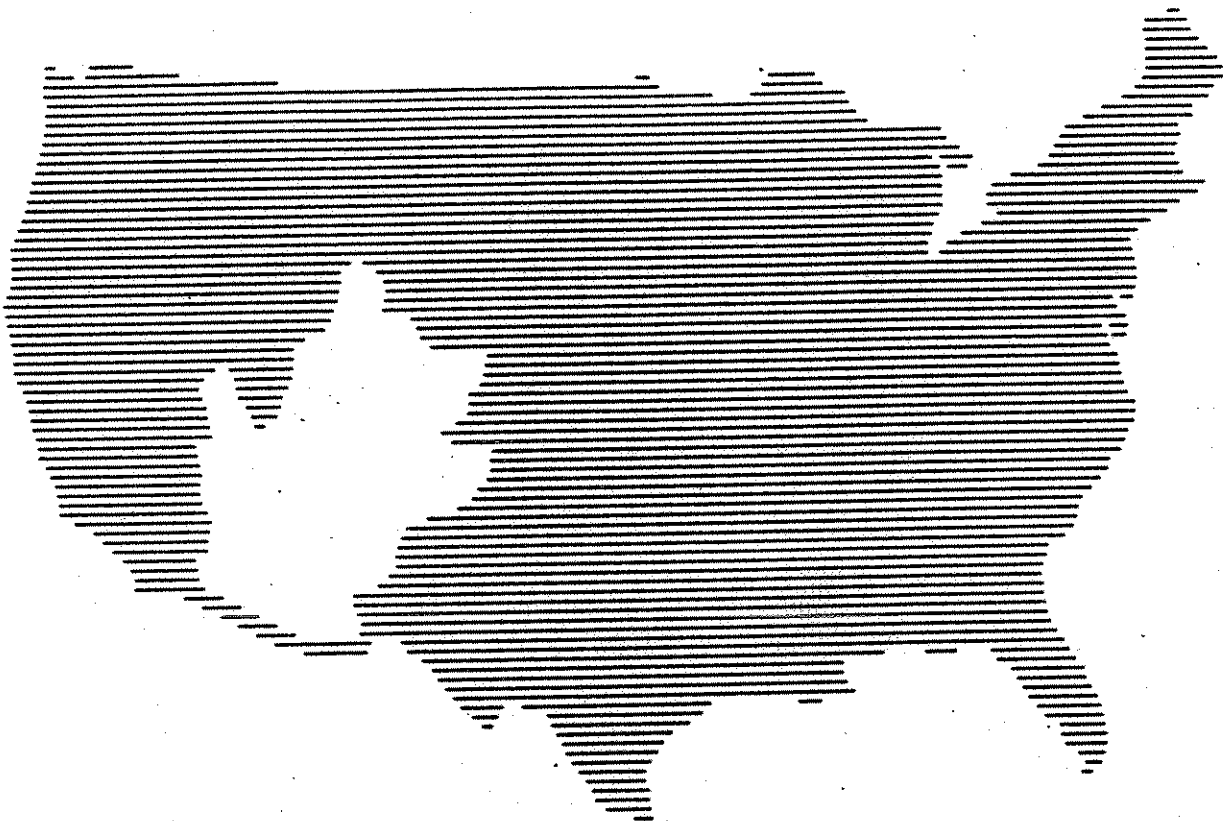


**Colorado River  
Simulation System**



**HYDROLOGY DATA BASE  
LOWER COLORADO REGION  
(Lees Ferry to Imperial Dam)**

**May 1985**

U.S. Department of the Interior  
Bureau of Reclamation

Nothing in this report is intended to interpret the provisions of the Colorado River Compact (45 Stat. 1057), the Upper Colorado River Basin Compact (63 Stat. 31), the Water Treaty of 1944 with the United Mexican States (Treaty Series 994, 59 Stat. 1219), the decree entered by the Supreme Court of the United States in *Arizona v. California, et al.* (376 U.S. 340), the Boulder Canyon Project Act (45 Stat. 1057), the Boulder Canyon Project Adjustment Act (54 Stat. 774; 43 U.S.C. 618a), the Colorado River Storage Project Act (70 Stat. 105; 43 U.S.C. 620), or the Colorado River Basin Project Act (82 Stat. 885; 43 U.S.C. 1501).

INFORMAL REVIEW  
BY: [illegible]  
DATE: [illegible]

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

CRSS

**COLORADO RIVER SIMULATION SYSTEM**

Hydrologic Flow and Salt Data Base for the  
Lower Colorado Region, Lees Ferry to Imperial Dam

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**MAY 1985**

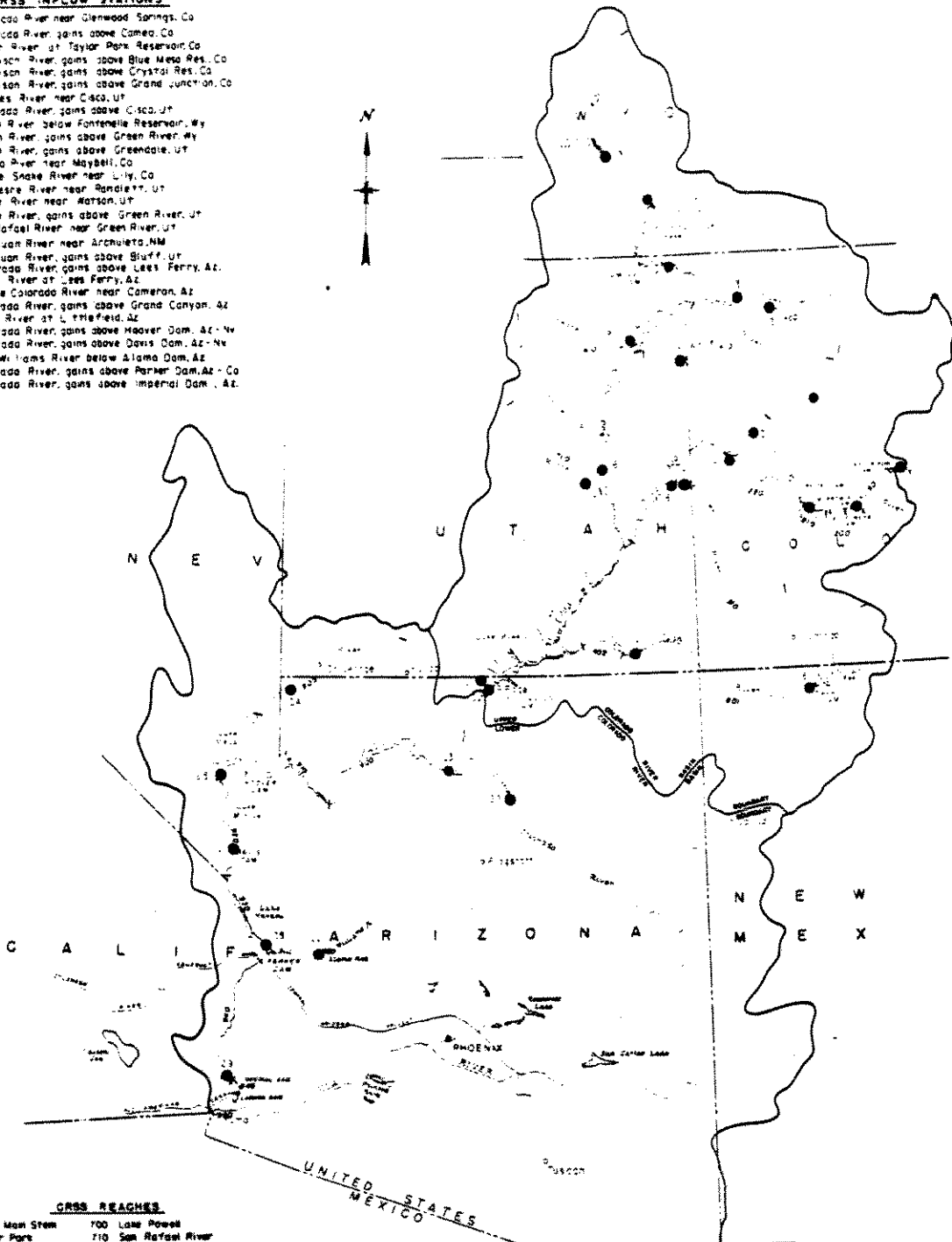
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U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Reclamation  
Lower Colorado Region

**CRSS INFLOW STATIONS**

- 1 AF0725 Colorado River near Glenwood Springs, Co
- 2 AF0955 Colorado River gains above Cameo, Co
- 3 AF0990 Taylor River at Taylor Park Reservoir, Co
- 4 AF1244 Gunnison River gains above Blue Mesa Res. Co
- 5 AF1278 Gunnison River gains above Crystal Res. Co
- 6 AF1283 Gunnison River gains above Grand Junction, Co
- 7 AF1800 Dolores River near Cisco, UT
- 8 AF1805 Colorado River gains above Cisco, UT
- 9 AF2112 Green River below Fontenelle Reservoir, WY
- 10 AF2170 Green River gains above Green River, WY
- 11 AF2345 Green River gains above Greendale, UT
- 12 AF2510 Yampa River near Maybell, Co
- 13 AF2600 Little Snake River near Lily, Co
- 14 AF3020 Duchesne River near Randlett, UT
- 15 AF3065 White River near Watson, UT
- 16 AF3150 Green River gains above Green River, UT
- 17 AF3280 San Rafael River near Green River, UT
- 18 AF3555 San Juan River near Archaleta, NM
- 19 AF3785 San Juan River gains above Bluff, UT
- 20 AF3800 Colorado River gains above Lees Ferry, AZ
- 21 AF3820 Paria River at Lees Ferry, AZ
- 22 AF4020 Little Colorado River near Cameron, AZ
- 23 AF4212 Colorado River gains above Grand Canyon, AZ
- 24 AF4150 Virgin River at Littlefield, AZ
- 25 AF4210 Colorado River gains above Hoover Dam, AZ-NV
- 26 AF4225 Colorado River gains above Davis Dam, AZ-NV
- 27 AF4260 Bill Williams River below Alamo Dam, AZ
- 28 AF4275 Colorado River gains above Parker Dam, AZ-Co
- 29 AF42945 Colorado River gains above Imperial Dam, AZ



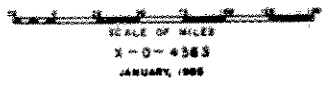
**CRSS REACHES**

- |                     |                                |
|---------------------|--------------------------------|
| 100 Upper Main Stem | 700 Lake Powell                |
| 190 Taylor Park     | 710 San Rafael River           |
| 200 Blue Mesa       | 801 Upper San Juan River       |
| 210 Maroon Point    | 802 Lower San Juan River       |
| 220 Lower Gunnison  | 900 Glen Canyon To Lake Mead   |
| 300 Grand Valley    | 905 Virgin River               |
| 310 Dolores River   | 910 Lake Mead                  |
| 401 Fontenelle      | 920 Lake Mohave                |
| 411 Flaming Gorge   | 930 Lake Havasu                |
| 500 Yampa River     | 940 Parker Dam To Imperial Dam |
| 510 White River     | 945 Imperial Dam Diversions    |
| 600 Green River     | 950 Users Below Imperial Dam   |
| 610 Duchesne River  |                                |

**LEGEND**

- (---) 1961 Reach
- (---) 1965 Reach
- (●) 1965 Inflow Station

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF RECLAMATION  
**COLORADO RIVER  
SIMULATION SYSTEM  
BASIN MAP**



## Summary

The objective of the Lower Colorado Region Hydrologic Data Base effort is to compile monthly and annual historic reach gains and tributary flows below Lees Ferry for the purpose of modeling the future water supply and water quality of the Colorado River. A similar effort exists in the Upper Colorado Region. Together these two data bases are used to make future projections of water supply and water quality for the entire Colorado River Basin.

The reach gains in the Lower Colorado Region are the product of a mass balancing technique. The values represent the sum of actual

gains and any gaging errors that unavoidably occur when measuring large volumes of water. Summary tables of reach gains for the six reaches of the Lower Colorado Region and the tributary flows within those reaches are presented here.

It should be noted that the average annual reach gains for all the reaches fall between +5% or -5% of the average annual flow entering the reach. This implies that the inflows and outflows within each reach have been well identified and that the activities within each reach are accurately described.

### SUMMARY OF REACH GAINS

Reach	Average Annual Reach Gain <sup>a/</sup> (Acre-feet)	Average Annual Reach Gain <sup>a/</sup> (Tons of Salt)	Percent of Average Annual Flow/Salt Load Entering Reach
Lees Ferry to Grand Canyon	- 7,155 (1963-1982)	109,213 (1963-1982)	- 1%/2%
Grand Canyon to Hoover Dam	334,614 (1963-1982)	139,863 (1963-1982)	4%/2%
Hoover Dam to Davis Dam	122,700 (1935-1982)	72,415 (1935-1982)	1%/1%
Davis Dam to Parker Dam	45,761 (1935-1982)	- 23,791 (1935-1982)	1%/- .03%
Parker Dam to Imperial Dam	237,698 (1935-1982)	319,865 (1935-1982)	3%/4%
Below Imperial Dam	NA <sup>b/</sup>	NA <sup>b/</sup>	NA <sup>b/</sup>

<sup>a/</sup> A negative sign indicates a reach loss.

<sup>b/</sup> Not available, expected to be available by the end of FY85. Presently zero is assumed.

Summary

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SUMMARY OF TRIBUTARY INFLOWS

Tributary	Average Annual Inflow (Acre-feet) (1906-1982)	Average Annual Salt Load (Tons) (1906-1982)	Locations by Reach
Paria River	21,303	32,193	Lees Ferry to Grand Canyon
Little Colorado River	192,529	129,991	Lees Ferry to Grand Canyon
Blue Springs	162,504	544,380	Lees Ferry to Grand Canyon
Virgin River	187,692	408,344	Grand Canyon to Hoover Dam
Bill Williams River	101,788	44,652	Davis Dam to Parker Dam

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# Chapter I

## INTRODUCTION

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This report establishes the Colorado River Simulation System (CRSS) Hydrologic Data Base for the Lower Colorado River. This is one of several reports that document the CRSS, a computer model developed by the Bureau of Reclamation (Reclamation) to simulate the operations of the Colorado River under a variety of conditions.

The Lower Colorado River, for the purposes of this report, is defined as that portion of the river from Lees Ferry, Arizona, to the International Boundary with Mexico. The location is shown on the Frontispiece map. To establish the data base, the river was divided into six reaches and then further divided into points or areas where inflows, demands on the river, or reservoirs were located. Riverflow was calculated using the continuity equation:

$$\begin{aligned} &\text{Inflow} - \text{Outflow} \\ &- \text{Change in Storage} = 0 \end{aligned}$$

Salt load was computed using the same equation. Data were gathered from existing records or synthesized as required. Data for each point, or data element, were then analyzed as described in this report to calculate the reach gains and losses necessary for the data base. The Lower Colorado River reaches are:

1. Lees Ferry to Grand Canyon
2. Grand Canyon to Hoover Dam
3. Hoover Dam to Davis Dam
4. Davis Dam to Parker Dam
5. Parker Dam to Imperial Dam
6. Imperial Dam to the International Boundary with Mexico

The data base consists of values of flow and salt load for tributary flows and the reach gains and losses on the main stem of the Colorado River. The units used in compiling data are acre-feet per month for flow and tons per month of total dissolved solids for salt load. The analysis covers calendar years 1963 through 1982 for the Lees Ferry to Grand Canyon and Grand Canyon to Hoover Dam reaches and 1935 through 1982 for the reaches below Hoover Dam (reaches 3-5). These periods encompass the present condition of the river, i.e., after the construction of major regulating reservoirs. Reach gains and losses prior to major regulation of the river would have little value in making future projections.

For the Lees Ferry to Grand Canyon and Grand Canyon to Hoover Dam reaches, the average monthly reach gain and loss values from 1963 through 1982 were used to complete the data base for 1906 through 1962. For the reaches below Hoover Dam the average monthly reach gain and

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<sup>1</sup> The complete documentation of the CRSS is contained in eight parts: (1) CRSS Executive Summary; (2) Volume I Model: User's Manual; (3) Volume II Model: Programmer's Manual; (4) SMDID User's Manual; (5) Upper Colorado River Hydrology Data Base; (6) Lower Colorado River Hydrology Data Base; (7) TAPEDIT User's Manual; (8) MHYDRO User's Manual. These are either published or in the process of publication. For a more complete background for this report, the reader is referred to the Executive Summary, (October 1981).

## Introduction

---

loss values for the 1935 through 1982 period were used to complete the data base from 1906 through 1934.

Values for tributary flow stations without significant effects from instream storage were developed from 1906 through 1982 from existing records or correlations as described in this report. These stations are:

1. Inflow from the Paria River
2. Inflow from the Little Colorado River
3. Inflow from Blue Springs
4. Inflow from the Virgin River
5. Bill Williams River Inflow

At present, reaches 1 through 5 are complete and are documented in this report. Reach 6 is scheduled for completion during 1985. It is presently assumed that the reach gains, losses, and tributary inflows between Imperial Dam and the International Boundary sum to zero. This assumption has

been useful in simulating the flow and salt load of the Colorado River.

The data base will be updated periodically as data become available. The updates will include any refinements made possible through improved data analysis techniques and will be documented to keep all users of the CRSS informed.

Questions or requests for additional information on this data base should be directed to:

Regional Director  
Lower Colorado Region  
Bureau of Reclamation  
Attn: LC-754 (CRSS)  
P.O. Box 427  
Boulder City, NV 89005

Telephone:

(702) 293-8568, (702) 293-8535  
FTS 598-7568, FTS 598-7535

## LEES FERRY TO GRAND CANYON REACH

The Lees Ferry to Grand Canyon reach is a simple one. Three tributary flows, the Paria River, the Little Colorado River, and the Blue Springs near the confluence of the Colorado and Little Colorado Rivers, enter the Colorado River in this reach. There are five data elements, the flow at Lees Ferry, the Paria River inflow, the Little Colorado River inflow, the Blue Springs inflow and the flow at Grand Canyon. No flows are diverted, and native vegetation is very sparse.

Data used for both the flow and salt models for this reach are presented in Appendix 1.

### FLOW MODEL

The inflows, outflows, and changes in storage in this reach are shown in Figure 1.

### Summary

The average annual reach gain for the 1963 through 1982 period in the Lees Ferry to Grand Canyon reach is -7,155 acre-feet. (The negative sign signifies a reach loss.) The extreme annual values are -253,235 acre-feet (1981) and 209,276 acre-feet (1970).

The average annual flow entering the reach at Lees Ferry (1963-1982) is 8,250,273 acre-feet. The average annual reach loss is about 0.1 percent of the average annual flow entering the reach. The extreme values are about -3 percent and 3 percent of the average annual flow entering the reach.

### Methodology

The reach gains were calculated by subtracting the computed value of

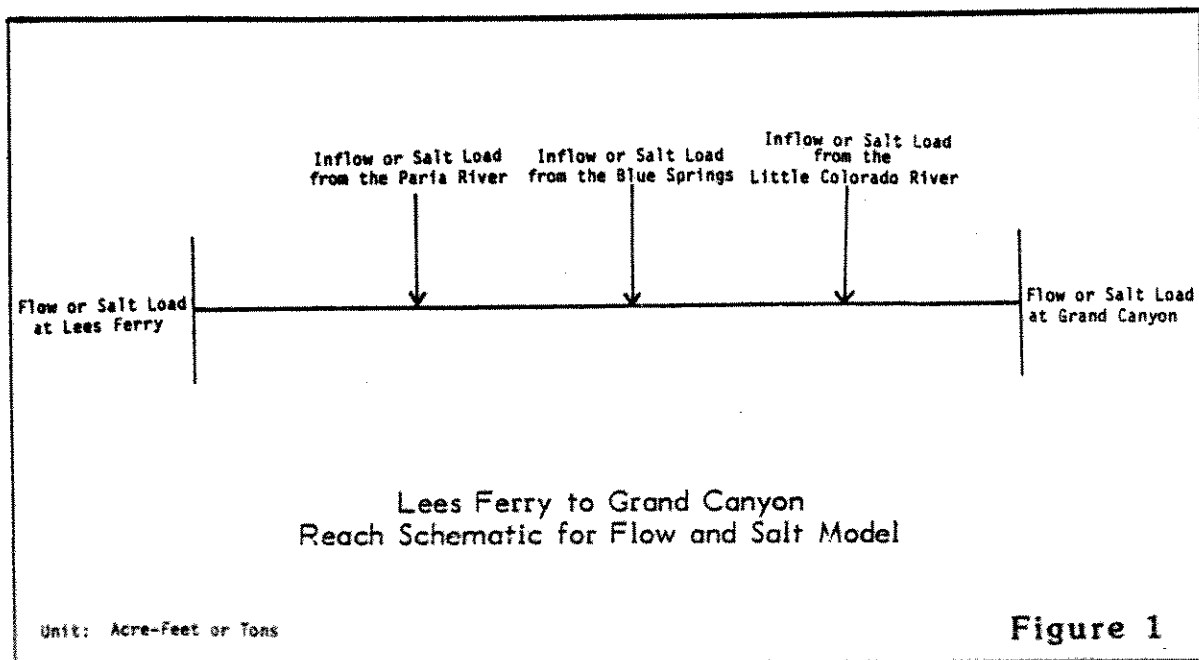


Figure 1

flow at Grand Canyon (schematic model) from the recorded flow at Grand Canyon [U.S. Geological Survey (USGS) records or synthesized data].

Reach gains (acre-feet)	=	Recorded flow at Grand Canyon (acre-feet)	-	Computed flow at Grand Canyon (acre-feet)
----------------------------	---	---	---	---

The computed flow at Grand Canyon was determined by adding the inflows from the Paria River, the Little Colorado River, and the Blue Springs to the flow at Lees Ferry.

Computed Flow at Grand Canyon Gage (acre-feet)	=	Flow (Lees Ferry Gage) (acre-feet)	+	Inflow (Paria River) (acre-feet)
		+ Inflow (Little Colorado River) (acre-feet)	+	Inflow (Blue Springs) (acre-feet)

Flow at Lees Ferry Gage. Data were developed from 1963 through 1982 from USGS water supply papers for the gage, "Colorado River at Lees Ferry, AZ," station number 09380000. The record is complete and no synthesis of data was needed. The average annual flow is 8,250,273 acre-feet.

Inflow from the Paria River. Flow data for the Paria River are shown in Table 1. Data are divided by data source into six time periods between 1906 and 1982. The average annual (1963-1982) inflow is 20,663 acre-feet. The average annual (1906-1982) inflow is 21,303.

Inflow from Blue Springs. Blue Springs enters the Little Colorado River just before the confluence with the Colorado River downstream from the Little Colorado River at Cameron Gage. Blue Springs is therefore considered as an inflow in addition to the Little Colorado River at Cameron.

The flows are assumed to be a constant 13,542 acre-feet per month (162,504 acre-feet per year). This value is derived by averaging the estimated annual flow of Blue Springs as presented in Reclamation's Memorandum Report on the Little Colorado River Basin (Memorandum Report, 1971). Annual flows vary between 155,000 and 170,000 acre-feet.

TABLE 1  
Inflow from Paria River  
(acre-feet)

Time Period	Source of Flow Data
1906-1923	Flows for this time period are not recorded. Flow data were synthesized from monthly regression equations using precipitation data at Tropic, Utah, for the independent variable. A single equation could not be developed; correlations based on specific months were more satisfactory. <sup>a/</sup>
1924-1982	USGS Water Supply Papers for gage, "Paria River at Lees Ferry, AZ," station number 0938000 (USGS, Water Resources Data).

<sup>a/</sup> Monthly flow equations are:

Jan. - $y = 4.8x + 16.6$	Jul. - $y = 12.8x + 14.6$
Feb. - $y = 12.1x + 23.4$	Aug. - $y = 22.6x + 21.3$
Mar. - $y = 19.5x + 13.0$	Sep. - $y = 57.3x - 16.8$
Apr. - $y = 13.9x + 7.9$	Oct. - $y = 24.2x + 0.2$
May - $y = 5.4x + 5.9$	Nov. - $y = 17.4x + 9.5$
Jun. - $y = 10.3x + 0.6$	Dec. - $y = 4.0x + 16.4$

where:  $x$  = Rainfall at Tropic, Utah in hundredths of inches.  
 $y$  = The monthly flow in acre-feet.

Inflow from the Little Colorado River. Inflow from the Little Colorado River is shown on Table 2. Data are divided by data source into three time periods. The average annual (1906-1982) inflow is 192,529 acre-feet. The average annual (1963-1982) inflow is 196,323 acre-feet.

Flow at Grand Canyon Gage. Data from 1963-1982 were developed from USGS water supply papers (USGS, Water Resources Data) for the gage, "Colorado River near Grand Canyon, AZ" station number 09402500. Data are also available through 1980 from the Department of the Interior's (Interior).

Progress Report No. 11 (1983).  
The average annual flow is  
8,622,609 acre-feet.

## SALT MODEL

The inflows, outflows, and changes  
in storage in this reach are shown  
on Figure 1.

### Summary

Average annual reach salt load gain  
for the 1963 through 1982 period in

the Lees Ferry to Grand Canyon  
reach is 109,213 tons. The extreme  
annual values are -585,248 tons  
(1982) and 460,059 tons (1965). (A  
negative sign indicates a reach  
loss.)

Average annual salt load entering  
the reach at Lees Ferry (1963-1982)  
is 6,578,240 tons. The average  
annual reach salt load gain is about  
2 percent of the average annual salt  
load entering the reach. The  
extreme values are about 7 percent  
and -9 percent of the average annual  
salt load entering the reach.

TABLE 2  
Inflow from the Little Colorado River  
(acre-feet)

Time Period	Source of Flow Data
1906-1925	Data were developed using monthly averages from the 1926-1982 records. Although correlations were attempted with precipitation stations at Holbrook, Flagstaff, and Tuba City, Arizona, results were poor. Correlations with other gaging stations at Flagstaff, Woodruff, and St. Johns were also very poor, with less than 0.20 correlation coefficient.
1926-1947	Data were developed using regression techniques with USGS recorded data from the Little Colorado River at Grand Falls gage. A correlation coefficient of 0.97 was found when compared to the Cameron gage. The formula used was Cameron flow = 1.1 x Grand Falls flow - 295.
1947-1982	Data were developed using USGS water supply papers for the gage, "Little Colorado River near Cameron, Arizona," station number 09402000.



### Methodology

Salt load gains were calculated by subtracting the computed value for salt load at Grand Canyon (schematic model) from the recorded or synthesized value of salt load at Grand Canyon.

$$\begin{array}{rcl} \text{Salt load gains} & = & \text{Recorded} \\ \text{(tons)} & & \text{salt load at} \\ & & \text{Grand Canyon} \\ & & \text{(tons)} \\ & - & \text{Computed} \\ & & \text{salt load at} \\ & & \text{Grand Canyon} \\ & & \text{(tons)} \end{array}$$

The computed salt load at Grand Canyon was determined by adding the salt load from the Paria River, Blue Springs, and the Little Colorado River to the salt load at Lees Ferry.

$$\begin{array}{rcl} \text{Computed salt} & = & \text{Salt load at} & + & \text{Salt load} \\ \text{load at} & & \text{Lees Ferry} & & \text{from the} \\ \text{Grand Canyon} & & \text{(tons)} & & \text{Paria River} \\ \text{(tons)} & & & & \text{(tons)} \\ & & + & \text{Salt load} & + & \text{Salt load} \\ & & & \text{from Blue} & & \text{from the} \\ & & & \text{Springs} & & \text{Little Colorado} \\ & & & \text{(tons)} & & \text{River} \\ & & & & & \text{(tons)} \end{array}$$

### Salt Load at Lees Ferry Gage.

These data were taken from Interior's Progress Report No. 11 (1983) for 1963-1980. Data for 1981 and 1982 were obtained from USGS water supply papers for the gage, "Colorado River at Lees Ferry, AZ," station number 09380000. Values for months in which salt load data were not given were derived from an average of previous and later months' salt concentration data and the flow data from the month in question. The average annual salt load is 6,591,612 tons.

### Salt Load from the Paria River.

Water quality data measuring electrical conductivity (EC) and salt concentration in milligrams per liter (mg/L) were developed from USGS data for 1970-1978. The USGS water quality analysis of the Paria River at Compact Point was discontinued after November 1979.

The EC values were recorded daily and the salt concentration values at less frequent intervals. A three-step procedure was used to develop the data base values of salt load: (1) Daily EC values were examined and all missing values were computed using a linear interpolation of data between known values, (2) A ratio of EC to salt concentration value was calculated, (3) The daily ratios were multiplied by the daily EC values to derive a set of daily salt concentration values. The salt load values were then calculated by summarizing the product of daily salt concentration and flow over a period of 1 month. A mean ratio of salt concentration to EC having a value of 0.740 was calculated with the data.

The water quality data for the Paria River before 1970 are sparse. Therefore, to complete records for this period and to provide a consistent record throughout, a regression equation was used to compile salt load data for the entire 1905-1982 period. The equation, presented below, was used to calculate the salt load from flow in acre-feet.

$$y = 1.7378 * x - 454.0$$

where: y = Monthly Salt Load  
x = Monthly Flow

The correlation coefficient for the above equation is 0.997. The standard error of estimate is 205 tons and the mean monthly salt load is about 2500 tons. The average annual salt load is 32,193 tons.

Salt Load from Blue Springs. The salt load from Blue Springs is assumed to be 3.35 tons per acre-foot, (Memorandum Report, 1971). This value agrees with the assumed salinity value given in Interior's Progress Report No. 7 (1975) of "about 2500 ppm." These values are from the average of a number of water sample analyses.

The actual salt load was calculated by multiplying the inflow in acre-feet, described in the Flow Model section of this chapter, by 3.35 tons per acre-foot.

Salt load from Blue Springs (tons)	=	Inflow, Blue Springs (acre-feet)	x	3.35 <sup>Tons</sup> / acre-foot
------------------------------------	---	----------------------------------	---	----------------------------------

The salt load was assumed to be a constant monthly value of 45,365 tons, or 544,380 tons per year.

Salt Load from the Little Colorado River. Salt load from the Little Colorado River was calculated through 1982 from the flow developed in the flow section and from salinity data from USGS water supply papers at the Little Colorado River at Cameron gage. Salt load was calculated as the flow, in acre-feet per month, times the salinity of the flow in tons per acre-foot.

Salt load from the Little Colorado River (tons)	=	Inflow, Little Colorado River (acre-feet)	x	Salinity of the inflow (tons/acre-foot)
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The available salinity data are somewhat sparse and discontinuous. If more than one value was available for a given month, these values were averaged to produce one value per month. If no data were available for a given month, the month was ignored. Available monthly salinity data were then flow weighted and average monthly flow weighted salt concentrations calculated. These flow weighted salinity values, in tons per acre-foot, are presented below.

Jan. - 0.84	Jul. - 0.72
Feb. - 0.47	Aug. - 1.19
Mar. - 0.39	Sep. - 0.90
Apr. - 0.27	Oct. - 0.76
May - 0.45	Nov. - 0.95
Jun. - 1.04	Dec. - 0.64

The average annual salt load is 120,991 tons.

Salt Load at Grand Canyon Gage. These data are from Interior's Progress Report No. 11 (1983) for 1963-1980.

The data for 1981 and 1982 are preliminary data developed by Reclamation from flow, salinity and electroconductivity data obtained from the USGS. The average annual salt load is 7,382,750 tons.

# Chapter III

## GRAND CANYON TO HOOVER DAM REACH

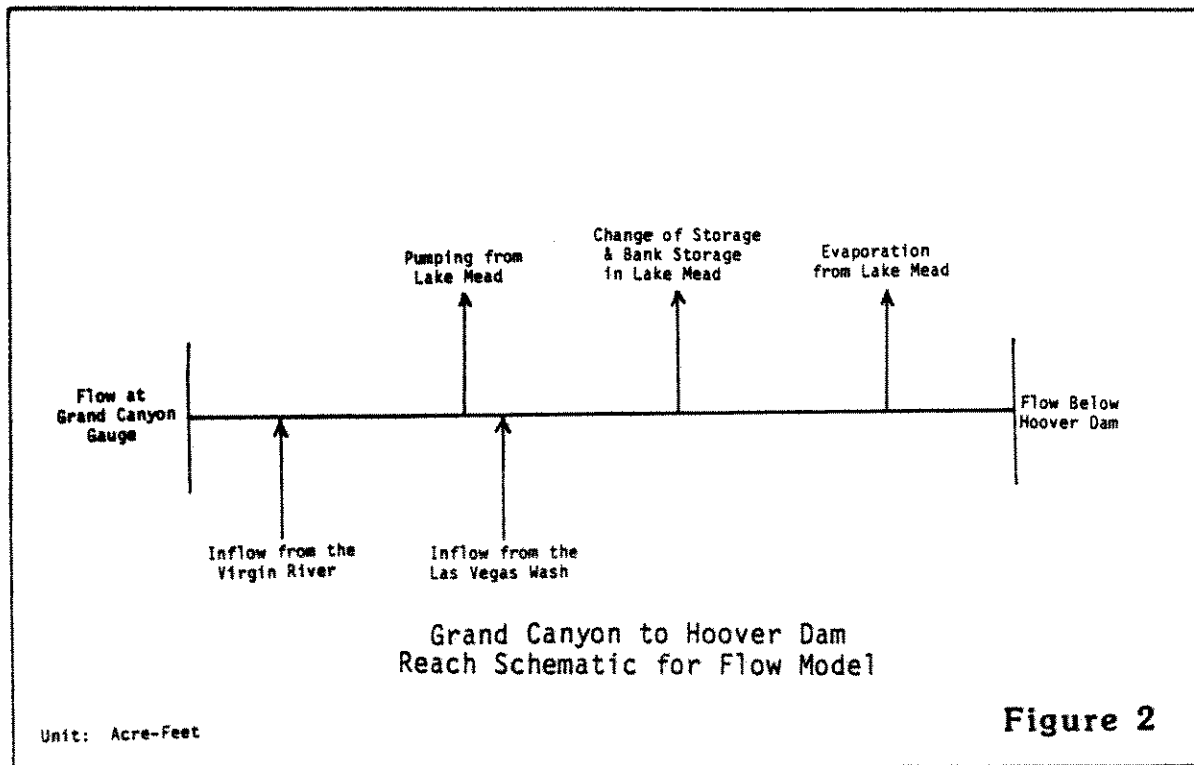
The Grand Canyon to Hoover Dam reach is modeled as a fairly simple reach consisting of one diversion (pumping from Lake Mead), two tributary flows (the Virgin River and Las Vegas Wash) and a reservoir (Lake Mead, formed by Hoover Dam). The Muddy River is not modeled as an inflow because of its small size and the poor quality of the data available. The contributions of the Muddy River, however, are taken into account in the reach gains. Data used for the flow and salt models for this reach are presented in Appendix 2.

### FLOW MODEL

Inflows, outflows, and changes in storage are shown on Figure 2.

#### Summary

The average annual reach gain for the 1963 through 1982 period between Grand Canyon and Hoover Dam is 334,614 acre-feet. The annual extreme values are 929,626 acre-feet (1982) and -68,191 acre-feet (1964). (A negative sign signifies a reach loss.)



The average annual flow entering the reach at Grand Canyon gage (1963-1982) is 8,622,609 acre-feet. The average annual reach gain is about 4 percent of the average annual flow entering the reach. The extreme values are 11 percent and -1 percent of the average annual flow entering the reach.

### Methodology

The reach gains were calculated by subtracting the computed value of flow below Hoover Dam (schematic model) from the recorded flow below Hoover Dam (USGS records or synthesized data).

$$\begin{array}{l} \text{Reach gains} \\ \text{(acre-feet)} \end{array} = \begin{array}{l} \text{Recorded} \\ \text{flow below} \\ \text{Hoover Dam} \\ \text{(acre-feet)} \end{array} - \begin{array}{l} \text{Computed} \\ \text{flow below} \\ \text{Hoover Dam} \\ \text{(acre-feet)} \end{array}$$

$$\begin{array}{l} \text{Computed flow} \\ \text{below Hoover Dam} \\ \text{(acre-feet)} \end{array} = \begin{array}{l} \text{Flow at Grand Canyon} \\ \text{(acre-feet)} \\ - \text{ Pumping from Lake Mead} \\ \text{(acre-feet)} \\ - \text{ Change in storage of} \\ \text{Lake Mead} \\ \text{(acre-feet)} \\ - \text{ Change in bank storage of} \\ \text{Lake Mead} \\ \text{(acre-feet)} \\ - \text{ Evaporation from Lake Mead} \\ \text{(acre-feet)} \\ + \text{ Inflow from Las Vegas Wash} \\ \text{(acre-feet)} \\ + \text{ Inflow from the Virgin River} \\ \text{(acre-feet)} \end{array}$$

The computed flow below Hoover Dam was determined by subtracting the diversions between Grand Canyon and Hoover Dam and the change in storage and evaporation of Lake Mead from the flow at Grand Canyon and adding to this calculation the inflows from the Las Vegas Wash and Virgin River.

Flow at Grand Canyon Gage. The data used for the flow at Grand Canyon in the Grand Canyon to Hoover Dam reach are the same data used in the Lees Ferry to Grand Canyon reach described in Chapter II under "Flow at Grand Canyon Gage." Records were completed through 1982.

Inflow From the Virgin River (Littlefield Gage). These data were divided into three time periods between 1905 and 1982. The 1930 to 1982 data are from USGS water supply papers for the gage,

"Virgin River at Littlefield, AZ." Data from 1910 to 1929 are synthesized from a regression equation and the Virgin River flows at Virgin, Utah taken from USGS water supply papers. The regression equation is based on the monthly Virgin River flows at Virgin, Utah and Littlefield, Arizona from 1930 to 1971, the period of record common to both gages. This regression equation is presented below:

$$y = 1.29 x - 179$$

where:  $y$  = Flow at Littlefield, AZ  
(acre-feet)

$x$  = Flow at Virgin, UT  
(acre-feet)

The correlation coefficient for the above regression is 0.88 and the standard error is 6845 acre-feet. The average monthly flow is 15,677 acre-feet.

Data for 1905 to 1909 are the combined average monthly flows from 1910 to 1982. The average annual (1906-1982) inflow is 187,692 acre-feet. The average annual (1963-1982) is 173,968 acre-feet.

Inflow From the Las Vegas Wash (near Boulder City). These data were divided into two time periods, 1963-1969 and 1970-1982. Data for 1970 to 1982 were developed from the USGS water supply papers for "Las Vegas Wash near Boulder City," station number 09419800. Flows from 1963 to 1969 were calculated using a regression equation developed from the gage "Las Vegas Wash near Henderson."

The regression equation was developed from 1970 through 1980 data, the overlapping period of record when the equation was developed. This regression equation is presented below:

$$y = 1.27 x - 115$$

where:  $y$  = Flow near Boulder City, NV  
(acre-feet)

$x$  = Flow near Henderson, NV  
(acre-feet)

The correlation coefficient of the regression analysis is 0.96; the standard error is 366 acre-feet. The average monthly value from 1970 to 1980 is 4,466 acre-feet. The average annual inflow (1963-1982) is 45,252 acre-feet.

Pumping From Lake Mead. Data are compiled from January 1963 through September 1982 from USGS water supply papers for gage, "Lake Mead at Hoover Dam, AZ and NV," station number 09421000. Estimates for October, November, and December 1982 were developed by Reclamation staff. The average annual outflow is 69,157 acre-feet.

Change of Storage in Lake Mead. Data were compiled from 1963 through 1982 from USGS water supply papers for the gage, "Lake Mead at Hoover Dam, AZ and NV," station number 09421000.

Evaporation From Lake Mead. Data were computed by applying monthly

evaporation coefficients (in units of feet) to the historic monthly surface area of the reservoir to obtain the evaporation for each month in acre-feet.

Monthly Evaporation (acre-feet)	=	Surface area Lake Mead (acres)	x	Monthly Evaporation Coefficient (feet)
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The monthly evaporation coefficients are the same for each year. This is the same evaporation assumption used by CRSS for simulations. The coefficients and resultant annual evaporation rate are shown in feet per month.

Jan. - 0.36	Jul. - 0.80
Feb. - 0.33	Aug. - 0.85
Mar. - 0.37	Sep. - 0.70
Apr. - 0.46	Oct. - 0.51
May - 0.53	Nov. - 0.51
Jun. - 0.64	Dec. - 0.44

Total For Year - 6.50 feet per year

The annual evaporation rate is taken from the USGS (Harveck et al, 1958) and can also be found in the Reclamation's Operations Criteria Report (Operations Criteria, July 1969, page 7). The monthly distribution of the annual evaporation rate (evaporation coefficients) is an approximation based on the monthly and annual evaporation from Lake Mead as reported in the USGS water supply

papers for the gage, "Lake Mead at Hoover Dam," station number 0942100. Records were completed from 1963 through 1982. The average annual evaporation is 797,500 acre-feet.

Bank Storage in Lake Mead. Bank storage in Lake Mead is assumed to be 6-1/2 percent of the change in surface storage (Operations Criteria, July 1969, page 10).

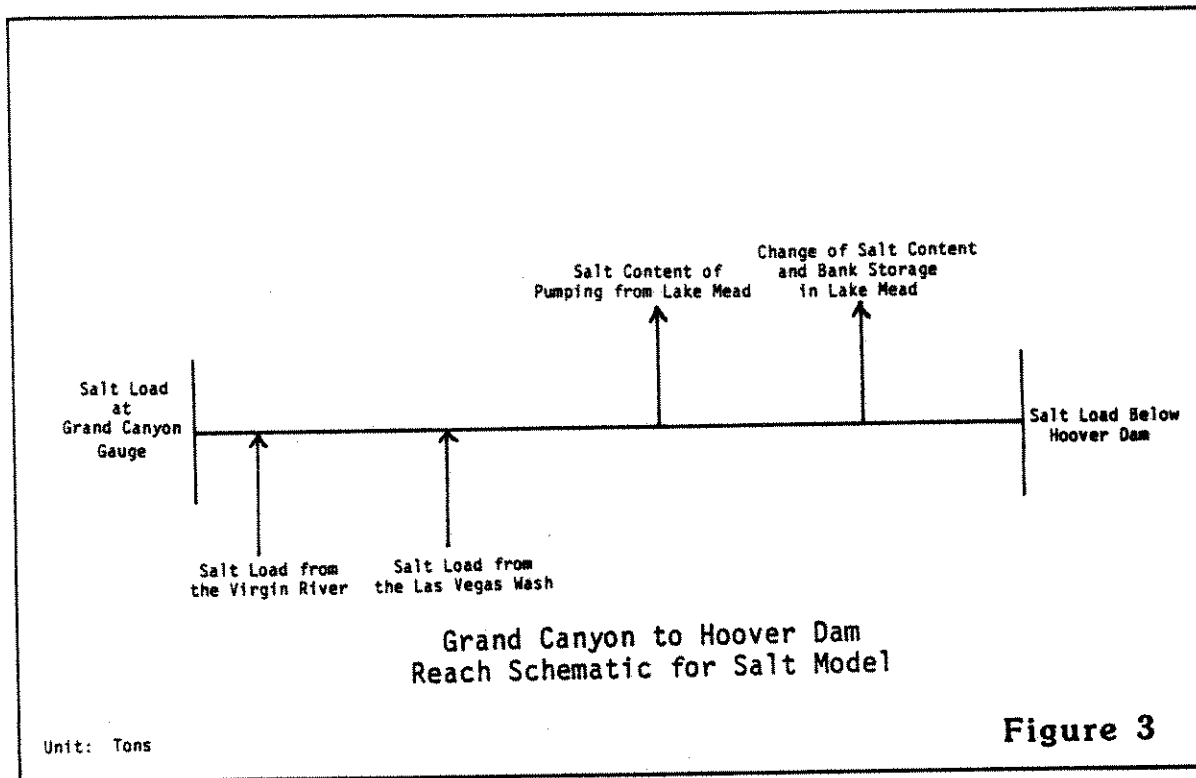
There are ongoing studies involving Lake Mead, including evaporation studies, which will allow a reevaluation of bank storage when the results of these studies become available at a future date.

Flow Below Hoover Dam. Data for January 1963 to December 1982 are from the USGS water supply papers for the gage, "Colorado River below Hoover Dam," station number 09421500.

The average annual flow (1963-1982) is 9,498,177 acre-feet.

**SALT MODEL**

The inflows, outflows, and changes in storage in the reach are shown on Figure 3.



### Summary

Average annual reach salt load gain for the 1963 through 1982 period in the Grand Canyon to Hoover Dam reach is 139,863 tons. The extreme annual values are 2,796,118 tons (1965) and -1,835,964 tons (1964). (A negative sign signifies a reach loss.)

Average annual salt load entering the reach at Grand Canyon gage (1963-1982) is 7,382,750 tons. Average annual reach salt load

gain is about 2 percent of the average salt load entering the reach. The extreme values are 38 percent and -25 percent of the average annual salt load entering the reach.

### Methodology

The salt load gains were calculated by subtracting the computed value for salt load (schematic model) from the recorded or synthesized value of salt load below Hoover Dam.

Salt load gains (tons)	=	Recorded salt load below Hoover Dam (tons)	-	Computed salt load below Hoover Dam (tons)
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The computed salt load below Hoover Dam was determined by subtracting the tons pumped from Lake Mead and the change in storage of Lake Mead from the salt load at Grand Canyon. To the results of the above calculations, salt load from the Virgin River and Las Vegas Wash was added.

Computed salt load, below Hoover Dam (tons)	=	Salt load at Grand Canyon (tons)
	-	Salt pumped from Lake Mead (tons)
	-	Change in storage of Lake Mead (tons)
	-	Change in bank storage of Lake Mead (tons)
	+	Salt load inflow from the Virgin River and Las Vegas Wash (tons)

Salt Load at Grand Canyon Gage. These data are the same data used in the calculations for the Lees Ferry to Grand Canyon reach, described in Chapter II, under "Salt Load at Grand Canyon Gage." Records were completed through 1982.

Salt Load from the Virgin River (Littlefield Gage). Data for 1963 to 1980 were taken from Interior's Progress Report No. 11 (1983, Table 17). Data for 1981 and 1982 are from USGS water supply and water quality data.

Salt Load from Las Vegas Wash (near Boulder City). These data are divided into two time periods, 1963 to 1969 and 1970 to 1982. Data for 1970 to 1982 were developed from USGS salinity data from USGS water supply papers for gage, "Las Vegas Wash near Boulder City," Station number 09419800. The years 1970 to 1982 are the complete period of record for this gage. Monthly tons were calculated by multiplying the flow data by the salinity concentration data to arrive at tons of salt.

Salt load from Las Vegas Wash (tons)	=	Inflow from Las Vegas Wash (acre-feet)	x	Salinity from Las Vegas Wash (tons/acre-foot)
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Data for 1963 to 1969 were developed from the flow from Las Vegas Wash, as described in the Flow Model



section of this Chapter, and a flow salinity relationship based on the 1970 to 1980 data; 1981 and 1982 data were not available when this relationship was developed. This relationship was described by the following regression equation:

$$y = 26.6 * x - 5.9 \times 10^{-3} * x^2 + 4.4 \times 10^{-7} * x^3 - 32797$$

where:  $x$  = Inflow from Las Vegas Wash  
(acre-feet)

$y$  = Salt load from Las Vegas Wash  
(tons)

The correlation coefficient of this analysis is 0.78. The standard error is 2,443 tons. The average monthly salt load (1970 to 1980) is 18,580 tons.

A single regression equation yields superior results over a system of 12 regression equations.

The average annual salt load is 186,951 tons.

Salt Content of Pumping from Lake Mead. Data from 1963 through 1982 were developed from USGS water supply papers for the gage, "Lake Mead at Hoover Dam, AZ and NV," station number 09421000. Flow values used in the salt calculations were those described under "Pumping from Lake Mead," in the Flow Model section of this Chapter.

The values were calculated by multiplying the pumping data, in acre-feet per month, by the salinity concentration data from the flow below Hoover Dam to yield pumping data in tons per month.

