with low initial storage

Outlet gate operation schedule, Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Step No.	When reservoir water surface is between elevation S (1000 AF)	Gate setting for gates indicated: No. 1	No. 2	No. 3	Computed discharge	Downstream gage height
	Feet above mean sea level	Feet of opening	Feet of opening	Feet of opening	Cubic feet per second	Feet
1	**530 - 550 0.1	0	0	0	0	0
2	550 - 554	3.2	3.2	3.2	2,400 - 2,600	7.50 - 7.60
3	554 - 558	2.8	2.8	2.8	2,400 - 2,600	7.50 - 7.60
4	558 - 563	2.6	2.6	2.6	2,400 - 2,600	7.50 - 7.60
5	563 - 568	2.4	2.4	2.4	2,400 - 2,600	7.50 - 7.60
6	568 - 577	2.2	2.2	2.2	2,400 - 2,600	7.50 - 7.60
7	577 - 583	2.0	2.0	2.0	2,400 - 2,600	7.50 - 7.60
8	583 - 589	1.8	1.8	1.8	2,400 - 2,600	7.50 - 7.60
9	589 - 591 2.79	1.7	1.7	1.7	2,400 - 2,450	7.50 - 7.55
10	591 - 602	3.5	3.5	3.5	4,800 - 5,200	8.50 - 8.63
11	602 - 603	3.3	3.3	3.3	4,950 - 5,050	8.55 - 8.58
12	603 - 614	6.8	6.8	6.8	9,600 - 10,400	9.92 - 10.13
13	614 - 618 6.02	6.4	6.4	6.4	9,850 - 10,150	10.00 - 10.08
14	618 - 626	13.8	13.8	13.8	19,500 - 20,500	12.30 - 12.50
15	626 - 635	13.0	13.0	13.0	19,500 - 20,500	12.30 - 12.50
16	635 - 640	12.5	12.5	12.5	19,750 - 20,250	12.35 - 12.47
17	640 - 648 12.23	13.8	13.8	13.8	22,000 - 23,000	12.80 - 13.00
18	648 - 657	13.2	13.2	13.2	22,000 - 23,000	12.80 - 13.00
19	***657 - 661.6 12.92	12.5	12.5	12.5	22,000 - 23,000	12.80 - 13.00
20	661.6 - 662.4	11.3	11.3	11.3	21,000 - 23,000	12.60 - 13.00
21	662.4 - 663.0	10.1	10.1	10.1	21,000 - 23,000	12.60 - 13.00
22	663.0 - 663.5	8.9	8.9	8.9	21,000 - 23,000	12.60 - 13.00
23	663.5 - 664.1	7.7	7.7	7.7	21,000 - 23,000	12.60 - 13.00
24	664.1 - 664.5	6.6	6.6	6.6	21,000 - 23,000	12.60 - 13.00
25	664.5 - 664.9	5.5	5.5	5.5	21,000 - 23,000	12.60 - 13.00
26	664.9 - 665.2	4.5	4.5	4.5	21,000 - 23,000	12.60 - 13.00
27	665.2 - 665.6	3.4	3.4	3.4	21,000 - 23,000	12.60 - 13.00
28	665.6 - 665.9	2.5	2.5	2.5	21,000 - 23,000	12.60 - 13.00
29	665.9 - 666.2	1.5	1.5	1.5	21,000 - 23,000	12.60 - 13.00
30	666.2 - 666.5	.6	.6	.6	21,000 - 23,000	12.60 - 13.00
31	666.5 - 666.8	0	0	0	21,600 - 23,000	12.72 - 13.00
32	666.8 & above				Spillway flow only See Instructions	

* Schedule applicable for rising or falling stages.
** Gates may be 1/2 ft. open between elevations 530 - 535 ft. to pass low flows.
*** Spillway crest elevation 661 ft.

INSTRUCTIONS

1. Communications with the District Office, existing.

a. Notify the Hydraulic Operations Center when a gate change will be required according to the schedule.

b. To report gate settings, while operating on schedule, give the applicable step number only.

c. Notify the Hydraulic 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 remaining gates gradually and uniformly until the downstream gage height agrees with the scheduled values. Keep a close check on gage height and change the gate opening as often as required. If the downstream gage height is not obtainable, adjust the gates that are functioning so that the sum of the gate openings will equal the sum of the openings in the schedule.