Pumping from Lake Mead (tons)	=	Pumping from Lake Mead (acre-feet)	x	Salinity of flow below Hoover Dam (mg/l)	x	1 Ton/AF 735.29 mg/l
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This calculation assumes complete mixing in Lake Mead with respect to salinity, the assumption CRSS currently uses for simulations. The average annual salt content of pumping is 66,175 tons.

Change of Salt Content in Lake Mead. Data from 1963 through 1982 were developed from USGS water supply papers for the gages, "Colorado River below Hoover Dam, AZ and NV," station number 09421500, and "Lake Mead at Hoover Dam, AZ-NV," station number 09421000. The change of storage at Lake Mead values, in acre-feet, are the same values described under "Change of Storage in Lake Mead," in the Flow Model section of this Chapter.

Change in salt content was calculated by multiplying the change of storage in Lake Mead in acre-feet by the salinity concentration of the flow below Hoover Dam from USGS records.

This calculation assumes complete mixing within Lake Mead with respect to salinity, the same assumption currently used by CRSS for simulations.

Bank Storage in Lake Mead. The salt model used the same  $6\frac{1}{2}$  percent value for bank storage as the flow model. The salinity used to calculate the salt in bank storage is the salinity below Hoover Dam from USGS records.

Salt Load Below Hoover Dam. These data were compiled from Interior's Progress Report No. 11 (1983) for 1963 to 1980. The data for 1981 and 1982 are from USGS water supply and water quality records. The average annual value (1963-1982) of salt load is 8,931,070 tons.

Change of storage in Lake Mead (tons)	=	Change of storage in Lake Mead (acre-feet)	x	Salinity of flow below Hoover Dam (mg/l)	x	$\frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}$
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## Chapter IV

### HOOVER DAM TO DAVIS DAM REACH

The Hoover Dam to Davis Dam reach of the Colorado River is a very simple reach consisting of some minor consumptive uses and the change in storage of Lake Mohave (formed by Davis Dam). Data used for the flow and salt models for this reach are presented in Appendix 3.

#### FLOW MODEL

The inflows, outflows, and changes in storage in this reach are shown in Figure 4.

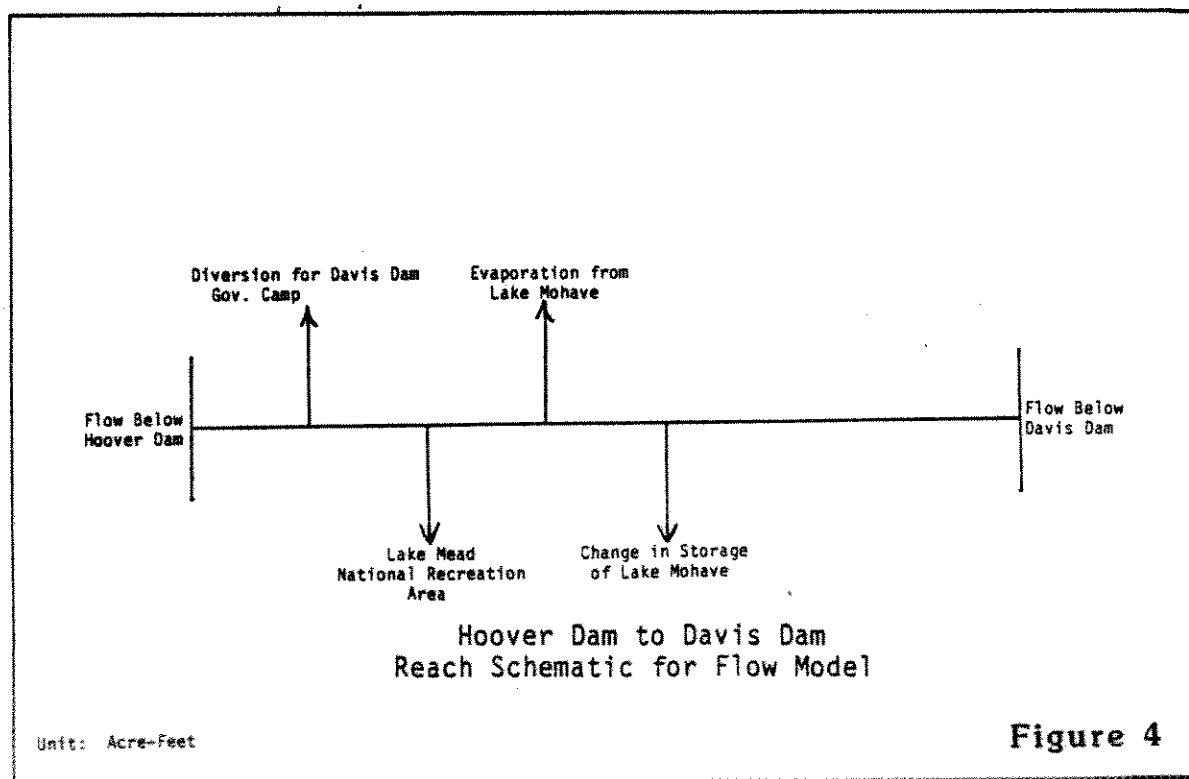
#### Summary

The average annual reach gains for the 1935 through 1982 period

in the Hoover Dam to Davis Dam reach are 122,700 acre-feet per year. The extreme annual values are -243,949 acre-feet (1945) and 497,241 acre-feet (1978). (The negative sign signifies a reach loss.)

The average annual flow entering the reach below Hoover Dam (1935-1982) is 9,498,177 acre-feet. The average annual reach gain is about 0.1 percent of the average annual flow entering the reach. The extreme values are about -3 percent and 5 percent of the average annual flow entering the reach.

Bank storage for Lake Mohave had little effect. The above results were obtained considering bank storage in Lake Mohave to be zero.



There are few phreatophytes in this reach, and consumptive use of water for phreatophytes was not estimated.

### Methodology

The reach gains were calculated by subtracting the computed value of flow below Davis Dam (schematic model) from the recorded flow below Davis Dam (USGS records synthesized data).

Reach gains (acre-feet)	=	Recorded flow below Davis Dam (acre-feet)	-	Computed flow below Davis Dam (acre-feet)
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The computed flow below Davis Dam was determined by subtracting from the flow below Hoover Dam the following: diversions for the Davis Dam Government Camp and the Lake Mead National Recreation Area (LMNRA), the evaporation from Lake Mohave and the change in storage of Lake Mohave. All values were in acre-feet per month.

Computed flow below Davis Dam = (acre-feet)	=	Flow below Hoover Dam (acre-feet)
- Div. to Davis Dam Gov. Camp & LMNRA (acre-feet)		
- Evap. from Lake Mohave (acre-feet)		
- Change in storage of Lake Mohave (acre-feet)		

Flow Below Hoover Dam. Data for February 1935 to December 1982 are from the USGS water supply papers for the gage, "Colorado River Below Hoover Dam," station number 09421500. The January 1935 flow is an

estimated flow, taken from Reclamation's Lower Colorado River Basin Project Water Supply Report (Water Supply, 1952). The average annual flow (1935-1982) is 9,498,177 acre-feet.

Diversion for Davis Dam Government Camp and LMNRA. Data were compiled through 1982 from Reclamation's Decree Accounting data for calendar years 1964-1982. The average annual diversion is 50 acre-feet. The 1935 through 1963 values are considered to be zero.

Consumptive Uses of the Arizona Recreation Area between Hoover and Davis Dams. Data were computed for 1964 through 1982 from Decree Accounting data. The average annual consumptive use is 100 acre-feet. The 1935 through 1963 data are considered to be zero.

Other Decree Consumptive Uses for Nevada. Data were completed from 1964 through 1982 from Decree Accounting data. The average annual consumptive use is 23 acre-feet. The 1935 through 1963 data are considered to be zero.

Change in Storage in Lake Mohave. Data were calculated from 1950 (when the dam was closed) through 1982 from USGS water supply papers for the gage, "Lake Mohave at Davis Dam, AZ-NV," station number 09422500. Change in storage is calculated by subtracting end of month contents from the previous month's contents.

Before the construction of Davis Dam, the change of storage of Lake Mohave was zero and the change in storage term drops out of consideration.

#### Evaporation from Lake Mohave

These data were calculated from 1950 through 1982 by applying monthly coefficients in units of feet to the surface area of Lake Mohave in units of acres to obtain acre-feet of evaporation. The methodology used to calculate evaporation rate is presented in Appendix 4.

Evaporation from Lake Mohave (acre-feet)	=	Surface Area of Lake Mohave (acres)	x	Monthly Evaporation Coefficient (feet)
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The same monthly coefficients were used for each year of the study. This is the procedure used by the CRSS to estimate future evaporation.

The surface area of Lake Mohave was calculated from end of month data available from the USGS and a regression equation based on available area-elevation-capacity tables. The monthly evaporation coefficients and the resultant annual evaporation rate are shown in feet per month.

Jan. - 0.36	Jul. - 0.93
Feb. - 0.36	Aug. - 0.84
Mar. - 0.48	Sep. - 0.68
Apr. - 0.61	Oct. - 0.56
May - 0.81	Nov. - 0.40
Jun. - 0.93	Dec. - 0.35

Total for Year - 7.31 acre-feet

The average annual evaporation is 130,921 acre-feet.

Flow Below Davis Dam. Data from 1950 through 1982 were taken from USGS water supply papers for the gage, "Colorado River below Davis Dam, AZ-NV," Station number 09423000. From 1935-1949 the flow was calculated from a regression equation with flow at Topock gage, 45 miles below Davis Dam, as the independent variable with the flow below Davis Dam corrected for evaporation and change in storage for Lake Mohave as the dependent variable.

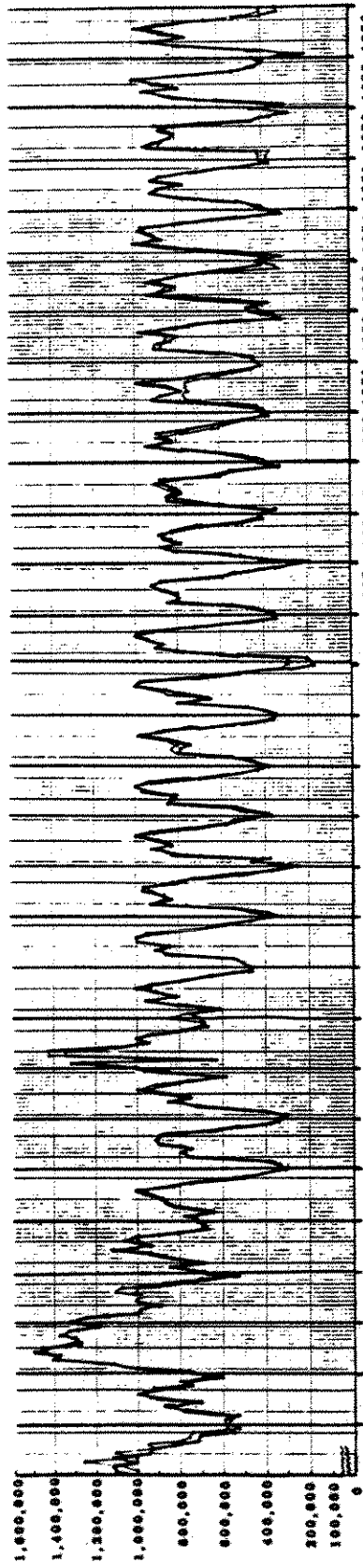
This regression with Topock gage was fifth order with a standard error of estimate of 46,442 acre-feet (approximately 6 percent of the mean monthly flow) and a correlation coefficient of 0.98. The recorded flows for the period 1950 to 1978, the period of record available when the analysis was done, were used for the regression analysis. A plot of actual flows below Davis Dam, for the period 1950 to 1978, and the flows predicted by the regression equation are shown in Figure 5.

Flow Below Davis Dam =

$$-0.464815628707E + 01\_Flow \text{ at Topock} + 0.159225877939E - 04 \times (Flow \text{ at Topock})^2 - 0.205929858782E - 10 \times (Flow \text{ at Topock})^3 + 0.124512440115E - 16 \times (Flow \text{ at Topock})^4 - 0.285302664332E - 23 \times (Flow \text{ at Topock})^5 + 739648$$

# Actual and Computed Releases from Davis Dam

Release from  
Davis Dam  
in acre-feet



Actual —  
Computed - - -

Figure 5

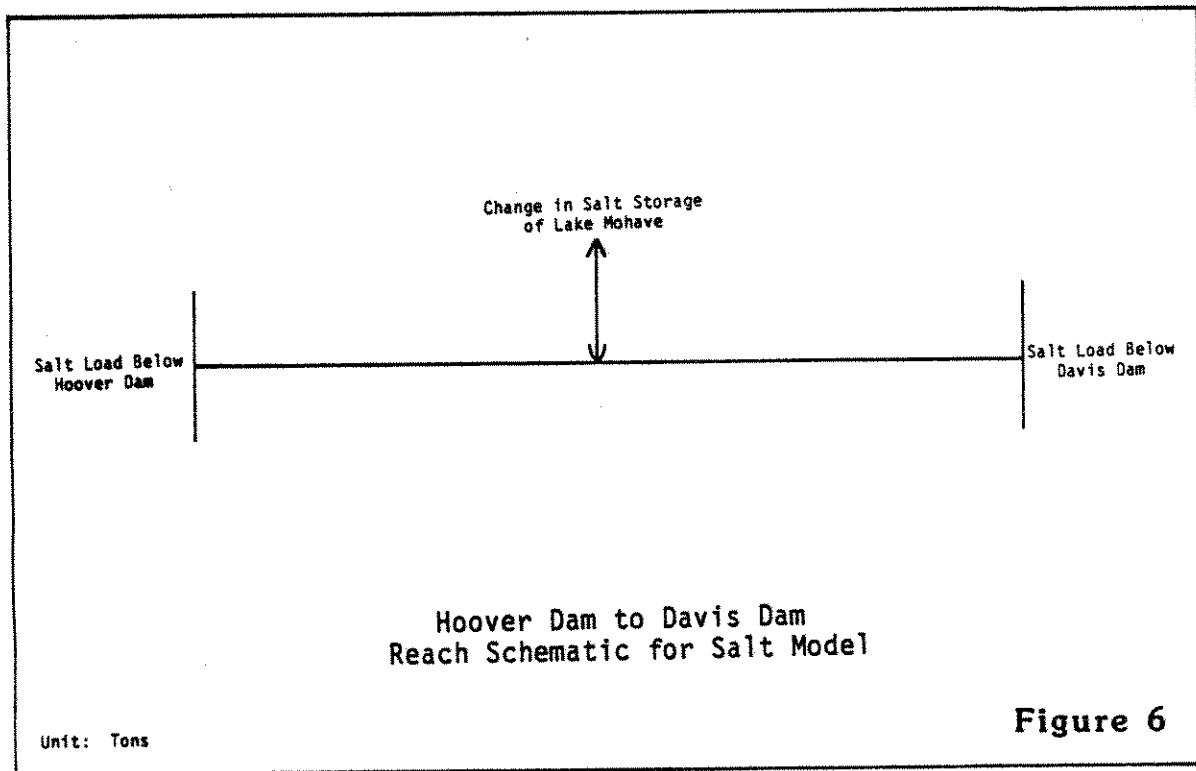
The average annual flow is 9,453,670 acre-feet.

### SALT MODEL

The inflows, outflows, and changes in storage in the reach are shown in Figure 6.

### Summary

Average annual reach salt load gain in the Hoover Dam to Davis Dam reach is 72,415 tons. The extreme annual values are 826,341 tons (1980) and -388,060 tons (1955). (A negative sign indicates a reach loss.)



Average annual salt load entering the reach below Hoover Dam (1935-1982) is 8,931,070 tons. Average annual reach salt load gain is about 0.1 percent of the average annual salt load entering the reach. The extreme values are 9 percent and 4 percent of the average annual salt load entering the reach.

Bank storage was considered to be zero as it was for the flow model.

Methodology

The reach salt load gains were calculated by subtracting the computed value for salt load below Davis Dam from the recorded or synthesized value of salt load below Davis Dam.

Reach Salt Load Gains (tons)	=	Computed Salt Load below Davis Dam (tons)	-	Recorded Salt Load below Davis Dam (tons)
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The computed salt load below Davis Dam was determined by subtracting the change in salt storage of Lake Mohave from the salt load below Hoover Dam.

Computed salt load below Davis Dam (tons)	=	Salt load below Hoover Dam (tons)	-	Change in salt storage of Lake Mohave (tons)
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Before the construction of Davis Dam, the change in storage is zero and this term drops out of consideration.

Salt Load Below Hoover Dam. These data were gathered from Progress Report No. 11 (1983) for the 1941-1982 period in units of tons per acre-feet. The period 1935-1940 was calculated from the flow below Hoover Dam in acre-feet and the salinity in parts per million from the Willow Beach Salinity Station and salinity from the gage below Hoover Dam. Both stations are USGS gaging stations. The equation used is shown below:

Salt load below Hoover Dam (tons)	=	Flow below Hoover Dam (acre-feet)	x	Salinity of flow below Hoover Dam (mg/l)	x	$\frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}$
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Change in Salt Storage of Lake Mohave. These data were compiled from 1950 (when the dam was closed) through 1982 using the salinity concentration of the flow below Davis Dam and the change in contents of Lake Mohave from USGS water supply papers for the gage, "Lake Mohave at Davis Dam, AZ-NV," station number 09422500.

Change in salt storage of Lake Mohave (tons)	=	Change of storage in Lake Mohave (acre-feet)	x	Salinity of flow below Davis Dam (mg/l)	x	$\frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}$
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Salt Load Below Davis Dam. These data were synthesized by multiplying the flow, below Davis Dam, from the flow model, by the salinity concentration of the flow below Davis Dam and then dividing by 735.29.



$$\begin{array}{l} \text{Salt load} \\ \text{below} \\ \text{Davis Dam} \\ \text{(tons)} \end{array} = \begin{array}{l} \text{Flow below} \\ \text{Davis Dam} \\ \text{(acre-feet)} \end{array} \times \begin{array}{l} \text{Salinity} \\ \text{of flow} \\ \text{below} \\ \text{Davis Dam} \\ \text{(mg/l)} \end{array} \times \frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}$$

The salinity used in the above equation comes from three sources. From 1970-1978 salinity is taken from USGS water supply papers. From 1941-1969, salinity was calculated using a regression analysis in which the salinity below Hoover Dam and the salinity below Parker Dams were independent variables.

Tons/acre-foot below Davis Dam =

$$0.136 + 0.472 \times (\text{tons/acre-foot}) \text{ Salinity below Hoover Dam} + 0.386 \times \text{Salinity below Parker Dam (tons/acre-foot)}$$

The correlation coefficient for the above analysis is 0.87.

The salinity below Parker Dam is from Interior's Progress Report No. 11 (1983) for 1941-1980. From 1935-1941 the salinity below Davis Dam was taken to be the average of the salinities at Topock, Arizona, 45 miles downstream from Davis Dam, and Willow Beach, Arizona, 50 miles upstream from Davis Dam (Reclamation, Sixth Annual Report on Retrogression Observations below Hoover Dam, 1941, Figure 36).

Data for 1981 and 1982 were compiled from USGS water supply and water quality data. The average annual salt load is 8,972,068 tons.

## Chapter V

### DAVIS DAM TO PARKER DAM REACH

The Davis Dam to Parker Dam reach is a complicated reach consisting of several diversions for consumptive use, returns from diversions, an inflow (the Bill Williams River) and a reservoir Lake Havasu, formed by Parker Dam. Data used for the flow and salt models for this reach are presented in Appendix 5.

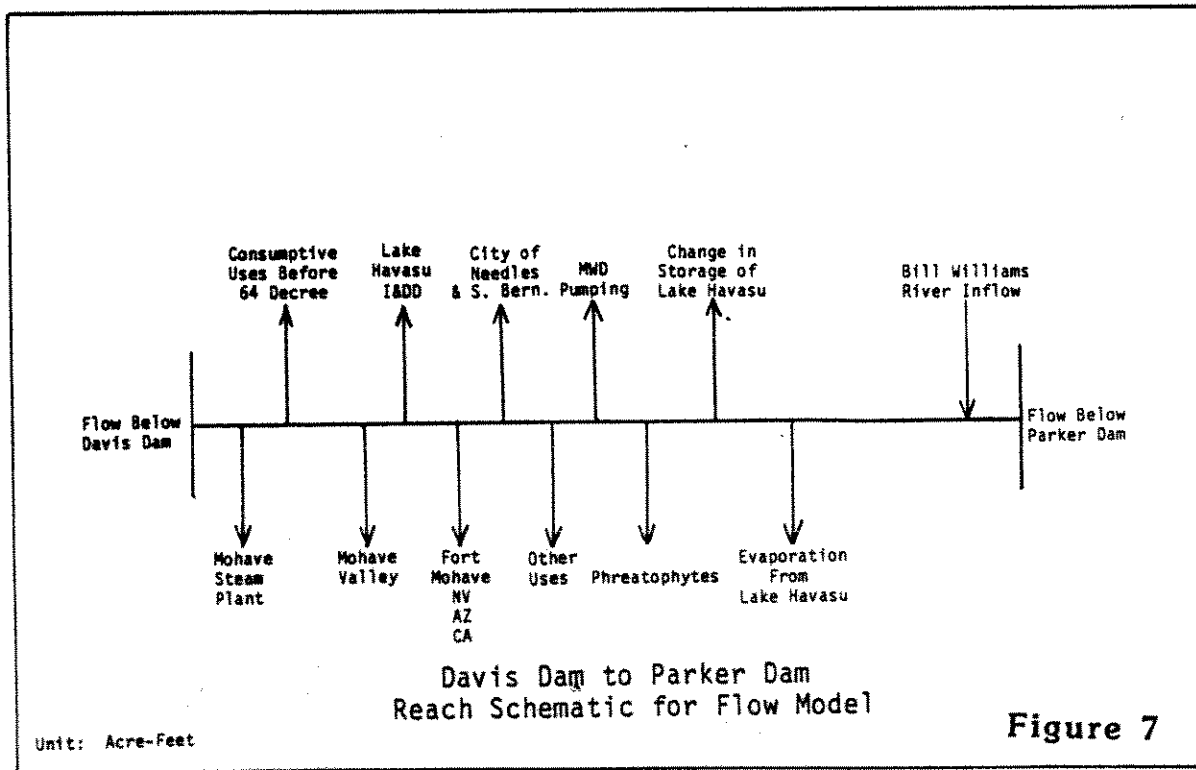
#### FLOW MODEL

The inflows, outflows, and changes in storage in the reach are shown in Figure 7.

#### Summary

The average annual reach gain in the Davis Dam to Parker Dam reach is 45,761 acre-feet. The extreme annual values are 327,831 acre-feet (1960) and -139,068 acre-feet (1983). (The negative sign signifies a reach loss.)

The average annual flow entering the reach below Davis Dam (1935-1982) is 9,453,670 acre-feet. The average annual reach gain is less than 0.1 percent of the average annual flow below the dam. The extreme values are about 3 percent and -2 percent of the average annual flow below the dam.



**Figure 7**

Methodology

The reach gains were calculated by subtracting the computed value of flow below Parker Dam (schematic model) from the recorded flow below Parker Dam (USGS records or synthesized data).

Reach gains (acre-feet)	=	Recorded flow below Parker Dam (acre-feet)	-	Computed flow below Parker Dam (acre-feet)
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The computed flow below Parker Dam was determined by subtracting the consumptive uses between Davis Dam and Parker Dam and the change in storage and evaporation of Lake Havasu from the flow below Davis Dam, and adding to this calculation the inflow from the Bill Williams River.

Computed flow below Parker Dam (acre-feet)	=	Flow below Davis Dam (acre-feet)
	-	Diversion to Mohave Steam Plant (acre-feet)
	-	Total Agricultural Consumptive Use (acre-feet)
	-	Pumping from Lake Havasu by M&D (acre-feet)
	-	Consumptive Use by Phreatophytes (acre-feet)
	-	Change in Storage of Lake Havasu (acre-feet)
	-	Evaporation from Lake Havasu (acre-feet)
	+	Inflow from the Bill Williams River (acre-feet)

The total agricultural consumptive use comes from two sources. Data prior to 1964 are from Reclamation reports (Water Supply, 1952; Supplements I and II, 1963). Data from 1964-1982 are from the Reclamation Decree Accounting records for the following water users: Lake Havasu Irrigation and Drainage District, Mohave Valley I & D D, City of Needles and San Bernardino County, Fort Mohave Indian Reservation (CA, AZ, and NV) and Other Decree Users in California and Nevada.

Flow Below Davis Dam. These data are the same data used in the calculations for the Hoover Dam to Davis Dam reach described in Chapter IV, "Flow Below Davis Dam." Records were completed from 1935 through 1982.

Diversion to Mohave Steam Plant by Southern California Edison. The Mohave Steam Plant began diverting water in 1967. Data prior to 1967 are considered to be zero. The 1967 through 1982 data are from the Decree Accounting records. The average annual (1935-1982) consumptive use is 3,093 acre-feet.

Miscellaneous California Consumptive Uses. These data are from the Decree Accounting records. Values prior to 1964 are considered to be zero. The average annual (1935-1982) consumptive use is 915 acre-feet.

Consumptive Uses of Fort Mohave Indian Reservation, California and Arizona. The Fort Mohave Indian Reservation began diverting water in 1975. Values prior to 1975 are considered to be zero. The average annual (1935-1982) consumptive use is 5,724 acre-feet.

Consumptive Uses of Mohave Valley Irrigation District. Data for 1964 through 1982 are from the Decree Accounting data. Values prior to 1964 are considered to be zero. The consumptive use of the Mohave Valley Irrigation District prior to 1964 is included in the Consumptive Uses before the 1964 Decree Section. The average annual (1935-1982) consumptive use is 7,485 acre-feet.

Consumptive Uses of the City of Needles and San Bernardino County. Data for 1964 through 1982 are from the Decree Accounting records. Data for 1935 through 1963 are from Reclamation records (Water Supply, 1952; Supplements I and II, 1963). The average annual (1935-1982) consumptive use is 2,415 acre-feet.

Consumptive Uses of the Lake Havasu Irrigation and Drainage District. The Lake Havasu Irrigation and Drainage District began using water in 1969. The data are from the Decree Accounting records. Values prior to 1969 are considered to be zero. The average annual (1935-1982) consumptive use is 1,899 acre-feet.

Water Pumped from Lake Havasu by the Metropolitan Water District of Southern California (MWD). Data for the Metropolitan Water District of Southern California have been compiled from 1964 through 1982 from Reclamation's Decree Accounting records. Data from 1935 to 1963 are from the USGS water supply papers. The average annual outflow is 596,949 acre-feet.

Consumptive Uses Before the 1964 Decree. Data are derived from yearly crop records documented in Reclamation reports (Water Supply, 1952; Supplements I and II, 1963). Acreages for each crop were gathered by year (1935-1963) along with the year by year climatological data for the reach. Consumptive use for each crop, based on the Blaney-Criddle (1950) method was estimated and then totalled by adding the uses of all crops for each month. After 1963 all consumptive use data are compiled from Decree Accounting records. The average annual consumptive use is 4,723 acre-feet.

Phreatophyte Consumptive Use. The consumptive use of phreatophytes, in the Davis Dam to Parker Dam Reach, was calculated according to the Blaney Criddle method using acreages of each phreatophyte type and climatological data. An explanation of the Blaney Criddle method, the acreages for each phreatophyte type, the monthly Blaney Criddle "K" factors for each phreatophyte type and a description of the

climatological factors needed can be found in Appendix 6.

Phreatophyte acreages for 1960 were taken from Reclamation's reconnaissance report on the Lower Colorado River water salvage phreatophyte control (June 1963). Phreatophyte acreages for 1976 were taken from Anderson's and Omart's annual report on the densities of birds and mammals in the Lower Colorado Valley (Anderson and Omart, 1977).

The 1960 and 1976 acreages for each phreatophyte were plotted. The acreages for the years between the 1960 and 1976 were found from a straight line interpolation between the 1960 and 1976 values. The acreages for each phreatophyte from 1978 to 1982 were assumed to be the same as in 1976. Phreatophyte types that were given in 1960 and not in 1976, and vice versa, were grouped with other phreatophyte types with the same or similar Blaney Criddle "K" factor. An overall density factor of 0.56 was used in this calculation (0.75 horizontal and 0.75 vertical).

Monthly climatological data for each year, between 1960 and 1982, were used to calculate the consumptive use.

Data for 1935 through 1959 were interpolated between 1914 and 1945 annual values of consumptive use by native vegetation (Water Supply, 1952; Supplements I and II, 1963) and the 1960 annual value of consumptive use calculated above. A graph of this curve can be found in Appendix 6. These annual values were then

distributed according to the average monthly distribution observed in the 1960 to 1982 data.

The result of these calculations is an average annual value for phreatophyte consumptive use of 214,743 acre-feet (1935-1982).

Change in Storage in Lake Havasu. Data were compiled through 1982 from USGS water supply papers for gage, "Lake Havasu Near Parker, Dam, AZ," station number 09427500. Change in storage was calculated by subtracting end of month content from previous month's content.

Evaporation from Lake Havasu. A detailed description of the evaporation analysis is presented in Appendix 4. Evaporation data were computed by applying monthly evaporation coefficients (in units of feet) to the historic monthly surface area of the reservoir to obtain acre-feet per month of evaporation.

Monthly evaporation (acre-feet)	=	Surface area Lake Havasu for a specific month (acres)	x	Monthly evaporation coefficient (feet)
---------------------------------	---	---	---	--

The monthly evaporation coefficients are the same for each year (as simulated by CRSS) and are developed from long-term mean monthly temperatures and pan evaporation data in units of feet per month.

Jan. - 0.34	Jul. - 0.90
Feb. - 0.41	Aug. - 0.89
Mar. - 0.48	Sep. - 0.81
Apr. - 0.59	Oct. - 0.65
May - 0.70	Nov. - 0.46
Jun. - 0.81	Dec. - 0.35

Total for year - 7.39 feet per year

The average annual evaporation is 133,383 acre-feet.

Bill Williams River Inflow. Data were taken from USGS water supply papers. The 1946 through 1982 data are from the gage "Flow Below Alamo Dam", station number 09426000 about 30 miles upstream of Lake Havasu. Data from 1914 through 1945 are from the gage "Bill Williams River at Planet, Arizona," about 6 miles upstream of the water line (elevation 450) of Lake Havasu (Water Supply, 1952; Supplements I and II, 1963). The 1906-1913 period uses averages for the period of record for the "Bill Williams River at Planet, Arizona," gage (Water Supply, 1952; Supplements I and II, 1963), as no other data are available.

For a time these two gages coexisted. No relationship or pattern could be found for the gain between the two stations; therefore none was used.

The average annual flow (1906-1982) is 101,788 acre-feet.

The average annual flow (1935-1982) is 80,051 acre-feet.

Flow Below Parker Dam. Data for 1941-1980 were compiled from Interior's Progress Report No. 11 (1983). Data for 1935-1940 were compiled from the USGS water supply papers for the gage, "Colorado River Below Parker Dam, AZ-CA," station number 09427520. (From 1935 to October 1937 this gage was published as "Near Parker, AZ" Data for 1981 and 1982 area also from the USGS water supply papers. The average annual flow is 8,596,038 acre-feet.

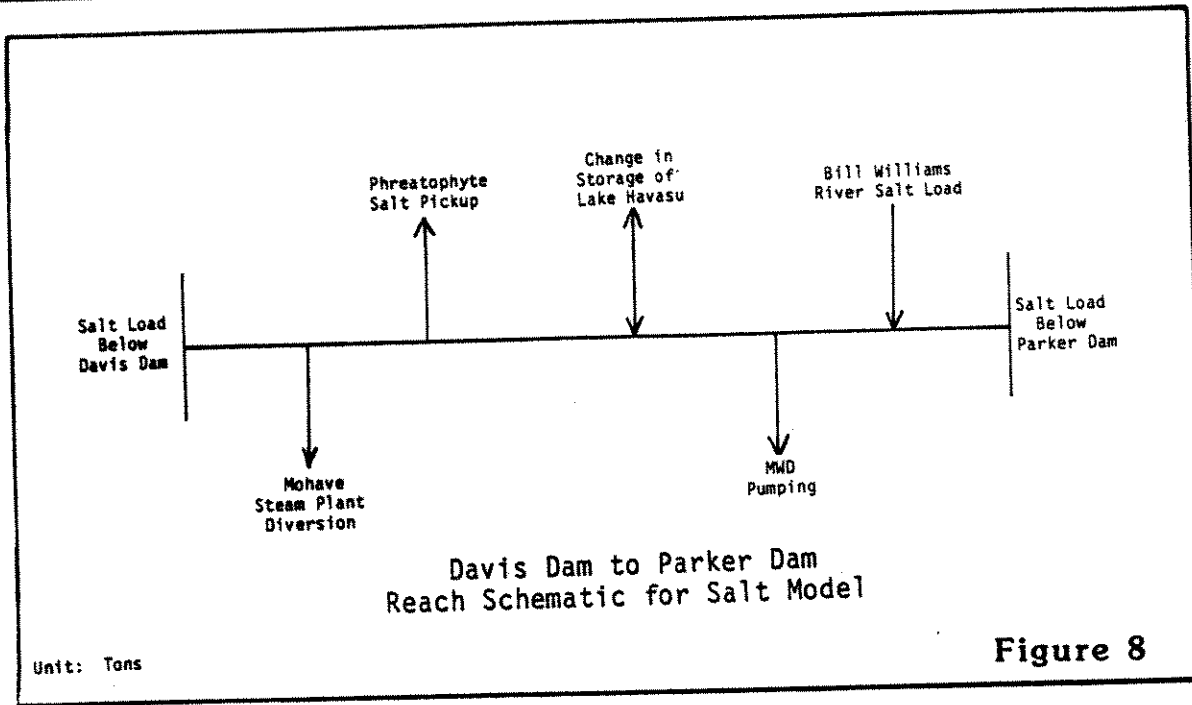
## SALT MODEL

The inflows, outflows, and changes in the reach are shown on Figure 8.

### Summary

Average annual reach salt load gain for the 1935 to 1982 period in the Davis Dam to Parker Dam reach is -23,791 tons. (A negative sign signifies a reach loss.) The extreme annual values are 692,391 tons (1941) and -365,371 tons (1944).

Average annual salt load entering the reach below Davis Dam (1935-1982) is 8,972,068. Average annual reach salt load gain is about -0.3 percent of the average annual salt load entering the reach. The extreme values are about 8 percent and -4 percent of the average annual salt load entering the reach below Davis Dam.



Methodology

The reach salt load gains were calculated by subtracting the computed value for salt load from the recorded, or synthesized, value of salt load below Parker Dam.

and the salt assumed to be removed from the flow regime by phreatophyte concentration. To the result of the above calculation, the salt load from the Bill Williams River was added.

Reach salt load gains (tons)	=	Computed salt load below Parker Dam (tons)	-	Recorded or synthesized salt load below Parker Dam (tons)
------------------------------	---	--	---	---

Computed salt load below Parker Dam (tons)	=	Salt load below Davis Dam (tons)
	-	Salt load diverted by the Mohave Steam Plant (tons)
	-	Salt load diverted by MWD (tons)
	-	Tons removed from flow regime by phreatophytes
	-	Change in salt storage of Lake Havasu (tons)
	+	Salt load from the Bill Williams River (tons)

The computed salt load below Parker Dam was determined by subtracting the tons of salt diverted by the Mohave Steam Plant, MWD pumping, the change in salt storage of Lake Havasu,

Salt Load Below Davis Dam. These data are the same data used in the calculations for the Hoover Dam to Davis Dam Reach, described in Chapter IV, "Salt Load Below Davis Dam." Records were completed through 1982. The synthesis of the salinity below Davis Dam is discussed in the Salt Model section of Chapter IV.

Mohave Steam Plant Diversion. Data were computed by multiplying the diversion, in acre-feet, to the Mohave Steam Plant by the salinity concentration of the flow below Davis Dam.

$$\begin{array}{l}
 \text{Salt load} \\
 \text{diverted to} \\
 \text{Mohave Steam} \\
 \text{Plant} \\
 \text{(tons)} \\
 \times \\
 \text{Salinity of flow} \\
 \text{below Davis Dam} \\
 \text{(mg/l)} \\
 \times \\
 \frac{1 \text{ ton/AF}}{735.29 \text{ mg/l}}
 \end{array}
 =
 \begin{array}{l}
 \text{Flow diverted to} \\
 \text{Mohave Steam Plant} \\
 \text{(acre-feet)}
 \end{array}$$

The average annual value is 2,936 tons.

The Mohave Steam Plant has no return flow; therefore, its entire diversion is a consumptive use.

Salt Removed from the Flow Regime by Phreatophyte Concentration.

In the Lower Colorado River, phreatophyte stands such as salt brush, arrow weed, tules, and salt cedar concentrate salts not only in

the water, but in the soils as well, thus removing a quantity of salt from the flow regime. This concept is documented in Metzger, Loeltz and Irelan (1973, page 77) as well as in Reclamation documents (Reclamation, CRIR Concluding Report, 1979, pages 14-16; and PVID Status Report, 1980, page 17).

For the Davis Dam to Parker Dam reach the salt removed from the flow regime was assumed to be equal to the water consumed by phreatophytes times the salinity concentration of that water.

$$\begin{array}{l}
 \text{Salt removed} \\
 \text{by phreatophytes} \\
 \text{(tons)} \\
 = \\
 \text{Water} \\
 \text{consumed by} \\
 \text{phreatophytes} \\
 \text{(acre-feet)} \\
 \times \\
 \text{Salinity} \\
 \text{of flow} \\
 \text{below} \\
 \text{Parker Dam} \\
 \text{(mg/l)} \\
 \times \\
 \frac{1 \text{ ton/AF}}{735.29 \text{ mg/l}}
 \end{array}$$

The average value is 204,516 tons.

Change in Salt Storage of Lake Havasu.

Records were completed from 1935 through 1982 from USGS water supply papers for gage, "Lake Havasu Near Parker Dam, AZ-CA," station number 09427500. The change of storage was calculated by multiplying the change in storage from end of month content records by the salinity concentration below Parker Dam:

$$\begin{array}{l}
 \text{Change in} \\
 \text{storage} \\
 \text{(tons)} \\
 = \\
 \text{Change} \\
 \text{in storage} \\
 \text{of Lake} \\
 \text{Havasu} \\
 \text{(acre-feet)} \\
 \times \\
 \text{Salinity} \\
 \text{of flow} \\
 \text{below} \\
 \text{Parker Dam} \\
 \text{(mg/l)} \\
 \times \\
 \frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}
 \end{array}$$



Metropolitan Water District of Southern California Pumping. The salt lost from the Colorado River because of pumping by MWD was calculated by multiplying the flow pumped by MWD, in acre-feet by the salinity concentration below Parker Dam. The equation form is shown below:

$$\begin{matrix} \text{Tons} & = & \text{Water} & \times & \text{Salinity} \\ \text{pumped} & & \text{pumped} & & \text{below} \\ \text{by} & & \text{by MWD} & & \text{Parker Dam} \\ \text{MWD} & & \text{(acre-feet)} & & \text{(mg/l)} \\ & & & & \\ & & & \times & \frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}} \end{matrix}$$

The average annual outflow is 578,766 tons.

Bill Williams River Salt Load. The salt load was calculated from the flow data and from observations gained from the 1974-1979 water quality data below Alamo Dam. (See discussion of Bill Williams River Inflow under Flow Model section of this Chapter.)

This empirical relationship is described in the following equations.

Flow of 1,850 acre-feet/month and under:

$$\begin{matrix} \text{Salt} & = & \text{Flow of} & \times & 0.816 & \times & \frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}} \\ \text{load} & & \text{river} & & & & \\ \text{(tons)} & & \text{(acre-feet)} & & & & \end{matrix}$$

Flows between 1,850-70,000 acre-feet/month:

$$\begin{matrix} \text{Salt load} & = & [-0.017799543991 \times \text{flow} \times 0.350998376937E -06 \\ \text{(tons)} & & \times (\text{flow})^2 - 0.238267322067E \times (\text{flow})^3 + 611] \\ & & \times \frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}} \end{matrix}$$

Flows greater than 70,000 acre-feet/month:

$$\begin{matrix} \text{Salt load} & = & \text{Flow of} & \times & 0.25 & \times & \frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}} \\ \text{(tons)} & & \text{Bill Williams} & & & & \\ & & \text{River} & & & & \\ & & \text{(acre-feet)} & & & & \end{matrix}$$

The average annual value (1906-1982) is 44,652 tons. The average annual value (1935-1982) is 33,550 tons.

Salt Load Below Parker Dam. Data for 1941-1980 were compiled from Interior's Progress Report No. 11 (1983). Data from 1935-1940 were derived from multiplying the USGS flow data by the average of the salinities at Willow Beach (just below Hoover Dam) and Yuma,

Arizona. The flow data were described in the preceding section.

$$\begin{array}{l}
 \text{Salt load} = \text{Flow below} \times \frac{\text{Salinity Willow Beach} + \text{Salinity at Yuma}}{2} \\
 \text{below Parker Dam} \quad \text{Parker Dam} \quad \text{(acre-feet)} \quad \text{(mg/l)} \\
 \text{(tons)} \\
 \\
 \times \frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}
 \end{array}$$

Data for 1981 and 1982 were also taken from USGS water supply papers. As quality data were available on a bi-monthly basis, salinity concentration data for months without quality records were calculated by averaging the months immediately preceding and following the month for which there were no data. The average annual salt load is 8,184,017 tons.

## Chapter VI

# PARKER DAM TO IMPERIAL DAM REACH

The Parker Dam to Imperial Dam reach of the Colorado River consists of a major irrigation district (Palo Verde), the Colorado River Indian Reservation (CRIR), two large wildlife refuges, some municipal water users, and a pump-storage regulation facility (Senator Wash). There are no reservoirs along this reach. Inflows are the releases from Parker Dam; the terminus of the reach is Imperial Dam.

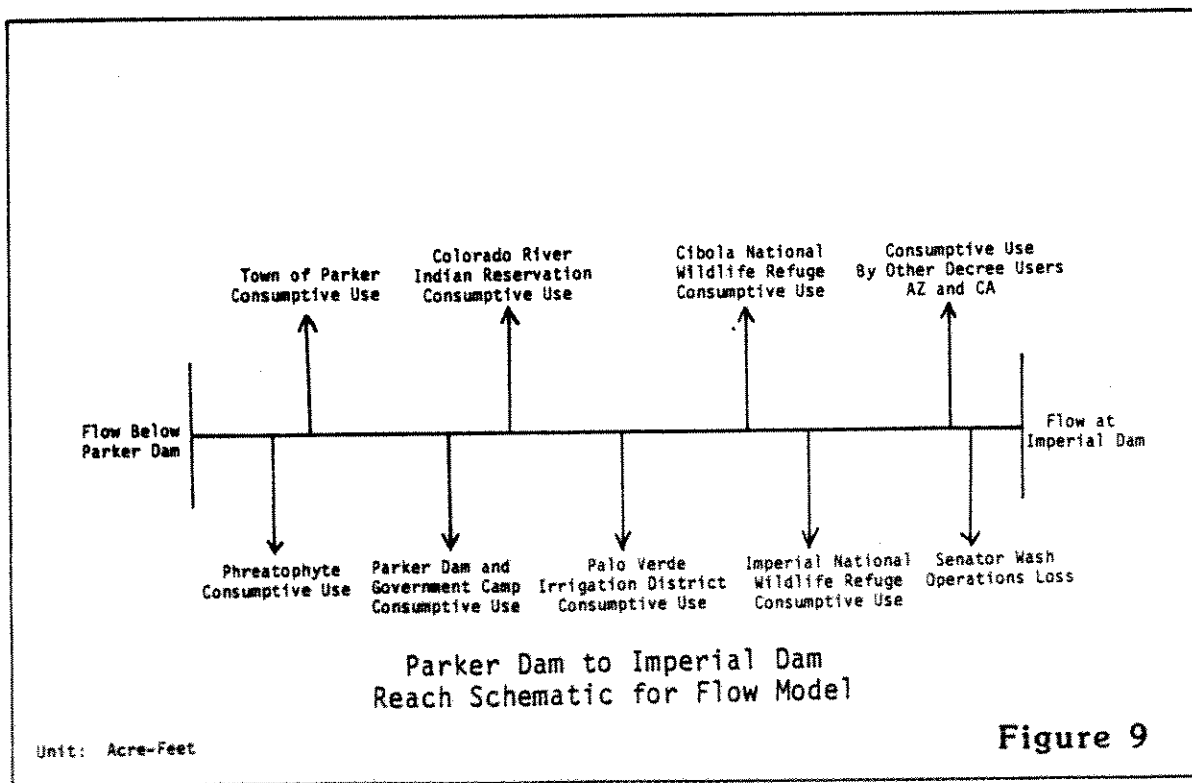
### FLOW MODEL

Inflows and outflows in the reach are shown in Figure 9. Data used for the flow and salt models for this reach are presented in Appendix 7.

### Summary

The average annual reach gains for the 1935 through 1982 period in the Parker Dam to Imperial Dam reach are 237,298 acre-feet. The extreme range annual values are 654,816 acre-feet (1958) and -187,802 acre-feet (1980). (The negative sign signifies a reach loss.)

The average annual flow entering the reach below Parker Dam (1935-1982) is 8,596,038 acre-feet. The average annual reach gain is 3 percent of the average annual flow below Parker Dam. The extreme values are 8 percent and -2 percent of the average annual flow below Parker Dam.



Methodology

The reach gains were calculated by subtracting the computed value of flow at Imperial Dam (schematic model) from the recorded flow at Imperial Dam (USGS records or synthesized data).

Reach gains (acre-feet)	=	Recorded flow at Imperial Dam (acre-feet)	-	Computed flow at Imperial Dam (acre-feet)
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The computed flow at Imperial Dam was determined by subtracting the consumptive uses between Parker Dam and Imperial Dam from the flow below Parker Dam.

Computed flow at Imperial Dam	=	Flow below Parker Dam
		- Town of Parker Consumptive Use
		- Parker Dam and Govt. Camp Consumptive Use
		- CRIR Consumptive Use
		- PVID consumptive Use
		- Cibola National Wildlife Refuge Consumptive Use
		- Imperial National Wildlife Refuge Consumptive Use
		- Senator Wash Operations Loss
(acre-feet)		- Consumptive Use by other Decree Users
		- Phreatophyte Consumptive Use

Flow Below Parker Dam. These data are the same data used in the calculations for the Davis Dam to Parker Reach, described in Chapter V, "Flow Below Parker Dam." Records were completed through 1982.

Cibola National Wildlife Refuge Consumptive Use. Data began in 1976 and are complete through 1982 from Reclamation's Decree Accounting records. The average annual (1935-1982) consumptive use is 1,753 acre-feet. The analysis considers the consumptive use to be zero prior to 1976.

Palo Verde Irrigation District (PVID) Consumptive Use. Data are complete from 1935-1982. Detailed information in the relationship of consumptive use to diversion ratios is presented in Appendix 8. Data from 1964-1982 are from the Reclamation's Decree Accounting records. To determine data for 1935 to 1963, a ratio of consumptive use to diversion was applied to annual data. Annual consumptive use values were then distributed into monthly values according to an average monthly distribution observed from the Decree Accounting records. The average value of consumptive use to diversion for 1935-1963 is approximately 50 percent. The average annual consumptive use is 341,566 acre-feet.

Colorado River Indian Reservation (CRIR) Consumptive Use. Data are complete from through 1982. Data from 1964-1982 are from the Decree Accounting records for Arizona and California. Data from 1946-1963 are from USGS water supply papers. Consumptive use for the reservation was derived by subtracting the reservation's return flows from the diversions. From 1935-1945 consumptive use was considered to equal the diversions, based on USGS determination that no surface return flow reached the Colorado River during this period. The average annual consumptive use was 187,171 acre-feet.

Imperial National Wildlife Refuge Consumptive Use. Data for the Imperial National Wildlife Refuge began in 1966. Data are from Decree Accounting records and are complete through 1982. This analysis considers the consumptive use of the Imperial National Wildlife Refuge to be zero prior to 1966. The average annual (1935-1982) consumptive use is 89 acre-feet.

Town of Parker Consumptive Use. Data are complete from 1935-1982. The 1964-1982 data are from the Decree Accounting records. Data for 1935-1963 were synthesized from population data obtained from the town of Parker and assumed the same average-per-capita water use as the 1964-1982 period.

The population of the town is known for 1950, 1960, 1970, and 1980, and is assumed to be constant between these years. Population before 1950 was

estimated from the pattern of growth observed from 1950-1980. The estimated 1950 population was multiplied by a factor of 0.34, calculated from population and annual consumptive use data from 1964-1970. The resulting annual consumptive use data for 1935-1963 were distributed into monthly consumptive uses based on the monthly pattern of consumptive use observed over the 1964-1982 period in the Decree Accounting records. The average annual consumptive use is 593 acre-feet.

Consumptive Use of Other Decree Users in Arizona and California. Data are from the Decree Accounting records beginning in 1964 and are complete through 1982. Consumptive use of other decree users in Arizona and California is considered to be zero prior to 1964. The average annual consumptive use is 20,608 acre-feet.

Consumptive Use of Parker Dam and Government Camp. Data for 1972-1982 are from the Decree Accounting records. From 1935-1971 this diversion is included in the records titled, "Other Users." The average annual consumptive use (1972-1982) is 244 acre-feet.

Phreatophyte Consumptive Use. The consumptive use of phreatophytes, in the Parker Dam to Imperial Dam reach, was calculated according to the Blaney Criddle method using acreages of each phreatophyte type and

climatological data. An explanation of the Blaney Criddle method, the acreage for each phreatophyte type, the monthly Blaney Criddle "K" factors for each phreatophyte type and a description of the climatological factors used can be found in Appendix 6.

Phreatophyte acreages for 1960 were taken from a Reclamation's reconnaissance report (Reclamation, June 1963). Phreatophyte acreages for 1976 were taken from an annual wildlife report (Anderson and Omart, 1977). The acreage data for 1976 is a total of the acreages given for the Parker, Palo Verde and Imperial Divisions. The 1960 and 1976 acreages for each phreatophyte were plotted. The acreages for the years between 1960 and 1976 were found from a straight line interpolation between the 1960 and 1976 values. The acreages for each phreatophyte from 1978 to 1982 were assumed to be the same as in 1976. Phreatophyte types that were given in 1960 and not in 1976, and vice versa, were grouped with other phreatophyte types with the same or similar Blaney Criddle "K" factor. An overall density factor of 0.56 was used in this calculation (0.75 horizontal and 0.75 vertical).

Monthly climatological data for each year, between 1960 and 1982, were used to calculate the consumptive use.

Data for 1935 through 1959 were interpolated between 1914 and 1942 annual values of consumptive use by native vegetation (Water Supply, 1952; Supplements I and II, 1963) and the 1960 annual

value of consumptive use calculated above. A graph of this curve can be found in Appendix 6. These annual values were then distributed according to the average monthly distribution observed in the 1960 to 1982 data.

The result of these calculations is an average annual value for phreatophyte consumptive use of 404,540 acre-feet (1935-1982).

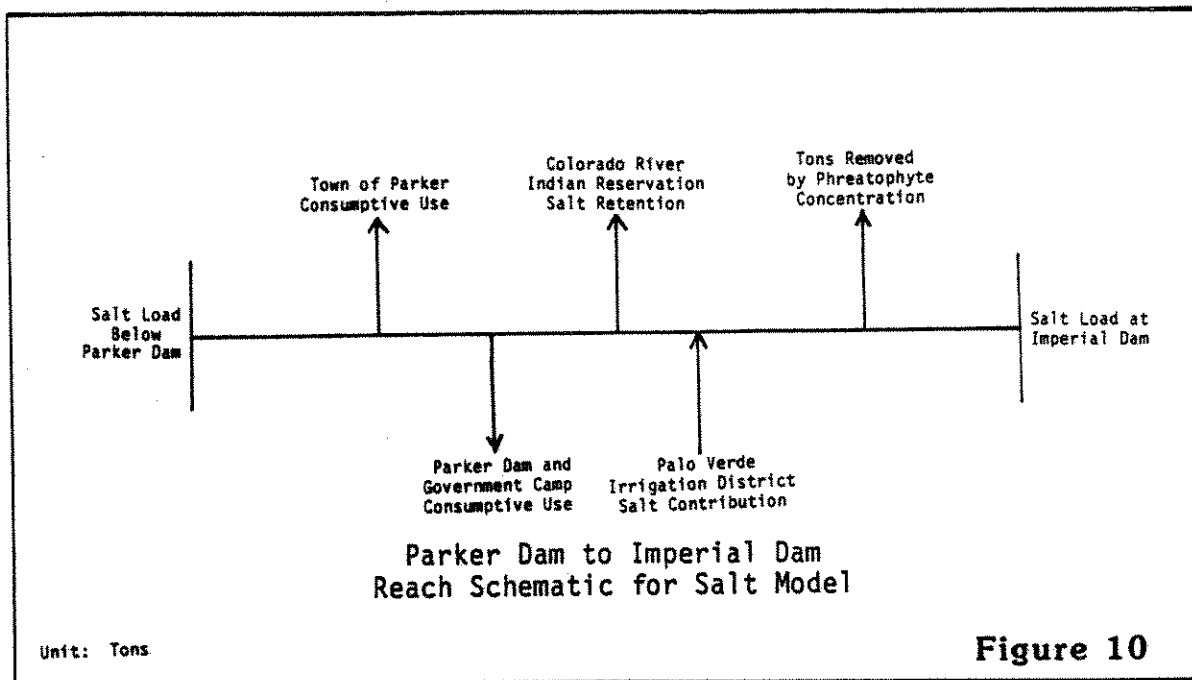
#### Senator Wash Operations Loss.

Senator Wash is a pumped-storage facility which generates power and partially reregulates flows between Parker and Imperial Dams. Operation began in 1967. Data are complete through 1982 from preliminary Colorado River Basin Operational Data, Reservoir Elevation and Contents, compiled by Reclamation. Consumptive uses were calculated by subtracting the flow during times of generation from the flow during times of pumping. The Senator Wash operations loss is considered to be zero before 1967. The average annual loss (1935-1982) is 18,908 acre-feet.

Flow at Imperial Dam. Data from 1941-1980 are from Interior's Progress Report No. 11 (1983). From 1935-1940 and from 1981-1982 data are from USGS water supply papers for the gage, "Colorado River Above Imperial Dam, AZ-CA," station number 09429490.

#### **SALT MODEL**

The inflows and outflows are shown on Figure 10.



Summary

Average annual reach salt load gain in the Parker Dam to Imperial Dam reach is 319,865 tons. The extreme annual values are 1,262,364 tons (1958) and -256,695 tons (1980). (A negative sign indicates a reach loss.)

The average annual salt load entering the reach below Parker Dam (1935-1982) is 8,184,017 tons. Average annual reach salt load gain is about 4 percent of the salt load entering the reach. The extreme values are about 15 percent and -3 percent of the average annual salt load entering the reach.

Methodology

The reach salt load gains were calculated by subtracting the computed value for salt load at Imperial Dam, from the recorded, or synthesized, value of salt load at Imperial Dam.

Salt load gains (tons)	=	Computed salt load at Imperial Dam (tons)	-	Recorded or synthesized salt load at Imperial Dam (tons)
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Salt Load Below Parker Dam. These data are the same data used in the calculations for the Davis to Parker Dam Reach, Chapter V, "Salt Load Below Parker Dam."

Parker Dam and Government Camp Consumptive Use. Records are complete from 1972 through 1982. Data were computed by multiplying the diversion to Parker Dam and Government Camp from the Decree Accounting records in acre-feet per month by the salinity of the Colorado River below Parker Dam. Before 1972 this use was included in other uses. Prior to 1972 this calculation assumes a value of zero for this use.

Parker Dam and Govt. Camp Diversion (tons)	=	Parker Dam and Govt. Camp Diversion (acre-feet)
	x	Salinity of Colorado River below Parker Dam (mg/l)
	x	$\frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}$

The average annual consumptive use is 237 tons (1972-1982).

Town of Parker Consumptive Use. Records are completed from 1935 through 1982. Data were computed by multiplying the diversion (acre-feet/month) to the Town of Parker from Chapter VI, by the salinity concentration of the Colorado River below Parker Dam.

Town of Parker Diversion (tons)	=	Town of Parker Diversion (acre-feet)	x	Salinity of Colorado River below Parker Dam (mg/l)	x	$\frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}$
--	---	---	---	---	---	--

The average annual consumptive use is 536 tons.

CRIR Salt Retention. Records are complete from 1935 through 1982. A detailed discussion of the salt load and retention calculations is presented in Appendix 9.

Data were calculated by subtracting the CRIR diversions from the returns. Diversions and returns were supplied by the Intensive Salinity Surveillance Program (ISSP), a Reclamation program currently underway to measure Colorado River Salinity below Parker Dam.

Data were analyzed from 1968-1982, and the salt diverted and returned to the Colorado River was calculated on a monthly basis. The CRIR was found to return less salt to the river than it diverted, and the difference was entered as a loss of salt in the reach.

Annual values prior to 1968 were calculated from the monthly values (diversions-returns). Annual values were divided by the number of acres irrigated in each year to yield salt pickup. (In this case, salt pickup is negative and is referred to as salt retention.)

Annual salt retention values were then plotted. The absolute values of salt retention increased with time. A straight line relationship between calendar year and the annual salt retention data was assumed. Salt retention values were then extrapolated back in time until the value zero was reached.

There are no data to indicate that CRIR ever contributed more salt to the Colorado River than it diverted; therefore, it was assumed that an inflow equals



outflow situation (salt retention equals zero) was a practical limit.

The average annual salt retention is 14,641 tons.

PVID Salt Load. Data are completed from 1935 through 1982. A detailed discussion of salt loading calculations is presented in Appendix 9.

Data were calculated by subtracting PVID diversions from returns. Diversions and returns were supplied by the ISSP and other reports and studies for the 1968 to 1979 time frame.

For values prior to 1968 the total annual salt pickup by PVID was divided by the number of acres irrigated in each year to obtain a unit salt pickup value in tons per acre. These values were plotted and extrapolated back in time until a value of 2 tons per acre was reached. It was assumed that a maximum value of 2 tons per acre of salt pickup was a usable value where no other data existed. This salt pickup value was then applied to the historic irrigated acreage to yield an annual salt loading to the Colorado River. These annual values were divided into monthly values according to average monthly distributions calculated from the 1968-1982 recorded data. The average annual salt pickup is 124,255 tons.

Salt Removed From the Flow Regime by Phreatophytes Concentration.

For the Parker Dam to Imperial Dam reach, as in the Davis Dam to Parker Dam Reach, the salt

removed from the flow system was assumed to be equal to the water consumed by the phreatophytes times the salinity concentration of that water.

Salt removed by phreatophytes (tons)	=	Water consumed by phreatophytes (acre-feet)
	x	Average salinity of flow between Parker and Imperial Dams (mg/l)
	x	$\frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}$

The average annual value is 402,395 tons.

Salt Load at Imperial Dam. Data are complete from 1935 through 1982. Data for 1941-1980 are from Interior's Progress Report No. 11 (1983). Salt load from 1935-1940 was calculated from the flow at Imperial Dam and the salinity concentration at the Colorado River at the Yuma gaging station.

Salt load at Imperial Dam (tons)	=	Flow at Imperial Dam (acre-feet)
	x	Salinity at Yuma (mg/l)
	x	$\frac{1 \text{ Ton/AF}}{735.29 \text{ mg/l}}$

Data from 1981 and 1982 were taken from USGS water supply papers for gage, "Colorado River Above Imperial Dam, AZ-CA," station number 09429490. The average annual salt loading is 8,210,508 tons.

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**APPENDED  
MATERIAL**

**Appendix 1**

**LEES FERRY TO  
GRAND CANYON REACH**

Lees Ferry to Grand Canyon  
Flow Model

Reach Flow Gains and Losses Between Lees Ferry Gage and Grand Canyon Gage

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	-1501.	-11863.	-305.	-4677.	2806.	-6366.	4512.	-12044.	12682.	-846.	1017.	438.	-16147.
1964	-6520.	-475.	-20489.	-16824.	19813.	3294.	-863.	-6646.	-6104.	15464.	8745.	-86.	-10671.
1965	-7827.	-2047.	-17742.	-75095.	-32943.	-55603.	-38349.	-16979.	-19697.	1050.	2190.	16292.	-246550.
1966	6642.	21163.	14316.	8197.	19911.	23740.	25276.	-20269.	-24682.	-4109.	-8549.	50359.	111995.
1967	19461.	14238.	-330.	-2166.	-31388.	-3506.	13409.	-10293.	43958.	29785.	21078.	30065.	124311.
1968	6097.	9684.	-22089.	27837.	6614.	17225.	12282.	36046.	26077.	2274.	27203.	12671.	161921.
1969	12078.	24309.	-16949.	2722.	20187.	-19117.	8165.	47970.	10224.	12425.	28487.	2231.	132732.
1970	46272.	33923.	3137.	8129.	32945.	6830.	30868.	-6450.	-8789.	28820.	19045.	14544.	209276.
1971	37211.	-867.	-10434.	-24598.	-3965.	-11955.	-24512.	-24620.	14261.	-104.	1181.	12659.	-37743.
1972	13544.	11018.	-27922.	-2547.	-3971.	10180.	-66420.	-30268.	-3465.	3338.	31401.	30881.	-34231.
1973	-2785.	34034.	3290.	-14367.	5423.	4310.	917.	3625.	10924.	-8099.	18055.	6329.	61656.
1974	15211.	12205.	22228.	-5976.	-1515.	4692.	-13368.	-4567.	-15215.	-20381.	1099.	3429.	-2158.
1975	21065.	-5764.	10728.	-2110.	1297.	-8044.	-836.	-8372.	-15746.	-2466.	1810.	-12220.	-18858.
1976	11588.	-4427.	3379.	-16671.	9317.	-10151.	7490.	-15409.	-1338.	12512.	-9037.	4229.	-6515.
1977	5572.	893.	19264.	6509.	536.	-7651.	9739.	16582.	-22738.	19393.	-17799.	-34486.	-4186.
1978	-33062.	-30839.	-18829.	-73491.	-83198.	-6205.	-18155.	12934.	30762.	1154.	-5389.	47190.	-177138.
1979	8937.	22662.	8225.	-19154.	48705.	2024.	-15778.	-3728.	9399.	-13821.	-5633.	25790.	65628.
1980	-29246.	69210.	405.	-19939.	-10228.	-23128.	-37605.	25853.	3061.	-27193.	-26240.	-32385.	-107435.
1981	-43374.	-39274.	-768.	-7604.	-24318.	-21201.	-40186.	-19796.	-13822.	-9546.	-14535.	-18811.	-253235.
1982	10199.	21121.	-6338.	-2002.	9603.	-1274.	14759.	-11771.	13822.	-55761.	-51705.	-32298.	-93943.
AVERAGES													
	4488.	8945.	-2961.	-11691.	-918.	-4995.	-6433.	-2410.	2164.	-806.	1121.	6341.	-7195.
MONTHLY PERCENTAGES													
	-62.7	-125.0	41.4	163.4	12.8	69.8	89.9	33.7	-30.2	11.3	-15.7	-88.6	
THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS -7155. ACRE-FEET													

Flow at Lees Ferry Gage

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	168909.	368828.	187786.	60517.	62103.	140432.	89650.	61796.	59862.	61489.	59505.	62718.	1383595.
1964	70896.	222596.	388300.	770590.	316879.	59565.	60074.	174381.	156498.	268520.	347509.	397585.	3235393.
1965	568254.	514615.	556163.	1222233.	2283683.	2323670.	727409.	870677.	750358.	659157.	589338.	531076.	11586633.
1966	451141.	483181.	621649.	825334.	977667.	753928.	657312.	681907.	622422.	551859.	583566.	528617.	7738683.
1967	614332.	534387.	669901.	787846.	878671.	697994.	641325.	693761.	556240.	414740.	459736.	552167.	7559700.
1968	833332.	447970.	857765.	968146.	942619.	894360.	827030.	684982.	634918.	625336.	633728.	637636.	8787814.
1969	569629.	460743.	708348.	870558.	763072.	875319.	855531.	929708.	793797.	629542.	706324.	814723.	9077392.
1970	704507.	445026.	486128.	941964.	899577.	800342.	768606.	772910.	700969.	498118.	448906.	670225.	8139274.
1971	491478.	416091.	640095.	1010990.	925402.	894360.	942619.	874211.	775945.	584325.	764044.	937085.	9258645.
1972	805499.	429142.	377478.	782491.	902036.	862822.	914949.	1005337.	930658.	631487.	871216.	1017020.	9330135.
1973	1207019.	763648.	1096110.	1677446.	648089.	750953.	656082.	566617.	424271.	509883.	412429.	333082.	904610.
1974	846082.	299239.	388484.	494546.	803655.	913997.	1226596.	1212553.	826524.	802484.	710490.	564157.	8888887.
1975	767991.	555925.	507588.	458843.	892198.	987188.	1220547.	1021324.	968361.	637021.	424985.	520131.	8560112.
1976	691746.	718440.	675759.	659910.	1045919.	796309.	766147.	720030.	841996.	791972.	897325.	810418.	9273981.
1977	994269.	471018.	458297.	163698.	205556.	465805.	847312.	1177505.	977072.	379138.	389996.	823331.	9253097.
1978	947538.	601477.	579222.	492285.	647474.	758094.	701584.	1064981.	968741.	684367.	871216.	889124.	9006103.
1979	1018250.	746431.	204388.	341440.	517364.	614092.	859609.	1067751.	686093.	617959.	802127.	637636.	8109166.
1980	804125.	594257.	805723.	862822.	845467.	1472154.	1585174.	1278346.	981237.	777215.	936014.	785532.	11308066.
1981	745241.	640353.	462639.	472648.	552905.	854676.	85467.	903766.	667051.	608675.	584756.	838066.	8646065.
1982	892220.	677033.	508707.	613445.	616130.	634270.	796910.	916816.	617015.	792606.	974610.	976461.	9016223.
AVERAGES													
	689223.	519421.	549982.	723888.	786423.	809132.	804501.	833773.	698901.	566288.	603392.	665341.	8250273.
MONTHLY PERCENTAGES													
	8.4	6.3	6.7	8.8	9.5	9.8	9.8	10.1	8.5	6.9	7.3	8.1	
THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 8250273. ACRE-FEET													

Lees Ferry to Grand Canyon  
Flow Model

Inflow from the Paria River

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1906	1230.	1777.	864.1	2083.	676.	60.	3259.	6295.	3451.	0.	2559.	1722.	29853.
1907	2091.	1388.	1291.	1488.	799.	476.	1168.	6149.	0.	4427.	595.	1045.	20917.
1908	1107.	1444.	861.	536.	676.	179.	2079.	3074.	3630.	2214.	595.	1045.	17390.
1909	1045.	1444.	922.	476.	369.	60.	1599.	8793.	7379.	0.	2440.	1906.	26433.
1910	1722.	1388.	2152.	655.	369.	714.	1722.	3320.	10830.	3259.	2083.	1045.	29259.
1911	1845.	2166.	1414.	476.	369.	655.	2275.	2705.	7498.	1230.	952.	1045.	22630.
1912	1107.	1500.	2828.	1488.	369.	179.	2275.	3074.	0.	6333.	595.	1045.	20793.
1913	1045.	2444.	1291.	476.	369.	357.	1906.	3197.	4760.	184.	1785.	1414.	19228.
1914	1722.	2110.	1353.	1250.	799.	655.	4981.	2337.	0.	1230.	595.	1230.	18262.
1915	1783.	3832.	799.	1726.	799.	119.	1230.	3013.	1845.	0.	1547.	1476.	18169.
1916	2460.	1555.	1537.	774.	430.	60.	2705.	3628.	3392.	1230.	1250.	1230.	20251.
1917	1353.	2666.	1845.	1071.	553.	298.	1230.	2521.	0.	0.	595.	984.	13116.
1918	1107.	1388.	2583.	774.	369.	119.	1660.	1291.	0.	1414.	833.	984.	12522.
1919	1168.	1944.	1845.	1071.	553.	298.	2091.	3628.	3392.	1230.	1250.	1230.	19700.
1920	1230.	1944.	1845.	655.	615.	298.	2091.	3628.	3392.	1230.	1250.	1230.	1168.
1921	1660.	1666.	1906.	1071.	553.	298.	2091.	3628.	3392.	1230.	1250.	1230.	19975.
1922	1253.	1944.	1845.	1071.	553.	298.	2091.	3628.	3392.	1230.	1250.	1230.	16814.
1923	1230.	1666.	1230.	1666.	492.	60.	1845.	4181.	1725.	446.	2083.	1260.	17885.
1924	922.	1706.	1529.	1341.	321.	208.	2160.	365.	6016.	1166.	1279.	815.	17828.
1925	567.	1571.	1319.	659.	192.	210.	2420.	7644.	11679.	17703.	1289.	936.	46189.
1926	1154.	1250.	908.	3420.	655.	117.	776.	1283.	2579.	952.	2118.	1115.	15327.
1927	1297.	3019.	3376.	383.	125.	1063.	2880.	4439.	25216.	887.	1430.	1133.	45196.
1928	1146.	1745.	2507.	399.	538.	125.	1942.	3852.	353.	811.	1246.	962.	15626.
1929	906.	1347.	1575.	452.	196.	159.	8097.	10655.	8378.	795.	702.	732.	34024.
1930	918.	1591.	817.	294.	357.	301.	3094.	7006.	2392.	1650.	1821.	541.	20812.
1931	494.	1718.	742.	351.	591.	292.	867.	1053.	1250.	1271.	1071.	589.	10289.
1932	928.	8499.	3614.	1119.	526.	224.	4005.	14571.	1513.	1230.	996.	861.	38086.
1933	664.	1321.	2418.	613.	474.	157.	3092.	2440.	2408.	1337.	1035.	1793.	17752.
1934	1561.	1172.	847.	343.	3219.	468.	1010.	5891.	762.	401.	750.	1462.	17886.
1935	1626.	1900.	2390.	2549.	750.	190.	887.	1771.	2448.	528.	1095.	1146.	17280.
1936	1265.	2448.	1258.	494.	204.	210.	10592.	9521.	6514.	1785.	1567.	1010.	36868.
1937	538.	4195.	6393.	2803.	474.	321.	2491.	2656.	2741.	1220.	1091.	1279.	26202.
1938	525.	1400.	10731.	1168.	668.	1085.	462.	1496.	3586.	1103.	1095.	1248.	25565.
1939	1327.	998.	2196.	720.	214.	183.	143.	1047.	23479.	1010.	1018.	1085.	33400.
1940	2378.	2430.	819.	335.	246.	184.	208.	2428.	14309.	2063.	1347.	1511.	28258.
1941	2128.	4165.	4177.	5074.	2343.	518.	2539.	906.	904.	5812.	1851.	1428.	31845.
1942	1519.	1341.	2104.	1472.	442.	177.	970.	1958.	595.	1386.	1188.	1406.	14538.
1943	1864.	2095.	1892.	819.	228.	161.	309.	5254.	2132.	4754.	934.	1382.	21824.
1944	994.	1749.	4907.	1827.	1079.	476.	204.	354.	302.	434.	960.	1004.	14290.
1945	1265.	1853.	2218.	1167.	283.	177.	724.	4228.	2358.	5042.	1077.	940.	21033.
1946	973.	1295.	1337.	962.	244.	170.	2119.	7980.	716.	3334.	1821.	1470.	22421.
1947	930.	1246.	690.	376.	430.	246.	312.	11625.	546.	2678.	1131.	2259.	22679.
1948	1411.	3237.	1513.	1031.	338.	751.	440.	3925.	387.	871.	1214.	1113.	16241.
1949	912.	2099.	3220.	2118.	480.	3309.	418.	1416.	2338.	1155.	970.	1211.	19724.
1950	1775.	2110.	1174.	366.	250.	224.	2622.	691.	945.	375.	989.	1281.	12802.
1951	1294.	1079.	1000.	762.	1024.	234.	296.	4888.	690.	482.	878.	2606.	15233.
1952	2101.	1874.	3007.	2741.	461.	449.	1038.	2001.	1373.	570.	652.	1375.	17488.
1953	1567.	1022.	994.	521.	347.	249.	3405.	6715.	470.	572.	1329.	930.	18121.
1954	1594.	1260.	1715.	844.	457.	527.	1997.	399.	4299.	3486.	772.	1357.	18487.
1955	1142.	1656.	2271.	450.	276.	311.	834.	4817.	287.	368.	959.	1498.	14867.
1956	1452.	992.	651.	410.	349.	242.	1157.	1576.	277.	664.	749.	660.	9180.
1957	1809.	2168.	890.	682.	993.	412.	3427.	3701.	437.	5633.	7348.	1163.	28661.
1958	807.	2797.	4227.	2255.	1087.	278.	715.	3193.	9721.	696.	935.	913.	27624.
1959	1019.	1063.	834.	322.	288.	229.	468.	6431.	663.	595.	1077.	1152.	14141.
1960	989.	1747.	2212.	461.	392.	826.	232.	289.	557.	4392.	1317.	894.	14308.
1961	823.	862.	1078.	707.	261.	213.	900.	11091.	8552.	431.	825.	840.	26513.
1962	1037.	4431.	1428.	849.	258.	370.	257.	341.	4018.	1505.	700.	867.	16061.
1963	796.	1301.	704.	390.	254.	202.	208.	7382.	5669.	1254.	1184.	778.	20122.
1964	726.	984.	1085.	1084.	766.	241.	1418.	3381.	457.	452.	920.	1670.	13164.
1965	1186.	1006.	976.	3158.	984.	408.	916.	1935.	1847.	979.	3320.	2918.	19643.
1966	1474.	1559.	1803.	584.	289.	207.	788.	902.	1217.	735.	855.	4268.	14681.
1967	1319.	1496.	930.	511.	629.	452.	1936.	2921.	10253.	495.	785.	1224.	22951.
1968	1630.	3602.	1890.	999.	737.	176.	5110.	6850.	249.	547.	730.	842.	23362.
1969	5947.	2735.	3971.	2552.	834.	219.	3476.	3166.	1660.	989.	1470.	1395.	28394.
1970	1611.	1240.	1716.	478.	244.	455.	978.	3917.	1064.	432.	1144.	1061.	14640.
1971	1527.	1149.	1196.	345.	416.	198.	1002.	6492.	853.	2546.	1272.	2774.	19530.
1972	1058.	1054.	545.	311.	267.	3469.	444.	2922.	2728.	10657.	1866.	1441.	26762.
1973	926.	3193.	5651.	3221.	1213.	520.	260.	1812.	658.	460.	952.	1343.	20209.
1974	1335.	1404.	1426.	515.	270.	212.	1175.	970.	658.	2337.	3261.	1045.	14608.
1975	1045.	1611.	2152.	1309.	492.	228.	2644.	1230.	2261.	430.	1012.	1353.	15777.
1976	1188.	2832.	1537.	1547.	615.	179.	430.	307.	357.	492.	774.	676.	10914.
1977	922.	1000.	553.	417.	492.	357.	861.	1353.	536.	767.	855.	1100.	9213.
1978	1700.	2040.	5080.	1930.	415.	196.	309.	336.	301.	738.	6486.	818.	20349.
1979	824.	2838.	13282.	5552.	2410.	655.	392.	1574.	266.	627.	1529.	1476.	31425.
1980	3099.	13440.	5423.	3898.	2281.	565.	683.	1433.	12377.	1353.	1392.	1617.	47561.
1981	1482.	1222.	1814.	1107.	861.	690.	2724.	4169.	2560.	2644.	1428.	1482.	22283.
1982	1217.	1883.	1808.	1369.	756.	227.	400.	3702.	1256.	1131.	1404.	2521.	17674.

AVERAGES

1374.	2101.	2274.	1215.	610.	405.	1752.	3725.	3377.	1791.	1376.	1003.	21303.
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MONTHLY PERCENTAGES

6.5	9.9	10.7	5.7	2.9	1.9	6.2	17.8	15.9	8.4	6.5	6.1
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1906 TO 1982 IS 21303. ACRE-FEET





Lees Ferry to Grand Canyon  
Flow Model

Inflow from the Little Colorado River

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1906	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1907	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1908	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1909	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1910	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1911	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1912	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1913	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1914	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1915	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1916	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1917	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1918	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1919	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1920	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1921	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1922	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1923	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1924	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	12000.	3000.	4000.	185000.
1925	10000.	15000.	31000.	39000.	9000.	2000.	11000.	31000.	18000.	6470.	3962.	2356.	178788.
1926	746.	228.	20304.	92035.	11662.	0.	462.	5792.	52425.	2312.	934.	805.	187703.
1927	3006.	66789.	82152.	55259.	6362.	40389.	22433.	22632.	126510.	412.	0.	0.	425944.
1928	215.	18637.	58211.	8068.	0.	0.	2439.	5478.	3194.	0.	7734.	704.	101680.
1929	302.	1271.	46290.	170493.	2371.	0.	106240.	121055.	102368.	13007.	251.	220.	563666.
1930	426.	1271.	24246.	29452.	805.	0.	55301.	74123.	5904.	0.	807.	4584.	196919.
1931	954.	13429.	31979.	14982.	13377.	0.	29264.	56180.	17158.	15210.	18475.	7472.	214480.
1932	10069.	168807.	161182.	85182.	10052.	0.	3372.	26298.	3100.	1799.	0.	0.	469841.
1933	0.	7818.	27489.	19558.	11365.	0.	19811.	21275.	30124.	33940.	837.	1058.	173275.
1934	488.	561.	1562.	1353.	0.	1353.	1974.	22688.	9013.	0.	0.	0.	38992.
1935	20696.	29889.	41507.	79556.	2805.	0.	501.	35830.	23686.	1587.	0.	615.	236685.
1936	399.	4149.	24652.	53880.	532.	0.	3922.	49896.	38876.	74.	5118.	0.	181498.
1937	0.	127040.	121734.	97710.	2494.	0.	6329.	2762.	7263.	6615.	0.	297.	372244.
1938	0.	1082.	140668.	4592.	0.	0.	0.	12046.	19453.	0.	0.	0.	177841.
1939	120.	1477.	37377.	43837.	0.	0.	0.	2769.	4217.	0.	0.	0.	89797.
1940	604.	5586.	14526.	7046.	0.	0.	13180.	45958.	56298.	23520.	9165.	31351.	207214.
1941	62068.	82098.	150052.	118104.	94715.	4067.	3907.	29160.	33816.	56918.	3082.	2969.	642956.
1942	7099.	6802.	20651.	55371.	6285.	0.	0.	113.	0.	438.	362.	0.	97121.
1943	26.	7110.	58137.	13763.	0.	0.	0.	18109.	12993.	487.	0.	0.	110625.
1944	0.	94.	24685.	78658.	26848.	0.	0.	0.	9076.	2127.	829.	934.	143251.
1945	284.	5098.	18200.	73713.	21251.	0.	10291.	39087.	438.	0.	0.	180.	168522.
1946	4466.	2465.	4080.	3192.	0.	0.	10278.	56946.	44119.	437.	15705.	5125.	146768.
1947	3594.	8967.	6990.	602.	169.	0.	0.	104263.	20168.	75391.	7110.	1019.	221873.
1948	3705.	6462.	19069.	67366.	857.	879.	5242.	20187.	602.	4443.	2178.	2071.	132659.
1949	18337.	13641.	97144.	77888.	6011.	1686.	11758.	41373.	10745.	6488.	252.	30.	285353.
1950	188.	11308.	14555.	3870.	0.	0.	7890.	998.	1676.	0.	22.	94.	40401.
1951	152.	14.	0.	464.	1312.	0.	3971.	26269.	17915.	9048.	103.	147.	59369.
1952	124748.	10193.	12913.	131843.	21071.	165.	1913.	12556.	27821.	114.	488.	3919.	347744.
1953	1842.	1422.	15307.	5735.	0.	0.	14894.	15054.	227.	0.	130.	27.	54438.
1954	135.	26.	17556.	20200.	120.	270.	37863.	6287.	28946.	4158.	68.	63.	112692.
1955	113.	176.	473.	22.	0.	35381.	12318.	139200.	3598.	0.	0.	69.	191350.
1956	121.	2034.	5173.	1234.	37.	0.	1980.	8694.	0.	0.	0.	0.	19273.
1957	39172.	40876.	25756.	1926.	57.	263.	4168.	53473.	9266.	12827.	12423.	1264.	201471.
1958	307.	4904.	31256.	44538.	1619.	165.	444.	23089.	34417.	10813.	63.	29.	151644.
1959	128.	80.	1890.	2394.	0.	49.	96.	35588.	264.	5581.	34715.	19007.	100792.
1960	18197.	8216.	88476.	18557.	24.	13.	0.	0.	382.	9146.	80.	124.	143215.
1961	73.	13.	2275.	11618.	0.	0.	706.	9457.	5268.	510.	3711.	6.	33637.
1962	93.	46295.	14009.	85642.	1197.	0.	0.	167.	6131.	4498.	2114.	159.	161305.
1963	14.	2129.	1308.	1753.	0.	0.	0.	41356.	28933.	1852.	680.	0.	79025.
1964	0.	0.	0.	27190.	3080.	80.	9945.	101898.	26202.	549.	0.	0.	168924.
1965	42141.	12214.	14989.	87852.	16572.	0.	20817.	10111.	20969.	416.	3916.	24494.	254171.
1966	55818.	4334.	66876.	16951.	77.	0.	976.	17508.	11113.	4528.	43.	23018.	201242.
1967	50.	48.	0.	1204.	0.	2603.	22763.	87292.	48877.	450.	0.	117.	163404.
1968	3941.	40261.	49084.	67112.	12310.	0.	6574.	33950.	1.	5158.	179.	0.	218570.
1969	26802.	7621.	17882.	37714.	1101.	0.	12940.	7879.	22773.	5653.	1130.	48.	141343.
1970	63.	0.	5278.	4628.	0.	0.	729.	13587.	49523.	679.	8.	67.	74562.
1971	46.	5.	0.	0.	0.	0.	130.	60541.	16173.	75450.	6062.	28209.	166516.
1972	6905.	322.	0.	0.	0.	182.	8777.	5196.	1476.	257770.	12101.	6401.	299130.
1973	12298.	24762.	88987.	236219.	177200.	1860.	39.	205.	46.	0.	0.	0.	539598.
1974	656.	62.	8060.	3999.	0.	0.	6644.	6042.	2801.	11020.	11850.	0.	51134.
1975	12.	53.	14160.	32780.	6190.	0.	9860.	979.	25530.	177.	0.	892.	90633.
1976	142.	12490.	17820.	35500.	9730.	0.	19120.	4020.	7670.	509.	77.	0.	107078.
1977	3330.	560.	29.	5000.	3.	0.	16440.	36160.	7470.	6020.	605.	168.	75785.
1978	603.	5260.	115200.	47070.	2280.	202.	0.	243.	1214.	7317.	35941.	103654.	319184.
1979	15434.	45375.	78582.	158700.	21951.	1630.	0.	3984.	0.	267.	1868.	389.	328180.
1980	8239.	117074.	45747.	104253.	36832.	95.	14.	4673.	9699.	0.	0.	9.	326635.
1981	65.	73.	47.	1821.	76.	7.	20845.	5159.	13091.	26010.	41.	1328.	68563.
1982	3327.	21771.	71142.	32311.	3154.	0.	200.	42489.	25825.	505.	3439.	28531.	232694.

AVERAGES

9116.	16893.	34710.	42356.	9272.	1705.	9942.	29196.	18764.	12256.	3380.	4938.	192529.
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MONTHLY PERCENTAGES

4.7	8.6	18.0	22.0	4.8	0.9	9.2	15.2	9.7	6.4	1.6	2.8
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1906 TO 1982 IS 192529. ACRE-FEET

Lees Ferry to Grand Canyon  
Flow Model

Flow at Grand Canyon Gage

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	181760.	373937.	203035.	71525.	78705.	147810.	107912.	112032.	121688.	77291.	75928.	77478.	1629099.
1964	78644.	236647.	382458.	795582.	356080.	76702.	84116.	286536.	190595.	298527.	370718.	412711.	3669314.
1965	607906.	539330.	567908.	1281390.	2281838.	2282017.	724335.	879286.	767019.	675144.	612306.	588322.	11776401.
1966	528817.	523779.	718186.	864608.	1011486.	791417.	697894.	693590.	623612.	566565.	589457.	619804.	8229005.
1967	648704.	563711.	704042.	800937.	861454.	711089.	692975.	785823.	712870.	469012.	495141.	597115.	8032870.
1968	858542.	515059.	900192.	1077636.	975822.	925303.	864528.	775370.	674787.	646859.	675382.	664891.	9542385.
1969	627798.	508950.	728794.	927088.	798736.	869963.	993654.	1002263.	841996.	662231.	750953.	831939.	9542385.
1970	767991.	493733.	509801.	968741.	946308.	821169.	814723.	797506.	756309.	541591.	482645.	699739.	8600256.
1971	543804.	429920.	644399.	1000279.	933385.	896145.	932781.	932166.	820574.	675759.	786061.	994289.	9589552.
1972	840548.	455078.	383643.	793797.	911874.	890195.	871292.	996729.	944939.	916794.	730126.	1069285.	9784300.
1973	1231000.	839179.	1204660.	1916061.	845467.	771185.	670840.	585801.	449441.	515766.	444978.	354297.	9828575.
1974	876826.	326452.	433740.	506626.	615982.	932443.	1234689.	1228540.	828310.	608982.	740242.	582173.	9114975.
1975	803655.	565377.	548170.	504364.	913719.	994924.	1245757.	1028703.	991948.	648704.	441349.	523698.	9210388.
1976	718186.	740877.	712037.	693828.	1079123.	759879.	806729.	722490.	852227.	819027.	902691.	828865.	9645959.
1977	1017635.	487013.	491785.	189166.	220128.	472053.	887894.	1245142.	975882.	418860.	387199.	803655.	7596413.
1978	930321.	591480.	694205.	481338.	580513.	765829.	697280.	1092036.	1014560.	707118.	721796.	813433.	8696877.
1979	1056987.	830848.	318019.	500080.	601972.	631943.	857765.	1079123.	709300.	618574.	813433.	678833.	8696877.
1980	599759.	807523.	670840.	964578.	887894.	1463228.	1561808.	1323847.	1019916.	764917.	924708.	748315.	11737331.
1981	718956.	615916.	477274.	481514.	543066.	520014.	842392.	906340.	682522.	641325.	585232.	835629.	7848180.
1982	920505.	735350.	586881.	658668.	643185.	646765.	825811.	964778.	671160.	752023.	941290.	988759.	9335152.
<b>AVERAGES</b>													
	717787.	559006.	582898.	772390.	814336.	818803.	820759.	871905.	732982.	600753.	623562.	687705.	8622609.
<b>MONTHLY PERCENTAGES</b>													
	8.3	6.5	6.9	9.0	9.4	9.5	9.5	10.1	8.5	7.0	7.2	8.1	
THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 8622609. ACRE-FEET													

Lees Ferry to Grand Canyon  
Salt Model

Reach Salt Gains and Losses Between Lees Ferry and Grand Canyon Gage

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	1686	-50186	-21651	-20068	-8797	-41708	-8719	-22027	39241	4489	1374	3729	-122635
1964	-2180	19369	15193	47853	48364	7163	17451	-12044	22708	14882	-15519	-14830	148410
1965	14801	10590	4845	-32070	125912	-51824	16300	337875	23989	14062	-9434	5313	460059
1966	-5374	38327	34856	14491	49549	28283	42009	-39323	-40	11363	-13446	38697	199592
1967	29742	15451	22484	14871	-2010	-14408	54316	-1893	88180	45882	14717	36875	304182
1968	23930	34870	2643	48223	41261	13338	76425	50715	50211	33213	80643	-39383	415087
1969	19349	72727	6174	-6554	31138	9283	46697	62179	52692	-10901	-9554	-6380	268828
1970	35220	25922	-5968	-23998	38220	3294	11855	15074	7658	28818	-15919	-39333	80845
1971	1381	-36921	64999	121486	-38638	-29702	-17756	20898	68392	51297	73177	32187	308600
1972	-6560	15096	-23884	-455	-21378	-3163	-38006	-13201	50993	179557	23332	-11527	150824
1973	-40859	48870	30295	8680	4229	-16754	-30393	6678	9898	10285	17425	65742	114096
1974	-21795	20606	8454	-26891	15617	27275	-11749	-36796	-22582	-5371	22131	14263	-15838
1975	12253	-8752	-19194	34950	16443	13230	117369	21774	-16840	5202	23320	10153	209908
1976	-26071	-63731	-40847	-24200	50635	12331	16571	20768	29582	-41158	-87337	-66093	-219270
1977	-15319	-19922	64111	34010	3226	9465	6747	7694	12429	32173	-9980	23058	147694
1978	-22389	-29949	1282	-85993	-111662	-14908	-17451	30213	50470	30238	58609	182192	70652
1979	64684	68803	13227	47536	49999	25249	30404	-29403	19824	-14210	6642	55260	338815
1980	26748	101570	-85234	47124	-13476	15998	-22119	15019	-17277	-18280	-3346	11253	57978
1981	-3229	-27843	-17336	-44913	-82836	-32900	-16420	-4693	-15964	14450	21068	44983	-145333
1982	36609	10558	-1524	-46191	-88011	-93470	-88101	-109736	-23625	-77509	-75066	-29162	-585248

AVERAGES

6121.	12338.	2646.	5395.	6389.	-6888.	9232.	15969.	21386.	15424.	5141.	15860.	109213.
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MONTHLY PERCENTAGES

5.6	11.3	2.4	4.9	5.9	-6.1	8.5	14.6	19.6	14.1	4.7	14.5
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 109213. TONS

Salt Load at Lees Ferry Gage

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	286000	498000	254000	86000	81000	158000	86000	60000	54000	54000	57000	84000	1758000
1964	94000	307000	500000	956000	389000	74000	75000	216000	108000	169000	292000	398000	3578000
1965	570000	525000	562000	1259000	2170000	2044000	349000	357000	300000	283000	277000	335000	9008000
1966	329000	367000	473000	635000	704000	535000	434000	443000	411000	358000	385000	365000	5439000
1967	467000	422000	614000	812000	817000	691000	519000	492000	447000	303000	250000	453000	6287000
1968	589000	450000	857000	987000	990000	894000	670000	480000	444000	428000	413000	505000	7707000
1969	524000	434000	698000	920000	744000	798000	637000	710000	570000	487000	562000	623000	7907000
1970	593000	401000	468000	888000	824000	690000	658000	608000	542000	380000	365000	545000	6960000
1971	369000	354000	581000	905000	803000	705000	724000	660000	525000	415000	539000	662000	7245000
1972	594000	331000	321000	686000	741000	676000	684000	755000	663000	499000	499000	799000	7208000
1973	887000	572000	912000	1443000	558000	824000	552000	444000	334000	387000	314000	230000	7257000
1974	585000	203000	313000	418000	653000	702000	921000	897000	597000	425000	499000	381000	6596000
1975	539000	406000	402000	373000	740000	771000	934000	751000	717000	449000	311000	369000	6762000
1976	485000	581000	570000	557000	843000	585000	572000	524000	610000	556000	655000	577000	7115000
1977	731000	372000	380000	135000	172000	376000	675000	956000	774000	290000	299000	617000	5777000
1978	758000	482000	482000	431000	582000	673000	815000	936000	844000	575000	546000	687000	7613000
1979	732000	550000	161000	297000	436000	496000	680000	807000	529000	476000	611000	454000	6228000
1980	383000	469000	590000	703000	669000	1050000	1092000	873000	674000	522000	815000	470000	8116000
1981	521669	467458	356232	387571	453382	405772	508736	650352	493618	438246	403482	586662	5773180
1982	624554	501004	391704	509159	548356	558156	685343	751789	481272	618233	750450	722581	7142603

AVERAGES

531911.	434623.	494197.	669537.	695837.	675397.	618554.	618557.	505886.	403624.	436947.	493182.	6578240.
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MONTHLY PERCENTAGES

8.1	6.6	7.5	10.2	10.6	10.3	9.4	9.4	7.7	6.1	6.6	7.5
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 6578240. TONS

Lees Ferry to Grand Canyon  
Salt Model

Salt Load from the Paria River

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1906	1898	2652	11153	3187	728	102	5242	10723	5578	0	4019	2556	47636
1907	3201	1872	1802	2147	943	378	1587	10293	0	7284	586	1372	31563
1908	1481	2070	1051	483	728	304	3092	4919	5891	3416	586	1372	25393
1909	1372	2070	1157	378	191	102	2341	14915	12443	0	3811	2877	41857
1910	2556	1972	3307	691	191	794	2556	5349	18475	5242	3187	1372	45692
1911	2771	3332	2017	378	191	691	3522	4274	12651	1696	1210	1372	34105
1912	1481	2168	4489	2147	191	304	3522	4919	0	10615	586	1372	31794
1913	1372	3818	1802	378	191	170	2877	5134	7866	313	2666	2017	28604
1914	2556	3234	1911	1731	943	691	8252	3631	0	1696	586	1696	26927
1915	2662	6244	943	2563	943	202	1696	4812	2771	0	2250	2126	27212
1916	3846	2264	2232	899	298	102	4274	5887	5475	1696	1731	1696	30400
1917	1911	4206	1972	1418	513	67	1696	3952	0	0	586	1266	16386
1918	1481	1972	4061	899	191	202	2447	1802	0	2017	1002	1266	17340
1919	1587	2944	2771	1418	513	67	3201	5887	5475	1696	1731	1696	28986
1920	1911	2944	2771	891	621	67	3201	5887	5475	1696	586	1587	27437
1921	2447	2458	2877	1418	513	67	3201	5887	5475	1696	1731	1696	29466
1922	1911	2944	2771	1418	513	67	3201	5887	0	1372	1696	1696	23303
1923	1696	2458	1696	2458	406	102	2771	6854	2563	326	3187	1748	26265
1924	1157	2526	2218	1890	107	354	3321	184	10061	1584	1781	970	26155
1925	537	2292	1851	698	326	357	3776	12908	19959	30488	1799	1182	76171
1926	1563	1731	1133	5524	691	199	902	1788	4054	1210	3248	1495	23538
1927	1813	4823	5359	215	213	1404	4580	7305	43619	1096	2045	1526	73998
1928	1549	2598	3928	243	486	213	2940	6279	163	963	1724	1227	22311
1929	1130	1900	2299	336	333	270	13698	18222	14189	936	773	825	54911
1930	1151	2327	974	60	170	125	4954	11791	3727	2430	2729	492	30930
1931	409	2549	843	159	579	56	1051	1386	1731	1767	1418	575	12533
1932	1168	14401	5863	1502	465	381	6546	25014	2190	1696	1287	1051	61564
1933	707	1859	3772	617	374	267	4950	3811	3755	1883	1355	2680	26026
1934	2274	1594	1026	146	5172	364	1311	9842	878	247	857	2101	25812
1935	2388	2867	3723	4001	857	323	1096	1684	3825	469	1460	1549	25199
1936	1757	3825	1745	409	347	357	18059	16187	10931	2666	2285	1311	5879
1937	486	6878	10720	4448	374	107	3900	4188	4337	1678	1453	1781	40347
1938	2211	1993	18302	1587	710	1442	353	2161	5814	1474	1460	1727	39234
1939	1865	1290	3384	804	364	277	243	1376	40583	1311	1325	1442	54284
1940	3702	3793	977	132	418	313	354	3790	24556	3152	1900	2187	45274
1941	3265	6825	6847	8414	3641	451	3984	1130	1126	9704	2781	2042	50211
1942	2201	1890	3223	2119	319	301	1241	2968	586	1968	1587	2003	20406
1943	2804	3208	2853	977	388	274	86	8729	3272	7855	1178	1961	33585
1944	1283	2603	8123	2739	1422	378	347	165	74	305	1224	1301	19974
1945	1757	2260	3423	1586	41	301	811	6936	3669	8359	1428	1189	31760
1946	1247	1809	1883	1227	415	289	3250	13494	797	5373	2729	2115	34628
1947	1171	1724	1102	203	298	418	91	19882	500	4227	1523	3494	24633
1948	2012	5204	2190	1348	137	859	315	6424	222	1068	1668	1491	22938
1949	1140	3215	5349	3244	350	5330	277	2021	3632	1585	1241	1663	29027
1950	2648	2234	1598	186	425	381	4129	754	1198	201	1275	1785	17814
1951	1808	1432	1294	878	1336	398	63	8069	752	388	1081	4101	21620
1952	3218	2472	4802	4327	352	411	1360	3043	1946	542	686	1949	25118
1953	2285	1332	1283	457	152	423	5497	11283	367	546	1869	1171	26665
1954	2332	1748	2544	672	345	467	2036	173	7060	5639	895	1918	26829
1955	1842	2440	3515	333	28	90	1004	7965	48	189	1222	2161	20537
1956	2084	1282	684	263	156	411	1588	2201	30	707	855	700	11041
1957	2708	3332	1102	738	1282	266	5536	6015	310	9391	12389	1578	44648
1958	956	4435	6934	3487	1446	32	796	5127	16537	762	1180	1142	42834
1959	1327	1404	1004	109	49	389	364	10786	705	586	1428	1859	19710
1960	1275	2599	3412	352	231	990	394	51	520	7222	1848	1109	20003
1961	635	1053	1657	782	2	362	1119	18931	14493	299	988	1014	41335
1962	1356	7291	2042	1030	439	192	437	142	6569	2176	769	1061	23507
1963	937	1820	776	228	432	343	354	12448	9454	1738	1615	906	31051
1964	815	1266	1442	1441	885	410	2024	5420	345	336	1154	2465	18003
1965	1636	1304	1252	5066	1266	259	1147	2928	2774	1257	5349	4646	28884
1966	2122	2271	2697	567	51	352	923	1123	1673	831	1040	7006	20856
1967	1851	2161	1171	439	645	336	2930	4651	17466	411	918	1685	34664
1968	3395	5842	2849	1292	834	299	8477	11519	423	502	822	1018	36272
1969	9940	4326	5487	4006	1004	372	5621	5080	2447	1240	2115	1984	44622
1970	2362	1713	2545	381	415	341	1255	6392	1406	301	1546	1925	20582
1971	2215	1554	1636	149	273	337	1297	10893	687	3996	1699	4394	29130
1972	1395	1388	498	90	13	5609	322	4653	4314	18173	2807	2065	41328
1973	1164	5127	9423	6176	1686	455	0	2713	896	350	1210	1893	29873
1974	1879	2000	2038	446	18	360	1600	1241	696	3631	5246	1372	20527
1975	1372	2362	3307	1834	406	405	4167	1696	3488	298	1315	1911	22571
1976	1587	4496	2232	2250	621	304	298	83	170	406	899	728	14074
1977	1157	1294	513	275	406	170	1051	1911	483	887	1040	1469	10656
1978	2517	3112	8425	2919	271	333	86	133	72	838	10882	976	30562
1979	986	4506	22761	9250	3758	691	231	2297	11	642	2218	2126	49477
1980	4966	23040	9028	6363	3537	538	744	2055	21183	1915	1983	2376	77728
1981	2140	1686	2721	1485	1055	756	4311	6837	4199	4171	2046	2140	32547
1982	1677	2841	2710	1943	671	-53	249	6020	1745	1527	2004	3956	25490