3. Flood occurring with initial reservoir water-surface elevation at 640 or higher.

a. Outlet gates will be fully opened at the elevation indicated on the "Curve for Determining Operation Above Spillway Crest" (plate 30).

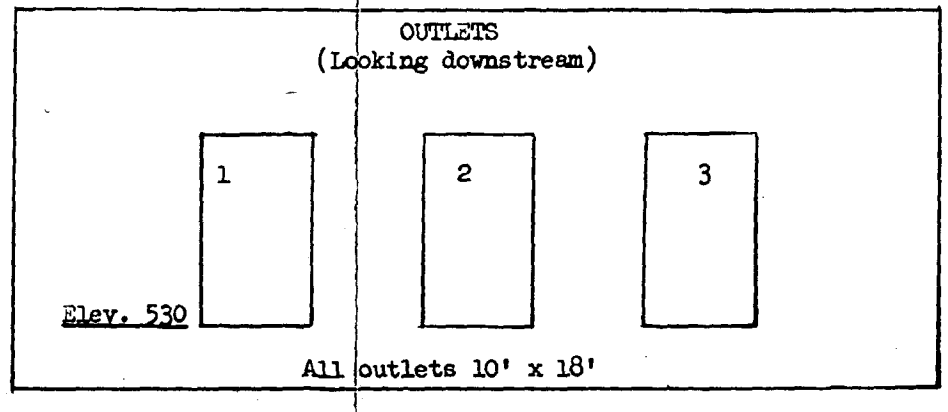

Table 16

Plan B Use if elev is 595 or higher initially See plate 26

Outlet gate operation schedule, Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.*

Step No.	When reservoir water surface is between elevation	Gate setting for gates indicated			Computed discharge	Downstream gage height
		No. 1	No. 2	No. 3		
	Feet above mean sea level	Feet of opening	Feet of opening	Feet of opening	Cubic feet per second	Feet
1	**530 - 550	0	0	0	0	0
2	550 - 554	5.0	5.0	5.0	3,600 - 3,950	8.05 - 8.20
3	554 - 558	6.0	6.0	6.0	4,600 - 5,050	8.45 - 8.60
4	558 - 562	7.0	7.0	7.0	5,750 - 6,200	8.80 - 8.95
5	562 - 566	8.0	8.0	8.0	6,900 - 7,400	9.05 - 9.30
6	566 - 570	9.0	9.0	9.0	8,150 - 8,700	9.50 - 9.70
7	570 - 574	10.0	10.0	10.0	9,400 - 10,000	9.85 - 10.00
8	574 - 578	11.0	11.0	11.0	10,900 - 11,400	10.25 - 10.40
9	578 - 582	12.0	12.0	12.0	12,300 - 12,800	10.60 - 10.75
10	582 - 586	13.0	13.0	13.0	13,700 - 14,300	11.00 - 11.10
11	586 - 590	14.0	14.0	14.0	15,200 - 15,800	11.30 - 11.50
12	590 - 594	15.0	15.0	15.0	16,600 - 17,300	11.65 - 11.80
13	594 - 598	16.0	16.0	16.0	18,200 - 18,900	12.00 - 12.15
14	598 - 602	17.0	17.0	17.0	19,800 - 20,500	12.35 - 12.50
15	602 - 611	18.0	18.0	18.0	21,500 - 23,000	12.70 - 13.00
16	611 - 617	17.0	17.0	17.0	22,000 - 23,000	12.80 - 13.00
17	617 - 624	16.1	16.1	16.1	22,000 - 23,000	12.80 - 13.00
18	624 - 631.5	15.3	15.3	15.3	22,000 - 23,000	12.80 - 13.00
19	631.5 - 640	14.5	14.5	14.5	22,000 - 23,000	12.80 - 13.00
20	640 - 649.5	13.7	13.7	13.7	22,000 - 23,000	12.80 - 13.00
21	649.5 - 657	13.0	13.0	13.0	22,000 - 22,700	12.80 - 12.97
22	***657 - 661.6	12.5	12.5	12.5	22,000 - 23,000	12.80 - 12.97
23	661.6 - 662.4	11.3	11.3	11.3	21,000 - 23,000	12.60 - 13.00
24	662.4 - 663.0	10.1	10.1	10.1	21,000 - 23,000	12.60 - 13.00
25	663.0 - 663.5	8.9	8.9	8.9	21,000 - 23,000	12.60 - 13.00
26	663.5 - 664.1	7.7	7.7	7.7	21,000 - 23,000	12.60 - 13.00
27	664.1 - 664.5	6.6	6.6	6.6	21,000 - 23,000	12.60 - 13.00
28	664.5 - 664.9	5.5	5.5	5.5	21,000 - 23,000	12.60 - 13.00
29	664.9 - 665.2	4.5	4.5	4.5	21,000 - 23,000	12.60 - 13.00
30	665.2 - 665.6	3.4	3.4	3.4	21,000 - 23,000	12.60 - 13.00
31	665.6 - 665.9	2.5	2.5	2.5	21,000 - 23,000	12.60 - 13.00
32	665.9 - 666.2	1.5	1.5	1.5	21,000 - 23,000	12.60 - 13.00
33	666.2 - 666.5	.6	.6	.6	21,000 - 23,000	12.60 - 13.00
34	666.5 - 666.8	0	0	0	21,600 - 23,000	12.72 - 13.00
35	666.8 & above				Spillway flow only See Instructions	