AVERAGES

1948	3219	3520	1669	682	485	2643	6057	5489	2706	1951	1624	32193
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MONTHLY PERCENTAGES

6.1	10.0	10.8	5.2	2.1	1.5	8.2	18.8	17.1	8.4	6.1	5.7
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1906 TO 1982 IS 32193 TONS



Lees Ferry to Grand Canyon  
Salt Model

Salt Load from the Little Colorado River

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1906	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1907	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1908	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1909	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1910	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1911	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1912	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1913	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1914	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1915	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1916	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1917	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1918	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1919	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1920	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1921	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1922	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1923	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1924	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	9120.	2850.	2560.	119740.
1925	8400.	7050.	12090.	10530.	4050.	2080.	7920.	36890.	16200.	4917.	3764.	1508.	115399.
1926	627.	106.	7919.	24849.	5248.	0.	333.	6892.	47183.	1757.	887.	515.	96316.
1927	2525.	31391.	32039.	14920.	2863.	42008.	16152.	26932.	113859.	313.	0.	0.	282999.
1928	181.	8759.	21532.	2178.	0.	0.	1756.	6519.	2875.	0.	7347.	451.	51898.
1929	254.	597.	18053.	48033.	1087.	0.	76493.	144055.	92131.	9885.	238.	141.	388947.
1930	358.	597.	9458.	7952.	362.	0.	39817.	88206.	5314.	0.	767.	2934.	155763.
1931	801.	6312.	12472.	4045.	6020.	0.	18190.	66854.	15442.	11560.	17551.	4782.	164029.
1932	8458.	79339.	62853.	22999.	4523.	0.	2428.	31295.	2790.	1367.	0.	0.	216052.
1933	0.	3674.	10721.	5281.	5114.	0.	14264.	25317.	27112.	25794.	795.	677.	118749.
1934	410.	264.	609.	365.	0.	1407.	1421.	26999.	8112.	0.	0.	0.	39587.
1935	17385.	14048.	16188.	21480.	1264.	0.	361.	42638.	21317.	1214.	0.	394.	136289.
1936	335.	1950.	9614.	14948.	239.	0.	2824.	59376.	34988.	56.	4862.	0.	128792.
1937	0.	59709.	47476.	26382.	1122.	0.	4557.	3287.	6537.	5027.	0.	190.	154287.
1938	0.	509.	54861.	1240.	0.	0.	0.	14335.	17508.	0.	0.	0.	88453.
1939	101.	694.	14577.	11836.	0.	0.	0.	3295.	3795.	0.	0.	0.	34298.
1940	507.	2625.	5665.	1902.	0.	0.	9475.	54690.	50668.	17675.	8707.	20065.	172179.
1941	82137.	38586.	58520.	31888.	42622.	4230.	2813.	34700.	30434.	44778.	2928.	1900.	345536.
1942	5963.	3197.	8054.	14950.	2828.	0.	0.	134.	0.	333.	344.	0.	35803.
1943	22.	3342.	22673.	3716.	0.	0.	0.	21550.	11694.	370.	0.	0.	63367.
1944	0.	44.	9827.	21238.	12082.	0.	0.	0.	8168.	1617.	788.	598.	54162.
1945	222.	2396.	7098.	19903.	9583.	0.	7410.	46514.	394.	0.	0.	115.	93615.
1946	3751.	1159.	1591.	862.	0.	0.	7400.	67718.	39707.	328.	14920.	3280.	140716.
1947	3019.	4214.	2728.	163.	76.	0.	0.	124073.	18151.	57297.	875.	652.	211048.
1948	2776.	3037.	7437.	18189.	386.	914.	3774.	24023.	342.	3377.	2067.	1325.	67847.
1949	15403.	6411.	37888.	21030.	2706.	1753.	8466.	49234.	9670.	4931.	239.	19.	157747.
1950	158.	5315.	5876.	1045.	0.	0.	5537.	1188.	1508.	0.	21.	60.	20508.
1951	128.	7.	0.	123.	590.	0.	2859.	31260.	18124.	6876.	98.	94.	58159.
1952	104788.	4791.	5036.	35598.	9482.	172.	1377.	14942.	25039.	87.	464.	2508.	204284.
1953	1379.	668.	5970.	1548.	0.	0.	10724.	17914.	204.	0.	124.	17.	38548.
1954	113.	12.	6847.	5454.	54.	281.	27261.	7482.	23351.	3160.	65.	40.	74120.
1955	95.	83.	184.	6.	0.	36796.	8869.	185648.	3238.	0.	0.	44.	214963.
1956	102.	956.	2017.	333.	17.	0.	1426.	10346.	0.	0.	0.	0.	15197.
1957	32904.	19212.	10045.	520.	26.	274.	3001.	63633.	8339.	9749.	11802.	809.	160314.
1958	258.	2305.	12190.	12025.	729.	172.	320.	27476.	30975.	8218.	60.	19.	94747.
1959	108.	38.	737.	846.	0.	51.	69.	42350.	238.	5002.	32979.	12164.	94383.
1960	15285.	3862.	34506.	5010.	11.	14.	0.	0.	344.	6951.	76.	79.	66138.
1961	61.	6.	887.	3137.	0.	0.	908.	11254.	4741.	388.	3525.	4.	24511.
1962	78.	21759.	5464.	23123.	539.	0.	0.	199.	5518.	3418.	2958.	102.	63158.
1963	12.	1001.	510.	473.	0.	0.	0.	49214.	28940.	1408.	646.	0.	80204.
1964	0.	0.	0.	7341.	1386.	62.	7160.	121259.	23582.	417.	0.	0.	161207.
1965	35398.	5741.	5838.	23639.	7457.	0.	14989.	12032.	18872.	316.	3720.	18676.	143677.
1966	46887.	2037.	26082.	4577.	35.	0.	703.	20835.	10002.	3441.	41.	14732.	129372.
1967	42.	23.	0.	325.	0.	2707.	16389.	103877.	43989.	342.	0.	75.	167769.
1968	3310.	18923.	19143.	18120.	5540.	0.	4733.	40401.	1.	3920.	170.	0.	114261.
1969	22346.	3582.	6974.	10183.	495.	0.	9317.	9376.	20496.	4296.	1074.	31.	88170.
1970	53.	0.	2058.	1250.	0.	0.	525.	16169.	44571.	516.	8.	43.	65193.
1971	39.	2.	0.	0.	0.	0.	94.	72044.	14556.	57342.	5759.	18054.	167890.
1972	5800.	151.	0.	0.	0.	189.	6319.	6183.	1328.	195905.	11496.	4097.	231468.
1973	10330.	11638.	33917.	63779.	79740.	1934.	28.	244.	41.	0.	0.	0.	201651.
1974	551.	29.	3143.	1080.	0.	0.	4784.	7190.	2521.	8375.	11258.	0.	38931.
1975	10.	25.	5522.	8851.	2786.	0.	7099.	1165.	22977.	135.	0.	571.	49141.
1976	119.	5870.	6950.	9585.	4379.	0.	13756.	4784.	5903.	387.	73.	0.	52816.
1977	2797.	263.	11.	1350.	1.	0.	11837.	43030.	6723.	4575.	575.	108.	71270.
1978	507.	2472.	44928.	12709.	1026.	210.	0.	289.	1093.	5561.	34144.	66467.	169406.
1979	12965.	21326.	30647.	42849.	9878.	1695.	0.	4741.	0.	203.	1775.	249.	126328.
1980	6821.	55025.	17841.	16574.	16574.	99.	10.	5561.	8729.	0.	0.	8.	138914.
1981	55.	34.	18.	492.	34.	7.	15008.	6138.	11782.	19768.	39.	850.	54226.
1982	2795.	10232.	27745.	8724.	1419.	0.	144.	50562.	23243.	384.	3267.	18260.	146775.

AVERAGES

7858.	7940.	13537.	11438.	4172.	1774.	7158.	34743.	16888.	9314.	3211.	3180.	12099.
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MONTHLY PERCENTAGES

8.2	6.8	11.2	9.8	3.4	1.8	8.9	26.7	14.0	7.7	2.7	2.8
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1906 TO 1982 IS 120991 TONS

Lees Ferry to Grand Canyon  
Salt Model

Salt Load at Grand Canyon Gage

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	334000.	496000.	279000.	112000.	118000.	162000.	123000.	145000.	175000.	107000.	106000.	134000.	2291000.
1964	138000.	373000.	562000.	1058000.	485000.	127000.	147000.	378000.	200000.	230000.	323000.	431000.	4450000.
1965	644000.	588000.	619000.	1301000.	2350000.	2038000.	427000.	755000.	391000.	344000.	322000.	406000.	10185000.
1966	418000.	455000.	582000.	700000.	799000.	809000.	523000.	471000.	468000.	419000.	418000.	471000.	6333000.
1967	544000.	485000.	683000.	873000.	861000.	725000.	638000.	644000.	642000.	395000.	411000.	537000.	7438000.
1968	664000.	555000.	927000.	1100000.	1083000.	953000.	804000.	628000.	340000.	511000.	540000.	512000.	8617000.
1969	621000.	560000.	763000.	973000.	822000.	853000.	944000.	832000.	691000.	527000.	601000.	664000.	8851000.
1970	676000.	474000.	510000.	911000.	908000.	739000.	717000.	691000.	641000.	455000.	396000.	553000.	7671000.
1971	418000.	364000.	693000.	1075000.	810000.	721000.	753000.	809000.	652000.	573000.	665000.	762000.	8295000.
1972	640000.	393000.	343000.	731000.	765000.	724000.	698000.	798000.	765000.	898000.	582000.	839000.	8176000.
1973	903000.	683000.	1031000.	1566000.	689000.	655000.	567000.	499000.	390000.	443000.	378000.	343000.	8147000.
1974	611000.	271000.	372000.	438000.	714000.	775000.	961000.	914000.	623000.	477000.	579000.	442000.	7177000.
1975	598000.	445000.	437000.	464000.	805000.	630000.	1108000.	821000.	772000.	500000.	381000.	427000.	7588000.
1976	506000.	573000.	584000.	590000.	944000.	643000.	648000.	595000.	692000.	561000.	614000.	557000.	7507000.
1977	765000.	399000.	490000.	216000.	221000.	431000.	740000.	1054000.	839000.	373000.	336000.	687000.	6551000.
1978	784000.	503000.	582000.	406000.	517000.	706000.	643000.	1012000.	941000.	657000.	695000.	982000.	8428000.
1979	856000.	691000.	273000.	442000.	544000.	569000.	756000.	800000.	594000.	508000.	667000.	557000.	7287000.
1980	467000.	894000.	577000.	830000.	721000.	1112000.	1116000.	941000.	732000.	551000.	659000.	529000.	8929000.
1981	566000.	487000.	387000.	390000.	437000.	419000.	657000.	704000.	539000.	522000.	472000.	680000.	6260000.
1982	711000.	570000.	466000.	519000.	508000.	510000.	643000.	744000.	528000.	588000.	726000.	761000.	7274000.

AVERAGES

593200.	502950.	558000.	734750.	755080.	715050.	660650.	713150.	590750.	481950.	493550.	563700.	7382750.
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MONTHLY PERCENTAGES

8.0	6.8	7.6	10.0	10.2	9.7	9.2	9.7	8.0	6.5	6.7	7.6
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 7382750. TONS

**Appendix 2**

**GRAND CANYON TO  
HOOVER DAM REACH**



Grand Canyon to Hoover Dam  
Flow Model

Reach Flow Gains and Losses Between Grand Canyon Gage and Hoover Dam

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	-22074	44966	42555	-6026	-17755	-10076	639	28323	73595	5002	20626	8181	212104
1964	-17089	-17121	-56260	49544	81043	-34600	-40881	-22291	-10717	927	4402	-5148	-68191
1965	59818	57184	24555	72779	206717	244529	25325	25280	5827	29894	66780	60111	878699
1966	36277	31996	-11497	2427	33983	17618	1867	-5760	50296	41461	78482	63792	337942
1967	34025	23122	-18285	13509	37854	11898	47260	11282	30895	-3765	-1044	18952	205703
1968	3365	31922	2574	-12891	30447	7697	33675	9477	11812	1355	5460	-9531	115362
1969	1264	67029	14031	29773	62750	1222	36689	10955	26582	-47682	12894	-6454	209053
1970	576	31362	-68	-32331	45007	11985	41748	62809	-23297	-3149	9579	-20929	123314
1971	34824	-36418	246851	-41252	28960	8906	61530	86770	-26923	-26877	16395	-46011	308755
1972	30984	24954	-23398	-34650	-31965	646	22441	28599	25508	36613	2010	-54919	26563
1973	-25178	11185	-18735	-4517	93216	40710	53284	11715	17190	-2399	31392	15139	223002
1974	42307	7889	37909	10296	-13526	20705	20135	20376	64742	39151	68820	43883	382655
1975	20483	35079	62463	14172	39891	7031	25080	47252	38901	8551	-1951	24521	321243
1976	12897	32896	5800	18649	14832	12927	54785	2427	51289	19749	7726	-8177	225180
1977	34856	6200	-30802	1926	1667	-41613	-5201	19616	20616	58160	-13310	22186	74311
1978	91421	83009	106098	98517	99600	1986	36856	-20898	13101	46137	10519	40039	609185
1979	36449	75028	70243	39321	15811	-3577	21280	40427	35342	-42861	27055	82174	398562
1980	43661	188632	72878	33797	53121	31078	118159	-13559	4246	20502	40948	61876	634949
1981	53031	73024	34852	9364	44701	27112	14847	112402	61820	20254	66515	50346	568268
1982	24887	41248	452057	19430	50800	4523	35933	53991	60000	31048	76528	83381	929628
AVERAGES													
26959	39649	50821	13881	43837	18050	30262	25460	28531	11604	26391	21171	334614	
MONTHLY PERCENTAGES													
8.1	11.8	15.2	4.1	13.1	5.4	9.0	7.6	7.9	3.5	7.9	6.3		
THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS						334614. ACRE-FEET							

Flow at Grand Canyon Gage

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	181760	373937	203035	71525	78705	147810	107912	112032	121688	77291	75928	74796	1629099
1964	78644	236647	382458	796582	356080	76702	84116	286536	190595	298827	370718	412711	3569314
1965	807508	539330	567906	1251390	2281838	2282017	724335	879286	767019	875144	812306	588322	11776401
1966	528617	523778	718186	864608	1011486	791417	697894	693590	623612	568555	589457	619804	8229005
1967	648704	583711	704043	800937	861454	711085	692975	785623	712870	459012	495141	597115	8032870
1968	658542	515059	900192	1077636	975822	925303	864528	775370	674787	646859	675382	654691	9354171
1969	627798	508950	728784	927088	798736	868963	993654	1002263	841996	662231	750953	831939	9542365
1970	767991	493733	509801	968741	946301	821169	814723	797506	756309	541991	482649	699739	8800256
1971	943804	429920	644399	1000279	933395	896145	932781	932166	820574	679759	786061	994269	9589532
1972	840548	455078	383643	783797	911874	890195	871292	996729	944939	916794	730126	1069285	9784300
1973	1231000	839179	1204560	1916061	845467	771185	670840	585801	449441	515766	444978	354297	9828575
1974	876826	326482	423740	506826	819962	932442	1234689	1228540	608982	740242	608982	582173	9114975
1975	803655	565377	548170	504564	813719	994924	1245757	1028703	991948	648704	441349	523698	9210388
1976	718186	740877	712037	693828	1079123	798879	806729	722490	862227	819027	902691	828865	9645959
1977	1017635	487013	491785	189168	220129	472053	887894	1245142	975882	418860	387199	803655	7596413
1978	930321	591480	694205	481336	580512	765829	697280	1082036	1014560	707118	721796	1054528	9331002
1979	1056987	830848	318019	500990	601972	631943	857765	1079123	709300	618574	813433	678833	8696677
1980	599759	807523	670840	984576	867894	1463228	1561808	1323647	1019918	764917	924708	748315	11737331
1981	716956	615916	477274	481514	543066	520014	841392	906340	682522	641325	585232	835629	7848180
1982	920505	738250	586861	658665	643185	646769	825811	864778	671160	752023	941290	988759	9335152
AVERAGES													
717787	559006	592898	772390	814336	818503	820759	871905	732982	600753	623582	687706	6622609	
MONTHLY PERCENTAGES													
8.3	6.5	6.9	9.0	9.4	9.5	9.5	10.1	8.5	7.0	7.2	8.1		
THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS						8622609. ACRE-FEET							



Grand Canyon to Hoover Dam  
Flow Model

Inflow from Las Vegas Wash

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	2022	1606	1916	1616	1274	1063	1009	1056	1488	1712	1616	1928	18326
1964	1775	1711	1876	1629	1954	1842	768	884	882	1455	1963	2157	18906
1965	1963	1867	2087	2416	1470	1192	1119	1946	1155	1618	2613	2578	22024
1966	2399	2163	2072	2303	1697	1192	1025	2017	1616	1899	2092	2563	23038
1967	2392	2326	1897	1888	1587	1714	830	1048	1910	1579	3097	2813	22881
1968	2786	2276	2275	2446	1853	1404	1430	1775	1706	2774	2697	3079	26481
1969	4148	3243	2766	2538	2392	2062	2283	2060	2392	3345	3243	3505	33977
1970	3714	3186	3351	2928	2699	2297	2410	3425	2261	3173	3886	3800	37110
1971	3720	3271	3167	2630	2521	2434	1679	2287	2630	3228	3332	3898	34797
1972	3984	3399	3025	2922	2453	2565	2054	3240	3814	4501	4683	4821	41461
1973	4501	4271	4310	3445	3456	2583	2779	3425	3297	4077	4124	4873	44941
1974	5159	3971	3782	3945	3394	2124	3167	3800	3273	5190	5183	5688	48876
1975	4815	4454	4513	4885	4003	3195	6825	3966	4481	4722	4612	4962	55433
1976	5061	7387	4452	4624	4827	3701	4089	4083	5891	7502	5088	5436	62141
1977	5774	5004	5393	4255	4612	4106	4021	6518	5004	9067	5052	6333	61139
1978	5964	5998	7194	4868	4913	4219	4040	4513	4719	5743	5677	6333	64181
1979	6702	5887	6784	5022	5042	4653	4938	5737	5421	5620	5445	5774	67005
1980	6887	6665	6887	5861	5651	5010	6395	5786	6070	6069	5811	5688	72580
1981	5786	5387	7071	5248	5934	5534	5571	5946	5945	6456	6070	5149	71097
1982	6333	7220	7502	6188	6396	5796	5927	6210	5915	6825	6843	7688	78841

AVERAGES

4294.	4064.	4105.	3583.	3406.	2934.	3118.	3486.	3494.	4128.	4146.	4494.	45252.
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MONTHLY PERCENTAGES

9.5	9.0	9.1	7.9	7.5	6.5	6.9	7.7	7.7	9.1	9.2	9.9
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 45252. ACRE-FEET

Pumping from Lake Mead

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	1414	1339	1537	1667	2091	2619	3443	3197	2738	1845	1369	1353	24606
1964	1291	1111	1168	1548	2398	3214	3812	3381	2500	1660	1190	1230	24503
1965	1230	1222	1291	1309	1722	1964	3074	3628	3035	1352	1012	1188	22007
1966	1291	1000	1414	1607	2152	3095	3751	3751	3095	1844	1547	1414	25961
1967	1352	1277	1660	1726	2213	1964	3997	3566	2797	1845	1488	1414	25299
1968	1475	1499	1722	1905	2829	3689	4366	4242	4106	2889	1964	1783	32470
1969	1660	1500	1783	2142	2398	3808	4489	4650	3927	3504	3194	3258	36173
1970	2951	2832	3136	3332	3627	3630	5104	3012	3392	2890	1667	1414	36987
1971	1537	1555	1783	1904	2275	4760	7010	6149	5177	4350	3730	3100	43330
1972	2820	2900	4670	4850	6990	8140	9180	8240	7170	5850	4350	4660	69820
1973	4540	4000	4640	6080	6890	8420	10150	9540	8080	7920	5770	4890	81000
1974	4730	5170	6040	6680	8560	9970	8830	8792	7780	5380	4000	3550	80482
1975	4890	3810	5630	6180	7750	10100	10600	10300	8640	7050	6540	5210	86680
1976	5060	4750	6070	6680	8940	10710	10770	10600	8630	6820	5810	5020	89400
1977	4750	5150	6580	7620	7700	9960	11510	10680	8630	8040	6190	4100	96950
1978	4160	4200	5270	6850	9370	11870	12260	11980	10340	9610	7020	4740	97370
1979	4700	4310	5360	8200	10220	12060	13930	12950	13530	11940	9200	7820	114220
1980	6980	6270	6080	9760	11770	12840	14160	14570	12410	12140	9710	8230	124920
1981	8470	8320	9550	11490	12740	14960	17070	14670	13470	11840	10470	8120	141170
1982	8590	7890	9730	11280	13380	14360	14310	14730	12790	11380	9000	8000	135420

AVERAGES

3695.	3505.	4255.	5137.	6301.	7597.	8641.	8126.	7122.	6007.	4759.	4024.	69157.
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MONTHLY PERCENTAGES

5.3	5.1	6.2	7.4	9.1	11.0	12.5	11.8	10.3	8.7	6.9	5.8
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 69157. ACRE-FEET

Change of Storage in Lake Mead

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	-200986	-181988	-630011	-805043	-860962	-663064	-843007	-759998	-562025	-467989	-390055	-507588	-6972726
1964	-866002	-342557	-473983	-48997	-422979	-693055	-843007	-501008	-473065	-308980	-100990	-84977	-4881560
1965	145974	72977	204019	578032	1491957	1580155	-137980	2029	45997	115987	218003	193012	4100104
1966	269258	86973	96291	-9897	99980	-39987	-257022	-225970	-64979	87980	139004	249951	238810
1967	148003	-11996	-178993	6862	-23981	-111036	-162022	-37016	178991	-155996	-96993	218009	-228088
1968	227999	46319	26010	140015	105990	109013	56016	12974	-47009	106990	167031	63026	1015374
1969	86022	22993	-77967	90031	49990	57006	163990	215025	168994	40029	275032	314022	1405167
1970	129987	-36988	-289977	-28979	7994	-16007	-22013	90019	141027	-91987	-2023	136013	51086
1971	-10023	-27968	0	0	48023	88008	152983	163974	86996	90019	281994	366947	1030953
1972	255977	-154507	-566985	-158997	-45010	28979	27977	166019	258014	367947	269022	201990	1101671
1973	554934	252976	526956	986057	-29023	55994	-197009	-350976	-269022	-105022	-100980	-232980	1091905
1974	422979	-271970	-405947	-460033	-210967	-9997	286967	182006	88008	-19984	237008	145974	-15956
1975	254009	-46985	-163990	-381011	-67022	105026	321954	155996	285038	41997	-101992	-2029	370991
1976	172967	253920	-220990	-208029	94016	-28979	-82028	-263970	203983	406992	510017	263970	1101671
1977	714927	-145010	-412957	-805043	-867969	-348997	-108008	263970	409037	-15887	-141027	201990	-953071
1978	708000	210000	112000	-315000	-212000	24000	-195000	58000	228000	-28000	217800	190000	663000
1979	787000	550000	-230000	-149000	-355000	-293000	-91000	121000	-58000	-28000	62000	-118000	706000
1980	147000	750000	-185000	-137000	-292000	341000	350000	-11000	51000	-252000	203000	186000	-668000
1981	103000	108000	-318000	-538000	-318000	-358000	-115000	-14000	-16000	203000	186000	409000	-668000
1982	415000	181000	260000	-393000	-197000	-73000	9000	130000	226000	304000	543000	538000	1883000

AVERAGES

233251.	53009.	-177806.	-131702.	-85148.	-12297.	-84110.	-29146.	42549.	24649.	122453.	177918.	133718.
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MONTHLY PERCENTAGES

174.5	39.6	-133.0	-98.5	-63.7	-9.2	-62.9	-21.8	31.8	18.4	91.6	133.1
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 133718. ACRE-FEET



Reach Salt Gains and Losses Between Grand Canyon Gage and Hoover Dam

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	-206439	-155179	-116472	-125929	-138188	-118560	-126902	-135772	-114385	-105489	-97064	-124016	-1564376
1964	-137608	-212539	-310875	-298308	-131961	-162391	-191183	-233427	-94829	14338	-10406	-67075	-1825964
1965	17302	8968	2687	124153	416457	608390	285483	130643	381578	323510	290827	206140	2795118
1966	94865	45072	94997	136088	200481	165915	85224	96458	118324	90362	124152	33962	1283659
1967	27450	-6185	-121390	-211045	-99942	-126915	-58021	-22336	-59584	-39949	-39581	-44068	-801548
1968	-183064	-95980	-148899	-182847	-202016	-160875	-57221	7306	37898	43635	52512	63021	-826330
1969	-57183	-49783	-78705	-46804	-5390	-56923	-15383	88507	64919	-364	70773	88304	28
1970	51358	813	-68005	-31892	-28878	342	8362	38304	-32492	31	30716	102052	59511
1971	126367	-35183	138116	-151063	103438	94319	117296	51796	38100	-8208	64142	128723	665863
1972	221153	40234	-78335	-66787	9564	40453	68255	48826	2643	-100676	36123	78563	300018
1973	215335	100507	50933	176427	138593	18089	1427	-57778	-53128	-46263	-27970	-89934	426238
1974	171738	-24380	7252	-21267	-37559	24025	94800	123825	72628	10408	48485	35105	505050
1975	93500	29889	54715	-53149	-23550	-14123	-41271	53370	132841	35874	-61384	-15112	191600
1976	98283	55672	-5945	-27433	-21738	-42734	18094	-52373	24347	105190	120709	112598	384870
1977	168138	-11858	-148740	-124298	-109071	-141384	-57747	-29957	-50187	-30328	-88285	-17409	-643126
1978	72617	35030	65336	48653	29578	-74914	-81472	-140757	-92608	-41084	-99181	-19182	-297982
1979	81838	78308	-18787	-63026	-80744	-108341	-70471	71103	-17688	-73912	17007	54137	-1130556
1980	31398	63673	-917	-2658	50338	177318	318299	142621	67072	68566	132873	130092	1178675
1981	99033	102895	12308	-17475	17814	4019	26553	115286	45656	-174	37509	65214	506638
1982	98862	78089	-3909	4467	20971	-17308	13076	43489	39408	49260	121192	139466	587067

AVERAGES

54138	2395	-33817	-48711	5411	5430	16709	16857	25327	14736	36157	43029	139863
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MONTHLY PERCENTAGES

38.7	1.7	-24.0	-33.4	3.9	3.9	11.9	12.1	18.1	10.5	25.9	30.8
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 139863 TONS

Salt Load at Grand Canyon Gage

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1963	334000	496000	279000	112000	118000	162000	123000	145000	175000	107000	106000	134000	2291000
1964	138000	373000	562000	1058000	489000	127000	147000	376000	200000	230000	323000	431000	4450000
1965	844000	588000	619000	1301000	2280000	2038000	427000	796000	391000	344000	322000	406000	10185000
1966	418000	455000	582000	700000	799000	609000	523000	471000	468000	419000	418000	471000	6332000
1967	544000	485000	683000	873000	861000	725000	638000	644000	642000	395000	411000	537000	7438000
1968	664000	555000	927000	1100000	1083000	963000	804000	628000	540000	511000	540000	512000	8817000
1969	821000	560000	783000	873000	822000	853000	944000	832000	691000	527000	601000	664000	8851000
1970	676000	474000	510000	811000	908000	739000	717000	691000	641000	455000	398000	553000	7871000
1971	418000	364000	693000	1075000	810000	721000	753000	808000	652000	573000	665000	762000	8295000
1972	840000	393000	343000	731000	768000	724000	698000	798000	788000	898000	582000	839000	8178000
1973	903000	683000	1031000	1564000	689000	655000	567000	499000	390000	443000	378000	343000	8147000
1974	811000	271000	372000	438000	714000	779000	961000	914000	623000	477000	579000	442000	7177000
1975	598000	449000	437000	464000	805000	830000	1108000	821000	772000	500000	381000	427000	7588000
1976	806000	573000	584000	590000	221000	431000	740000	1054000	839000	373000	336000	687000	6551000
1977	765000	399000	490000	216000	221000	431000	740000	1054000	839000	373000	336000	687000	6551000
1978	784000	503000	582000	408000	517000	706000	647000	1012000	941000	657000	695000	982000	8428000
1979	856000	691000	273000	442000	544000	569000	756000	830000	594000	508000	667000	557000	7287000
1980	467000	694000	577000	830000	721000	1112000	1118000	941000	732000	531000	659000	529000	8929000
1981	566000	487000	387000	390000	437000	419000	657000	704000	539000	522000	472000	680000	6260000
1982	711000	570000	466000	519000	508000	510000	643000	744000	528000	588000	726000	761000	7274000

AVERAGES

583200	502950	558000	734750	755050	715050	680650	713150	590750	481950	493550	563700	7382750
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MONTHLY PERCENTAGES

8.0	6.8	7.6	10.0	10.2	9.7	9.2	9.7	8.0	6.5	6.7	7.8
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THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1963 TO 1982 IS 7382750 TONS





Grand Canyon to Hoover Dam  
Salt Model

Salt Load Below Hoover Dam

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1935	558979.	331728.	618613.	501938.	462796.	568640.	311744.	246935.	258684.	394685.	486373.	336377.	5077450.
1936	352122.	382920.	589927.	595765.	483101.	406773.	388203.	333202.	294798.	248814.	235270.	274439.	4583334.
1937	298454.	322588.	534977.	384130.	576647.	619123.	700581.	659322.	537186.	481810.	393484.	380388.	6068650.
1938	350245.	344150.	449296.	578772.	527851.	615070.	624519.	557990.	484119.	647294.	603019.	336101.	6148428.
1939	723223.	1273174.	623554.	633230.	603038.	645358.	705640.	732160.	624195.	685028.	720187.	721228.	8690115.
1940	695440.	477187.	664452.	560352.	602458.	609788.	709346.	707702.	728018.	817645.	780689.	811823.	8264850.
1941	836000.	555000.	607000.	560000.	1550000.	1935000.	1007000.	1086000.	1481000.	1543000.	1690000.	1947000.	14897000.
1942	2011000.	1835000.	1425000.	1301000.	1343000.	1577000.	1272000.	838000.	1005000.	1105000.	986000.	983000.	15381000.
1943	965000.	732000.	913000.	869000.	967000.	967000.	1009000.	959000.	948000.	1061000.	1014000.	1098000.	11502000.
1944	1147000.	1231000.	1254000.	1135000.	1192000.	1042000.	1033000.	1113000.	1007000.	1152000.	1174000.	1127000.	13607000.
1945	1152000.	1056000.	1200000.	990000.	961000.	923000.	792000.	823000.	782000.	950000.	938000.	945000.	11512000.
1946	971000.	994000.	884000.	776000.	867000.	752000.	754000.	683000.	691000.	788000.	693000.	773000.	9626000.
1947	886000.	806000.	879000.	850000.	979000.	873000.	888000.	796000.	776000.	762000.	810000.	978000.	10283000.
1948	1087000.	1058000.	1070000.	1166000.	1062000.	947000.	994000.	833000.	834000.	734000.	905000.	1023000.	11713000.
1949	1006000.	1020000.	1057000.	1013000.	852000.	858000.	857000.	850000.	890000.	882000.	848000.	1077000.	11250000.
1950	1060000.	917000.	1059000.	926000.	941000.	797000.	776000.	715000.	651000.	755000.	717000.	755000.	10046000.
1951	807000.	658000.	783000.	740000.	826000.	829000.	720000.	844000.	780000.	703000.	761000.	754000.	9005000.
1952	963000.	1127000.	1289000.	1302000.	1440000.	1303000.	1082000.	1033000.	992000.	891000.	802000.	1177000.	13401000.
1953	1141000.	949000.	973000.	913000.	908000.	729000.	780000.	842000.	832000.	690000.	644000.	692000.	10093000.
1954	736000.	678000.	865000.	916000.	1024000.	873000.	965000.	861000.	905000.	729000.	642000.	719000.	9913000.
1955	718000.	733000.	978000.	979000.	1038000.	762000.	940000.	884000.	890000.	589000.	545000.	536000.	9393000.
1956	635000.	649000.	661000.	658000.	850000.	917000.	931000.	814000.	702000.	568000.	620000.	503000.	8918000.
1957	571000.	508000.	820000.	970000.	823000.	878000.	825000.	810000.	801000.	711000.	948000.	1016000.	9681000.
1958	1120000.	795000.	1292000.	1286000.	937000.	696000.	760000.	756000.	657000.	597000.	612000.	725000.	10243000.
1959	676000.	537000.	728000.	834000.	816000.	646000.	713000.	742000.	626000.	565000.	492000.	463000.	7841000.
1960	541000.	456000.	632000.	845000.	796000.	934000.	876000.	892000.	749000.	512000.	450000.	526000.	8209000.
1961	546000.	543000.	859000.	877000.	896000.	791000.	772000.	709000.	663000.	502000.	486000.	462000.	8139000.
1962	448000.	487000.	750000.	857000.	887000.	751000.	750000.	746000.	716000.	545000.	552000.	564000.	8033000.
1963	478000.	558000.	828000.	813000.	847000.	702000.	826000.	771000.	645000.	475000.	413000.	526000.	7882000.
1964	589000.	548000.	760000.	842000.	827000.	712000.	849000.	724000.	616000.	596000.	454000.	497000.	8014000.
1965	528000.	543000.	903000.	796000.	994000.	848000.	880000.	907000.	734000.	562000.	430000.	449000.	8574000.
1966	260000.	446000.	824000.	888000.	914000.	831000.	897000.	822000.	672000.	448000.	440000.	416000.	7857000.
1967	470000.	528000.	771000.	694000.	827000.	735000.	749000.	679000.	459000.	526000.	506000.	328000.	7282000.
1968	327000.	456000.	791000.	821000.	810000.	699000.	712000.	672000.	643000.	476000.	452000.	553000.	7412000.
1969	560000.	563000.	841000.	912000.	834000.	768000.	780000.	707000.	618000.	523000.	426000.	458000.	7990000.
1970	827000.	552000.	776000.	927000.	899000.	780000.	776000.	677000.	492000.	589000.	481000.	542000.	8128000.
1971	598000.	663000.	872000.	954000.	894000.	741000.	727000.	732000.	622000.	509000.	463000.	522000.	8297000.
1972	612000.	646000.	887000.	854000.	841000.	790000.	755000.	723000.	602000.	490000.	387000.	375000.	7962000.
1973	577000.	561000.	603000.	628000.	963000.	650000.	788000.	823000.	630000.	530000.	491000.	523000.	7967000.
1974	409000.	563000.	829000.	908000.	909000.	821000.	792000.	885000.	644000.	552000.	455000.	385000.	8152000.
1975	481000.	560000.	701000.	836000.	886000.	734000.	787000.	762000.	662000.	526000.	454000.	449000.	7839000.
1976	473000.	446000.	822000.	797000.	865000.	650000.	775000.	830000.	560000.	328000.	277000.	448000.	7271000.
1977	241000.	562000.	773000.	878000.	681000.	651000.	816000.	807000.	423000.	384000.	415000.	514000.	7145000.
1978	213000.	393000.	691000.	832000.	798000.	823000.	771000.	832000.	642000.	469000.	356000.	356000.	6976000.
1979	204000.	275000.	577000.	854000.	942000.	808000.	796000.	814000.	653000.	488000.	510000.	472000.	7193000.
1980	440000.	251000.	873000.	1065000.	1193000.	1000000.	1118000.	1120000.	821000.	922000.	785000.	833000.	10420000.
1981	600017.	519917.	782134.	968528.	814293.	818158.	829356.	869202.	629176.	356621.	356935.	369411.	7910748.
1982	430497.	504712.	728824.	969060.	792702.	590643.	669214.	703248.	366327.	365118.	349048.	431334.	6900727.

AVERAGES

665043. 649445. 840870. 872287. 891351. 812428. 813098. 792203. 692468. 640313. 613520. 648044. 8931070.

MONTHLY PERCENTAGES

7.4 7.3 9.4 9.8 10.0 9.1 9.1 8.9 7.8 7.2 6.9 7.3

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8931070. TONS



**Appendix 3**

**HOOVER DAM TO  
DAVIS DAM REACH**

Hoover Dam to Davis Dam  
Flow Model

Reach Flow Gains and Losses between Hoover Dam and Davis Dam

| YEAR | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT      | NOV     | DEC     | TOTAL    |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|----------|
| 1935 | 2246.   | -743.   | -6558.  | -7540.  | -29530. | -24884. | -9361.  | -21499. | -10059. | -5637.   | 7874.   | 10770.  | -94921.  |
| 1936 | 5469.   | 5185.   | 309.    | -218.   | -5948.  | -25922. | -14438. | -9164.  | -2423.  | 1749.    | 2903.   | -968.   | -43466.  |
| 1937 | 8673.   | -11680. | -1697.  | -9564.  | -479.   | -12912. | -3562.  | -3268.  | -6050.  | -3660.   | 6923.   | 3536.   | -31740.  |
| 1938 | -1775.  | 778.    | 3276.   | 5958.   | 3497.   | -12856. | 2114.   | 9302.   | 5843.   | -10442.  | 30693.  | 13638.  | 49726.   |
| 1939 | -90181. | 30944.  | 43628.  | 9985.   | -8506.  | -16591. | -19628. | -23436. | 17966.  | -12537.  | -4730.  | 6903.   | -66183.  |
| 1940 | 22631.  | 21812.  | -20128. | 24449.  | 991.    | -22783. | -11098. | 703.    | 7721.   | 1678.    | 10294.  | 35822.  | 72092.   |
| 1941 | 27976.  | 15159.  | 36738.  | 11288.  | -87388. | 64375.  | 30744.  | -50941. | -18470. | -15637.  | -25580. | 17707.  | 5971.    |
| 1942 | -12936. | 65519.  | 19605.  | -85697. | -12534. | -18956. | 63453.  | -4104.  | -42512. | 18149.   | 2807.   | -4768.  | -13974.  |
| 1943 | -12564. | -5930.  | -22664. | 524.    | -21501. | -47278. | -29329. | -26537. | -16544. | 3191.    | -20703. | -23082. | -222417. |
| 1944 | -19408. | -3805.  | -26550. | 7827.   | -38953. | -4623.  | -29355. | -36256. | -8435.  | -30209.  | -20168. | 24104.  | -185831. |
| 1945 | -25154. | -7205.  | 21141.  | -11888. | -60038. | -93807. | -269.   | -35783. | -31219. | -61821.  | -18363. | 40237.  | -243949. |
| 1946 | -33063. | -2467.  | 17040.  | -3086.  | 2355.   | -14585. | -29217. | 1855.   | -12563. | -20729.  | 35312.  | 8030.   | -51120.  |
| 1947 | 13497.  | 37152.  | 35319.  | -23052. | 32552.  | -1026.  | -28071. | 30389.  | -24831. | 10283.   | 15676.  | 22241.  | 120089.  |
| 1948 | 49884.  | 55108.  | 6025.   | 20523.  | 42913.  | -44806. | 11409.  | 26050.  | 8602.   | 43353.   | -36589. | 21155.  | 203725.  |
| 1949 | 20282.  | 19572.  | -2259.  | 12801.  | -9243.  | -13696. | 10906.  | -27906. | -1711.  | -275.    | -8701.  | 8236.   | 8004.    |
| 1950 | -40143. | 3093.   | 2140.   | 2607.   | 8740.   | 9211.   | -391.   | 7461.   | 868.    | -12911.  | -21724. | -43032. |          |
| 1951 | -32548. | -33107. | 2598.   | 27184.  | 22351.  | 43075.  | 40271.  | 30877.  | 18203.  | 23018.   | -1712.  | -861.   | 139049.  |
| 1952 | 22297.  | 42856.  | 9533.   | 17489.  | 12306.  | 18836.  | 21110.  | 13015.  | 22355.  | 18609.   | -7864.  | 8963.   | 199505.  |
| 1953 | 21936.  | 7989.   | 17271.  | 4157.   | 19718.  | 29815.  | 40399.  | 11092.  | 158.    | -103184. | -9464.  | -11448. | 28439.   |
| 1954 | 11466.  | 11943.  | -9540.  | 14406.  | 32985.  | 10982.  | 24478.  | 12008.  | -8726.  | -3273.   | 9426.   | -4976.  | 101161.  |
| 1955 | 7563.   | 4982.   | -5617.  | 6486.   | 22115.  | 32677.  | 48678.  | 29136.  | 16584.  | 15140.   | 3283.   | -8369.  | 176258.  |
| 1956 | -12803. | 16895.  | 17255.  | 22565.  | 34809.  | 33561.  | 27058.  | 25579.  | 13989.  | 7549.    | -1693.  | -11213. | 173551.  |
| 1957 | -22322. | -16818. | -8904.  | 2116.   | 4629.   | 5095.   | 21534.  | 16002.  | 1035.   | 8282.    | 1106.   | -11666. | 289.     |
| 1958 | 1296.   | -2348.  | 10104.  | 21678.  | 14226.  | 23058.  | 25622.  | 17097.  | 3928.   | 2033.    | -4770.  | -4305.  | 107601.  |
| 1959 | -3871.  | 3360.   | 2683.   | 8270.   | 9279.   | 17614.  | 18962.  | 16408.  | 15931.  | 11883.   | 3179.   | 10424.  | 114122.  |
| 1960 | 7228.   | 15426.  | 8277.   | -1754.  | -17496. | -16355. | -24509. | -8867.  | 2175.   | -2468.   | -2840.  | -18369. | -61548.  |
| 1961 | -15368. | -4852.  | -11493. | 954.    | -8309.  | 16152.  | 8947.   | 15580.  | 18485.  | 14260.   | -11579. | -24501. | -1724.   |
| 1962 | -4096.  | 1043.   | 1788.   | 18333.  | 4212.   | 2111.   | 16873.  | 8071.   | 1826.   | 8717.    | 9783.   | -14646. | 46995.   |
| 1963 | -6546.  | -941.   | 40.     | 5894.   | 9435.   | 29363.  | 13156.  | 18781.  | 7313.   | 4020.    | -9388.  | -24007. | 47100.   |
| 1964 | -23465. | 11477.  | 5497.   | 5383.   | -4269.  | -82.    | 34639.  | 42292.  | 29216.  | 12385.   | -983.   | -341.   | 111745.  |
| 1965 | 5694.   | 13394.  | 14308.  | 20895.  | 30687.  | 35437.  | 52826.  | 81789.  | 41513.  | 24385.   | 5645.   | -8175.  | 288378.  |
| 1966 | -2606.  | 25749.  | 46552.  | 59704.  | 48300.  | 50794.  | 53860.  | 57321.  | 48699.  | 23152.   | 7381.   | -7036.  | 411870.  |
| 1967 | 2334.   | 9360.   | 30543.  | 35371.  | 38068.  | 43587.  | 49395.  | 56496.  | 23245.  | 5901.    | -2999.  | -15678. | 275625.  |
| 1968 | 9390.   | 39440.  | 6218.   | 18647.  | 24516.  | 42455.  | 37552.  | 36072.  | 17893.  | 13555.   | 3426.   | -3228.  | 245939.  |
| 1969 | -14177. | 13899.  | 28915.  | 34451.  | 18533.  | 37752.  | 39458.  | 31459.  | 20685.  | 52069.   | -7984.  | -4914.  | 250146.  |
| 1970 | 894.    | 12631.  | 35801.  | 52914.  | 35518.  | 38144.  | 39830.  | 38425.  | 12661.  | 14206.   | 11176.  | 5812.   | 298012.  |
| 1971 | -1614.  | 22272.  | 42081.  | 31370.  | 22403.  | 88856.  | 68773.  | 36184.  | 215.    | 16777.   | 11942.  | 2658.   | 341897.  |
| 1972 | -426.   | 39672.  | 41606.  | 48020.  | 49653.  | 48826.  | 50023.  | 33832.  | 22240.  | -7263.   | 16460.  | 25979.  | 368621.  |
| 1973 | 4041.   | 9713.   | 42603.  | 24239.  | 6152.   | 25137.  | 12877.  | 15360.  | 20062.  | 14897.   | -6300.  | -7549.  | 164232.  |
| 1974 | 7431.   | 10867.  | 8465.   | 23085.  | 10908.  | 125532. | 22122.  | 24189.  | 32898.  | -1378.   | -26077. | -17853. | 220269.  |
| 1975 | -26848. | -17482. | 10383.  | 14900.  | 8878.   | 9837.   | 21441.  | 7844.   | 19914.  | 12620.   | -2397.  | -11386. | 47704.   |
| 1976 | -672.   | 22041.  | 31170.  | 40810.  | 34687.  | 14679.  | 25539.  | 22222.  | 15584.  | 16452.   | 12928.  | 16332.  | 251872.  |
| 1977 | 22549.  | 24148.  | 34887.  | 44858.  | 43820.  | 61127.  | 75008.  | 30659.  | 23874.  | 31294.   | 7757.   | 17985.  | 417964.  |
| 1978 | 22197.  | 25612.  | 52532.  | 68016.  | 52079.  | 53347.  | 66715.  | 62643.  | 36752.  | 18940.   | 15066.  | 23340.  | 497241.  |
| 1979 | 15354.  | 34088.  | 48269.  | -7286.  | 40999.  | 49389.  | 84266.  | 70824.  | 62402.  | 49732.   | -11745. | 5302.   | 441594.  |
| 1980 | -5054.  | 42769.  | 19208.  | 37858.  | 24017.  | 29910.  | 27756.  | 38974.  | 42071.  | 15394.   | 24861.  | 26181.  | 320745.  |
| 1981 | 6378.   | -719.   | 18940.  | 27398.  | 21764.  | 33897.  | 48135.  | 45484.  | 14548.  | 15813.   | 8605.   | -2528.  | 237695.  |
| 1982 | -60090. | 20857.  | 25067.  | 45371.  | 17738.  | 37506.  | 52097.  | 30310.  | 14141.  | 14155.   | -12942. | -19953. | 164287.  |