* Schedule applicable for rising or falling stages.
** Gates may be 1/2 ft. open between elevations 530 - 535 ft. to pass low flows.
*** Spillway crest elevation 661 ft.

INSTRUCTIONS

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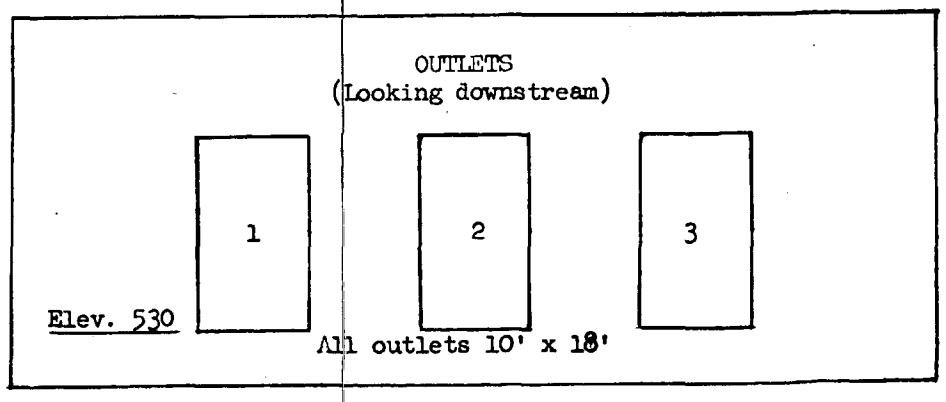

Table 17

Summary of flood routings - Painted Rock Reservoir, Gila River basin, Ariz. and N. Mex.

Flood	Operation plan	Maximum inflow	Maximum outflow	Maximum water-surface elevation	Assumptions at start of routing	
					Reservoir	Storage
		Cubic feet per second	Cubic feet per second	Feet above mean sea level		
Modified 14-21 January 1916.*	A.....	195,000	22,500	657.4	Reservoir empty.	Net.
Reservoir design.	B.....	300,000	22,500	660.5	...do.....	Do.
Spillway design.	.....	620,000	436,500	696.3	Reservoir full to spillway crest. Outlet gates fully open.	Do.
Do.....	A or B (identical above elevation 640).	620,000	404,000	696.3	Reservoir full to elevation 640.	Do.

* Reflects present upstream conditions above Painted Rock Reservoir.

Table 18

Approximate travel time for standard project flood peak, Gila River basin, Ariz. and N. Mex.

Reach	River	Travel time
		Hours
Coolidge Dam to Painted Rock Reservoir.	Gila	62
Roosevelt Dam to Painted Rock Reservoir.	Salt-Gila	54
Horseshoe Dam to Painted Rock Reservoir.	Verde-Salt-Gila	55
Lake Pleasant Dam to Painted Rock Reservoir.	Agua Fria-Gila	45
Gillespie Dam to Painted Rock Reservoir.	Gila	16
Painted Rock Reservoir to Texas Hill.	...do	16
Painted Rock Reservoir to Colorado River.	...do	48
Davis Dam to Parker Dam	Colorado	13
Parker Dam to Yuma, Ariz	...do	50