AVERAGES

|        |        |        |        |        |        |        |        |        |       |      |       |         |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|------|-------|---------|
| -3103. | 13104. | 14090. | 15190. | 10323. | 17439. | 22842. | 15851. | 10091. | 5462. | -83. | 1496. | 122700. |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|------|-------|---------|

MONTHLY PERCENTAGES

|      |      |      |      |     |      |      |      |     |     |      |     |
|------|------|------|------|-----|------|------|------|-----|-----|------|-----|
| -2.5 | 10.7 | 11.5 | 12.4 | 8.4 | 14.2 | 18.6 | 12.9 | 8.2 | 4.5 | -0.1 | 1.2 |
|------|------|------|------|-----|------|------|------|-----|-----|------|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 122700. ACRE-FEET

Hoover Dam to Davis Dam  
Flow Model

Flow Below Hoover Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 326258.  | 212155.  | 433186.  | 434208.  | 567047.  | 983618.  | 705273.  | 625953.  | 594395.  | 604878.  | 572200.  | 299818.  | 6358789.  |
| 1936 | 297666.  | 314290.  | 559668.  | 587989.  | 598422.  | 610521.  | 696050.  | 612487.  | 555836.  | 453662.  | 360362.  | 315313.  | 5923246.  |
| 1937 | 292624.  | 312068.  | 514228.  | 554230.  | 547125.  | 587433.  | 668995.  | 664076.  | 556372.  | 506112.  | 413322.  | 401520.  | 6018105.  |
| 1938 | 390268.  | 361497.  | 485283.  | 578984.  | 554319.  | 623612.  | 680063.  | 635791.  | 556253.  | 774140.  | 745003.  | 398568.  | 6763781.  |
| 1939 | 771066.  | 1282372. | 624108.  | 628968.  | 599205.  | 632538.  | 691746.  | 717571.  | 608141.  | 678374.  | 711085.  | 702199.  | 8645373.  |
| 1940 | 681907.  | 448747.  | 634561.  | 622422.  | 575286.  | 582316.  | 673299.  | 675759.  | 699018.  | 796276.  | 775945.  | 795661.  | 7957197.  |
| 1941 | 589244.  | 500120.  | 551982.  | 518170.  | 1435142. | 1809547. | 950612.  | 1428993. | 1576287. | 1640513. | 1616688. | 2070318. | 14887616. |
| 1942 | 2010674. | 1550066. | 1425303. | 1301374. | 1343824. | 1560816. | 1285110. | 846697.  | 1024678. | 1162748. | 1084892. | 1156599. | 15742479. |
| 1943 | 1109253. | 823073.  | 970289.  | 915187.  | 1029317. | 1040147. | 1109253. | 1042230. | 1041933. | 1178735. | 1178794. | 1277116. | 12715327. |
| 1944 | 1302328. | 1225724. | 1307246. | 1170463. | 1215628. | 1097272. | 1111097. | 1210709. | 1131785. | 1225466. | 1185925. | 1198026. | 14282677. |
| 1945 | 1238993. | 1099652. | 1250061. | 1042528. | 1068055. | 1014560. | 860368.  | 884520.  | 869368.  | 1079738. | 1041923. | 1061906. | 12512452. |
| 1946 | 1116016. | 1047447. | 1004107. | 872343.  | 902651.  | 817004.  | 837473.  | 750775.  | 758689.  | 856535.  | 762259.  | 859608.  | 10584908. |
| 1947 | 983816.  | 885831.  | 955531.  | 858657.  | 951227.  | 918757.  | 925402.  | 865143.  | 843186.  | 828250.  | 860079.  | 1063136. | 10959015. |
| 1948 | 1169511. | 1098542. | 1149835. | 1202001. | 1141841. | 1075850. | 1155369. | 967829.  | 981237.  | 916794.  | 1028246. | 1124010. | 13011085. |
| 1949 | 1211938. | 1214061. | 1291259. | 1178199. | 1026243. | 989998.  | 1020094. | 1061906. | 1140711. | 1178275. | 1021701. | 1237764. | 13566149. |
| 1950 | 1277116. | 1131864. | 1245757. | 1089537. | 1120320. | 959816.  | 981971.  | 871907.  | 823549.  | 847926.  | 815219.  | 850386.  | 12015368. |
| 1951 | 927861.  | 756428.  | 859609.  | 796772.  | 898347.  | 890853.  | 783263.  | 906340.  | 847946.  | 755694.  | 817599.  | 828665.  | 9869677.  |
| 1952 | 1069285. | 1170741. | 1371194. | 1384681. | 1532293. | 1431690. | 1303556. | 1307246. | 1359689. | 1291259. | 1214497. | 1337375. | 15773506. |
| 1953 | 1226896. | 1043559. | 1046534. | 971122.  | 997343.  | 819384.  | 896502.  | 967829.  | 967551.  | 801810.  | 748573.  | 813493.  | 11300396. |
| 1954 | 825629.  | 721439.  | 910645.  | 974692.  | 1100644. | 929468.  | 1026858. | 887894.  | 933038.  | 775985.  | 675997.  | 740936.  | 10513205. |
| 1955 | 724949.  | 704777.  | 905726.  | 882459.  | 927247.  | 679547.  | 846697.  | 788897.  | 621232.  | 526096.  | 487346.  | 492400.  | 8587373.  |
| 1956 | 583095.  | 481459.  | 769221.  | 840211.  | 748315.  | 784278.  | 782134.  | 695435.  | 610521.  | 489433.  | 554111.  | 457228.  | 7795629.  |
| 1957 | 534581.  | 470018.  | 738477.  | 690195.  | 788606.  | 828310.  | 786438.  | 785823.  | 764871.  | 596665.  | 958030.  | 1080968. | 9322982.  |
| 1958 | 1245142. | 845288.  | 1435142. | 1473344. | 1115401. | 818789.  | 894656.  | 911260.  | 792012.  | 728024.  | 745568.  | 873137.  | 11877795. |
| 1959 | 795046.  | 647573.  | 827635.  | 916377.  | 949382.  | 759879.  | 848541.  | 893428.  | 772970.  | 692361.  | 606951.  | 572028.  | 9282171.  |
| 1960 | 628412.  | 494177.  | 710192.  | 908641.  | 865920.  | 1014560. | 983816.  | 959221.  | 805698.  | 556286.  | 489012.  | 571587.  | 8977532.  |
| 1961 | 590897.  | 577040.  | 935855.  | 904476.  | 943234.  | 841401.  | 821486.  | 739092.  | 690258.  | 539254.  | 516741.  | 486436.  | 8585870.  |
| 1962 | 481639.  | 497121.  | 798121.  | 902096.  | 886664.  | 799152.  | 873946.  | 857150.  | 715845.  | 634561.  | 612902.  | 606092.  | 8615289.  |
| 1963 | 482254.  | 574818.  | 871292.  | 864608.  | 911260.  | 763449.  | 908185.  | 858525.  | 724176.  | 527387.  | 464079.  | 585063.  | 8533106.  |
| 1964 | 632717.  | 562600.  | 799965.  | 859252.  | 844237.  | 718820.  | 866373.  | 731098.  | 622422.  | 586539.  | 445157.  | 482119.  | 8138299.  |
| 1965 | 489325.  | 498065.  | 785823.  | 498589.  | 871907.  | 785466.  | 814723.  | 817182.  | 655190.  | 534520.  | 417725.  | 423533.  | 7792008.  |
| 1966 | 252523.  | 439861.  | 784593.  | 845864.  | 887279.  | 783681.  | 888509.  | 839318.  | 671811.  | 466944.  | 473124.  | 447944.  | 7781163.  |
| 1967 | 499840.  | 574263.  | 846697.  | 771185.  | 889124.  | 781896.  | 831939.  | 755079.  | 494308.  | 575840.  | 558491.  | 355588.  | 7932250.  |
| 1968 | 395801.  | 478460.  | 849771.  | 883054.  | 852845.  | 752143.  | 756923.  | 692975.  | 663481.  | 486251.  | 466760.  | 552597.  | 7821061.  |
| 1969 | 548908.  | 551714.  | 824561.  | 894360.  | 834399.  | 753333.  | 772296.  | 692975.  | 618257.  | 522898.  | 425696.  | 453416.  | 7892816.  |
| 1970 | 602526.  | 535608.  | 753234.  | 918757.  | 926632.  | 780111.  | 792587.  | 676374.  | 506983.  | 583341.  | 449560.  | 497073.  | 8022786.  |
| 1971 | 560775.  | 663124.  | 859609.  | 913402.  | 860839.  | 746837.  | 739707.  | 741551.  | 623017.  | 502668.  | 452357.  | 506358.  | 8164244.  |
| 1972 | 567662.  | 614250.  | 904496.  | 877104.  | 865758.  | 795582.  | 768606.  | 756309.  | 634323.  | 517303.  | 397077.  | 379138.  | 8077608.  |
| 1973 | 581066.  | 553603.  | 610704.  | 844608.  | 1010871. | 663117.  | 823331.  | 856535.  | 689315.  | 589791.  | 526500.  | 571228.  | 8300669.  |
| 1974 | 436445.  | 588703.  | 863913.  | 951485.  | 959828.  | 880079.  | 847312.  | 947526.  | 713465.  | 613655.  | 503888.  | 425193.  | 8731511.  |
| 1975 | 518338.  | 617027.  | 748930.  | 871153.  | 968444.  | 806888.  | 830095.  | 804884.  | 667646.  | 848969.  | 485868.  | 500885.  | 8366114.  |
| 1976 | 508817.  | 478460.  | 909415.  | 878484.  | 929091.  | 716440.  | 842392.  | 894043.  | 608736.  | 261222.  | 304368.  | 486989.  | 7909487.  |
| 1977 | 250443.  | 608141.  | 854075.  | 987783.  | 760613.  | 720010.  | 892813.  | 876211.  | 469256.  | 428452.  | 462532.  | 562743.  | 7873072.  |
| 1978 | 234886.  | 429198.  | 740322.  | 901501.  | 859609.  | 853960.  | 830710.  | 892198.  | 688473.  | 502054.  | 375298.  | 367886.  | 7476095.  |
| 1979 | 217669.  | 291392.  | 617989.  | 703349.  | 1010258. | 865203.  | 857785.  | 875596.  | 702754.  | 530338.  | 542924.  | 505312.  | 7720477.  |
| 1980 | 471494.  | 298529.  | 929706.  | 1129405. | 1260514. | 1056909. | 1189802. | 1194107. | 878889.  | 966890.  | 836640.  | 885434.  | 11078219. |
| 1981 | 619574.  | 535997.  | 814723.  | 1016345. | 857150.  | 834855.  | 863913.  | 914949.  | 682291.  | 379384.  | 387973.  | 397218.  | 8283370.  |
| 1982 | 482835.  | 548513.  | 791991.  | 1042440. | 843028.  | 834865.  | 735420.  | 764321.  | 393831.  | 392562.  | 379372.  | 463758.  | 7452926.  |

AVERAGES

|         |         |         |         |         |         |         |         |         |         |         |         |          |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 702949. | 673321. | 871928. | 901536. | 928408. | 858431. | 878085. | 857126. | 756618. | 704351. | 670300. | 698127. | 9498177. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 7.4 | 7.1 | 9.2 | 9.5 | 9.8 | 9.0 | 9.2 | 9.0 | 8.0 | 7.4 | 7.1 | 7.4 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 9498177. ACRE-FEET

Hoover Dam to Davis Dam  
Flow Model

Diversions for Davis Dam Government Camp and LMNRA

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 1935 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1936 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1937 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1938 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1939 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1940 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1941 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1942 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1943 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1944 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1945 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1946 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1947 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1948 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1949 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1950 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1951 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1952 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1953 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1954 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1955 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1956 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1957 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1958 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1959 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1960 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1961 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1962 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1963 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1964 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1965 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1966 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1967 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1968 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1969 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1970 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1971 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1972 | 5.  | 7.  | 16. | 26. | 22. | 30. | 33. | 31. | 23. | 15. | 6.  | 5.  | 219.  |
| 1973 | 5.  | 9.  | 6.  | 19. | 19. | 33. | 38. | 39. | 31. | 26. | 12. | 9.  | 238.  |
| 1974 | 5.  | 6.  | 10. | 14. | 24. | 35. | 34. | 29. | 26. | 16. | 10. | 6.  | 213.  |
| 1975 | 7.  | 7.  | 10. | 14. | 17. | 27. | 29. | 29. | 24. | 14. | 10. | 5.  | 193.  |
| 1976 | 6.  | 5.  | 8.  | 12. | 37. | 35. | 34. | 34. | 21. | 10. | 7.  | 9.  | 218.  |
| 1977 | 14. | 16. | 15. | 16. | 18. | 23. | 26. | 27. | 19. | 14. | 12. | 11. | 211.  |
| 1978 | 4.  | 4.  | 6.  | 11. | 20. | 41. | 40. | 41. | 27. | 18. | 5.  | 4.  | 224.  |
| 1979 | 6.  | 7.  | 7.  | 6.  | 22. | 28. | 28. | 27. | 21. | 14. | 12. | 8.  | 186.  |
| 1980 | 6.  | 7.  | 7.  | 6.  | 22. | 28. | 35. | 43. | 31. | 24. | 13. | 10. | 232.  |
| 1981 | 6.  | 9.  | 11. | 14. | 18. | 33. | 31. | 48. | 27. | 18. | 14. | 14. | 243.  |
| 1982 | 6.  | 9.  | 11. | 14. | 18. | 33. | 31. | 48. | 27. | 18. | 14. | 14. | 243.  |

AVERAGES

|    |    |    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1. | 2. | 2. | 3. | 5. | 7. | 7. | 8. | 6. | 4. | 2. | 2. | 50. |
|----|----|----|----|----|----|----|----|----|----|----|----|-----|

MONTHLY PERCENTAGES

|     |     |     |     |     |      |      |      |      |     |     |     |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|
| 2.9 | 3.4 | 4.4 | 6.1 | 9.8 | 14.3 | 14.8 | 16.4 | 11.4 | 7.7 | 4.9 | 3.9 |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 50. ACRE-FEET

Hoover Dam to Davis Dam  
Flow Model

Consumptive Uses of the Arizona Recreation Area  
Between Hoover and Davis Dams

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 1935 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1936 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1937 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1938 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1939 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1940 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1941 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1942 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1943 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1944 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1945 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1946 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1947 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1948 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1949 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1950 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1951 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1952 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1953 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1954 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1955 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1956 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1957 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1958 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1959 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1960 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1961 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1962 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1963 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1964 | 9.  | 10. | 11. | 16. | 19. | 27. | 27. | 29. | 25. | 21. | 17. | 11. | 222.  |
| 1965 | 8.  | 9.  | 9.  | 9.  | 17. | 24. | 27. | 25. | 26. | 22. | 19. | 6.  | 201.  |
| 1966 | 4.  | 6.  | 8.  | 15. | 21. | 22. | 31. | 31. | 29. | 18. | 16. | 12. | 213.  |
| 1967 | 10. | 9.  | 12. | 17. | 20. | 25. | 32. | 31. | 26. | 23. | 17. | 11. | 233.  |
| 1968 | 8.  | 9.  | 12. | 21. | 21. | 28. | 31. | 30. | 29. | 28. | 19. | 13. | 247.  |
| 1969 | 9.  | 5.  | 8.  | 18. | 22. | 30. | 28. | 24. | 23. | 29. | 16. | 12. | 210.  |
| 1970 | 11. | 12. | 12. | 15. | 21. | 24. | 30. | 29. | 26. | 24. | 17. | 12. | 233.  |
| 1971 | 11. | 10. | 11. | 15. | 20. | 23. | 28. | 29. | 27. | 24. | 21. | 17. | 236.  |
| 1972 | 15. | 13. | 15. | 16. | 18. | 19. | 33. | 43. | 38. | 25. | 24. | 23. | 282.  |
| 1973 | 23. | 22. | 21. | 21. | 21. | 38. | 42. | 41. | 40. | 30. | 17. | 13. | 329.  |
| 1974 | 9.  | 14. | 19. | 25. | 37. | 39. | 37. | 44. | 37. | 26. | 13. | 10. | 310.  |
| 1975 | 10. | 12. | 11. | 22. | 33. | 37. | 42. | 39. | 29. | 23. | 20. | 13. | 291.  |
| 1976 | 13. | 11. | 18. | 17. | 32. | 39. | 42. | 39. | 20. | 13. | 13. | 10. | 267.  |
| 1977 | 8.  | 11. | 12. | 19. | 16. | 28. | 40. | 35. | 31. | 24. | 16. | 11. | 251.  |
| 1978 | 7.  | 6.  | 12. | 18. | 22. | 31. | 36. | 34. | 30. | 22. | 12. | 9.  | 239.  |
| 1979 | 7.  | 8.  | 9.  | 19. | 27. | 34. | 34. | 33. | 25. | 17. | 15. | 10. | 238.  |
| 1980 | 6.  | 8.  | 9.  | 17. | 21. | 27. | 33. | 40. | 28. | 22. | 12. | 9.  | 230.  |
| 1981 | 9.  | 6.  | 11. | 22. | 23. | 37. | 41. | 37. | 28. | 24. | 19. | 16. | 273.  |
| 1982 | 14. | 14. | 18. | 23. | 31. | 33. | 31. | 41. | 24. | 21. | 16. | 13. | 279.  |

AVERAGES

|    |    |    |    |    |     |     |     |     |    |    |    |      |
|----|----|----|----|----|-----|-----|-----|-----|----|----|----|------|
| 4. | 4. | 5. | 7. | 9. | 12. | 13. | 14. | 11. | 9. | 7. | 5. | 100. |
|----|----|----|----|----|-----|-----|-----|-----|----|----|----|------|

MONTHLY PERCENTAGES

|     |     |     |     |     |      |      |      |      |     |     |     |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|
| 4.0 | 4.0 | 4.9 | 7.2 | 9.2 | 11.6 | 13.4 | 13.7 | 11.3 | 9.1 | 6.7 | 4.8 |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 100. ACRE-FEET

Other Decree Consumptive Uses for Arizona

| YEAR   | JAN | FEB | MAR | APR | MAY | JUN  | JUL           | AUG  | SEP  | OCT | NOV | DEC | TOTAL |
|--|-----|-----|-----|-----|-----|------|---------------|------|------|-----|-----|-----|-------|
| 1935   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1936   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1937   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1938   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1939   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1940   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1941   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1942   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1943   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1944   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1945   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1946   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1947   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1948   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1949   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1950   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1951   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1952   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1953   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1954   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1955   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1956   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1957   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1958   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1959   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1960   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1961   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1962   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1963   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1964   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.            | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1965   | 2.  | 2.  | 2.  | 2.  | 2.  | 3.   | 4.            | 5.   | 4.   | 2.  | 1.  | 2.  | 31.   |
| 1966   | 1.  | 1.  | 1.  | 2.  | 2.  | 3.   | 4.            | 4.   | 3.   | 2.  | 2.  | 1.  | 26.   |
| 1967   | 3.  | 3.  | 3.  | 3.  | 4.  | 6.   | 8.            | 7.   | 6.   | 4.  | 3.  | 3.  | 53.   |
| 1968   | 2.  | 2.  | 3.  | 3.  | 4.  | 6.   | 7.            | 7.   | 6.   | 5.  | 3.  | 3.  | 51.   |
| 1969   | 4.  | 3.  | 4.  | 5.  | 6.  | 9.   | 10.           | 10.  | 9.   | 8.  | 7.  | 7.  | 82.   |
| 1970   | 4.  | 3.  | 4.  | 4.  | 4.  | 4.   | 6.            | 4.   | 4.   | 3.  | 2.  | 2.  | 44.   |
| 1971   | 2.  | 2.  | 2.  | 2.  | 3.  | 5.   | 7.            | 6.   | 5.   | 5.  | 4.  | 3.  | 46.   |
| 1972   | 2.  | 2.  | 5.  | 4.  | 6.  | 7.   | 8.            | 7.   | 6.   | 5.  | 4.  | 4.  | 60.   |
| 1973   | 5.  | 4.  | 4.  | 6.  | 6.  | 8.   | 10.           | 9.   | 8.   | 7.  | 6.  | 5.  | 78.   |
| 1974   | 6.  | 4.  | 5.  | 6.  | 7.  | 5.   | 7.            | 8.   | 8.   | 7.  | 6.  | 6.  | 75.   |
| 1975   | 7.  | 4.  | 6.  | 4.  | 6.  | 8.   | 9.            | 7.   | 6.   | 7.  | 7.  | 5.  | 76.   |
| 1976   | 4.  | 3.  | 4.  | 5.  | 9.  | 11.  | 11.           | 11.  | 8.   | 5.  | 4.  | 4.  | 79.   |
| 1977   | 3.  | 3.  | 4.  | 6.  | 6.  | 8.   | 10.           | 9.   | 7.   | 6.  | 4.  | 1.  | 67.   |
| 1978   | 2.  | 3.  | 3.  | 11. | 6.  | 11.  | 10.           | 8.   | 8.   | 2.  | 1.  | 0.  | 65.   |
| 1979   | 2.  | 3.  | 3.  | 11. | 6.  | 11.  | 10.           | 8.   | 8.   | 2.  | 1.  | 0.  | 65.   |
| 1980   | 2.  | 3.  | 3.  | 11. | 6.  | 11.  | 10.           | 8.   | 8.   | 2.  | 1.  | 0.  | 65.   |
| 1981   | 2.  | 3.  | 3.  | 11. | 6.  | 11.  | 10.           | 8.   | 8.   | 2.  | 1.  | 0.  | 65.   |
| 1982   | 2.  | 3.  | 3.  | 11. | 6.  | 11.  | 10.           | 8.   | 8.   | 2.  | 1.  | 0.  | 65.   |
| <b>AVERAGES</b>  | 1.  | 1.  | 1.  | 2.  | 2.  | 3.   | 3.            | 3.   | 3.   | 2.  | 1.  | 1.  | 23.   |
| <b>MONTHLY PERCENTAGES</b>                               | 5.0 | 4.7 | 5.7 | 9.8 | 8.7 | 12.6 | 13.8          | 12.3 | 11.0 | 7.0 | 5.3 | 4.2 |       |
| THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS |     |     |     |     |     |      | 23. ACRE-FEET |      |      |     |     |     |       |

Hoover Dam to Davis Dam  
Flow Model

Change in Storage in Lake Mohave

| YEAR | JAN     | FEB     | MAR      | APR      | MAY     | JUN      | JUL      | AUG      | SEP      | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|----------|----------|---------|----------|----------|----------|----------|---------|---------|---------|----------|
| 1935 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1936 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1937 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1938 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1939 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1940 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1941 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1942 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1943 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1944 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1945 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1946 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1947 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1948 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1949 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1950 | 205500. | 14400.  | -13200.  | 49800.   | -7700.  | 10500.   | 38300.   | 29800.   | 99300.   | 130400. | 242000. | 233100. | 1030000. |
| 1951 | 299000. | 165000. | 55000.   | -40000.  | 170000. | -209000. | -200000. | 12000.   | 92000.   | -33000. | 201000. | 54000.  | 566000.  |
| 1952 | 5000.   | 6000.   | -21000.  | -1000.   | 23000.  | -43000.  | 22000.   | -3000.   | 5000.    | 2000.   | 5000.   | 14000.  | 14000.   |
| 1953 | 11000.  | -34000. | 53000.   | 65000.   | -15000. | -177000. | -203000. | -124000. | 96000.   | 11400.  | 191000. | 108000. | -17500.  |
| 1954 | -9000.  | 34000.  | 65000.   | 14000.   | -18000. | -45000.  | -47000.  | -170000. | 104000.  | 80000.  | -24000. | 171000. | -262000. |
| 1955 | -48000. | 58000.  | 47000.   | 7000.    | 43000.  | -275000. | -150000. | -31000.  | -129000. | -24000. | 69000.  | 8000.   | 6000.    |
| 1956 | 206600. | 84000.  | 11000.   | 52000.   | -3000.  | -124000. | -133000. | -197000. | -53000.  | -52000. | 160000. | 104000. | 35000.   |
| 1957 | 198000. | 16000.  | 2000.    | 45000.   | 19000.  | -83000.  | -194000. | -92000.  | 44000.   | 104000. | 64000.  | -2000.  | 121000.  |
| 1958 | -53000. | 201000. | -3000.   | 42000.   | 4000.   | -127000. | -133000. | -13000.  | 10000.   | 39000.  | 32000.  | 55000.  | 54000.   |
| 1959 | 29000.  | 23000.  | 2000.    | -52000.  | 124000. | -168000. | -204000. | -16000.  | -2000.   | 42000.  | 131000. | 99000.  | 8000.    |
| 1960 | 123000. | -52000. | -160000. | -3000.   | -25000. | -26000.  | -141000. | 17000.   | 75000.   | -48000. | -5000.  | 208000. | -37000.  |
| 1961 | 76000.  | 6000.   | -18000.  | 50000.   | 28000.  | -143000. | -159000. | -67000.  | -43000.  | 29000.  | 110000. | 193000. | 62000.   |
| 1962 | -1000.  | 70000.  | -45000.  | -8000.   | 42000.  | -117000. | -183000. | -72000.  | -20000.  | 39000.  | 99000.  | 213000. | 17000.   |
| 1963 | -17000. | 17000.  | 4000.    | 31000.   | 69000.  | -131000. | -70000.  | 11000.   | -29000.  | 12000.  | 164000. | 164000. | -148000. |
| 1964 | 143000. | -22000. | -10000.  | 53000.   | 75000.  | -137000. | -119000. | -122000. | -74000.  | 77000.  | 67000.  | 104000. | 35000.   |
| 1965 | 92000.  | 2000.   | -17000.  | 50000.   | 75000.  | -67000.  | -169000. | -134000. | -46000.  | 24000.  | 115000. | 225000. | 150000.  |
| 1966 | 30000.  | -69000. | 37000.   | -28000.  | 35000.  | -142000. | -109000. | -90000.  | -20000.  | -2000.  | 111000. | 81000.  | -164000. |
| 1967 | 65000.  | 23000.  | 15000.   | -4000.   | 80000.  | -83000.  | -80000.  | -93000.  | -99000.  | 36000.  | 193000. | 160000. | 160000.  |
| 1968 | -43000. | -49000. | 27000.   | 25000.   | 68000.  | -110000. | -98000.  | -128000. | -33000.  | -23000. | 37000.  | 108000. | -219000. |
| 1969 | 179000. | -30000. | -11000.  | 57000.   | 49000.  | -51000.  | -107000. | -179000. | 19000.   | 17000.  | 81000.  | 14000.  | 38000.   |
| 1970 | 130000. | -33000. | -6000.   | 2000.    | 120000. | -100000. | -62000.  | -128000. | -128000. | 25000.  | 49000.  | 73000.  | 4000.    |
| 1971 | 101000. | 76000.  | -34000.  | 40000.   | 79000.  | -45000.  | -219000. | 12000.   | -48000.  | 0.      | 36000.  | 61000.  | 65000.   |
| 1972 | 95000.  | 33000.  | 20000.   | 3000.    | 34000.  | -31000.  | -189000. | -49000.  | -50000.  | 178000. | 18000.  | -80000. | -18000.  |
| 1973 | 87000.  | 141000. | -69000.  | -72000.  | 168000. | -134000. | -145000. | 12000.   | -94000.  | -36000. | 88000.  | 106000. | 50000.   |
| 1974 | 54000.  | 5000.   | 9000.    | -74000.  | 73000.  | 55000.   | -137000. | -22000.  | -43000.  | 69000.  | 128000. | -17000. | 100000.  |
| 1975 | 33000.  | 64000.  | -53000.  | -57000.  | 73000.  | 12000.   | -94000.  | -96000.  | -57000.  | 16000.  | 81000.  | 60000.  | -18000.  |
| 1976 | 75000.  | 64000.  | -26000.  | -1000.   | 111000. | -105000. | -45000.  | -45000.  | 191000.  | -68000. | 19000.  | 34000.  | 174000.  |
| 1977 | -41000. | -4000.  | 36000.   | 48000.   | -8000.  | -158000. | -148000. | 97000.   | -73000.  | -23000. | 52000.  | 144000. | -78000.  |
| 1978 | 38000.  | -29000. | -29000.  | -7000.   | 110000. | -204000. | -124000. | 90000.   | 41000.   | 103000. | 49000.  | 48000.  | 44000.   |
| 1979 | 48000.  | -73000. | 14000.   | -140000. | 113000. | -36000.  | -133000. | 2000.    | -49000.  | -3000.  | 104000. | 105000. | -48000.  |
| 1980 | 99000.  | -53000. | -48000.  | -86000.  | 210000. | -177000. | -27000.  | -22000.  | -91000.  | 57000.  | 1000.   | 93000.  | -42000.  |
| 1981 | 103000. | 7000.   | -1000.   | 19000.   | 44000.  | -132000. | -163000. | -39000.  | 30000.   | -12000. | 73000.  | 53000.  | -18000.  |
| 1982 | 65000.  | -14000. | 44000.   | 48000.   | 63000.  | -114000. | -149000. | 43000.   | -136000. | -24000. | 106000. | 138000. | 66000.   |

AVERAGES

|        |        |        |       |        |         |         |         |         |        |        |        |        |
|--------|--------|--------|-------|--------|---------|---------|---------|---------|--------|--------|--------|--------|
| 49531. | 13071. | -2525. | 2658. | 42194. | -72052. | -86690. | -34588. | -10598. | 14829. | 56396. | 64085. | 36112. |
|--------|--------|--------|-------|--------|---------|---------|---------|---------|--------|--------|--------|--------|

MONTHLY PERCENTAGES

|       |      |      |     |       |        |        |       |       |      |       |       |
|-------|------|------|-----|-------|--------|--------|-------|-------|------|-------|-------|
| 137.2 | 36.2 | -7.0 | 7.4 | 116.8 | -199.5 | -240.6 | -95.8 | -29.3 | 41.1 | 186.2 | 177.5 |
|-------|------|------|-----|-------|--------|--------|-------|-------|------|-------|-------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 36112. ACRE-Feet

Evaporation from Lake Mohave

| YEAR | JAN    | FEB   | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    | OCT    | NOV    | DEC   | TOTAL   |
|------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|
| 1935 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1936 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1937 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1938 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1939 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1940 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1941 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1942 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1943 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1944 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1945 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1946 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1947 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1948 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1949 | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.      |
| 1950 | 4473.  | 4557. | 5974.  | 8077.  | 10627. | 12356. | 12882. | 12016. | 10710. | 9794.  | 8108.  | 7852. | 107436. |
| 1951 | 8913.  | 9321. | 12607. | 15856. | 21998. | 23928. | 22634. | 20517. | 17049. | 13912. | 10487. | 9304. | 186526. |
| 1952 | 9882.  | 9597. | 12727. | 16170. | 21999. | 24526. | 24666. | 22261. | 18044. | 14868. | 10633. | 9338. | 194011. |
| 1953 | 9632.  | 9548. | 12905. | 16678. | 22061. | 24199. | 22901. | 19921. | 16609. | 14126. | 10609. | 9545. | 188735. |
| 1954 | 9795.  | 9882. | 13405. | 17100. | 22609. | 25650. | 25336. | 21902. | 18212. | 15312. | 10903. | 9560. | 198666. |
| 1955 | 9712.  | 9859. | 13309. | 16945. | 22762. | 24324. | 23375. | 20933. | 16316. | 13336. | 9729.  | 8931. | 189531. |
| 1956 | 9692.  | 9854. | 13176. | 16976. | 22524. | 26037. | 24192. | 20714. | 16510. | 13382. | 10018. | 9015. | 191090. |
| 1957 | 9759.  | 9800. | 13073. | 16811. | 22438. | 25205. | 23972. | 21125. | 17306. | 14647. | 10638. | 9302. | 194071. |
| 1958 | 9434.  | 9942. | 13246. | 17022. | 22627. | 25127. | 24280. | 21857. | 17740. | 14757. | 10628. | 9432. | 196096. |
| 1959 | 9775.  | 9833. | 13118. | 16447. | 22561. | 24793. | 23503. | 21136. | 17101. | 14244. | 10530. | 9452. | 192493. |
| 1960 | 10040. | 9903. | 12869. | 16067. | 21224. | 24205. | 23311. | 21154. | 17473. | 14206. | 10134. | 9362. | 189768. |
| 1961 | 9820.  | 9836. | 13053. | 16806. | 22482. | 24869. | 23865. | 21171. | 16936. | 14060. | 10343. | 9513. | 192754. |
| 1962 | 9782.  | 9963. | 13128. | 16649. | 22352. | 24895. | 23738. | 21026. | 16927. | 14091. | 10335. | 9555. | 192441. |
| 1963 | 9785.  | 9828. | 13118. | 16806. | 22731. | 24723. | 23896. | 21183. | 17199. | 14082. | 10070. | 9202. | 192593. |
| 1964 | 9820.  | 9764. | 12986. | 16731. | 22664. | 25101. | 24343. | 21292. | 16889. | 14206. | 10329. | 9252. | 193005. |
| 1965 | 9780.  | 9785. | 12989. | 16723. | 22651. | 25549. | 24467. | 21327. | 17049. | 14133. | 10408. | 9653. | 194504. |
| 1966 | 10008. | 9828. | 13232. | 16701. | 22381. | 24767. | 24079. | 21239. | 17096. | 14072. | 10354. | 9252. | 193005. |
| 1967 | 9677.  | 9734. | 13029. | 16541. | 22429. | 26199. | 24685. | 21772. | 17167. | 14275. | 10721. | 9643. | 194872. |
| 1968 | 9808.  | 9684. | 13002. | 16631. | 22482. | 25082. | 24457. | 21361. | 17139. | 14025. | 10120. | 9112. | 192903. |
| 1969 | 9815.  | 9739. | 12949. | 16701. | 22465. | 25449. | 24755. | 21338. | 17362. | 14233. | 10388. | 9121. | 194313. |
| 1970 | 9702.  | 9619. | 12806. | 16283. | 22305. | 25173. | 24533. | 21806. | 17059. | 14145. | 10237. | 9131. | 192799. |
| 1971 | 9639.  | 9831. | 12992. | 16683. | 22621. | 25330. | 23959. | 21709. | 17362. | 14298. | 10311. | 9166. | 193901. |
| 1972 | 9662.  | 9744. | 13060. | 16610. | 22252. | 25343. | 24136. | 21521. | 17190. | 14633. | 10644. | 9124. | 194119. |
| 1973 | 9597.  | 9955. | 13036. | 16262. | 22548. | 24996. | 24079. | 21817. | 17227. | 14048. | 10275. | 9242. | 193084. |
| 1974 | 9639.  | 9652. | 12899. | 16083. | 21761. | 24634. | 23770. | 21344. | 17078. | 14328. | 10582. | 9218. | 190988. |
| 1975 | 9563.  | 9722. | 12786. | 16013. | 21666. | 24934. | 24356. | 21453. | 17101. | 14145. | 10324. | 9176. | 191258. |
| 1976 | 9622.  | 9722. | 12955. | 16460. | 22500. | 26134. | 24844. | 22181. | 16671. | 15146. | 10872. | 9598. | 197785. |
| 1977 | 9767.  | 9757. | 13131. | 16900. | 22393. | 24678. | 23745. | 21999. | 17473. | 14302. | 10357. | 9405. | 193907. |
| 1978 | 9770.  | 9697. | 12832. | 16279. | 22240. | 24224. | 23439. | 21458. | 17560. | 14852. | 10743. | 9513. | 192608. |
| 1979 | 9808.  | 9722. | 13009. | 15947. | 21800. | 24798. | 23959. | 21852. | 17302. | 14237. | 10451. | 9396. | 192182. |
| 1980 | 9828.  | 9782. | 12895. | 16029. | 22482. | 24653. | 24480. | 21990. | 17393. | 14536. | 10375. | 9296. | 193837. |
| 1981 | 9835.  | 9860. | 13138. | 16696. | 22567. | 24971. | 23966. | 21420. | 17476. | 14353. | 10444. | 9258. | 193984. |
| 1982 | 9623.  | 9644. | 13056. | 16763. | 21611. | 25194. | 24249. | 22134. | 17313. | 14166. | 10399. | 9423. | 193571. |

AVERAGES

|       |       |       |        |        |        |        |        |        |       |       |       |         |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|
| 6570. | 6605. | 8798. | 11197. | 15092. | 16856. | 18309. | 14836. | 11730. | 9732. | 7114. | 6383. | 130921. |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |     |     |     |     |
|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|
| 5.0 | 5.0 | 6.7 | 8.6 | 11.5 | 12.9 | 12.5 | 11.1 | 9.0 | 7.4 | 5.4 | 4.9 |
|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 130921. ACRE-FEET



Hoover Dam to Davis Dam  
Flow Model

Flow Below Davis Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |           |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|
| 1935 | 328504.  | 211412.  | 426628.  | 426668.  | 537517.  | 958734.  | 695912.  | 604454.  | 584336.  | 599041.  | 580074.  | 310588.  | 6263868.  |           |
| 1936 | 303135.  | 319475.  | 559977.  | 587751.  | 553474.  | 584599.  | 661612.  | 603323.  | 553413.  | 455411.  | 363265.  | 314345.  | 5879780.  |           |
| 1937 | 301287.  | 300388.  | 512531.  | 548666.  | 546646.  | 574521.  | 663433.  | 660808.  | 550322.  | 502452.  | 420245.  | 405056.  | 5986366.  |           |
| 1938 | 388493.  | 362275.  | 468559.  | 584942.  | 557816.  | 610756.  | 682177.  | 645093.  | 561796.  | 763698.  | 775696.  | 412206.  | 6813507.  |           |
| 1939 | 680885.  | 1313316. | 687736.  | 638953.  | 590699.  | 615947.  | 872118.  | 694135.  | 626107.  | 663837.  | 706355.  | 709102.  | 8579190.  |           |
| 1940 | 704538.  | 470559.  | 614433.  | 646871.  | 576277.  | 559533.  | 662201.  | 676462.  | 702739.  | 797954.  | 786239.  | 831483.  | 8029289.  |           |
| 1941 | 617220.  | 515279.  | 588720.  | 529498.  | 1347754. | 1873922. | 981356.  | 1378052. | 1557817. | 1624876. | 1791108. | 2088025. | 14893587. |           |
| 1942 | 1997738. | 1615585. | 1444908. | 1215877. | 1330990. | 1541860. | 1348563. | 842593.  | 1015693. | 1025389. | 1181926. | 1158091. | 1254034.  | 12492910. |
| 1943 | 1096689. | 817143.  | 947625.  | 915711.  | 1007816. | 992869.  | 1079924. | 1015693. | 1025389. | 1181926. | 1158091. | 1254034. | 12492910. |           |
| 1944 | 1282918. | 1221919. | 1280896. | 1178290. | 1176675. | 1092649. | 1081742. | 1174453. | 1123350. | 1198257. | 1185767. | 1185767. | 1223130.  | 14196846. |
| 1945 | 1213839. | 1092447. | 1271202. | 1030640. | 1008017. | 960753.  | 860570.  | 849057.  | 838149.  | 1018117. | 1023570. | 1102143. | 12268504. |           |
| 1946 | 1082953. | 1044980. | 1021147. | 869255.  | 905006.  | 802419.  | 808256.  | 752630.  | 746128.  | 835806.  | 797571.  | 867639.  | 10533788. |           |
| 1947 | 997313.  | 922983.  | 990850.  | 835605.  | 983779.  | 917731.  | 897331.  | 895512.  | 818355.  | 838513.  | 895755.  | 1085377. | 11079104. |           |
| 1948 | 1219495. | 1153648. | 1158870. | 1222524. | 1184754. | 1031044. | 1166778. | 993879.  | 989839.  | 960147.  | 991657.  | 1145165. | 13214800. |           |
| 1949 | 1232220. | 1233633. | 1289000. | 1191000. | 1017000. | 972300.  | 1031000. | 1034000. | 1139000. | 1176000. | 1013000. | 1246000. | 10533788. |           |
| 1950 | 1027000. | 1116000. | 1251000. | 1034000. | 1120000. | 945700.  | 942000.  | 829700.  | 721000.  | 708600.  | 552200.  | 587700.  | 10834900. |           |
| 1951 | 587400.  | 549000.  | 746000.  | 848100.  | 728700.  | 919000.  | 1001000. | 904400.  | 757100.  | 797800.  | 604400.  | 784700.  | 9256200.  |           |
| 1952 | 1077000. | 1198000. | 1389000. | 1387000. | 1500000. | 1469000. | 1278000. | 1301000. | 1359000. | 1293000. | 1191000. | 1323000. | 15769000. |           |
| 1953 | 1228000. | 1076000. | 997900.  | 893600.  | 1010000. | 1002000. | 1117000. | 1083000. | 855100.  | 673100.  | 573500.  | 684500.  | 11157700. |           |
| 1954 | 846300.  | 689500.  | 822700.  | 958000.  | 1127000. | 959800.  | 1073000. | 1048000. | 802100.  | 877400.  | 685500.  | 718400.  | 10408700. |           |
| 1955 | 770800.  | 641900.  | 839800.  | 865000.  | 883600.  | 968500.  | 1022000. | 828100.  | 750500.  | 551900.  | 411900.  | 304100.  | 8836100.  |           |
| 1956 | 354600.  | 424500.  | 762300.  | 793800.  | 783600.  | 918800.  | 918000.  | 897300.  | 661000.  | 535800.  | 382400.  | 333000.  | 7743100.  |           |
| 1957 | 304500.  | 427600.  | 714500.  | 830500.  | 731800.  | 891200.  | 978000.  | 872700.  | 724600.  | 586300.  | 884500.  | 1062000. | 9008200.  |           |
| 1958 | 1290000. | 632000.  | 1435000. | 1438000. | 1103000. | 943700.  | 1029000. | 919500.  | 768200.  | 676300.  | 698200.  | 804400.  | 11735800. |           |
| 1959 | 752400.  | 618100.  | 815200.  | 960200.  | 812100.  | 920700.  | 1048000. | 904700.  | 773800.  | 648000.  | 468600.  | 474000.  | 9195800.  |           |
| 1960 | 502600.  | 551700.  | 863800.  | 893800.  | 842200.  | 1000000. | 1077000. | 912200.  | 715400.  | 587612.  | 481038.  | 335866.  | 8762116.  |           |
| 1961 | 489409.  | 556352.  | 929309.  | 838624.  | 884443.  | 975684.  | 965568.  | 800501.  | 734807.  | 510454.  | 384819.  | 510454.  | 8329392.  |           |
| 1962 | 468761.  | 418201.  | 831781.  | 908780.  | 828524.  | 893368.  | 1000081. | 914195.  | 702744.  | 588187.  | 513330.  | 368891.  | 8452843.  |           |
| 1963 | 482923.  | 547049.  | 854214.  | 822696.  | 828964.  | 830610.  | 955638.  | 874069.  | 708724.  | 507697.  | 366828.  | 365582.  | 8021512.  |           |
| 1964 | 456423.  | 588303.  | 802465.  | 794888.  | 742285.  | 862327.  | 1012061. | 981814.  | 725584.  | 620728.  | 297942.  | 180697.  | 7736650.  |           |
| 1965 | 393229.  | 499683.  | 804131.  | 652750.  | 804924.  | 804924.  | 1027255. | 965369.  | 723382.  | 478004.  | 359133.  | 360843.  | 8163789.  |           |
| 1966 | 209914.  | 524775.  | 780904.  | 914552.  | 878175.  | 951883.  | 1077255. | 881765.  | 599354.  | 531439.  | 349751.  | 224255.  | 7852717.  |           |
| 1967 | 427484.  | 550877.  | 849196.  | 793995.  | 824739.  | 832253.  | 936609.  | 881765.  | 599354.  | 531439.  | 349751.  | 224255.  | 7852717.  |           |
| 1968 | 438373.  | 557205.  | 815972.  | 860046.  | 786854.  | 879484.  | 867980.  | 835649.  | 697200.  | 508748.  | 413044.  | 432244.  | 8092799.  |           |
| 1969 | 345903.  | 585866.  | 851517.  | 855087.  | 781429.  | 816607.  | 893963.  | 882062.  | 602548.  | 543697.  | 326306.  | 425362.  | 7910357.  |           |
| 1970 | 463703.  | 571805.  | 782213.  | 953369.  | 819820.  | 859054.  | 907848.  | 754960.  | 630555.  | 558375.  | 401480.  | 420740.  | 8123722.  |           |
| 1971 | 448509.  | 599553.  | 922885.  | 888072.  | 781598.  | 849335.  | 999486.  | 743991.  | 651838.  | 505118.  | 417983.  | 438810.  | 8248958.  |           |
| 1972 | 462552.  | 611156.  | 913005.  | 905468.  | 859113.  | 850009.  | 983419.  | 817539.  | 689306.  | 317162.  | 384859.  | 475961.  | 8269549.  |           |
| 1973 | 488477.  | 412330.  | 709240.  | 844543.  | 828429.  | 820177.  | 957039.  | 837989.  | 756071.  | 596577.  | 421890.  | 448410.  | 8221172.  |           |
| 1974 | 380217.  | 584994.  | 850445.  | 1032412. | 875914.  | 925888.  | 982586.  | 972312.  | 772216.  | 528900.  | 339200.  | 415100.  | 8660194.  |           |
| 1975 | 445900.  | 525800.  | 799500.  | 927000.  | 882600.  | 779700.  | 921100.  | 887200.  | 727400.  | 531400.  | 392100.  | 420300.  | 8240000.  |           |
| 1976 | 423500.  | 426700.  | 953600.  | 904900.  | 830200.  | 810900.  | 888000.  | 939000.  | 454600.  | 410500.  | 287400.  | 459700.  | 7789000.  |           |
| 1977 | 304200.  | 626500.  | 839800.  | 967700.  | 790000.  | 914400.  | 1092000. | 787800.  | 548600.  | 468400.  | 407900.  | 427300.  | 8174600.  |           |
| 1978 | 209300.  | 474100.  | 809000.  | 960200.  | 779400.  | 867000.  | 997900.  | 883300.  | 666600.  | 403100.  | 330600.  | 335700.  | 7736200.  |           |
| 1979 | 175100.  | 388700.  | 639200.  | 820100.  | 916400.  | 925700.  | 1051000. | 922700.  | 796800.  | 568800.  | 416700.  | 396200.  | 8017400.  |           |
| 1980 | 357900.  | 344500.  | 982000.  | 1237000. | 1052000. | 1239000. | 1220000. | 1230000. | 994500.  | 930700.  | 850100.  | 809300.  | 11246600. |           |
| 1981 | 512100.  | 518400.  | 621500.  | 1008000. | 812300.  | 975700.  | 1051000. | 977900.  | 629300.  | 392800.  | 313100.  | 332400.  | 8344500.  |           |
| 1982 | 328100.  | 573700.  | 760000.  | 1025000. | 778100.  | 761100.  | 912200.  | 729400.  | 526600.  | 416800.  | 290000.  | 296355.  | 7355055.  |           |

AVERAGES

|         |         |         |         |         |         |         |         |         |         |         |         |          |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 643738. | 666743. | 879737. | 902888. | 881426. | 931044. | 968483. | 893004. | 785557. | 685237. | 606696. | 629146. | 9453670. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |      |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 6.8 | 7.1 | 9.3 | 9.8 | 9.3 | 9.8 | 10.2 | 9.4 | 8.1 | 7.2 | 6.4 | 6.7 |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 9453670. ACRE-FEET

Reach Salt Gains and Losses between Hoover Dam and Davis Dam

| YEAR | JAN      | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT      | NOV     | DEC      | TOTAL    |
|------|----------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|----------|
| 1935 | 3897.    | 1848.   | 14746.  | 23140.  | 35583.  | 63260.  | 25935.  | 12334.  | 21100.  | -4332.   | -16568. | -4289.   | 211734.  |
| 1936 | 10497.   | 18655.  | 38625.  | 33048.  | 37503.  | 28758.  | 17604.  | 12357.  | 12802.  | 19984.   | 10231.  | 183509.  | 423574.  |
| 1937 | -10938.  | -15676. | -25688. | 9081.   | -6623.  | -13244. | 3800.   | 23352.  | 39647.  | 3044.    | 6398.   | 15654.   | 28814.   |
| 1938 | 2337.    | 82.     | -18297. | 20334.  | 21773.  | 24870.  | 41157.  | 29061.  | 18406.  | 32462.   | 58968.  | 9493.    | 240646.  |
| 1939 | -66858.  | 16434.  | -44579. | 24153.  | 13555.  | 8138.   | 6479.   | 480.    | 77212.  | -16971.  | 10344.  | 15767.   | 128310.  |
| 1940 | 23603.   | 18345.  | -4444.  | 31871.  | 32598.  | 19938.  | 23345.  | 25307.  | 29887.  | 26088.   | 40587.  | 49421.   | 316244.  |
| 1941 | 20170.   | 24650.  | 43430.  | 28500.  | -6440.  | -25520. | 17330.  | -1030.  | -330.   | -2260.   | -11690. | 10680.   | 97490.   |
| 1942 | -17120.  | -9750.  | 5190.   | -18380. | 32190.  | -7160.  | -7670.  | 21480.  | -19780. | -29010.  | 11660.  | 18970.   | -19380.  |
| 1943 | 4770.    | 1660.   | 1610.   | 4580.   | 2640.   | 6090.   | 2660.   | 200.    | 2240.   | 5330.    | 4660.   | 1860.    | 38300.   |
| 1944 | 520.     | -10030. | 150.    | 4050.   | -9730.  | -3450.  | 150.    | 2460.   | 4540.   | -9900.   | -15320. | 1970.    | -34590.  |
| 1945 | -180.    | -5410.  | -3100.  | -1070.  | 1270.   | 6480.   | 16250.  | -6550.  | 6210.   | -1000.   | 5610.   | 12990.   | 31500.   |
| 1946 | 2820.    | 5990.   | 3220.   | 21320.  | 3390.   | 3650.   | 7680.   | 6690.   | 8400.   | -2010.   | 14880.  | 12760.   | 88790.   |
| 1947 | 6290.    | 12440.  | 9450.   | -130.   | -4080.  | 5250.   | 70.     | 17650.  | 13080.  | 10740.   | 4370.   | -7630.   | 67470.   |
| 1948 | 7460.    | 5750.   | -2460.  | -17150. | -470.   | 4220.   | 6960.   | 14920.  | 8780.   | 17860.   | -5880.  | 5370.    | 45360.   |
| 1949 | 17590.   | 5300.   | -1940.  | 2590.   | 10540.  | 4530.   | 7740.   | 9090.   | 10990.  | 12720.   | 270.    | -22380.  | 57040.   |
| 1950 | -16760.  | 125430. | -15590. | 39330.  | 7590.   | 36020.  | 30450.  | 1740.   | 37980.  | -20730.  | -3610.  | -11620.  | 210230.  |
| 1951 | -28230.  | 19380.  | -24010. | 13710.  | -12230. | 28020.  | -1440.  | -16940. | 1680.   | -13860.  | -12460. | -14220.  | -60600.  |
| 1952 | -11920.  | 34050.  | -55160. | 3680.   | -20450. | 41570.  | 40520.  | 35750.  | 99930.  | 73790.   | 70320.  | -101480. | 210600.  |
| 1953 | -119770. | 60770.  | -23890. | -560.   | -10910. | 33960.  | 14430.  | -16680. | 5360.   | -108660. | -3970.  | -14170.  | -181090. |
| 1954 | -13770.  | 33890.  | -62960. | -19830. | -10970. | -1050.  | -20110. | -46390. | -24660. | -29190.  | 7660.   | -35210.  | -222790. |
| 1955 | -31100.  | 22040.  | -89920. | -59930. | -74950. | -8460.  | -19860. | -32480. | -14450. | -30380.  | -14780. | -33990.  | -388060. |
| 1956 | -37040.  | 5810.   | -26430. | -7430.  | -39510. | -15170. | -64010. | -49310. | -11050. | -42740.  | -17520. | -29110.  | -333510. |
| 1957 | -34820.  | 10710.  | -54100. | -21170. | -42260. | -16710. | -29030. | -31100. | -14800. | -25590.  | 12030.  | 3150.    | -243690. |
| 1958 | 31460.   | 47820.  | -14580. | 36860.  | 7800.   | 25510.  | 1930.   | -810.   | 13180.  | -70.     | 16400.  | 570.     | 165870.  |
| 1959 | -16350.  | 53000.  | -22690. | -14120. | -5940.  | 27040.  | -4800.  | -10360. | 22960.  | 7910.    | 17190.  | 10660.   | 64500.   |
| 1960 | -11570.  | 1840.   | -27270. | -23570. | -67010. | -25400. | -52110. | -53120. | -13200. | -31330.  | -6130.  | -31640.  | -340530. |
| 1961 | -32010.  | 24460.  | -49480. | -22390. | -45680. | 4130.   | -31580. | -26810. | -3420.  | -9490.   | -16050. | -41450.  | -249770. |
| 1962 | -21390.  | 25600.  | -25420. | 10120.  | -51640. | 13440.  | -400.   | 20920.  | -20000. | 21540.   | 30040.  | -12260.  | -9450.   |
| 1963 | -25880.  | 40720.  | -11720. | 17320.  | -9280.  | 32410.  | -18440. | -9990.  | 13590.  | -18920.  | -7680.  | -36090.  | -34060.  |
| 1964 | -39780.  | 2970.   | -29720. | -26360. | -64350. | -28370. | -17480. | -10620. | 8830.   | -32620.  | -19660. | -35250.  | -292390. |
| 1965 | -31300.  | 23270.  | -69560. | -27620. | -91910. | 15190.  | 1150.   | -12360. | 10160.  | 4740.    | 7740.   | -46790.  | -177290. |
| 1966 | -47740.  | 65770.  | 18910.  | 57630.  | 26850.  | 48720.  | 28540.  | 34680.  | 55490.  | 80.      | 15900.  | -12360.  | 292650.  |
| 1967 | -5180.   | 66250.  | 25850.  | 58350.  | 17160.  | 52480.  | 30660.  | 47310.  | 23800.  | -12280.  | -2370.  | -21650.  | 282380.  |
| 1968 | 36650.   | 30950.  | -21760. | 12350.  | -3780.  | 35330.  | 3750.   | -8210.  | 10490.  | -9620.   | -1040.  | -26440.  | 58870.   |
| 1969 | -36660.  | 49210.  | -33360. | 29950.  | -2310.  | 23810.  | -2560.  | -20720. | 5510.   | 16150.   | -10220. | -22560.  | -3760.   |
| 1970 | -30600.  | 47210.  | 210.    | 50330.  | 15320.  | 32760.  | -1800.  | 1460.   | 8930.   | -10720.  | -6950.  | -22390.  | 83960.   |
| 1971 | -30160.  | 71480.  | 7790.   | 23220.  | -23250. | 74450.  | 30200.  | 9610.   | -7740.  | -8700.   | 5720.   | -25810.  | 126810.  |
| 1972 | -35960.  | 47570.  | 37570.  | 66740.  | 26590.  | 31770.  | 4660.   | -160.   | 20320.  | -15670.  | 8750.   | 7910.    | 200090.  |
| 1973 | -16670.  | 27650.  | 4460.   | 21530.  | -14140. | 26010.  | -10630. | -5820.  | 15490.  | -2950.   | -1260.  | -9990.   | 33660.   |
| 1974 | 800.     | 57730.  | -19800. | 25280.  | -16040. | 122570. | -6760.  | -16870. | 29100.  | -11330.  | -21040. | -22230.  | 121410.  |
| 1975 | -34300.  | 36810.  | 640.    | 12150.  | -6020.  | 19790.  | -18190. | -34350. | -29740. | -10330.  | 430.    | -5140.   | -68260.  |
| 1976 | -12150.  | 29490.  | 23590.  | 64160.  | 4520.   | 23850.  | 1160.   | -6790.  | 8790.   | -7560.   | 8420.   | 7640.    | 145120.  |
| 1977 | 3440.    | 66840.  | 17900.  | 68170.  | 24480.  | 56280.  | 33060.  | -15830. | 21250.  | 17440.   | 13170.  | 20900.   | 327100.  |
| 1978 | 15650.   | 58770.  | 20010.  | 66990.  | 15350.  | 30340.  | 23820.  | 19760.  | 24180.  | -8270.   | 5480.   | -1810.   | 269870.  |
| 1979 | 15658.   | 29814.  | 46648.  | 64948.  | 79488.  | 76580.  | 121320. | 110550. | 82304.  | 13612.   | 3560.   | 28568.   | 673242.  |
| 1980 | 19270.   | 27880.  | 67600.  | 76100.  | 43780.  | 70850.  | 101020. | 101400. | 170066. | 54113.   | 46902.  | 47360.   | 826341.  |
| 1981 | 1751.    | -25831. | 13761.  | 30282.  | 15438.  | 8668.   | -50446. | 52090.  | 9745.   | -2597.   | 4539.   | -10989.  | 46411.   |
| 1982 | 590.     | 29323.  | 26056.  | 88470.  | 34857.  | 26382.  | 43542.  | 66.     | -8427.  | 12402.   | -14028. | -18493.  | 220740.  |

AVERAGES

|         |        |        |        |        |        |       |       |        |        |       |        |        |
|---------|--------|--------|--------|--------|--------|-------|-------|--------|--------|-------|--------|--------|
| -11584. | 27520. | -5465. | 18040. | -1627. | 21803. | 6881. | 3655. | 16304. | -3664. | 4673. | -4421. | 72415. |
|---------|--------|--------|--------|--------|--------|-------|-------|--------|--------|-------|--------|--------|

MONTHLY PERCENTAGES

|       |      |      |      |      |      |     |     |      |      |     |      |
|-------|------|------|------|------|------|-----|-----|------|------|-----|------|
| -16.0 | 38.0 | -7.5 | 25.3 | -2.5 | 30.1 | 9.5 | 5.0 | 22.5 | -5.1 | 6.7 | -6.1 |
|-------|------|------|------|------|------|-----|-----|------|------|-----|------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 72415. TONS

Hoover Dam to Davis Dam  
Salt Model

Salt Load Below Hoover Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 558979.  | 331726.  | 618613.  | 501938.  | 462756.  | 568640.  | 311744.  | 248935.  | 258684.  | 394685.  | 486373.  | 336377.  | 5077450.  |
| 1936 | 352122.  | 382920.  | 589927.  | 595765.  | 483101.  | 406773.  | 388203.  | 333202.  | 294798.  | 246814.  | 235270.  | 274439.  | 4583334.  |
| 1937 | 296454.  | 322588.  | 534977.  | 584130.  | 576647.  | 619123.  | 700581.  | 659322.  | 537166.  | 481810.  | 393464.  | 360386.  | 6086650.  |
| 1938 | 350245.  | 344150.  | 449296.  | 578772.  | 557851.  | 615070.  | 624519.  | 557990.  | 484119.  | 647294.  | 603019.  | 338101.  | 6148428.  |
| 1939 | 722222.  | 1273174. | 823554.  | 632230.  | 603038.  | 645358.  | 705640.  | 732160.  | 624195.  | 685028.  | 720187.  | 721228.  | 8690115.  |
| 1940 | 695440.  | 477157.  | 664452.  | 660352.  | 602456.  | 609788.  | 709346.  | 707702.  | 728018.  | 817645.  | 780669.  | 811823.  | 8264850.  |
| 1941 | 638000.  | 555000.  | 607000.  | 560000.  | 1550000. | 1935000. | 1007000. | 1386000. | 1481000. | 1543000. | 1690000. | 1947000. | 14897000. |
| 1942 | 2011000. | 1535000. | 1425000. | 1301000. | 1343000. | 1577000. | 1272000. | 838000.  | 1005000. | 1105000. | 986000.  | 983000.  | 16381000. |
| 1943 | 965000.  | 732000.  | 913000.  | 889000.  | 967000.  | 967000.  | 1009000. | 959000.  | 948000.  | 1061000. | 1014000. | 1098000. | 11502000. |
| 1944 | 1147000. | 1231000. | 1254000. | 1135000. | 1192000. | 1042000. | 1033000. | 1113000. | 1007000. | 1152000. | 1174000. | 1127000. | 13607000. |
| 1945 | 1152000. | 1056000. | 1200000. | 990000.  | 961000.  | 923000.  | 792000.  | 823000.  | 782000.  | 950000.  | 938000.  | 945000.  | 11512000. |
| 1946 | 971000.  | 994000.  | 884000.  | 776000.  | 867000.  | 752000.  | 754000.  | 683000.  | 691000.  | 788000.  | 693000.  | 773000.  | 9626000.  |
| 1947 | 886000.  | 806000.  | 879000.  | 850000.  | 979000.  | 873000.  | 888000.  | 796000.  | 776000.  | 762000.  | 810000.  | 978000.  | 10283000. |
| 1948 | 1087000. | 1058000. | 1070000. | 1166000. | 1062000. | 947000.  | 994000.  | 833000.  | 834000.  | 734000.  | 905000.  | 1023000. | 11713000. |
| 1949 | 1006000. | 1020000. | 1097000. | 1013000. | 852000.  | 858000.  | 857000.  | 850000.  | 890000.  | 882000.  | 848000.  | 1077000. | 11502000. |
| 1950 | 1060000. | 917000.  | 1059000. | 926000.  | 941000.  | 797000.  | 776000.  | 715000.  | 651000.  | 755000.  | 717000.  | 732000.  | 10046000. |
| 1951 | 807000.  | 658000.  | 873000.  | 740000.  | 826000.  | 829000.  | 720000.  | 844000.  | 780000.  | 703000.  | 761000.  | 754000.  | 9005000.  |
| 1952 | 963000.  | 1127000. | 1289000. | 1303000. | 1440000. | 1303000. | 1082000. | 1033000. | 992000.  | 891000.  | 802000.  | 1177000. | 13401000. |
| 1953 | 1141000. | 949000.  | 973000.  | 913000.  | 908000.  | 729000.  | 780000.  | 842000.  | 832000.  | 690000.  | 644000.  | 692000.  | 10093000. |
| 1954 | 736000.  | 678000.  | 665000.  | 916000.  | 1024000. | 873000.  | 965000.  | 861000.  | 905000.  | 729000.  | 642000.  | 719000.  | 9913000.  |
| 1955 | 718000.  | 733000.  | 978000.  | 979000.  | 1039000. | 782000.  | 940000.  | 884000.  | 690000.  | 589000.  | 545000.  | 536000.  | 9293000.  |
| 1956 | 635000.  | 549000.  | 661000.  | 988000.  | 860000.  | 917000.  | 931000.  | 814000.  | 702000.  | 588000.  | 620000.  | 503000.  | 8918000.  |
| 1957 | 571000.  | 508000.  | 620000.  | 970000.  | 823000.  | 878000.  | 825000.  | 810000.  | 801000.  | 711000.  | 948000.  | 1016000. | 9681000.  |
| 1958 | 1120000. | 795000.  | 1292000. | 1286000. | 937000.  | 696000.  | 760000.  | 756000.  | 657000.  | 597000.  | 613000.  | 725000.  | 10243000. |
| 1959 | 676000.  | 537000.  | 728000.  | 834000.  | 816000.  | 846000.  | 713000.  | 742000.  | 626000.  | 568000.  | 492000.  | 463000.  | 7841000.  |
| 1960 | 541000.  | 456000.  | 632000.  | 845000.  | 796000.  | 934000.  | 876000.  | 892000.  | 749000.  | 512000.  | 450000.  | 526000.  | 8209000.  |
| 1961 | 949000.  | 543000.  | 899000.  | 877000.  | 896000.  | 791000.  | 772000.  | 709000.  | 663000.  | 502000.  | 466000.  | 462000.  | 8139000.  |
| 1962 | 448000.  | 467000.  | 750000.  | 897000.  | 897000.  | 751000.  | 750000.  | 746000.  | 716000.  | 545000.  | 552000.  | 564000.  | 8033000.  |
| 1963 | 478000.  | 558000.  | 828000.  | 813000.  | 847000.  | 702000.  | 826000.  | 771000.  | 645000.  | 475000.  | 413000.  | 526000.  | 7882000.  |
| 1964 | 589000.  | 548000.  | 760000.  | 842000.  | 827000.  | 712000.  | 849000.  | 724000.  | 616000.  | 596000.  | 454000.  | 497000.  | 8014000.  |
| 1965 | 528000.  | 543000.  | 903000.  | 796000.  | 994000.  | 848000.  | 880000.  | 907000.  | 734000.  | 562000.  | 430000.  | 449000.  | 8574000.  |
| 1966 | 260000.  | 445000.  | 824000.  | 888000.  | 914000.  | 831000.  | 897000.  | 822000.  | 672000.  | 448000.  | 440000.  | 416000.  | 7867000.  |
| 1967 | 470000.  | 528000.  | 771000.  | 694000.  | 827000.  | 735000.  | 749000.  | 679000.  | 459000.  | 536000.  | 506000.  | 328000.  | 7282000.  |
| 1968 | 327000.  | 456000.  | 791000.  | 821000.  | 810000.  | 699000.  | 712000.  | 672000.  | 643000.  | 476000.  | 452000.  | 553000.  | 7412000.  |
| 1969 | 560000.  | 563000.  | 841000.  | 912000.  | 834000.  | 768000.  | 780000.  | 707000.  | 618000.  | 523000.  | 426000.  | 458000.  | 7990000.  |
| 1970 | 627000.  | 552000.  | 776000.  | 937000.  | 899000.  | 780000.  | 776000.  | 677000.  | 492000.  | 589000.  | 481000.  | 542000.  | 8128000.  |
| 1971 | 598000.  | 663000.  | 872000.  | 954000.  | 894000.  | 741000.  | 727000.  | 732000.  | 622000.  | 509000.  | 463000.  | 522000.  | 8297000.  |
| 1972 | 612000.  | 646000.  | 687000.  | 854000.  | 841000.  | 790000.  | 755000.  | 723000.  | 602000.  | 490000.  | 387000.  | 375000.  | 7962000.  |
| 1973 | 577000.  | 561000.  | 603000.  | 828000.  | 963000.  | 650000.  | 788000.  | 823000.  | 630000.  | 530000.  | 491000.  | 523000.  | 7967000.  |
| 1974 | 409000.  | 563000.  | 828000.  | 908000.  | 909000.  | 821000.  | 792000.  | 885000.  | 644000.  | 552000.  | 459000.  | 385000.  | 8152000.  |
| 1975 | 481000.  | 560000.  | 701000.  | 825000.  | 886000.  | 734000.  | 767000.  | 762000.  | 662000.  | 526000.  | 454000.  | 449000.  | 7839000.  |
| 1976 | 473000.  | 446000.  | 822000.  | 977000.  | 868000.  | 650000.  | 775000.  | 830000.  | 560000.  | 328000.  | 277000.  | 448000.  | 7271000.  |
| 1977 | 241000.  | 562000.  | 773000.  | 878000.  | 681000.  | 851000.  | 816000.  | 807000.  | 423000.  | 384000.  | 415000.  | 514000.  | 7145000.  |
| 1978 | 213000.  | 393000.  | 691000.  | 832000.  | 798000.  | 623000.  | 771000.  | 832000.  | 642000.  | 489000.  | 356000.  | 356000.  | 6976000.  |
| 1979 | 204000.  | 275000.  | 577000.  | 834000.  | 942000.  | 808000.  | 796000.  | 814000.  | 653000.  | 488000.  | 510000.  | 473000.  | 7193000.  |
| 1980 | 440000.  | 251000.  | 873000.  | 1063000. | 1193000. | 1000000. | 1118000. | 1120000. | 821000.  | 622000.  | 785000.  | 832000.  | 10430000. |
| 1981 | 600017.  | 519917.  | 762134.  | 965528.  | 814293.  | 618158.  | 829358.  | 869202.  | 629176.  | 356621.  | 356935.  | 369411.  | 7910748.  |
| 1982 | 430497.  | 504712.  | 728824.  | 969060.  | 792702.  | 590643.  | 669214.  | 703248.  | 366327.  | 365118.  | 349048.  | 431334.  | 6900727.  |

AVERAGES

|         |         |         |         |         |         |         |         |         |         |         |         |          |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 685043. | 649445. | 840870. | 872287. | 891351. | 812428. | 813096. | 792203. | 692468. | 640313. | 613520. | 648044. | 6931070. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|

MONTHLY PERCENTAGES

|     |     |     |     |      |     |     |     |     |     |     |     |
|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|
| 7.4 | 7.3 | 9.4 | 9.8 | 10.0 | 9.1 | 9.1 | 8.9 | 7.8 | 7.2 | 6.9 | 7.3 |
|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8931070. TONS

Change in Storage in Lake Mohave

| YEAR | JAN     | FEB     | MAR      | APR      | MAY     | JUN      | JUL      | AUG      | SEP      | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|----------|----------|---------|----------|----------|----------|----------|---------|---------|---------|----------|
| 1935 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1936 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1937 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1938 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1939 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1940 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1941 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1942 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1943 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1944 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1945 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1946 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1947 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1948 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1949 | 0.      | 0.      | 0.       | 0.       | 0.      | 0.       | 0.       | 0.       | 0.       | 0.      | 0.      | 0.      | 0.       |
| 1950 | 178720. | 12240.  | -11350.  | 42640.   | -8690.  | 9020.    | 30490.   | 25330.   | 82410.   | 116050. | 215380. | 207450. | 900690.  |
| 1951 | 266110. | 146650. | 50050.   | -26800.  | 158400. | -190190. | -184000. | 11040.   | 83720.   | -30360. | 184920. | 49580.  | 507420.  |
| 1952 | 4550.   | 5520.   | -19320.  | -920.    | 21840.  | -39880.  | 19350.   | -2510.   | 3940.    | 1520.   | 3590.   | 11480.  | 5080.    |
| 1953 | 9230.   | -30260. | 48760.   | 61100.   | -13800. | -161070. | -180670. | -109110. | 83520.   | 9910.   | 166170. | 93960.  | -22280.  |
| 1954 | -7910.  | 30940.  | 59800.   | 12740.   | -14870. | -42300.  | -44180.  | -181490. | 99840.   | 75200.  | -11390. | 7680.   | 4080.    |
| 1955 | -46550. | 58000.  | 47940.   | 7270.    | 45580.  | -294250. | -161990. | -33790.  | -138030. | -25910. | 182970. | 182970. | -283550. |
| 1956 | 222470. | 69760.  | 12100.   | 57710.   | -3300.  | -138870. | -150290. | -220630. | -59350.  | -57710. | 176000. | 114400. | 22290.   |
| 1957 | 213830. | 17270.  | 2180.    | 48150.   | 20140.  | -87140.  | -201750. | -93840.  | 44430.   | 105030. | 64000.  | -1960.  | 130340.  |
| 1958 | -50340. | 190940. | -2730.   | 37380.   | 3480.   | -110490. | -115710. | -11080.  | 8500.    | 33150.  | 27200.  | 47290.  | 57620.   |
| 1959 | 24930.  | 19550.  | 1750.    | -46280.  | 106110. | -147830. | -175430. | -13430.  | -1650.   | 35700.  | 110030. | 83150.  | -400.    |
| 1960 | 105770. | -45240. | -140790. | -2730.   | -22750. | -23920.  | -128890. | 15640.   | 69000.   | -43680. | -4600.  | 191380. | -28830.  |
| 1961 | 70670.  | 5570.   | -16920.  | 47490.   | 26590.  | -134420. | -149460. | -63640.  | -40420.  | 26960.  | 103400. | 181420. | 57240.   |
| 1962 | -920.   | 65800.  | -42300.  | -7560.   | 41160.  | -113480. | -172020. | -66950.  | -19600.  | 35880.  | 93060.  | 204480. | 17520.   |
| 1963 | -16820. | 18650.  | 3870.    | 29760.   | 65540.  | -194580. | -120520. | -63700.  | 10010.   | -26090. | 10790.  | 147590. | -137490. |
| 1964 | 132980. | -20450. | -9400.   | 50340.   | 71240.  | -132880. | -115420. | -118330. | -71770.  | 75460.  | 66320.  | 106080. | 34170.   |
| 1965 | 95670.  | 2070.   | -18350.  | 53990.   | 81750.  | -71890.  | -180630. | -144710. | -48670.  | 25440.  | 120740. | 225000. | 139410.  |
| 1966 | 26990.  | -70380. | 38840.   | -27290.  | 36740.  | -191940. | -112270. | -90000.  | -20400.  | -1920.  | 108560. | 78940.  | -188130. |
| 1967 | 62400.  | 22080.  | 14100.   | -3760.   | 75990.  | -80500.  | -74390.  | -86480.  | -94040.  | 33840.  | 177560. | 95640.  | 146440.  |
| 1968 | -40420. | -44590. | 25100.   | 23240.   | 65280.  | -103400. | -93090.  | -122880. | -32000.  | -22540. | 36620.  | 106910. | -201770. |
| 1969 | 180780. | -30290. | -10780.  | 58140.   | 49980.  | -52020.  | -108080. | -179000. | 18800.   | 16660.  | 81800.  | 14130.  | 40140.   |
| 1970 | 132600. | -33660. | -6120.   | 2040.    | 118790. | -66650.  | -98000.  | -62000.  | -125440. | 25240.  | 50950.  | 78110.  | 15860.   |
| 1971 | 106040. | 76750.  | -34330.  | 41590.   | 61370.  | -45000.  | -212840. | 12000.   | -46000.  | 0.      | 36720.  | 61600.  | 77900.   |
| 1972 | 99740.  | 33990.  | 20190.   | 3000.    | 33650.  | -30680.  | -185220. | -47040.  | -48000.  | 172650. | 17450.  | -79190. | 50210.   |
| 1973 | 86120.  | 141000. | -66920.  | -69120.  | 161010. | -129970. | -142100. | 11760.   | -90240.  | -34560. | 83590.  | 99640.  | 92320.   |
| 1974 | 51840.  | 4840.   | 8640.    | -71040.  | 70080.  | 52240.   | -130140. | -20450.  | -39130.  | 63480.  | 117760. | -15800. | -18030.  |
| 1975 | 31340.  | 80160.  | -50880.  | -84720.  | 88620.  | 11280.   | -89290.  | -90240.  | -53000.  | 16360.  | 76940.  | 56400.  | 161970.  |
| 1976 | 70500.  | 59510.  | -24170.  | -940.    | 104340. | -98700.  | -42300.  | -42300.  | 140420.  | -53930. | 17480.  | 31960.  | -69670.  |
| 1977 | -38940. | -3710.  | 33120.   | 44160.   | -7360.  | -145360. | -136160. | 88270.   | -67160.  | -21160. | 47840.  | 136790. | 41580.   |
| 1978 | 35720.  | -26960. | -26960.  | -8500.   | 102290. | -191760. | -115310. | 46490.   | 38120.   | 95780.  | 46060.  | 44610.  | -39270.  |
| 1979 | 45120.  | -67880. | 13010.   | -130190. | 105060. | -33840.  | -123660. | 1850.    | -45560.  | -2780.  | 97780.  | 101840. | -40680.  |
| 1980 | 92070.  | -49820. | -41400.  | -79880.  | 195300. | -168150. | -25380.  | -20900.  | -86450.  | 54720.  | 960.    | 88350.  | -23630.  |
| 1981 | 99910.  | 8790.   | -960.    | 18050.   | 41800.  | -129360. | -156480. | -37050.  | 28500.   | -11280. | 87160.  | 49290.  | 65060.   |
| 1982 | 60450.  | -12880. | 40480.   | 42780.   | 59220.  | -106020. | -135990. | 39560.   | -126480. | -22320. | 97520.  | 128340. | 65060.   |

AVERAGES

|        |        |        |       |        |         |         |         |         |        |        |        |        |
|--------|--------|--------|-------|--------|---------|---------|---------|---------|--------|--------|--------|--------|
| 47972. | 12712. | -2181. | 3015. | 40492. | -69666. | -83534. | -34366. | -11316. | 13829. | 53366. | 61075. | 31417. |
|--------|--------|--------|-------|--------|---------|---------|---------|---------|--------|--------|--------|--------|

MONTHLY PERCENTAGES

|       |      |      |     |       |        |        |        |       |      |       |       |
|-------|------|------|-----|-------|--------|--------|--------|-------|------|-------|-------|
| 152.7 | 40.5 | -6.9 | 9.6 | 128.9 | -221.7 | -265.9 | -106.4 | -36.0 | 44.0 | 169.9 | 194.4 |
|-------|------|------|-----|-------|--------|--------|--------|-------|------|-------|-------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 31417. TONS

Hoover Dam to Davis Dam  
Salt Model

Salt Load Below Davis Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 597936.  | 333574.  | 633359.  | 525078.  | 498339.  | 631900.  | 337879.  | 259269.  | 279784.  | 390353.  | 469805.  | 332108.  | 5289184.  |
| 1936 | 362619.  | 401575.  | 628552.  | 628813.  | 520604.  | 435532.  | 405807.  | 345559.  | 307600.  | 266798.  | 245501.  | 457948.  | 5006908.  |
| 1937 | 287516.  | 306912.  | 509289.  | 593221.  | 570024.  | 605879.  | 704381.  | 682674.  | 576813.  | 484854.  | 399859.  | 376042.  | 6097464.  |
| 1938 | 352582.  | 344232.  | 432999.  | 599106.  | 579624.  | 639940.  | 665676.  | 587051.  | 500525.  | 679756.  | 681987.  | 345594.  | 5389072.  |
| 1939 | 656455.  | 1289608. | 665133.  | 657383.  | 616593.  | 651494.  | 712119.  | 732640.  | 701407.  | 668057.  | 730531.  | 736995.  | 8818425.  |
| 1940 | 719043.  | 499502.  | 680008.  | 691823.  | 630556.  | 629726.  | 732691.  | 733009.  | 757905.  | 843731.  | 821256.  | 861244.  | 8581094.  |
| 1941 | 656170.  | 579650.  | 650430.  | 588500.  | 1543560. | 1909480. | 1024330. | 1384970. | 1480670. | 1540740. | 1678310. | 1957680. | 14994490. |
| 1942 | 1993880. | 1525250. | 1430190. | 1282620. | 1375190. | 1569840. | 1264330. | 859480.  | 985220.  | 1075990. | 997860.  | 1001970. | 15361620. |
| 1943 | 969770.  | 733660.  | 914610.  | 873580.  | 969640.  | 973090.  | 1011660. | 959200.  | 950240.  | 1066330. | 1018660. | 1099860. | 11540300. |
| 1944 | 1147520. | 1220970. | 1254150. | 1139050. | 1182270. | 1038550. | 1033150. | 1115460. | 1011540. | 1142100. | 1156680. | 1128970. | 13572410. |
| 1945 | 1151820. | 1050590. | 1196900. | 988930.  | 982270.  | 929460.  | 808250.  | 816450.  | 788210.  | 949000.  | 943610.  | 957990.  | 11543900. |
| 1946 | 973820.  | 999990.  | 887220.  | 797320.  | 870390.  | 755650.  | 761680.  | 689690.  | 696400.  | 785990.  | 707680.  | 785990.  | 9714790.  |
| 1947 | 892260.  | 818440.  | 888450.  | 848870.  | 974920.  | 878250.  | 888070.  | 813650.  | 789080.  | 772740.  | 814370.  | 970370.  | 10350470. |
| 1948 | 1094460. | 1063750. | 1087540. | 1148850. | 1061530. | 951220.  | 1000980. | 847920.  | 842760.  | 751860.  | 899120.  | 1128970. | 13572410. |
| 1949 | 1023590. | 1025300. | 1050600. | 1015590. | 862540.  | 862530.  | 864740.  | 859090.  | 900990.  | 894720.  | 848270.  | 1054620. | 11307040. |
| 1950 | 866520.  | 1030190. | 1054760. | 921690.  | 955280.  | 824000.  | 775960.  | 691410.  | 606570.  | 618220.  | 498010.  | 512930.  | 9355540.  |
| 1951 | 512660.  | 530530.  | 708940.  | 790510.  | 657370.  | 847210.  | 902560.  | 816020.  | 697960.  | 719500.  | 563620.  | 690100.  | 8436880.  |
| 1952 | 946530.  | 1155530. | 1253160. | 1306600. | 1397710. | 1384850. | 1103170. | 1071260. | 1087990. | 983270.  | 868730.  | 1064040. | 13602540. |
| 1953 | 1012000. | 1040030. | 900350.  | 851340.  | 910890.  | 924030.  | 975100.  | 934430.  | 753840.  | 574430.  | 473860.  | 583870.  | 9934170.  |
| 1954 | 730140.  | 680950.  | 742240.  | 863430.  | 1027900. | 914250.  | 989070.  | 976100.  | 780300.  | 624610.  | 661050.  | 676110.  | 9686150.  |
| 1955 | 733450.  | 697040.  | 840140.  | 911800.  | 918470.  | 1047790. | 1082330. | 889310.  | 813580.  | 584530.  | 455010.  | 319040.  | 9288490.  |
| 1956 | 375490.  | 485050.  | 822470.  | 892860.  | 823790.  | 1040700. | 1017280. | 985320.  | 750300.  | 582970.  | 426480.  | 359490.  | 8562200.  |
| 1957 | 322350.  | 501440.  | 783720.  | 900680.  | 760600.  | 848430.  | 957720.  | 872740.  | 741770.  | 580380.  | 896030.  | 1021110. | 9306970.  |
| 1958 | 1201800. | 651880.  | 1280150. | 1295480. | 941120.  | 632000.  | 877640.  | 768240.  | 661680.  | 563780.  | 601200.  | 678280.  | 10351250. |
| 1959 | 634720.  | 570450.  | 703600.  | 866160.  | 700650.  | 820870.  | 883630.  | 745070.  | 650610.  | 540210.  | 399120.  | 390510.  | 7905900.  |
| 1960 | 423660.  | 503080.  | 745520.  | 824180.  | 751740.  | 932520.  | 950780.  | 823240.  | 666800.  | 524350.  | 448450.  | 303000.  | 7897300.  |
| 1961 | 446320.  | 561890.  | 856440.  | 807120.  | 823730.  | 929550.  | 889880.  | 745830.  | 700000.  | 465950.  | 366550.  | 239130.  | 7831990.  |
| 1962 | 427530.  | 426800.  | 766880.  | 874710.  | 794200.  | 877920.  | 921620.  | 833870.  | 715600.  | 530860.  | 488980.  | 347260.  | 8006030.  |
| 1963 | 468840.  | 582060.  | 812410.  | 800580.  | 772180.  | 928990.  | 928080.  | 824710.  | 648580.  | 482170.  | 394550.  | 342320.  | 7985430.  |
| 1964 | 416260.  | 571420.  | 739680.  | 785300.  | 691410.  | 816510.  | 946940.  | 831710.  | 696600.  | 487920.  | 368020.  | 355670.  | 7887440.  |
| 1965 | 401030.  | 564200.  | 851790.  | 714390.  | 860340.  | 934880.  | 1061980. | 1039350. | 793830.  | 541300.  | 317000.  | 177210.  | 8257300.  |
| 1966 | 185270.  | 581150.  | 804070.  | 973120.  | 904110.  | 1031660. | 1037810. | 946680.  | 747890.  | 450000.  | 349340.  | 326680.  | 8337780.  |
| 1967 | 402420.  | 574170.  | 782750.  | 756170.  | 768170.  | 867980.  | 854050.  | 612790.  | 576840.  | 489880.  | 326070.  | 206710.  | 7417940.  |
| 1968 | 404070.  | 531540.  | 744140.  | 810310.  | 740940.  | 837730.  | 808840.  | 786670.  | 685490.  | 488920.  | 414340.  | 419650.  | 7872640.  |
| 1969 | 342560.  | 642500.  | 818420.  | 883810.  | 781710.  | 843830.  | 885500.  | 865280.  | 604710.  | 522490.  | 333980.  | 421310.  | 7846100.  |
| 1970 | 463800.  | 632870.  | 782330.  | 985290.  | 795730.  | 879410.  | 872200.  | 740460.  | 626370.  | 533040.  | 423100.  | 441500.  | 8196100.  |
| 1971 | 461800.  | 657730.  | 914120.  | 935630.  | 789380.  | 860450.  | 970040.  | 729610.  | 660260.  | 500300.  | 432000.  | 434590.  | 8345910.  |
| 1972 | 476300.  | 659580.  | 904380.  | 917740.  | 833940.  | 852450.  | 944880.  | 769880.  | 670320.  | 301680.  | 378300.  | 462100.  | 8171550.  |
| 1973 | 474210.  | 447650.  | 874380.  | 918650.  | 787850.  | 805980.  | 919470.  | 805420.  | 735730.  | 561610.  | 406130.  | 413370.  | 7950450.  |
| 1974 | 357960.  | 615890.  | 800560.  | 1004320. | 824880.  | 891330.  | 915380.  | 886580.  | 712230.  | 477190.  | 316200.  | 378570.  | 8181090.  |
| 1975 | 418360.  | 536650.  | 752520.  | 901870.  | 813360.  | 742510.  | 858100.  | 817890.  | 685260.  | 500310.  | 377490.  | 387460.  | 7786780.  |
| 1976 | 390350.  | 415980.  | 869760.  | 862100.  | 765180.  | 772550.  | 818460.  | 665510.  | 428370.  | 374370.  | 267940.  | 423680.  | 7254250.  |
| 1977 | 283380.  | 632550.  | 737780.  | 902010.  | 712840.  | 852640.  | 985220.  | 702900.  | 511410.  | 422600.  | 380330.  | 398110.  | 7541770.  |
| 1978 | 192930.  | 478730.  | 737970.  | 905090.  | 711060.  | 845100.  | 910130.  | 805270.  | 628060.  | 384950.  | 315420.  | 309580.  | 7204290.  |
| 1979 | 174538.  | 372684.  | 610638.  | 849138.  | 918400.  | 918400.  | 1041000. | 922700.  | 780864.  | 504582.  | 415800.  | 398748.  | 7905612.  |
| 1980 | 367300.  | 328700.  | 982000.  | 1221080. | 1041480. | 1239000. | 1244400. | 1242300. | 1077518. | 921393.  | 830942.  | 791010.  | 11287021. |
| 1981 | 501858.  | 487296.  | 796855.  | 977760.  | 787931.  | 956186.  | 925390.  | 958342.  | 610421.  | 385304.  | 284214.  | 309132.  | 7980789.  |
| 1982 | 370837.  | 548915.  | 714400.  | 1014750. | 788339.  | 723045.  | 848346.  | 663784.  | 484380.  | 399840.  | 237500.  | 284501.  | 7056407.  |

AVERAGES

805487. 664253. 837587. 887613. 849032. 903896. 903511. 830224. 720088. 622820. 565028. 582548. 8972068.

MONTHLY PERCENTAGES

6.7 7.4 9.3 9.9 9.5 10.1 10.1 9.3 8.0 6.9 6.3 6.5

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8972068. TONS

**Appendix 4**

**EVAPORATION CONSTANTS  
LAKES MOHAVE AND HAVASU**

## APPENDIX 4

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### INVESTIGATION OF EVAPORATION CONSTANTS TO BE USED IN CRSS FOR LAKE MOHAVE AND LAKE HAVASU

The investigation started with the existing evaporation figures for Lake Mead published by the USGS (Harveck, et. al 1958).

A regression analysis was performed on 1975 Boulder City pan evaporation data (mean monthly temperature, wind over pan and pan evaporation in feet). These were the latest data available when the analysis was done. The lapse rate of  $4^{\circ}\text{F}/1,000$  feet of elevation difference (Harveck, et. al 1958) was used to correct the average mean monthly Boulder City air temperature to an average Lake Mead elevation of 1,150 feet M.S.L. These corrected mean monthly temperatures, the 1975 wind data from the Boulder City pan and the Boulder City pan correlation, were used to calculate new figures representing average monthly pan evaporation at Lake Mead. Monthly pan evaporation averages were then summed to compute an average annual pan evaporation at Lake Mead of 11.38 feet. This figure was compared to the average annual evaporation figure for Lake Mead from the USGS energy budget method (6.56 feet). A resultant pan to lake coefficient of 0.57 results. This coefficient compares well with the 0.60 coefficient proposed by USGS for a "representative evaporation pan." Presently there are not enough data available to fully assess the influence of Lake Powell on the evaporation of Lake Mead.

To arrive at evaporation constants for Lake Mohave, a 10-year (1967-1976, the period of record for this station) average mean monthly air temperature, wind speed, and monthly pan evaporation were calculated from the Davis Dam No. 2 evaporation station. These 10-year average monthly evaporation values were multiplied by 0.57 for the Lake Mohave evaporation constants. The resultant average annual Lake Mohave evaporation rate is 7.31 feet.

Arriving at evaporation constants for Lake Havasu was a problem. There are no long-term evaporation pans in the area. A regression was run on long-term (10 years) average pan evaporation data at Davis Dam No. 2 station. This correlation showed a strong relationship between pan evaporation (in feet per month) and mean monthly temperature. The additional reduction of variance from the wind data was negligible.

Lake Havasu evaporation was calculated by applying long-term mean monthly air temperatures from Parker Reservoir Gage to the air temperature ( $^{\circ}\text{F}$ ) vs. evaporation rate (feet per month) regression for Davis Dam No. 2 evaporation station yielding probable monthly pan evaporation data for Lake Havasu. These probable pan evaporation data were multiplied by 0.57 to calculate the Lake Havasu evaporation constants. The result of this calculation yields an average annual evaporation rate of 7.39 feet.

A constant pan to lake coefficient was used for each month due to inadequate data to further refine the calculation.

Appendix 4

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Sample Calculation:

Corrected Boulder City Pan Evaporation

From a regression analysis using 1975 data:

Boulder City Pan Evaporation =

$$0.0269531 \times \text{Mean monthly air temperature} + \\ 0.00031 \times \text{total wind movement} - 1.6478$$

Assume a lapse rate of  $-4^{\circ}/1,000$  feet (Harveck et. al, 1958). Assume an average Lake Mead elevation of 1,150 M.S.L. The elevation of the Boulder City pan is 2,525 feet M.S.L. This implies an elevation difference of -1,375 feet. At  $-4^{\circ}/1,000$  feet this implies a  $5\frac{1}{2}$ -degree temperature difference.

|      | 1*               | 2               | 3*           |
|------|------------------|-----------------|--------------|
|      | Average          |                 |              |
|      | Mean Monthly     | Corrected       | Wind Data    |
|      | Temperature for  | Boulder City    | from         |
|      | Boulder City Pan | Temperature to  | Boulder City |
|      | °F               | 1150 M.S.L., °F | Pan (1975)   |
| Jan  | 46.4             | 51.9            | 2,349        |
| Feb  | 51.0             | 56.5            | 2,257        |
| Mar  | 56.3             | 61.8            | 2,809        |
| Apr  | 64.9             | 70.4            | 2,795        |
| May  | 73.6             | 79.1            | 2,275        |
| Jun  | 82.1             | 87.6            | 2,160        |
| Jul  | 88.8             | 94.3            | 2,004        |
| Aug  | 86.9             | 92.4            | 1,792        |
| Sept | 81.0             | 86.5            | 1,450        |
| Oct  | 69.1             | 74.6            | 1,648        |
| Nov  | 55.6             | 61.1            | 1,554        |
| Dec  | 47.7             | 53.2            | 1,948        |

\* From NOAA Climatological summary 1975



Using the regression equation for the Boulder City evaporation pan from the previous page and data from Columns 2 and 3 above for the Boulder City Pan, the following pan evaporation data can be calculated:

| <u>Month</u> | <u>Corrected<br/>Boulder City<br/>Pan Evaporation<br/>(feet)</u> |      |      |
|--------------|--|------|------|
| Jan          | 0.43   | Jul  | 1.52 |
| Feb          | 0.57   | Aug  | 1.40 |
| Mar          | 0.89   | Sept | 1.13 |
| Apr          | 1.12   | Oct  | 0.87 |
| May          | 1.19   | Nov  | 0.84 |
| Jun          | 1.38   | Dec  | 0.40 |
| Total        | <sup>74</sup><br>11.38 feet                                      |      |      |

The average annual evaporation rate for Lake Mead is 6.56 feet (Harveck et. al, 1958).

$$\text{Ratio of Lake Mead Evaporation to Corrected Boulder City Pan Evaporation} = \frac{6.56}{11.38} = 0.57 \text{ } .56$$

0.57 is almost the same as the USGS conclusion of 0.60. No other data are available for pan to Lake Coefficients for Lake Mohave and Lake Havasu; therefore, a pan to Lake Coefficient of 0.57 for Lake Mohave and Lake Havasu was used.

10-Year Average Pan Evaporation at Davis Dam No. 2 Station (1967-1976) and calculated evaporation coefficients for Lake Mohave

| <u>10-Year Ave<br/>Pan Evap.</u> | <u>Pan Evap.</u> | <u>(Evap. coefficients<br/>for Lake Mohave = Pan Evap. x 0.57)</u> |
|----------------------------------|------------------|--|
| Jan -                            | .63              | .36  |
| Feb -                            | .63              | .36  |
| Mar -                            | .84              | .48  |
| Apr -                            | 1.07             | .61  |
| May -                            | 1.42             | .81  |
| Jun -                            | 1.63             | .93  |
| Jul -                            | 1.63             | .93  |
| Aug -                            | 1.47             | .84  |
| Sept -                           | 1.20             | .68  |
| Oct -                            | .98              | .56  |
| Nov -                            | .71              | .40  |
| Dec -                            | <u>.61</u>       | <u>.35</u>   |
| Total (feet)                     | 12.82            | 7.31   |

Appendix 4

Long-Term Mean Monthly Temperatures at Parker Reservoir Gage  
and estimated monthly evaporation coefficients for Lake Havasu

| <u>°F</u>       | <u>*Estimated Evap.<br/>from Lake Havasu</u> |                       |
|-----------------|--|-----------------------|
| Jan - 52.4      | .34  | Jul - 93.7 .90        |
| Feb - 57.3      | .41  | Aug - 92.4 .89        |
| Mar - 62.5      | .48  | Sept- 86.4 .81        |
| Apr - 70.3      | .59  | Oct - 74.6 .65        |
| May - 78.6      | .70  | Nov - 61.2 .46        |
| Jun - 86.4      | .81  | Dec - <u>53.2</u> .35 |
| Ave Annual 72.4 |  | Total 7.39 feet       |

\*Assume (Monthly) Lake Evap. = [(Mean Monthly Temp.  
x 0.02383) - 0.646] x 0.57

The above equation is from a regression of 10-year average of Davis Dam No. 2 pan data and a reservoir coefficient of 0.57 arrived at previously for corrected Boulder City Pan and USGS Lake Mead Evaporation.

Davis Dam No. 2 Evaporation Station  
(elevation 657, located on top of  
Davis Dam, 1967-1976 average values\*)

| Month     | Temp. °F | Pan Evap. ft. | Wind  |
|-----------|----------|---------------|-------|
| January   | 51.9     | 0.63          | 4,498 |
| February  | 56.9     | 0.63          | 3,163 |
| March     | 62.2     | 0.84          | 2,827 |
| April     | 67.4     | 1.07          | 2,803 |
| May       | 78.8     | 1.42          | 2,427 |
| June      | 88.4     | 1.63          | 2,261 |
| July      | 95.2     | 1.63          | 2,114 |
| August    | 92.8     | 1.47          | 1,861 |
| September | 85.2     | 1.20          | 2,236 |
| October   | 72.5     | 0.98          | 2,827 |
| November  | 60.6     | 0.71          | 3,445 |
| December  | 51.4     | 0.61          | 4,336 |

\* For some years data are not complete and are filled in with an average for 8 or 9 years.

## Boulder City Pan Data (1975)

| Calendar<br>Year<br>Month | Pan<br>Evap.<br>(feet) | Mean<br>Monthly<br>Temp. °F | Wind<br>Across<br>Pan |
|---------------------------|------------------------|-----------------------------|-----------------------|
|                           | Y                      | 1                           | 2                     |
| 1                         | .3050                  | 45.2000                     | 2349.0000             |
| 2                         | .3370                  | 48.6000                     | 2257.0000             |
| 3                         | .4980                  | 52.6000                     | 2809.0000             |
| 4                         | .7670                  | 56.3000                     | 2795.0000             |
| 5                         | 1.0300                 | 71.3000                     | 2275.0000             |
| 6                         | 1.3400                 | 81.0000                     | 2160.0000             |
| 7                         | 1.3600                 | 88.4000                     | 2004.0000             |
| 8                         | 1.2300                 | 85.6000                     | 1792.0000             |
| 9                         | .9110                  | 80.8000                     | 1450.0000             |
| 10                        | .5520                  | 69.5000                     | 1648.0000             |
| 11                        | .3040                  | 51.3000                     | 1554.0000             |
| 12                        | .2270                  | 44.4000                     | 1948.0000             |

Sample output from regression program for Boulder City.  
Pan evaporation for 1975.

|  |           |
|--|-----------|
| *Proportion of Variance of Y reduced   | .088521   |
| F Level for Selected Variable          | 16.783965 |
| Sum of Squares Reduced this Step       | .176807   |
| Multiple Correlation Coefficient       | .975978   |
| F Level for Analysis of Variance       | 90.302047 |
| Standard Error of Estimate             | .102637   |
| Percent Explained Variance             | 95.253267 |
| Percent Remaining Unexplained Variance | 4.746733  |
| Intercept                              | -1.647808 |

\*Contribution from wind component.

Appendix 4

| Variable | Regr. Coeff.      | Std. Error-Coeff. | Students T        |
|----------|-------------------|-------------------|-------------------|
| 1        | .269530568262E-01 | .201176666672E-02 | .133977052469E+02 |
| 2        | .309335819405E-03 | .755062541974E-04 | .409682380212E+01 |

| Calendar |       |        |           |          |
|----------|-------|--------|-----------|----------|
| Year     | Month | Actual | Predicted | Residual |
|          | 1     | .3050  | .2971     | .0079    |
|          | 2     | .3370  | .3603     | -.0233   |
|          | 3     | .4980  | .6388     | -.1408   |
|          | 4     | .7670  | .7342     | .0328    |
|          | 5     | 1.0300 | .9777     | .0523    |
|          | 6     | 1.3400 | 1.2036    | .1364    |
|          | 7     | 1.3600 | 1.3548    | .0052    |
|          | 8     | 1.2300 | 1.2137    | .0163    |
|          | 9     | .9110  | .9785     | -.0675   |
|          | 10    | .5520  | .7352     | -.1832   |
|          | 11    | .3040  | .2156     | .0884    |
|          | 12    | .3370  | .1515     | .0755    |

Sum of Residuals Squared = .094809

Data for Davis Dam No. 2 (67-76 Ave.)

| Calendar | Monthly | Mean     |
|----------|---------|----------|
| Year     | Evap.   | Monthly  |
| Month    | (feet)  | Temp. of |
|          | Y       | 1        |
| 1        | .6300   | 51.9000  |
| 2        | .6300   | 56.9000  |
| 3        | .8400   | 62.2000  |
| 4        | 1.0700  | 67.4000  |
| 5        | 1.4200  | 78.8000  |
| 6        | 1.6300  | 88.4000  |
| 7        | 1.6300  | 95.2000  |
| 8        | 1.4700  | 92.8000  |
| 9        | 1.2000  | 85.2000  |
| 10       | .9800   | 72.5000  |
| 11       | .7100   | 60.6000  |
| 12       | .6100   | 51.4000  |

Sample output from regression program (mean monthly temperature vs. monthly evaporation for Davis Dam No. 2 10 year average, 1967-1976)).

|  |            |
|--|------------|
| Proportion of Variance of Y Reduced    | .914722    |
| F Level for Selected Variable          | 107.263184 |
| Sum of Squares Reduced this Step       | 1.569632   |
| Multiple Correlation Coefficient       | .956411    |
| F Level for Analysis of Variance       | 107.263184 |
| Standard Error of Estimate             | .120969    |
| Percent Explained Variance             | 91.472174  |
| Percent Remaining Unexplained Variance | 8.527826   |
| Intercept                              | -.646038   |

| Variable | Regr. Coeff.      | Std. Error-Coeff. - | Students T        |
|----------|-------------------|---------------------|-------------------|
| 1        | .238300235492E-01 | .230090733844E-02   | .103567941008E+02 |

| Calendar |       |        |           |          |
|----------|-------|--------|-----------|----------|
| Year     | Month | Actual | Predicted | Residual |
|          | 1     | .6300  | .5907     | .0393    |
|          | 2     | .6300  | .7099     | -.0799   |
|          | 3     | .8400  | .8362     | .0038    |
|          | 4     | 1.0700 | .9601     | .1099    |
|          | 5     | 1.4200 | 1.2318    | .1882    |
|          | 6     | 1.6300 | 1.4605    | .1695    |
|          | 7     | 1.6300 | 1.6226    | .0074    |
|          | 8     | 1.4700 | 1.5654    | -.0954   |
|          | 9     | 1.2000 | 1.3843    | -.1843   |
|          | 10    | .9800  | 1.0816    | -.1016   |
|          | 11    | .7100  | .7981     | -.0881   |
|          | 12    | .6100  | .5788     | .0312    |

Sum of Residuals Squared = .146335

## **Appendix 5**

# **DAVIS DAM TO PARKER DAM REACH**

Davis Dam to Parker Dam  
Flow Model

Reach Flow Gains and Losses Between Davis Dam and Parker Dam

| YEAR | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1935 | -13562. | -3296.  | -8633.  | 7714.   | -8155.  | 4899.   | 14617.  | 11440.  | -3768.  | -9109.  | -18301. | -6373.  | -32527.  |
| 1936 | -14957. | -2320.  | -20215. | -11824. | 7661.   | 7847.   | 17499.  | 20410.  | 1768.   | -12190. | -12190. | -11380. | -19768.  |
| 1937 | -14756. | -32962. | -12480. | -6081.  | 5974.   | 11962.  | 27031.  | 14406.  | 11518.  | -728.   | -14386. | -21703. | -32175.  |
| 1938 | -16515. | -17208. | -29908. | -18111. | 777.    | 2041.   | 2646.   | 10047.  | 6106.   | -8337.  | -50421. | -22185. | -139068. |
| 1939 | 12077.  | -11806. | -4257.  | -10518. | 23432.  | 45493.  | 42868.  | 41541.  | 101459. | 5451.   | -17045. | -24402. | 204493.  |
| 1940 | -41107. | -26870. | -16020. | -12764. | 19108.  | 17876.  | 30397.  | 15135.  | 12677.  | -11473. | -20682. | -29072. | -62797.  |
| 1941 | 251.    | -17978. | -4787.  | -8481.  | -25515. | -6728.  | 43829.  | 9569.   | -10513. | -18193. | -53208. | -42077. | -131832. |
| 1942 | -36140. | -31725. | -32634. | -11037. | -34694. | 5227.   | 37934.  | 34474.  | 16791.  | 2654.   | -16704. | -17226. | -83080.  |
| 1943 | 14816.  | 136.    | -4341.  | -9794.  | 12845.  | 48241.  | 70532.  | 39241.  | 4288.   | -5348.  | -17578. | -30171. | 122867.  |
| 1944 | -23583. | 12219.  | -29044. | -7709.  | 4047.   | 21016.  | 39157.  | 20556.  | 4732.   | 6419.   | -20565. | -17969. | 9296.    |
| 1945 | -15686. | -17235. | -13616. | 7618.   | 21867.  | 45802.  | 54765.  | 45675.  | 35251.  | 39648.  | -7045.  | -7339.  | 189505.  |
| 1946 | -13602. | -6494.  | 17105.  | 13557.  | 6891.   | 58466.  | 47464.  | 28540.  | 18639.  | 13197.  | -13904. | -23003. | 147056.  |
| 1947 | -31118. | -32795. | 12806.  | 7267.   | 12482.  | 26339.  | 36080.  | 40499.  | 31808.  | 9241.   | -10645. | -26553. | 75401.   |
| 1948 | -43183. | 24564.  | -481.   | -20112. | 16799.  | 30489.  | 28756.  | 33342.  | 18548.  | -2833.  | -16329. | -22572. | 46988.   |
| 1949 | -20700. | -29019. | -7841.  | 22178.  | 49431.  | 13499.  | 15635.  | 32002.  | 1278.   | 26163.  | -11366. | 10854.  | 102414.  |
| 1950 | 3888.   | -4487.  | 9367.   | 6660.   | 36560.  | 25215.  | 62307.  | -9416.  | 35824.  | 40048.  | -9120.  | -6499.  | 190467.  |
| 1951 | -10157. | -20581. | -48893. | 27793.  | -4371.  | 56925.  | 18735.  | 56763.  | -5101.  | -11725. | -8511.  | -45745. | 5132.    |
| 1952 | -45940. | -24373. | -16632. | -9021.  | 14096.  | 36118.  | 47111.  | 38828.  | 24648.  | -18126. | 4637.   | -9927.  | 41419.   |
| 1953 | -17400. | -14430. | 3880.   | 13994.  | 26151.  | 36610.  | 45340.  | 41373.  | 46673.  | 27046.  | -9079.  | -15568. | 184590.  |
| 1954 | -30181. | -2832.  | -26338. | -14731. | -10057. | 9.      | 11203.  | 17411.  | 28811.  | 18070.  | -212.   | -15310. | -24137.  |
| 1955 | 1387.   | 3002.   | -32865. | 6067.   | 3864.   | -15173. | 36520.  | 55806.  | 25144.  | 9345.   | 10711.  | 22553.  | 126481.  |
| 1956 | 2380.   | -25126. | -53087. | 7586.   | -14078. | -3818.  | 30273.  | 31086.  | 42410.  | -31753. | -4108.  | 4479.   | -13756.  |
| 1957 | -1643.  | -23690. | -24891. | 10859.  | 15128.  | 1256.   | 29634.  | 47321.  | 16804.  | 7651.   | -70167. | -16131. | -7869.   |
| 1958 | 10872.  | -10581. | -32553. | -16613. | 31912.  | 31736.  | 2289.   | 50353.  | 19645.  | 19556.  | -34785. | 2122.   | 73973.   |
| 1959 | -11908. | 10024.  | -30828. | 4913.   | -835.   | -9877.  | 39926.  | 75786.  | 26073.  | 15684.  | 9345.   | -9191.  | 119314.  |
| 1960 | -17268. | -10720. | -32893. | 48643.  | 20995.  | 39169.  | 71566.  | 81541.  | 50290.  | 26575.  | 1991.   | 49042.  | 327831.  |
| 1961 | -18434. | -23742. | -32847. | 28519.  | -20893. | 5732.   | 78348.  | 67556.  | 1181.   | 10320.  | 27912.  | 22230.  | 145882.  |
| 1962 | -5135.  | -27411. | -42890. | 21308.  | -8322.  | 31151.  | 36171.  | 87215.  | 50441.  | -2000.  | 26722.  | 13813.  | 165083.  |
| 1963 | -22278. | 928.    | 4345.   | 9916.   | 14713.  | -1365.  | 22273.  | 40231.  | 36784.  | 22741.  | -2725.  | -2952.  | 122609.  |
| 1964 | 8131.   | -33730. | -36145. | 18993.  | 17576.  | 33257.  | 24845.  | 32242.  | 7571.   | 40266.  | 6301.   | -5218.  | 112159.  |
| 1965 | 5963.   | -23238. | -39625. | -26289. | -7732.  | -11243. | -17803. | 32312.  | 141.    | 920.    | -7301.  | 1940.   | -101155. |
| 1966 | -5274.  | -38129. | -60123. | -21108. | -19648. | -704.   | 23166.  | 18740.  | 5677.   | -941.   | -1064.  | 25328.  | -74078.  |
| 1967 | 833.    | -34336. | -54871. | -27145. | -32853. | -883.   | 20959.  | 16272.  | 25797.  | 12296.  | 15410.  | -20967. | -79488.  |
| 1968 | -25541. | -41684. | -20358. | 6056.   | -4058.  | 5399.   | 45457.  | 24864.  | 15892.  | 20387.  | 934.    | -5035.  | 22313.   |
| 1969 | 5111.   | -10678. | -37905. | -2556.  | -304.   | -15015. | 14395.  | -2762.  | 17299.  | 7952.   | 1011.   | -18570. | -42022.  |
| 1970 | -2246.  | -28697. | -28330. | -26574. | 7337.   | -2146.  | 39487.  | 47152.  | 10445.  | 22795.  | 14886.  | -8126.  | 45965.   |
| 1971 | -3030.  | -20426. | -43706. | 20127.  | 39993.  | 40632.  | 26114.  | 68434.  | 44968.  | 9949.   | -1954.  | -1930.  | 173171.  |
| 1972 | -53.    | -12065. | -19538. | 11426.  | 5081.   | -22052. | 48557.  | 33755.  | 9152.   | -5208.  | -7921.  | -14130. | 27004.   |
| 1973 | -16609. | -20125. | -42455. | -14357. | 23127.  | 55.     | 19313.  | 15927.  | 12840.  | 9327.   | 5501.   | -9716.  | -17172.  |
| 1974 | -34744. | -32541. | -6175.  | -2128.  | 27757.  | 13440.  | 20001.  | -9365.  | -22159. | 9976.   | -11359. | -12713. | -60010.  |
| 1975 | -7744.  | -7136.  | -21670. | 5488.   | 9120.   | 23359.  | 29312.  | 15950.  | 21100.  | 20896.  | -5717.  | -17184. | 65574.   |
| 1976 | -6888.  | -23453. | -62822. | -22078. | -4635.  | 15618.  | 11802.  | 25757.  | 70061.  | 4984.   | -16791. | -18232. | -28477.  |
| 1977 | -3989.  | -12406. | -9539.  | 12967.  | 26184.  | -2230.  | 14781.  | 37518.  | 33305.  | 13680.  | 3477.   | 3359.   | 117307.  |
| 1978 | 14948.  | -18789. | -31364. | -6479.  | -17308. | -16070. | 286.    | 3812.   | -1441.  | 28899.  | -8425.  | -23041. | -74972.  |
| 1979 | 3825.   | -27677. | -30006. | -31312. | -48148. | -17826. | -4107.  | -58499. | -27993. | 29397.  | -5066.  | -30410. | -247615. |
| 1980 | -13741. | 13571.  | -2539.  | -9872.  | -56645. | -17913. | 41294.  | -21531. | -50253. | -33916. | -12627. | 4673.   | -159499. |
| 1981 | 10802.  | 19194.  | -18579. | 11661.  | -8239.  | -88661. | 20785.  | -39068. | 1883.   | 1159.   | 5264.   | 869.    | -52928.  |
| 1982 | 8512.   | -23373. | -30308. | -73401. | -25242. | 1445.   | -6978.  | 37312.  | 14929.  | 5875.   | 15849.  | 2820.   | -74560.  |

AVERAGES

|        |         |         |         |       |        |        |        |       |       |         |        |         |
|--------|---------|---------|---------|-------|--------|--------|--------|-------|-------|---------|--------|---------|
| -1283. | -41438. | -10095. | -15127. | 4075. | -2525. | 30175. | 24075. | 6417. | 6980. | -19030. | -6016. | -23791. |
|--------|---------|---------|---------|-------|--------|--------|--------|-------|-------|---------|--------|---------|

MONTHLY PERCENTAGES

|     |       |      |      |       |      |        |        |      |       |      |      |
|-----|-------|------|------|-------|------|--------|--------|------|-------|------|------|
| 5.4 | 174.2 | 42.4 | 63.6 | -17.1 | 10.6 | -126.8 | -101.2 | -2.7 | -29.3 | 80.0 | 25.3 |
|-----|-------|------|------|-------|------|--------|--------|------|-------|------|------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS -23791. TONS

Davis Dam to Parker Dam  
Flow Model

Flow Below Davis Dam

| YEAR | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1935 | 328504  | 211412  | 426628  | 426668  | 537517  | 958734  | 695912  | 604454  | 584328  | 599041  | 580074  | 310588  | 6263868  |
| 1936 | 303135  | 319475  | 559377  | 587751  | 553474  | 584599  | 681612  | 603323  | 553413  | 455411  | 363265  | 314345  | 5879780  |
| 1937 | 301297  | 300388  | 512531  | 548666  | 546646  | 574521  | 663433  | 660808  | 550322  | 502452  | 420245  | 405056  | 5986365  |
| 1938 | 388493  | 362275  | 468559  | 584942  | 557816  | 610756  | 682177  | 645093  | 561796  | 763698  | 775696  | 412206  | 6813507  |
| 1939 | 680885  | 1313316 | 667736  | 638953  | 590699  | 615947  | 672118  | 694135  | 626107  | 663627  | 706399  | 709102  | 8579190  |
| 1940 | 704538  | 470559  | 614433  | 646871  | 576277  | 559533  | 662201  | 676462  | 702739  | 797954  | 786239  | 831483  | 8029289  |
| 1941 | 617220  | 515279  | 588720  | 529458  | 1347754 | 1873922 | 981356  | 1378052 | 1557817 | 1624876 | 1791108 | 2088025 | 14893887 |
| 1942 | 1997738 | 1615585 | 1444908 | 1215677 | 1330990 | 1541860 | 1348563 | 842593  | 982164  | 1178897 | 1097699 | 1151831 | 15748505 |
| 1943 | 1096689 | 817143  | 947625  | 915711  | 1007816 | 992869  | 1079924 | 1015693 | 1025389 | 1181926 | 1158091 | 1254034 | 12492910 |
| 1944 | 1282916 | 1221919 | 1280696 | 1178290 | 1178675 | 1092649 | 1081742 | 1174453 | 1123350 | 1195257 | 1165767 | 1223130 | 14196846 |
| 1945 | 1213839 | 1092447 | 1271202 | 1030640 | 1008017 | 960753  | 860570  | 849057  | 838149  | 1018117 | 1023570 | 1102143 | 12268504 |
| 1946 | 1082953 | 1044980 | 1021147 | 869255  | 905006  | 802419  | 808256  | 752630  | 746126  | 835806  | 797571  | 867639  | 10533788 |
| 1947 | 997313  | 922983  | 990850  | 855605  | 983779  | 917731  | 897331  | 895512  | 818355  | 838513  | 895755  | 1085377 | 11079104 |
| 1948 | 1219495 | 1153648 | 1155870 | 1222524 | 1184754 | 1031044 | 1166778 | 993879  | 989839  | 960147  | 991657  | 1145165 | 13214800 |
| 1949 | 1232220 | 1233633 | 1289000 | 1191000 | 1017000 | 972300  | 1031000 | 1034000 | 1139000 | 1176000 | 1013000 | 1246000 | 13574153 |
| 1950 | 1027000 | 1116000 | 1251000 | 1034000 | 1120000 | 945700  | 942000  | 829700  | 721000  | 708600  | 552200  | 587700  | 10834900 |
| 1951 | 587400  | 549000  | 794600  | 848100  | 728700  | 919000  | 1001000 | 904400  | 757100  | 797800  | 604400  | 764700  | 8256200  |
| 1952 | 1077000 | 1198000 | 1389000 | 1387000 | 1500000 | 1469000 | 1278000 | 1301000 | 1359000 | 1293000 | 1191000 | 1323000 | 15765000 |
| 1953 | 1228000 | 1076000 | 997900  | 893600  | 1010000 | 1002000 | 1117000 | 1083000 | 855100  | 673100  | 537500  | 684500  | 11157700 |
| 1954 | 846300  | 689500  | 822700  | 958000  | 1127000 | 959800  | 1073000 | 1048000 | 802100  | 677400  | 686500  | 718400  | 10408700 |
| 1955 | 770800  | 641900  | 839800  | 865000  | 883600  | 966500  | 1027000 | 828100  | 750800  | 551900  | 411900  | 304100  | 8656100  |
| 1956 | 354600  | 424500  | 762300  | 793800  | 783600  | 916800  | 918000  | 897300  | 661000  | 535800  | 382400  | 333000  | 7743100  |
| 1957 | 304500  | 427600  | 714500  | 80500   | 731800  | 891200  | 978000  | 872700  | 724600  | 586300  | 684500  | 1062000 | 9008200  |
| 1958 | 1290000 | 632000  | 1435000 | 1436000 | 1103000 | 943700  | 1029000 | 919500  | 768200  | 676300  | 698200  | 804400  | 11735300 |
| 1959 | 752400  | 618100  | 815200  | 962000  | 812100  | 920700  | 1048000 | 904700  | 773800  | 648000  | 468600  | 474000  | 9195800  |
| 1960 | 502600  | 551700  | 863800  | 893800  | 842200  | 1000000 | 1077000 | 912200  | 715400  | 587612  | 481038  | 335866  | 8763216  |
| 1961 | 489409  | 556352  | 929309  | 838624  | 884443  | 975684  | 965568  | 800501  | 734807  | 510454  | 384819  | 259422  | 8329392  |
| 1962 | 468761  | 418201  | 831781  | 908780  | 826524  | 893368  | 1000081 | 914195  | 720744  | 588187  | 513330  | 368891  | 8452843  |
| 1963 | 482923  | 547049  | 854214  | 822696  | 828964  | 975089  | 1028445 | 924113  | 703290  | 546355  | 432621  | 387854  | 8530613  |
| 1964 | 456423  | 586303  | 802465  | 794888  | 742285  | 830610  | 995638  | 874069  | 708724  | 507697  | 366828  | 355582  | 8021512  |
| 1965 | 393229  | 499663  | 804131  | 652750  | 804924  | 862327  | 1012061 | 981614  | 725884  | 520728  | 297942  | 180697  | 7725650  |
| 1966 | 209914  | 524775  | 780904  | 914552  | 878175  | 951683  | 1027255 | 965369  | 723382  | 478004  | 359133  | 350643  | 8163789  |
| 1967 | 427484  | 550877  | 849196  | 793995  | 824739  | 883253  | 936609  | 881765  | 599354  | 531439  | 349751  | 224255  | 7852717  |
| 1968 | 438373  | 587205  | 815972  | 860046  | 786854  | 879484  | 867980  | 835649  | 697200  | 508748  | 413044  | 432244  | 8092799  |
| 1969 | 345903  | 585866  | 851517  | 855087  | 781439  | 816607  | 893963  | 882062  | 602548  | 543697  | 326306  | 425362  | 7910357  |
| 1970 | 463703  | 571605  | 782213  | 953369  | 819820  | 859054  | 907848  | 754960  | 630555  | 558375  | 401480  | 420740  | 8123722  |
| 1971 | 448509  | 599553  | 922685  | 888072  | 781598  | 849335  | 999486  | 743991  | 651838  | 505118  | 417963  | 438810  | 8246958  |
| 1972 | 462552  | 611156  | 913005  | 905468  | 859112  | 850009  | 983419  | 817529  | 689306  | 317162  | 384859  | 475961  | 8269549  |
| 1973 | 484477  | 412330  | 709240  | 944543  | 828429  | 820177  | 957039  | 837989  | 756071  | 596577  | 421890  | 448410  | 8221172  |
| 1974 | 380217  | 584994  | 880445  | 1032412 | 879914  | 925888  | 882588  | 972312  | 772216  | 528900  | 338200  | 415100  | 8660194  |
| 1975 | 445900  | 525800  | 799500  | 927000  | 882600  | 779700  | 821100  | 887200  | 727400  | 531400  | 392100  | 420300  | 8240000  |
| 1976 | 423500  | 426700  | 953600  | 904900  | 830200  | 810900  | 888000  | 939000  | 454600  | 410500  | 287400  | 459700  | 7799000  |
| 1977 | 304200  | 626500  | 839800  | 967700  | 790000  | 914400  | 1092000 | 787800  | 548600  | 468400  | 407900  | 427300  | 8174600  |
| 1978 | 209300  | 474100  | 809000  | 960200  | 779400  | 887000  | 997900  | 883300  | 666600  | 403100  | 330600  | 335700  | 7736200  |
| 1979 | 175100  | 388700  | 639200  | 820100  | 916400  | 925700  | 1051000 | 922700  | 796800  | 568800  | 418700  | 396200  | 8017400  |
| 1980 | 397500  | 344500  | 982000  | 1237000 | 1052000 | 1239000 | 1220000 | 1230000 | 994500  | 930700  | 850100  | 809300  | 11246600 |
| 1981 | 512100  | 518400  | 821500  | 1008000 | 812300  | 975700  | 1051000 | 977900  | 629300  | 392800  | 313100  | 332400  | 8344500  |
| 1982 | 328100  | 573700  | 760000  | 1025000 | 778100  | 761100  | 912200  | 729400  | 526400  | 416500  | 250000  | 296355  | 7355055  |

AVERAGES

|        |        |        |        |        |        |        |        |        |        |        |        |         |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 643738 | 668743 | 879737 | 902858 | 881426 | 931044 | 968483 | 893004 | 765557 | 685237 | 606696 | 629146 | 9453670 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |      |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 6.8 | 7.1 | 9.3 | 9.8 | 9.3 | 9.8 | 10.2 | 9.4 | 8.1 | 7.2 | 6.4 | 6.7 |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1936 TO 1982 IS 9453670. ACRE-FEET



Diversion to Mohave Steam Plant by Southern California Edison

| YEAR | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   | OCT   | NOV   | DEC   | TOTAL  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1935 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1936 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1937 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1938 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1939 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1940 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1941 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1942 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1943 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1944 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1945 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1946 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1947 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1948 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1949 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1950 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1951 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1952 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1953 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1954 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1955 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1956 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1957 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1958 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1959 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1960 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1961 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1962 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1963 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1964 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1965 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1966 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1967 | 0.    | 0.    | 0.    | 0.    | 0.    | 4.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 34.    |
| 1968 | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 60.    |
| 1969 | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 60.    |
| 1970 | 7.    | 7.    | 7.    | 7.    | 7.    | 7.    | 5.    | 5.    | 5.    | 5.    | 73.   | 26.   | 161.   |
| 1971 | 152.  | 344.  | 442.  | 353.  | 649.  | 608.  | 708.  | 279.  | 544.  | 707.  | 502.  | 158.  | 5446.  |
| 1972 | 300.  | 251.  | 1559. | 978.  | 1052. | 1293. | 1242. | 1352. | 1331. | 608.  | 268.  | 935.  | 11169. |
| 1973 | 1161. | 548.  | 622.  | 866.  | 886.  | 982.  | 1468. | 1104. | 1594. | 1128. | 988.  | 842.  | 12187. |
| 1974 | 1045. | 734.  | 873.  | 1054. | 1253. | 880.  | 1193. | 1506. | 1368. | 1211. | 1086. | 1137. | 13440. |
| 1975 | 1259. | 837.  | 1120. | 719.  | 1190. | 1490. | 1630. | 1335. | 1146. | 1298. | 1384. | 912.  | 14422. |
| 1976 | 1102. | 1059. | 187.  | 727.  | 1581. | 1617. | 1871. | 1506. | 1430. | 1081. | 1175. | 1353. | 14709. |
| 1977 | 1376. | 787.  | 841.  | 1254. | 1375. | 1438. | 1440. | 1529. | 1457. | 1110. | 1129. | 611.  | 14327. |
| 1978 | 575.  | 658.  | 600.  | 559.  | 694.  | 860.  | 1024. | 910.  | 909.  | 984.  | 661.  | 619.  | 9053.  |
| 1979 | 771.  | 989.  | 645.  | 988.  | 876.  | 843.  | 1345. | 1414. | 856.  | 1458. | 1103. | 646.  | 11934. |
| 1980 | 847.  | 501.  | 600.  | 1215. | 1080. | 1188. | 1052. | 971.  | 1208. | 316.  | 781.  | 605.  | 10164. |
| 1981 | 1002. | 1174. | 982.  | 1089. | 1004. | 1449. | 1333. | 1148. | 1184. | 1347. | 1044. | 1227. | 13983. |
| 1982 | 1425. | 1375. | 1830. | 1115. | 1500. | 868.  | 1606. | 1816. | 1808. | 1393. | 1428. | 1335. | 17299. |

AVERAGES

|      |      |      |      |      |      |      |      |      |      |      |      |       |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 228. | 193. | 215. | 228. | 276. | 282. | 332. | 310. | 306. | 264. | 242. | 217. | 3093. |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |      |      |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|
| 7.4 | 6.2 | 7.0 | 7.4 | 8.9 | 9.1 | 10.7 | 10.0 | 9.9 | 8.5 | 7.8 | 7.0 |
|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 3093. ACRE-FEET

Davis Dam to Parker Dam  
Flow Model

Miscellaneous California Consumptive Uses

| YEAR | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | OCT  | NOV  | DEC  | TOTAL |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1935 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1936 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1937 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1938 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1939 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1940 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1941 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1942 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1943 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1944 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1945 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1946 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1947 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1948 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1949 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1950 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1951 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1952 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1953 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1954 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1955 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1956 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1957 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1958 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1959 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1960 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1961 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1962 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1963 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1964 | 28.  | 44.  | 51.  | 50.  | 53.  | 60.  | 67.  | 60.  | 51.  | 34.  | 21.  | 20.  | 539.  |
| 1965 | 26.  | 62.  | 82.  | 58.  | 81.  | 101. | 117. | 114. | 94.  | 55.  | 35.  | 17.  | 842.  |
| 1966 | 40.  | 172. | 302. | 316. | 324. | 363. | 417. | 392. | 341. | 161. | 162. | 143. | 3133. |
| 1967 | 243. | 138. | 214. | 184. | 273. | 304. | 337. | 384. | 342. | 325. | 219. | 192. | 3135. |
| 1968 | 104. | 175. | 255. | 254. | 268. | 296. | 323. | 323. | 259. | 153. | 140. | 119. | 2669. |
| 1969 | 92.  | 113. | 173. | 292. | 291. | 370. | 380. | 307. | 261. | 66.  | 132. | 175. | 2652. |
| 1970 | 51.  | 55.  | 72.  | 104. | 133. | 196. | 190. | 186. | 166. | 162. | 154. | 73.  | 1562. |
| 1971 | 56.  | 69.  | 105. | 178. | 177. | 225. | 231. | 187. | 159. | 40.  | 80.  | 107. | 1614. |
| 1972 | 86.  | 111. | 245. | 246. | 259. | 200. | 248. | 254. | 166. | 96.  | 57.  | 100. | 2068. |
| 1973 | 119. | 199. | 123. | 221. | 209. | 261. | 267. | 255. | 277. | 197. | 85.  | 20.  | 2233. |
| 1974 | 15.  | 131. | 116. | 243. | 328. | 382. | 316. | 212. | 293. | 104. | 118. | 59.  | 2317. |
| 1975 | 41.  | 13.  | 185. | 263. | 310. | 297. | 289. | 305. | 264. | 285. | 0.   | 0.   | 2232. |
| 1976 | 97.  | 63.  | 179. | 287. | 259. | 553. | 709. | 644. | 318. | 139. | 126. | 62.  | 3438. |
| 1977 | 29.  | 131. | 154. | 185. | 189. | 231. | 222. | 340. | 148. | 184. | 136. | 91.  | 2040. |
| 1978 | 64.  | 91.  | 114. | 420. | 236. | 387. | 362. | 298. | 303. | 71.  | 37.  | 12.  | 2395. |
| 1979 | 56.  | 31.  | 333. | 225. | 218. | 405. | 492. | 554. | 304. | 65.  | 36.  | 47.  | 2766. |
| 1980 | 56.  | 31.  | 333. | 225. | 218. | 405. | 492. | 554. | 304. | 65.  | 36.  | 47.  | 2766. |
| 1981 | 56.  | 31.  | 333. | 225. | 218. | 405. | 492. | 554. | 304. | 65.  | 36.  | 47.  | 2766. |
| 1982 | 56.  | 31.  | 333. | 225. | 218. | 405. | 492. | 554. | 304. | 65.  | 36.  | 47.  | 2766. |

AVERAGES

|     |     |     |     |     |      |      |      |     |     |     |     |      |
|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|------|
| 27. | 35. | 77. | 87. | 89. | 122. | 134. | 135. | 97. | 49. | 34. | 29. | 915. |
|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|------|

MONTHLY PERCENTAGES

|     |     |     |     |     |      |      |      |      |     |     |     |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|
| 3.0 | 3.8 | 8.4 | 9.5 | 9.7 | 13.3 | 14.7 | 14.7 | 10.8 | 5.3 | 3.7 | 3.1 |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 915. ACRE-FEET

Consumptive Uses of Fort Mohave Indian Reservation, California

| YEAR   | JAN  | FEB  | MAR   | APR   | MAY   | JUN   | JUL             | AUG   | SEP   | OCT   | NOV   | DEC  | TOTAL  |
|--|------|------|-------|-------|-------|-------|-----------------|-------|-------|-------|-------|------|--------|
| 1935   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1936   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1937   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1938   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1939   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1940   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1941   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1942   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1943   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1944   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1945   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1946   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1947   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1948   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1949   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1950   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1951   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1952   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1953   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1954   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1955   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1956   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1957   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1958   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1959   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1960   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1961   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1962   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1963   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1964   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1965   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1966   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1967   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1968   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1969   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1970   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1971   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1972   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1973   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1974   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.    | 0.   | 0.     |
| 1975   | 0.   | 0.   | 0.    | 0.    | 7.    | 148.  | 121.            | 185.  | 128.  | 50.   | 6.    | 18.  | 661.   |
| 1976   | 390. | 252. | 711.  | 1154. | 1041. | 2231. | 2848.           | 2585. | 1274. | 560.  | 505.  | 249. | 13800. |
| 1977   | 0.   | 0.   | 0.    | 3086. | 992.  | 1702. | 813.            | 1413. | 1432. | 874.  | 1356. | 932. | 12600. |
| 1978   | 211. | 180. | 1050. | 1374. | 1069. | 1302. | 2514.           | 2205. | 1322. | 864.  | 554.  | 181. | 12608. |
| 1979   | 379. | 536. | 799.  | 1761. | 1142. | 1318. | 1318.           | 1832. | 1347. | 708.  | 530.  | 307. | 11772. |
| 1980   | 348. | 472. | 1184. | 2346. | 2214. | 2393. | 3031.           | 2885. | 1860. | 1025. | 663.  | 461. | 18882. |
| 1981   | 287. | 332. | 716.  | 2133. | 1891. | 1972. | 2883.           | 3109. | 2789. | 1591. | 1412. | 233. | 19128. |
| 1982   | 267. | 332. | 716.  | 2133. | 1691. | 1972. | 2883.           | 3109. | 2789. | 1591. | 1412. | 233. | 19128. |
| <b>AVERAGES</b>  |      |      |       |       |       |       |                 |       |       |       |       |      |        |
|  | 39.  | 44.  | 108.  | 291.  | 208.  | 272.  | 342.            | 356.  | 270.  | 147.  | 134.  | 54.  | 2262.  |
| <b>MONTHLY PERCENTAGES</b>                               |      |      |       |       |       |       |                 |       |       |       |       |      |        |
|  | 1.7  | 1.9  | 4.8   | 12.9  | 9.1   | 12.0  | 15.1            | 15.8  | 11.9  | 6.5   | 5.9   | 2.4  |        |
| THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS |      |      |       |       |       |       | 2262. ACRE-FEET |       |       |       |       |      |        |

Davis Dam to Parker Dam  
Flow Model

Consumptive Use of Fort Mohave Indian Reservation, Arizona

| YEAR   | JAN  | FEB   | MAR   | APR   | MAY   | JUN   | JUL             | AUG    | SEP   | OCT   | NOV   | DEC   | TOTAL  |
|--|------|-------|-------|-------|-------|-------|-----------------|--------|-------|-------|-------|-------|--------|
| 1935   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1936   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1937   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1938   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1939   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1940   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1941   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1942   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1943   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1944   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1945   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1946   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1947   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1948   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1949   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1950   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1951   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1952   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1953   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1954   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1955   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1956   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1957   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1958   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1959   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1960   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1961   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1962   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1963   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1964   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1965   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1966   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1967   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1968   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1969   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1970   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1971   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1972   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1973   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1974   | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.     | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1975   | 7.   | 19.   | 128.  | 273.  | 197.  | 437.  | 363.            | 558.   | 381.  | 148.  | 17.   | 54.   | 2580.  |
| 1976   | 125. | 28.   | 443.  | 338.  | 783.  | 641.  | 799.            | 1097.  | 1254. | 477.  | 584.  | 432.  | 7001.  |
| 1977   | 0.   | 0.    | 0.    | 4273. | 1374. | 2357. | 1126.           | 1957.  | 1983. | 1211. | 1877. | 1291. | 17449. |
| 1978   | 338. | 288.  | 1682. | 2200. | 1712. | 2085. | 4027.           | 3531.  | 2117. | 1063. | 887.  | 258.  | 20188. |
| 1979   | 552. | 738.  | 1101. | 2426. | 1573. | 1812. | 1816.           | 2248.  | 1855. | 973.  | 730.  | 422.  | 18246. |
| 1980   | 508. | 1795. | 5268. | 8485. | 5330. | 9321. | 11193.          | 10701. | 6899. | 2950. | 1138. | 888.  | 64476. |
| 1981   | 267. | 332.  | 718.  | 2133. | 1691. | 1972. | 2883.           | 3109.  | 2789. | 1591. | 1412. | 233.  | 19128. |
| 1982   | 267. | 332.  | 716.  | 2133. | 1691. | 1972. | 2883.           | 3109.  | 2789. | 1591. | 1412. | 233.  | 19128. |
| <b>AVERAGES</b>  | 43.  | 74.   | 209.  | 464.  | 299.  | 429.  | 523.            | 548.   | 418.  | 208.  | 188.  | 79.   | 3462.  |
| <b>MONTHLY PERCENTAGES</b>                               | 1.2  | 2.1   | 6.0   | 13.4  | 8.6   | 12.4  | 15.1            | 15.3   | 12.1  | 6.0   | 4.8   | 2.3   |        |
| THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS |      |       |       |       |       |       | 3462. ACRE-FEET |        |       |       |       |       |        |

Davis Dam to Parker Dam  
Flow Model

Consumptive Uses of Mohave Valley Irrigation District

| YEAR   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL             | AUG   | SEP   | OCT   | NOV  | DEC   | TOTAL  |
|--|-------|-------|-------|-------|-------|-------|-----------------|-------|-------|-------|------|-------|--------|
| 1935   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1936   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1937   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1938   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1939   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1940   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1941   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1942   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1943   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1944   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1945   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1946   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1947   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1948   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1949   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1950   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1951   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1952   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1953   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1954   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1955   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1956   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1957   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1958   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1959   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1960   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1961   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1962   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1963   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.              | 0.    | 0.    | 0.    | 0.   | 0.    | 0.     |
| 1964   | 737.  | 1157. | 1337. | 1313. | 1388. | 1570. | 1738.           | 1860. | 1323. | 885.  | 545. | 521.  | 14072. |
| 1965   | 368.  | 892.  | 1184. | 838.  | 1158. | 1446. | 1688.           | 1632. | 1352. | 786.  | 498. | 248.  | 12091. |
| 1966   | 146.  | 822.  | 1090. | 1140. | 1170. | 1311. | 1504.           | 1417. | 1231. | 581.  | 584. | 515.  | 11311. |
| 1967   | 496.  | 1076. | 1408. | 2026. | 2299. | 3136. | 2520.           | 1966. | 1818. | 985.  | 896. | 404.  | 19026. |
| 1968   | 581.  | 1127. | 1295. | 1925. | 1415. | 2059. | 2641.           | 1783. | 1856. | 1147. | 681. | 408.  | 16918. |
| 1969   | 466.  | 432.  | 763.  | 1567. | 1339. | 1460. | 1916.           | 1457. | 1810. | 737.  | 595. | 423.  | 12955. |
| 1970   | 513.  | 662.  | 478.  | 1711. | 1659. | 1572. | 1851.           | 1791. | 1696. | 1033. | 445. | 347.  | 13758. |
| 1971   | 418.  | 678.  | 903.  | 1669. | 1356. | 1417. | 1905.           | 1289. | 1209. | 934.  | 596. | 293.  | 12665. |
| 1972   | 316.  | 547.  | 728.  | 1350. | 1059. | 1822. | 2017.           | 1523. | 2660. | 886.  | 497. | 449.  | 13854. |
| 1973   | 247.  | 462.  | 1112. | 2138. | 2747. | 2534. | 2807.           | 2877. | 2322. | 1435. | 514. | 460.  | 19655. |
| 1974   | 482.  | 743.  | 1544. | 2556. | 2015. | 2136. | 1953.           | 2164. | 4600. | 2632. | 817. | 281.  | 21903. |
| 1975   | 99.   | 181.  | 892.  | 1919. | 1405. | 3080. | 2630.           | 4103. | 2930. | 1056. | 132. | 379.  | 18806. |
| 1976   | 413.  | 287.  | 752.  | 1221. | 1101. | 2360. | 3013.           | 2734. | 1346. | 592.  | 534. | 263.  | 14598. |
| 1977   | 247.  | 659.  | 1175. | 3236. | 2458. | 3287. | 5115.           | 4438. | 2436. | 722.  | 739. | 426.  | 24936. |
| 1978   | 188.  | 287.  | 790.  | 2112. | 2145. | 2858. | 3947.           | 3451. | 1931. | 698.  | 491. | 177.  | 19075. |
| 1979   | 501.  | 913.  | 1267. | 3356. | 2640. | 2982. | 3033.           | 2972. | 1561. | 1134. | 827. | 1375. | 22761. |
| 1980   | 487.  | 659.  | 1649. | 3266. | 3085. | 3337. | 4223.           | 3993. | 2620. | 1429. | 925. | 6450. | 32123. |
| 1981   | 1260. | 1287. | 2608. | 3152. | 3440. | 4152. | 3822.           | 6103. | 3006. | 1003. | 904. | 276.  | 31013. |
| 1982   | 454.  | 863.  | 2281. | 2926. | 3508. | 3943. | 3790.           | 4488. | 2794. | 1637. | 709. | 347.  | 27740. |
| <b>AVERAGES</b>  |       |       |       |       |       |       |                 |       |       |       |      |       |        |
|  | 175.  | 282.  | 484.  | 821.  | 783.  | 988.  | 1086.           | 1078. | 844.  | 423.  | 249. | 293.  | 7485.  |
| <b>MONTHLY PERCENTAGES</b>                               |       |       |       |       |       |       |                 |       |       |       |      |       |        |
|  | 2.3   | 3.8   | 6.8   | 11.0  | 10.5  | 12.9  | 14.5            | 14.4  | 11.3  | 5.7   | 3.3  | 3.9   |        |
| THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS |       |       |       |       |       |       | 7485. ACRE-Feet |       |       |       |      |       |        |

Davis Dam to Parker Dam  
Flow Model

Consumptive Uses of the City of Needles and San Bernardino County

| YEAR | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | OCT  | NOV  | DEC  | TOTAL |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1935 | 67.  | 89.  | 89.  | 111. | 222. | 245. | 378. | 445. | 287. | 158. | 89.  | 87.  | 2228. |
| 1936 | 68.  | 90.  | 90.  | 113. | 226. | 249. | 385. | 452. | 271. | 158. | 90.  | 88.  | 2260. |
| 1937 | 68.  | 92.  | 92.  | 118. | 230. | 253. | 391. | 460. | 276. | 161. | 92.  | 69.  | 2300. |
| 1938 | 70.  | 94.  | 94.  | 117. | 234. | 257. | 398. | 468. | 281. | 164. | 94.  | 70.  | 2341. |
| 1939 | 71.  | 95.  | 95.  | 119. | 238. | 262. | 405. | 476. | 286. | 167. | 95.  | 71.  | 2380. |
| 1940 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1941 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1942 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1943 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1944 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1945 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1946 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1947 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1948 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1949 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1950 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1951 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1952 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1953 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1954 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1955 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1956 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1957 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1958 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1959 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1960 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1961 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1962 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1963 | 73.  | 97.  | 97.  | 121. | 242. | 266. | 411. | 484. | 290. | 169. | 97.  | 73.  | 2420. |
| 1964 | 125. | 115. | 123. | 174. | 277. | 295. | 389. | 355. | 269. | 218. | 101. | 86.  | 2527. |
| 1965 | 71.  | 78.  | 85.  | 108. | 208. | 261. | 384. | 356. | 246. | 163. | 83.  | 60.  | 2113. |
| 1966 | 29.  | 27.  | 10.  | 70.  | 145. | 201. | 270. | 314. | 198. | 68.  | 57.  | 55.  | 1444. |
| 1967 | 66.  | 72.  | 102. | 100. | 199. | 202. | 422. | 734. | 308. | 192. | 103. | 69.  | 2569. |
| 1968 | 94.  | 101. | 216. | 169. | 257. | 273. | 319. | 312. | 214. | 170. | 101. | 77.  | 2303. |
| 1969 | 84.  | 86.  | 153. | 209. | 307. | 410. | 472. | 515. | 337. | 207. | 142. | 105. | 3027. |
| 1970 | 54.  | 38.  | 68.  | 120. | 212. | 324. | 335. | 278. | 261. | 185. | 120. | 79.  | 2074. |
| 1971 | 92.  | 111. | 135. | 192. | 277. | 370. | 464. | 373. | 320. | 180. | 193. | 86.  | 2813. |
| 1972 | 95.  | 123. | 163. | 206. | 226. | 414. | 318. | 427. | 318. | 170. | 113. | 91.  | 2464. |
| 1973 | 90.  | 72.  | 81.  | 196. | 329. | 433. | 451. | 329. | 341. | 225. | 150. | 99.  | 2796. |
| 1974 | 73.  | 85.  | 137. | 215. | 292. | 394. | 426. | 359. | 298. | 198. | 127. | 85.  | 2689. |
| 1975 | 82.  | 74.  | 106. | 152. | 264. | 371. | 422. | 405. | 289. | 174. | 139. | 111. | 2589. |
| 1976 | 92.  | 89.  | 145. | 171. | 302. | 372. | 439. | 427. | 247. | 157. | 203. | 140. | 2780. |
| 1977 | 125. | 143. | 218. | 298. | 269. | 344. | 413. | 309. | 291. | 276. | 198. | 140. | 3024. |
| 1978 | 128. | 39.  | 107. | 138. | 182. | 284. | 319. | 292. | 286. | 168. | 116. | 90.  | 2149. |
| 1979 | 48.  | 54.  | 84.  | 148. | 165. | 283. | 339. | 297. | 279. | 211. | 101. | 69.  | 2052. |
| 1980 | 55.  | 66.  | 87.  | 131. | 219. | 319. | 345. | 309. | 278. | 174. | 112. | 103. | 2198. |
| 1981 | 74.  | 92.  | 91.  | 183. | 242. | 336. | 388. | 341. | 217. | 182. | 71.  | 134. | 2351. |
| 1982 | 74.  | 92.  | 91.  | 183. | 242. | 336. | 388. | 341. | 217. | 182. | 71.  | 134. | 2351. |

AVERAGES

|     |     |      |      |      |      |      |      |      |      |      |     |       |
|-----|-----|------|------|------|------|------|------|------|------|------|-----|-------|
| 76. | 91. | 104. | 138. | 241. | 284. | 399. | 437. | 282. | 174. | 106. | 81. | 2415. |
|-----|-----|------|------|------|------|------|------|------|------|------|-----|-------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |      |     |     |     |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| 3.1 | 3.7 | 4.3 | 5.7 | 10.0 | 11.8 | 16.5 | 18.1 | 11.7 | 7.2 | 4.4 | 3.4 |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 2415. ACRE-FEET

Davis Dam to Parker Dam  
Flow Model

Consumptive Use of the Lake Havasu Irrigation and Drainage District

| YEAR | JAN  | FEB  | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP  | OCT  | NOV  | DEC  | TOTAL |
|------|------|------|------|------|------|-------|-------|-------|------|------|------|------|-------|
| 1935 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1936 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1937 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1938 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1939 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1940 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1941 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1942 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1943 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1944 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1945 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1946 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1947 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1948 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1949 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1950 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1951 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1952 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1953 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1954 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1955 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1956 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1957 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1958 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1959 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1960 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1961 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1962 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1963 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1964 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1965 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1966 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1967 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1968 | 0.   | 0.   | 0.   | 0.   | 0.   | 0.    | 0.    | 0.    | 0.   | 0.   | 0.   | 0.   | 0.    |
| 1969 | 128. | 124. | 215. | 208. | 229. | 282.  | 305.  | 350.  | 320. | 282. | 183. | 186. | 2792. |
| 1970 | 167. | 154. | 198. | 263. | 334. | 395.  | 413.  | 395.  | 362. | 299. | 219. | 166. | 3365. |
| 1971 | 133. | 212. | 260. | 323. | 319. | 330.  | 497.  | 419.  | 437. | 357. | 280. | 202. | 3789. |
| 1972 | 216. | 228. | 388. | 345. | 422. | 488.  | 637.  | 645.  | 568. | 358. | 321. | 302. | 4918. |
| 1973 | 240. | 207. | 269. | 349. | 503. | 532.  | 699.  | 478.  | 584. | 480. | 387. | 342. | 5070. |
| 1974 | 264. | 354. | 420. | 498. | 646. | 686.  | 722.  | 767.  | 717. | 643. | 478. | 496. | 6701. |
| 1975 | 383. | 328. | 478. | 505. | 673. | 788.  | 896.  | 889.  | 761. | 632. | 500. | 433. | 7267. |
| 1976 | 422. | 395. | 495. | 575. | 753. | 886.  | 878.  | 859.  | 611. | 578. | 482. | 393. | 7327. |
| 1977 | 340. | 370. | 450. | 557. | 951. | 992.  | 867.  | 814.  | 734. | 508. | 506. | 435. | 7524. |
| 1978 | 324. | 332. | 449. | 575. | 716. | 874.  | 922.  | 1079. | 797. | 743. | 522. | 438. | 7771. |
| 1979 | 405. | 401. | 478. | 787. | 847. | 968.  | 1029. | 970.  | 920. | 870. | 535. | 478. | 8684. |
| 1980 | 397. | 371. | 501. | 675. | 849. | 959.  | 1080. | 1132. | 962. | 868. | 657. | 530. | 8981. |
| 1981 | 485. | 404. | 505. | 683. | 856. | 1005. | 1091. | 1087. | 932. | 750. | 619. | 499. | 8918. |
| 1982 | 464. | 425. | 483. | 617. | 798. | 838.  | 942.  | 916.  | 898. | 778. | 509. | 383. | 8048. |

**AVERAGES**

|     |     |      |      |      |      |      |      |      |      |      |      |       |
|-----|-----|------|------|------|------|------|------|------|------|------|------|-------|
| 91. | 90. | 116. | 145. | 185. | 209. | 229. | 225. | 300. | 170. | 129. | 110. | 1899. |
|-----|-----|------|------|------|------|------|------|------|------|------|------|-------|

**MONTHLY PERCENTAGES**

|     |     |     |     |     |      |      |      |      |     |     |     |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|
| 4.6 | 4.7 | 6.1 | 7.6 | 9.8 | 11.0 | 12.0 | 11.9 | 10.5 | 8.9 | 6.8 | 5.8 |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 1899. ACRE-FEET

Davis Dam to Parker Dam  
Flow Model

Water Pumped from Lake Havasu by the Metropolitan Water District of  
Southern California

| YEAR | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1935 | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1936 | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1937 | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1938 | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1939 | 5940.   | 24340.  | 6930.   | 7000.   | 11100.  | 11840.  | 12160.  | 25730.  | 16580.  | 13030.  | 24680.  | 13170.  | 172500.  |
| 1940 | 13470.  | 1770.   | 23050.  | 7960.   | 10590.  | 11530.  | 13460.  | 6270.   | 12730.  | 14260.  | 11100.  | 0.      | 95710.   |
| 1941 | 4790.   | 163.    | 2290.   | 3690.   | 2670.   | 3900.   | 1270.   | 3480.   | 4850.   | 395.    | 1700.   | 1500.   | 30698.   |
| 1942 | 2930.   | 26.     | 0.      | 2820.   | 4050.   | 0.      | 0.      | 0.      | 0.      | 13620.  | 7690.   | 0.      | 31136.   |
| 1943 | 2730.   | 0.      | 350.    | 3820.   | 7920.   | 11380.  | 1770.   | 1920.   | 1180.   | 1510.   | 2050.   | 0.      | 34630.   |
| 1944 | 2210.   | 4590.   | 9760.   | 0.      | 1280.   | 2030.   | 1160.   | 7310.   | 5440.   | 5257.   | 5918.   | 6678.   | 51633.   |
| 1945 | 0.      | 1910.   | 0.      | 8449.   | 9331.   | 3493.   | 1195.   | 13668.  | 9718.   | 8601.   | 1977.   | 0.      | 58342.   |
| 1946 | 3128.   | 3375.   | 4568.   | 1689.   | 12652.  | 10556.  | 1141.   | 0.      | 17410.  | 25871.  | 5.      | 0.      | 80395.   |
| 1947 | 0.      | 0.      | 443.    | 4727.   | 14992.  | 25066.  | 18327.  | 0.      | 0.      | 7361.   | 2446.   | 11994.  | 85356.   |
| 1948 | 10834.  | 12949.  | 12565.  | 25912.  | 26314.  | 17234.  | 13355.  | 14178.  | 25416.  | 10850.  | 11181.  | 13457.  | 194245.  |
| 1949 | 12740.  | 12260.  | 12750.  | 14550.  | 13350.  | 17140.  | 14196.  | 13950.  | 25830.  | 10850.  | 11181.  | 13457.  | 172254.  |
| 1950 | 12960.  | 12190.  | 13470.  | 12930.  | 23770.  | 11510.  | 22700.  | 18520.  | 13270.  | 14030.  | 11050.  | 13040.  | 179440.  |
| 1951 | 13450.  | 11040.  | 13780.  | 20410.  | 12700.  | 25070.  | 26010.  | 24680.  | 25060.  | 23000.  | 23400.  | 12770.  | 231370.  |
| 1952 | 12990.  | 12310.  | 12990.  | 12760.  | 17080.  | 14210.  | 12970.  | 12950.  | 24320.  | 18920.  | 13610.  | 9940.   | 175050.  |
| 1953 | 0.      | 5443.   | 21004.  | 26422.  | 23533.  | 13278.  | 22916.  | 33521.  | 34281.  | 24714.  | 9934.   | 13271.  | 228317.  |
| 1954 | 11729.  | 11792.  | 24132.  | 22251.  | 31165.  | 23447.  | 36405.  | 37099.  | 35733.  | 34926.  | 35471.  | 37006.  | 341156.  |
| 1955 | 25284.  | 29993.  | 39166.  | 34698.  | 34163.  | 37731.  | 32794.  | 36123.  | 35521.  | 39466.  | 35824.  | 36317.  | 417080.  |
| 1956 | 29887.  | 34387.  | 35208.  | 37284.  | 33028.  | 35758.  | 36754.  | 44916.  | 47620.  | 49699.  | 47451.  | 49501.  | 481493.  |
| 1957 | 48151.  | 41801.  | 51016.  | 43540.  | 57852.  | 56334.  | 56479.  | 55970.  | 49094.  | 53928.  | 52325.  | 27493.  | 593983.  |
| 1958 | 26412.  | 40709.  | 49888.  | 32841.  | 49851.  | 50798.  | 54812.  | 54794.  | 47128.  | 49270.  | 42322.  | 41344.  | 540169.  |
| 1959 | 53733.  | 23619.  | 55470.  | 59052.  | 87051.  | 67669.  | 67382.  | 70121.  | 63688.  | 71149.  | 62460.  | 46544.  | 707938.  |
| 1960 | 68154.  | 47581.  | 60562.  | 64941.  | 74887.  | 82499.  | 86415.  | 94100.  | 91908.  | 96764.  | 76383.  | 49996.  | 894190.  |
| 1961 | 84755.  | 76564.  | 99228.  | 97445.  | 101169. | 95881.  | 97513.  | 97820.  | 95074.  | 97387.  | 76452.  | 83401.  | 1102689. |
| 1962 | 94714.  | 46226.  | 53614.  | 89616.  | 101010. | 97046.  | 101190. | 101115. | 97606.  | 98269.  | 95989.  | 97018.  | 1073413. |
| 1963 | 100964. | 90025.  | 66790.  | 78638.  | 82415.  | 87906.  | 90754.  | 98853.  | 98123.  | 97086.  | 85765.  | 79813.  | 1057132. |
| 1964 | 78433.  | 72460.  | 99990.  | 81775.  | 105140. | 100585. | 102248. | 99348.  | 98626.  | 102192. | 95522.  | 100379. | 1136698. |
| 1965 | 97865.  | 71897.  | 104794. | 101933. | 105210. | 102214. | 97093.  | 105875. | 100009. | 103293. | 99735.  | 88140.  | 1178058. |
| 1966 | 50927.  | 63034.  | 87617.  | 102996. | 108484. | 104709. | 107531. | 107334. | 102440. | 105383. | 100425. | 105302. | 1146182. |
| 1967 | 105239. | 88851.  | 79701.  | 89372.  | 98583.  | 99547.  | 104662. | 108196. | 103966. | 96660.  | 102670. | 46986.  | 1122633. |
| 1968 | 72145.  | 75238.  | 84793.  | 98120.  | 109134. | 105766. | 106222. | 108524. | 104251. | 106937. | 102418. | 107979. | 1181527. |
| 1969 | 103975. | 92268.  | 65376.  | 69958.  | 89539.  | 82628.  | 110705. | 110091. | 102157. | 101461. | 97550.  | 102967. | 1128575. |
| 1970 | 78502.  | 97871.  | 92515.  | 104883. | 109970. | 106837. | 109301. | 105789. | 102971. | 106762. | 94618.  | 90334.  | 1200353. |
| 1971 | 97884.  | 82481.  | 102276. | 104432. | 107971. | 104139. | 107793. | 107045. | 103799. | 107763. | 103620. | 82797.  | 1212000. |
| 1972 | 107209. | 100147. | 107934. | 96414.  | 109117. | 103494. | 115473. | 113836. | 103483. | 108418. | 97993.  | 61499.  | 1225017. |
| 1973 | 107544. | 67258.  | 57922.  | 94058.  | 108179. | 104851. | 108332. | 107672. | 104473. | 107481. | 104236. | 98134.  | 1170140. |
| 1974 | 100044. | 45372.  | 104205. | 104377. | 108475. | 105016. | 107514. | 106908. | 102866. | 108309. | 94776.  | 82596.  | 1130458. |
| 1975 | 55795.  | 53754.  | 69170.  | 87583.  | 80662.  | 76268.  | 83067.  | 80958.  | 67045.  | 68411.  | 41371.  | 42673.  | 788757.  |
| 1976 | 48449.  | 52761.  | 67994.  | 68959.  | 77515.  | 79558.  | 94581.  | 94620.  | 72386.  | 52204.  | 40599.  | 51487.  | 801113.  |
| 1977 | 58431.  | 98068.  | 115097. | 110887. | 117090. | 113544. | 118530. | 114589. | 90263.  | 117878. | 114067. | 117439. | 1285883. |
| 1978 | 71983.  | 44810.  | 65119.  | 63744.  | 42779.  | 62910.  | 62007.  | 68643.  | 63446.  | 63532.  | 51849.  | 57213.  | 716035.  |
| 1979 | 48826.  | 39219.  | 51453.  | 74694.  | 86004.  | 81850.  | 81494.  | 81494.  | 60382.  | 68905.  | 66859.  | 68021.  | 809001.  |
| 1980 | 52435.  | 46645.  | 42867.  | 92762.  | 93945.  | 81424.  | 81551.  | 86939.  | 60114.  | 75394.  | 70434.  | 51500.  | 846010.  |
| 1981 | 62456.  | 46645.  | 57336.  | 78616.  | 97515.  | 84337.  | 93356.  | 73755.  | 78948.  | 66651.  | 48646.  | 42000.  | 830261.  |
| 1982 | 36416.  | 38107.  | 58146.  | 67100.  | 101709. | 97088.  | 92745.  | 87333.  | 33222.  | 34538.  | 31000.  | 39130.  | 716536.  |

AVERAGES

|        |        |        |        |        |        |        |        |        |        |        |        |         |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 42699. | 37884. | 45486. | 49709. | 55811. | 54372. | 56407. | 56959. | 52759. | 53800. | 47224. | 43839. | 596949. |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 7.2 | 6.3 | 7.6 | 8.3 | 9.3 | 9.1 | 9.4 | 9.5 | 8.8 | 9.0 | 7.9 | 7.3 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 596949. ACRE-FEET



Davis Dam to Parker Dam  
Flow Model

Consumptive Uses Before the 1964 Decree

| YEAR | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP  | OCT  | NOV   | DEC   | TOTAL  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|--------|
| 1935 | 143.  | 176.  | 210.  | 253.  | 270.  | 298.  | 436.  | 499.  | 311. | 192. | 184.  | 144.  | 3116.  |
| 1936 | 144.  | 177.  | 211.  | 255.  | 274.  | 302.  | 443.  | 506.  | 315. | 194. | 185.  | 145.  | 3151.  |
| 1937 | 145.  | 179.  | 213.  | 257.  | 278.  | 306.  | 449.  | 514.  | 320. | 197. | 187.  | 146.  | 3191.  |
| 1938 | 147.  | 181.  | 216.  | 260.  | 282.  | 311.  | 457.  | 522.  | 325. | 201. | 190.  | 148.  | 3240.  |
| 1939 | 148.  | 182.  | 217.  | 262.  | 286.  | 316.  | 464.  | 530.  | 330. | 204. | 191.  | 149.  | 3279.  |
| 1940 | 145.  | 179.  | 211.  | 255.  | 287.  | 316.  | 466.  | 535.  | 331. | 203. | 187.  | 146.  | 3261.  |
| 1941 | 139.  | 172.  | 201.  | 243.  | 283.  | 312.  | 461.  | 530.  | 328. | 200. | 179.  | 139.  | 3187.  |
| 1942 | 139.  | 172.  | 201.  | 243.  | 283.  | 312.  | 461.  | 530.  | 328. | 200. | 179.  | 139.  | 3187.  |
| 1943 | 161.  | 197.  | 236.  | 285.  | 297.  | 327.  | 478.  | 546.  | 340. | 211. | 206.  | 162.  | 3446.  |
| 1944 | 161.  | 197.  | 236.  | 285.  | 297.  | 327.  | 478.  | 546.  | 340. | 211. | 206.  | 162.  | 3446.  |
| 1945 | 161.  | 197.  | 236.  | 285.  | 297.  | 327.  | 478.  | 546.  | 340. | 211. | 206.  | 162.  | 3446.  |
| 1946 | 113.  | 143.  | 161.  | 196.  | 267.  | 294.  | 442.  | 512.  | 313. | 188. | 147.  | 114.  | 2890.  |
| 1947 | 101.  | 129.  | 142.  | 174.  | 260.  | 286.  | 433.  | 504.  | 306. | 182. | 132.  | 101.  | 2750.  |
| 1948 | 117.  | 147.  | 167.  | 204.  | 270.  | 297.  | 445.  | 515.  | 315. | 190. | 152.  | 118.  | 2937.  |
| 1949 | 139.  | 173.  | 202.  | 245.  | 284.  | 312.  | 462.  | 531.  | 328. | 201. | 180.  | 140.  | 3197.  |
| 1950 | 153.  | 189.  | 225.  | 271.  | 293.  | 322.  | 473.  | 541.  | 336. | 208. | 197.  | 154.  | 3362.  |
| 1951 | 194.  | 234.  | 289.  | 346.  | 318.  | 350.  | 504.  | 569.  | 359. | 227. | 247.  | 195.  | 3832.  |
| 1952 | 210.  | 253.  | 314.  | 376.  | 328.  | 362.  | 516.  | 580.  | 369. | 234. | 267.  | 211.  | 4020.  |
| 1953 | 724.  | 838.  | 1132. | 1337. | 653.  | 722.  | 911.  | 943.  | 665. | 481. | 908.  | 732.  | 10046. |
| 1954 | 608.  | 706.  | 946.  | 1120. | 579.  | 640.  | 821.  | 861.  | 598. | 425. | 763.  | 614.  | 8681.  |
| 1955 | 1281. | 1472. | 2016. | 2377. | 1004. | 1112. | 1338. | 1336. | 988. | 748. | 1602. | 1296. | 16568. |
| 1956 | 1280. | 1472. | 2015. | 2376. | 1004. | 1111. | 1337. | 1336. | 985. | 747. | 1601. | 1295. | 16559. |
| 1957 | 1280. | 1472. | 2015. | 2376. | 1004. | 1111. | 1337. | 1336. | 985. | 747. | 1601. | 1295. | 16559. |
| 1958 | 1280. | 1472. | 2015. | 2376. | 1004. | 1111. | 1337. | 1336. | 985. | 747. | 1601. | 1295. | 16559. |
| 1959 | 1280. | 1472. | 2015. | 2376. | 1004. | 1111. | 1337. | 1336. | 985. | 747. | 1601. | 1295. | 16559. |
| 1960 | 1280. | 1472. | 2015. | 2376. | 1004. | 1111. | 1337. | 1336. | 985. | 747. | 1601. | 1295. | 16559. |
| 1961 | 1280. | 1472. | 2015. | 2376. | 1004. | 1111. | 1337. | 1336. | 985. | 747. | 1601. | 1295. | 16559. |
| 1962 | 1280. | 1472. | 2015. | 2376. | 1004. | 1111. | 1337. | 1336. | 985. | 747. | 1601. | 1295. | 16559. |
| 1963 | 1280. | 1472. | 2015. | 2376. | 1004. | 1111. | 1337. | 1336. | 985. | 747. | 1601. | 1295. | 16559. |
| 1964 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1965 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1966 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1967 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1968 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1969 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1970 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1971 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1972 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1973 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1974 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1975 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1976 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1977 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1978 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1979 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1980 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1981 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |
| 1982 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.   | 0.   | 0.    | 0.    | 0.     |

AVERAGES

323.    376.    502.    595.    321.    355.    461.    487.    335.    235.    406.    327.    4723.

MONTHLY PERCENTAGES

6.8    8.0    10.6    12.6    6.8    7.5    9.8    10.3    7.1    5.0    8.6    6.9

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 4723. ACRE-FEET

Davis Dam to Parker Dam  
Flow Model

Phreatophyte Consumptive Use

| YEAR | JAN   | FEB   | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    | OCT    | NOV    | DEC   | TOTAL   |
|------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|
| 1935 | 3332. | 3651. | 6296.  | 13818. | 25970. | 39690. | 45815. | 41650. | 29890. | 20384. | 9800.  | 4704. | 245000. |
| 1936 | 3366. | 3688. | 6361.  | 13959. | 26235. | 40095. | 46283. | 42075. | 30195. | 20592. | 9900.  | 4752. | 247501. |
| 1937 | 3427. | 3755. | 6476.  | 14213. | 26712. | 40824. | 47124. | 42840. | 30744. | 20966. | 10080. | 4838. | 251999. |
| 1938 | 3461. | 3792. | 6541.  | 14354. | 26977. | 41229. | 47592. | 43265. | 31049. | 21174. | 10180. | 4886. | 254500. |
| 1939 | 3495. | 3829. | 6605.  | 14495. | 27242. | 41634. | 48059. | 43690. | 31354. | 21382. | 10280. | 4934. | 256999. |
| 1940 | 3522. | 3859. | 6656.  | 14608. | 27454. | 41958. | 48433. | 44030. | 31598. | 21549. | 10360. | 4973. | 259000. |
| 1941 | 3570. | 3911. | 6746.  | 14805. | 27825. | 42525. | 49088. | 44625. | 32025. | 21840. | 10500. | 5040. | 262500. |
| 1942 | 3597. | 3941. | 6798.  | 14918. | 28037. | 42849. | 49462. | 44965. | 32269. | 22006. | 10580. | 5078. | 264500. |
| 1943 | 3624. | 3971. | 6849.  | 15031. | 28249. | 43173. | 49836. | 45305. | 32513. | 22173. | 10660. | 5117. | 266501. |
| 1944 | 3641. | 3989. | 6881.  | 15101. | 28382. | 43376. | 50069. | 45518. | 32666. | 22277. | 10710. | 5141. | 267751. |
| 1945 | 2682. | 5364. | 10729. | 18775. | 29504. | 42915. | 50962. | 45597. | 32186. | 18775. | 8047.  | 2682. | 268218. |
| 1946 | 2685. | 5369. | 10739. | 18793. | 29532. | 42955. | 51009. | 45640. | 32217. | 18793. | 8054.  | 2685. | 268471. |
| 1947 | 2687. | 5374. | 10749. | 18811. | 29559. | 42996. | 51057. | 45683. | 32247. | 18811. | 8062.  | 2687. | 268723. |
| 1948 | 2690. | 5379. | 10759. | 18828. | 29587. | 43036. | 51105. | 45725. | 32277. | 18828. | 8069.  | 2690. | 268973. |
| 1949 | 2692. | 5384. | 10769. | 18846. | 29615. | 43076. | 51152. | 45768. | 32307. | 18846. | 8077.  | 2692. | 269224. |
| 1950 | 2695. | 5389. | 10779. | 18863. | 29642. | 43116. | 51200. | 45811. | 32337. | 18863. | 8084.  | 2695. | 269474. |
| 1951 | 2697. | 5395. | 10789. | 18881. | 29670. | 43156. | 51248. | 45853. | 32367. | 18881. | 8092.  | 2697. | 269726. |
| 1952 | 2700. | 5400. | 10799. | 18898. | 29697. | 43196. | 51295. | 45896. | 32397. | 18898. | 8099.  | 2700. | 269975. |
| 1953 | 2702. | 5405. | 10809. | 18916. | 29725. | 43236. | 51343. | 45938. | 32427. | 18916. | 8107.  | 2702. | 270226. |
| 1954 | 2705. | 5410. | 10819. | 18933. | 29752. | 43276. | 51391. | 45981. | 32457. | 18933. | 8114.  | 2705. | 270476. |
| 1955 | 2707. | 5415. | 10829. | 18951. | 29780. | 43316. | 51438. | 46024. | 32487. | 18951. | 8122.  | 2707. | 270727. |
| 1956 | 2710. | 5420. | 10839. | 18969. | 29808. | 43357. | 51486. | 46066. | 32517. | 18969. | 8129.  | 2710. | 270980. |
| 1957 | 2712. | 5425. | 10849. | 18986. | 29835. | 43397. | 51534. | 46109. | 32548. | 18986. | 8137.  | 2712. | 271230. |
| 1958 | 2715. | 5430. | 10859. | 19004. | 29863. | 43437. | 51581. | 46152. | 32578. | 19004. | 8144.  | 2715. | 271482. |
| 1959 | 2717. | 5435. | 10869. | 19021. | 29890. | 43477. | 51629. | 46194. | 32608. | 19021. | 8152.  | 2717. | 271730. |
| 1960 | 2288. | 4442. | 12382. | 19256. | 30610. | 47243. | 51452. | 44068. | 31875. | 17405. | 7515.  | 3446. | 271982. |
| 1961 | 2939. | 5437. | 10384. | 18125. | 28297. | 44386. | 48604. | 41214. | 26863. | 18648. | 6555.  | 3223. | 252675. |
| 1962 | 2490. | 4846. | 8318.  | 20506. | 25151. | 37901. | 45784. | 42544. | 29512. | 16668. | 8361.  | 3762. | 245843. |
| 1963 | 2083. | 5676. | 9350.  | 13861. | 28348. | 32237. | 44184. | 37455. | 28357. | 17050. | 6764.  | 3100. | 229185. |
| 1964 | 2015. | 3721. | 7993.  | 13772. | 23718. | 33455. | 42001. | 36027. | 25537. | 17816. | 5528.  | 3251. | 214834. |
| 1965 | 2461. | 4336. | 7993.  | 13311. | 22881. | 29370. | 39298. | 35430. | 22134. | 15698. | 6847.  | 2764. | 202323. |
| 1966 | 1859. | 3273. | 8825.  | 15499. | 24731. | 32912. | 37902. | 34250. | 24421. | 13170. | 6339.  | 2955. | 206136. |
| 1967 | 2085. | 4115. | 8678.  | 10112. | 21756. | 28194. | 37454. | 33529. | 21864. | 14001. | 6760.  | 2242. | 190790. |
| 1968 | 1989. | 4425. | 8287.  | 11922. | 21150. | 29823. | 33291. | 27705. | 21522. | 12323. | 5475.  | 2097. | 180009. |
| 1969 | 2137. | 3019. | 6547.  | 12253. | 21475. | 25960. | 32346. | 31384. | 21426. | 10279. | 5190.  | 2623. | 174639. |
| 1970 | 1677. | 3667. | 6352.  | 9332.  | 19619. | 26797. | 32216. | 27987. | 18038. | 9895.  | 4920.  | 2083. | 162582. |
| 1971 | 1806. | 3090. | 6481.  | 9624.  | 15236. | 23424. | 29672. | 23815. | 17735. | 8598.  | 4025.  | 1858. | 145164. |
| 1972 | 1401. | 3114. | 8101.  | 10263. | 16466. | 23333. | 28122. | 22590. | 16118. | 8179.  | 3375.  | 1649. | 142711. |
| 1973 | 1194. | 2444. | 4182.  | 8351.  | 16279. | 22503. | 25187. | 21045. | 14673. | 8816.  | 3620.  | 1995. | 130289. |
| 1974 | 1156. | 2290. | 5371.  | 8031.  | 14338. | 21893. | 22124. | 19799. | 14962. | 8365.  | 3518.  | 1515. | 123162. |
| 1975 | 1117. | 1973. | 3961.  | 5711.  | 12123. | 17307. | 20902. | 18225. | 13434. | 7149.  | 3115.  | 1683. | 106700. |
| 1976 | 1168. | 2199. | 3932.  | 6203.  | 12482. | 16101. | 18834. | 15948. | 10927. | 6474.  | 3059.  | 1368. | 98695.  |
| 1977 | 1045. | 2270. | 3447.  | 7222.  | 9607.  | 17433. | 19689. | 16654. | 11637. | 7450.  | 3197.  | 1753. | 101404. |
| 1978 | 1085. | 1917. | 4480.  | 6117.  | 11209. | 17391. | 19780. | 16496. | 11309. | 7601.  | 2652.  | 1068. | 101105. |
| 1979 | 772.  | 1716. | 3857.  | 7039.  | 11406. | 16844. | 18790. | 15372. | 13443. | 7236.  | 2547.  | 1478. | 100500. |
| 1980 | 1220. | 2146. | 3753.  | 6792.  | 10190. | 16060. | 19734. | 16182. | 11878. | 6798.  | 3128.  | 1782. | 99663.  |
| 1981 | 1363. | 2243. | 4179.  | 8097.  | 11604. | 18380. | 19689. | 17578. | 11969. | 5867.  | 3209.  | 1558. | 105736. |
| 1982 | 1016. | 2173. | 3993.  | 6836.  | 11472. | 15057. | 18348. | 16260. | 10898. | 5867.  | 2547.  | 1220. | 95687.  |

AVERAGES

|       |       |       |        |        |        |        |        |        |        |       |       |         |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|---------|
| 2369. | 4040. | 7897. | 14098. | 23719. | 34585. | 40762. | 36207. | 25642. | 15566. | 6933. | 2926. | 214743. |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|---------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |      |     |     |     |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| 1.1 | 1.9 | 3.7 | 6.6 | 11.0 | 16.1 | 19.0 | 16.9 | 11.9 | 7.2 | 3.2 | 1.4 |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 214743. ACRE-FEET

Davis Dam to Parker Dam  
Flow Model

Change of Storage in Lake Havasu

| YEAR | JAN     | FEB     | MAR     | APR     | MAY      | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1935 | 0.      | 0.      | 0.      | 0.      | 0.       | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1936 | 0.      | 0.      | 0.      | 0.      | 0.       | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1937 | 0.      | 0.      | 0.      | 0.      | 0.       | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1938 | 0.      | 0.      | 0.      | 0.      | 0.       | 0.      | 29700.  | -3400.  | -1400.  | 167800. | 293400. | -4600.  | 481500.  |
| 1939 | 30600.  | -34400. | -10000. | 11400.  | -1600.   | 4000.   | 600.    | 0.      | 68700.  | -35700. | 2100.   | 1000.   | 36700.   |
| 1940 | -12300. | -5000.  | 16500.  | -20900. | 47500.   | -65300. | -6600.  | 5400.   | 2200.   | -55200. | 2300.   | -15800. | -107200. |
| 1941 | 3800.   | -8100.  | -12100. | -4800.  | -73900.  | 177000. | -37900. | -3400.  | -21000. | -8600.  | -10600. | -5100.  | -4700.   |
| 1942 | 600.    | 94000.  | -94200. | 41800.  | -331700. | -39900. | 99800.  | -57100. | 160000. | 290500. | 14700.  | -88700. | 89800.   |
| 1943 | 84100.  | 60200.  | 41400.  | -3400.  | 9400.    | -9900.  | -8100.  | -1600.  | -24400. | -17900. | -28500. | -18300. | 83000.   |
| 1944 | 6200.   | 18000.  | 6000.   | -18700. | 19500.   | 65200.  | 13400.  | -24400. | -37500. | -14500. | -34300. | 700.    | -400.    |
| 1945 | 3500.   | 700.    | 48000.  | 16600.  | 4800.    | 20000.  | -68300. | 47400.  | -7100.  | -18700. | -36600. | -12300. | -2000.   |
| 1946 | 16300.  | -4600.  | 69000.  | 19100.  | -21100.  | 31600.  | -18400. | -4800.  | -29000. | 33200.  | -21200. | -25800. | 44300.   |
| 1947 | 5100.   | -20800. | 43100.  | 9200.   | 28000.   | -5300.  | -1900.  | -20600. | -15400. | -26300. | 500.    | 500.    | -17200.  |
| 1948 | -4000.  | -6800.  | 15800.  | 61200.  | 12000.   | -9000.  | 1600.   | -36100. | -4600.  | -2100.  | -29400. | -5900.  | -7300.   |
| 1949 | -33300. | 13100.  | 31600.  | 52000.  | 22300.   | -18400. | 7800.   | -25500. | -31100. | 13800.  | -36300. | 75200.  | 71200.   |
| 1950 | -71600. | 50500.  | 16800.  | -2400.  | 18600.   | -5200.  | 11700.  | -94000. | -5500.  | 52600.  | -25800. | 1400.   | -52900.  |
| 1951 | 3700.   | 3900.   | -18000. | 58500.  | -11100.  | 34400.  | -23400. | -13600. | -39200. | 25600.  | -3400.  | 13800.  | 21200.   |
| 1952 | -55800. | 17800.  | 9500.   | 42700.  | 9000.    | 9900.   | -22800. | -32900. | -8100.  | -8100.  | -5800.  | -9000.  | -53600.  |
| 1953 | 2900.   | 23300.  | 12400.  | 39800.  | 11500.   | 4700.   | -26100. | -29200. | -2500.  | 10600.  | -25600. | 11200.  | 33000.   |
| 1954 | -2800.  | 1100.   | 23200.  | 26000.  | 22000.   | -11200. | -24600. | -17300. | -6400.  | -6400.  | -3800.  | -2900.  | -3100.   |
| 1955 | 2200.   | 2900.   | 12800.  | 43500.  | 11900.   | -17900. | -7600.  | -40200. | -700.   | -7700.  | 0.      | -6000.  | -6800.   |
| 1956 | -400.   | -13700. | 24200.  | 45900.  | -2700.   | 24600.  | -26500. | -5700.  | -25800. | -62100. | -7100.  | -9900.  | -59200.  |
| 1957 | 3200.   | 2100.   | 28100.  | 33100.  | -3000.   | -9800.  | -10600. | -13700. | -14900. | 8200.   | -31800. | 3600.   | -6500.   |
| 1958 | -20300. | 13300.  | 13900.  | 35600.  | 25300.   | 7600.   | -24900. | -15400. | -18700. | 7100.   | -16100. | 2500.   | 7900.    |
| 1959 | 0.      | 1300.   | 18100.  | 41100.  | -8400.   | -16600. | -12900. | -21300. | 7700.   | 4400.   | -6500.  | 600.    | 7500.    |
| 1960 | -15200. | 11700.  | -4700.  | 34300.  | 800.     | 10500.  | 4400.   | -30100. | -11300. | -800.   | -6700.  | 1800.   | -5300.   |
| 1961 | -3500.  | -10100. | 34500.  | 13100.  | 12000.   | -1000.  | -21600. | 3000.   | -5700.  | -16200. | 1500.   | -14200. | -8300.   |
| 1962 | 25100.  | -34100. | 26400.  | 49400.  | -9000.   | -8000.  | -12200. | -1300.  | -10300. | -10700. | -5200.  | -11700. | -1800.   |
| 1963 | 900.    | -22300. | 37400.  | 36200.  | 8200.    | -7200.  | -36700. | 9300.   | -22900. | 6100.   | -3200.  | -11000. | -5200.   |
| 1964 | 14700.  | -9900.  | 9000.   | 51400.  | 15200.   | -32000. | -7600.  | -20200. | -9100.  | 7700.   | -10200. | -4500.  | 4500.    |
| 1965 | 3400.   | -25200. | 17600.  | 15500.  | 48800.   | -10100. | -8000.  | -21100. | -9800.  | 6100.   | -9800.  | 10000.  | 17400.   |
| 1966 | -16000. | 4700.   | 14000.  | 33600.  | 8800.    | 2600.   | -16000. | -26800. | 3000.   | -8200.  | -11000. | -7000.  | -18300.  |
| 1967 | 9200.   | -13900. | 19400.  | 45500.  | 6600.    | 6800.   | -40700. | -9700.  | -1800.  | -12800. | 400.    | -3400.  | 5600.    |
| 1968 | 6800.   | -9500.  | 13500.  | 42600.  | 8600.    | 5600.   | -26300. | -19000. | -9900.  | -6000.  | -11100. | -1600.  | -6300.   |
| 1969 | -5300.  | 21100.  | 1300.   | 44000.  | 11000.   | -2800.  | -20700. | -13900. | -7400.  | -6000.  | -4000.  | -16100. | 1200.    |
| 1970 | 7400.   | -7700.  | 7700.   | 48300.  | 21800.   | -3800.  | -7800.  | -22900. | -25200. | -900.   | 4900.   | -14400. | 7400.    |
| 1971 | 400.    | 300.    | 17000.  | 33400.  | 14600.   | -2400.  | -11800. | -18600. | -4900.  | -11000. | -9800.  | -11700. | -4500.   |
| 1972 | 900.    | 8500.   | 18700.  | 28500.  | 19400.   | -10600. | -9800.  | -21400. | -12200. | -21800. | -8300.  | 6700.   | -1400.   |
| 1973 | 1800.   | -4500.  | 27300.  | 34400.  | 10000.   | -3600.  | -10400. | -21700. | -11700. | -8100.  | 400.    | -9800.  | 4100.    |
| 1974 | -8300.  | 15000.  | 18000.  | 37000.  | 3600.    | -1400.  | -24200. | -9300.  | -12400. | 8000.   | -22400. | -14800. | -11200.  |
| 1975 | 10100.  | 7600.   | 3100.   | 48100.  | 8600.    | -9600.  | -3800.  | -22500. | -1500.  | -14200. | -4600.  | -9000.  | 12300.   |
| 1976 | 3000.   | -7700.  | 17500.  | 34000.  | 19600.   | -12200. | -28500. | -11300. | 24400.  | -9400.  | -30000. | 26000.  | 25400.   |
| 1977 | -24000. | 7500.   | 17500.  | 27000.  | 14000.   | -6000.  | -15300. | -19700. | -1000.  | -5700.  | -6600.  | -7000.  | -21300.  |
| 1978 | 6100.   | 2300.   | 12400.  | 26500.  | 14200.   | 200.    | -21000. | -15500. | -3300.  | -10900. | 400.    | -11700. | -300.    |
| 1979 | -12500. | -4500.  | 6300.   | 7400.   | 35200.   | -15700. | -3800.  | 700.    | 7100.   | -8700.  | -200.   | -9000.  | 2300.    |
| 1980 | 11000.  | -61800. | 46100.  | 42900.  | -400.    | -4000.  | -17500. | -15900. | 7100.   | -800.   | -7100.  | 19200.  | 16800.   |
| 1981 | -13200. | -3600.  | 21500.  | 36200.  | 4400.    | 800.    | -35800. | -5600.  | -2400.  | -21600. | 7600.   | 22200.  | 10500.   |
| 1982 | 6100.   | 6800.   | -6400.  | 67900.  | 11400.   | -13000. | -18200. | -8400.  | -24500. | -8400.  | -5300.  | -11500. | 500.     |

AVERAGES

|       |       |        |        |       |      |         |         |        |       |        |        |        |
|-------|-------|--------|--------|-------|------|---------|---------|--------|-------|--------|--------|--------|
| -635. | 1656. | 13983. | 28427. | 1577. | 867. | -11402. | -15194. | -4175. | 4129. | -3446. | -3673. | 12115. |
|-------|-------|--------|--------|-------|------|---------|---------|--------|-------|--------|--------|--------|

MONTHLY PERCENTAGES

|      |      |       |       |      |     |       |        |       |      |       |       |
|------|------|-------|-------|------|-----|-------|--------|-------|------|-------|-------|
| -5.2 | 13.7 | 115.4 | 234.7 | 13.0 | 7.2 | -94.1 | -125.4 | -34.5 | 34.1 | -28.4 | -30.3 |
|------|------|-------|-------|------|-----|-------|--------|-------|------|-------|-------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 12115. ACRE-FEET

Davis Dam to Parker Dam  
Flow Model

Evaporation from Lake Havasu

| YEAR | JAN   | FEB   | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    | OCT    | NOV   | DEC   | TOTAL   |
|------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|---------|
| 1935 | 0.    | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.    | 0.      |
| 1936 | 0.    | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.    | 0.      |
| 1937 | 0.    | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.    | 0.      |
| 1938 | 0.    | 0.    | 0.     | 0.     | 0.     | 0.     | 6476.  | 5685.  | 4547.  | 7222.  | 6911. | 6017. | 36858.  |
| 1939 | 6408. | 6164. | 8132.  | 10459. | 13865. | 15988. | 15998. | 14450. | 12716. | 10005. | 7164. | 6276. | 127625. |
| 1940 | 6361. | 6324. | 8599.  | 10663. | 15010. | 15939. | 15828. | 14378. | 11667. | 9100.  | 6513. | 5619. | 126001. |
| 1941 | 5799. | 5758. | 7599.  | 9618.  | 12019. | 16190. | 15555. | 14002. | 11111. | 9079.  | 6424. | 5596. | 118750. |
| 1942 | 5759. | 6324. | 7678.  | 10138. | 8784.  | 8660.  | 11663. | 9188.  | 9768.  | 10756. | 7849. | 6115. | 102682. |
| 1943 | 7017. | 7714. | 11052. | 13960. | 18853. | 21264. | 20961. | 18879. | 14654. | 11715. | 8000. | 6811. | 160860. |
| 1944 | 7070. | 7265. | 9778.  | 12074. | 16521. | 21166. | 21881. | 18751. | 14246. | 11462. | 7771. | 6807. | 154592. |
| 1945 | 7037. | 7044. | 10124. | 13228. | 17710. | 21054. | 18789. | 18337. | 14666. | 11709. | 7898. | 6787. | 154383. |
| 1946 | 7152. | 7102. | 10587. | 13913. | 17804. | 21614. | 20917. | 18734. | 14435. | 12582. | 8664. | 7264. | 160758. |
| 1947 | 7534. | 7288. | 10425. | 13459. | 18778. | 21358. | 21283. | 18540. | 14620. | 11531. | 8073. | 7069. | 159956. |
| 1948 | 7226. | 7152. | 9771.  | 13753. | 18687. | 21080. | 21140. | 17942. | 14414. | 11829. | 8061. | 6990. | 158015. |
| 1949 | 6848. | 6977. | 9757.  | 13513. | 18663. | 20742. | 21028. | 18173. | 13978. | 11771. | 7940. | 7859. | 157249. |
| 1950 | 7185. | 7795. | 10698. | 13539. | 18577. | 21132. | 21579. | 16664. | 13379. | 11975. | 8201. | 7192. | 157916. |
| 1951 | 7442. | 7488. | 9704.  | 13583. | 17694. | 21200. | 20351. | 17963. | 13654. | 11709. | 8318. | 7445. | 156551. |
| 1952 | 7017. | 7206. | 9751.  | 13289. | 17921. | 20935. | 20126. | 17223. | 13766. | 11196. | 7927. | 6844. | 153201. |
| 1953 | 7070. | 7326. | 9962.  | 13534. | 18337. | 21230. | 20285. | 17453. | 14072. | 11790. | 8084. | 7199. | 156342. |
| 1954 | 7372. | 7385. | 10225. | 13583. | 18754. | 21106. | 20222. | 17743. | 14214. | 11585. | 8225. | 7164. | 157578. |
| 1955 | 7394. | 7428. | 10112. | 13844. | 18778. | 20884. | 20608. | 17403. | 14072. | 11447. | 8177. | 7088. | 157235. |
| 1956 | 7286. | 7134. | 9876.  | 13550. | 17909. | 21475. | 20495. | 18331. | 14214. | 10654. | 7335. | 6506. | 154965. |
| 1957 | 6711. | 6730. | 9335.  | 12476. | 16488. | 18644. | 18347. | 16242. | 12874. | 10724. | 7337. | 6450. | 142358. |
| 1958 | 6466. | 6575. | 8927.  | 11926. | 16457. | 19123. | 18400. | 16246. | 12810. | 10654. | 7424. | 6518. | 141526. |
| 1959 | 6704. | 6716. | 9181.  | 12405. | 16259. | 18206. | 17869. | 15670. | 12819. | 10621. | 7519. | 6584. | 140553. |
| 1960 | 6636. | 6740. | 8930.  | 11908. | 15831. | 18464. | 18587. | 16062. | 12799. | 10529. | 7453. | 6537. | 140476. |
| 1961 | 6692. | 6603. | 9228.  | 11952. | 16159. | 18525. | 17943. | 16277. | 13069. | 10522. | 7531. | 6465. | 140966. |
| 1962 | 6882. | 6573. | 9077.  | 12409. | 16249. | 18430. | 18100. | 16317. | 13015. | 10560. | 7489. | 6452. | 141553. |
| 1963 | 6644. | 6459. | 9040.  | 12103. | 16274. | 18480. | 17527. | 16037. | 12583. | 10447. | 7430. | 6408. | 139432. |
| 1964 | 6720. | 6633. | 8950.  | 12248. | 16655. | 18206. | 18005. | 15807. | 12640. | 10518. | 7410. | 6446. | 140238. |
| 1965 | 6660. | 6450. | 8792.  | 11404. | 16249. | 18372. | 18155. | 15912. | 12709. | 10554. | 7439. | 6598. | 139294. |
| 1966 | 6642. | 6684. | 9082.  | 12118. | 16309. | 18801. | 18347. | 15943. | 12960. | 10552. | 7426. | 6438. | 141302. |
| 1967 | 6703. | 6582. | 9004.  | 12222. | 16395. | 19026. | 17894. | 15943. | 12874. | 10419. | 7446. | 6486. | 140994. |
| 1968 | 6732. | 6647. | 9025.  | 12199. | 16416. | 19014. | 18263. | 16048. | 12813. | 10466. | 7367. | 6423. | 141423. |
| 1969 | 6571. | 6757. | 9025.  | 12225. | 16514. | 18877. | 18290. | 16188. | 12967. | 10590. | 7523. | 6443. | 141970. |
| 1970 | 6692. | 6624. | 8922.  | 12147. | 16687. | 19044. | 18812. | 16413. | 12819. | 10544. | 7582. | 6506. | 142792. |
| 1971 | 6685. | 6688. | 9141.  | 12199. | 16371. | 18954. | 18610. | 16348. | 13140. | 10654. | 7508. | 6467. | 142985. |
| 1972 | 6660. | 6736. | 9217.  | 12218. | 16725. | 18863. | 18599. | 16272. | 12946. | 10350. | 7314. | 6455. | 142375. |
| 1973 | 6655. | 6816. | 9153.  | 12237. | 16503. | 18642. | 18542. | 16218. | 12912. | 10516. | 7516. | 6490. | 142201. |
| 1974 | 6603. | 6736. | 9208.  | 12366. | 16514. | 18918. | 18233. | 16246. | 12922. | 10763. | 7453. | 6396. | 142358. |
| 1975 | 6666. | 6734. | 9016.  | 12290. | 16540. | 18708. | 18599. | 16246. | 13123. | 10593. | 7519. | 6500. | 142534. |
| 1976 | 6712. | 6644. | 9070.  | 12107. | 16571. | 18687. | 17894. | 15907. | 13336. | 10832. | 7422. | 6731. | 141893. |
| 1977 | 6698. | 6766. | 9245.  | 12229. | 16597. | 18818. | 18383. | 16132. | 13041. | 10654. | 7440. | 6535. | 142638. |
| 1978 | 6778. | 6799. | 9225.  | 12192. | 16550. | 19008. | 18403. | 16246. | 13089. | 10615. | 7586. | 6533. | 143024. |
| 1979 | 6609. | 6571. | 8833.  | 11335. | 15859. | 17750. | 17656. | 15963. | 13052. | 12602. | 8916. | 6715. | 141861. |
| 1980 | 6606. | 7389. | 9158.  | 11809. | 14004. | 16135. | 17589. | 17083. | 15674. | 12567. | 8822. | 6859. | 143695. |
| 1981 | 6565. | 7885. | 9455.  | 12070. | 14383. | 16657. | 17836. | 17532. | 15913. | 12319. | 8796. | 6517. | 145928. |
| 1982 | 6378. | 7755. | 9166.  | 11934. | 14323. | 16358. | 17877. | 17517. | 15574. | 12359. | 8692. | 6522. | 144455. |

AVERAGES

|       |       |       |        |        |        |        |        |        |        |       |       |         |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|---------|
| 6210. | 6312. | 8547. | 11342. | 15098. | 17332. | 17245. | 15264. | 12347. | 10243. | 7233. | 6211. | 133383. |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|---------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |     |     |     |     |
|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|
| 4.7 | 4.7 | 6.4 | 8.5 | 11.3 | 13.0 | 12.9 | 11.4 | 9.3 | 7.7 | 5.4 | 4.7 |
|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 133383. ACRE-FEET

Davis Dam to Parker Dam  
Flow Model

Bill Williams River Inflow

| YEAR | JAN    | FEB     | MAR     | APR     | MAY    | JUN    | JUL    | AUG    | SEP     | OCT    | NOV    | DEC     | TOTAL   |
|------|--------|---------|---------|---------|--------|--------|--------|--------|---------|--------|--------|---------|---------|
| 1935 | 9800.  | 60800.  | 25500.  | 1400.   | 1400.  | 1300.  | 1200.  | 2400.  | 3200.   | 1100.  | 1100.  | 1100.   | 110300. |
| 1936 | 1100.  | 1200.   | 1000.   | 900.    | 800.   | 800.   | 4900.  | 6500.  | 1300.   | 900.   | 1000.  | 1900.   | 22300.  |
| 1937 | 2500.  | 209100. | 27400.  | 3100.   | 1300.  | 1200.  | 1300.  | 1200.  | 2100.   | 1700.  | 1100.  | 1200.   | 253200. |
| 1938 | 1100.  | 1100.   | 100500. | 1200.   | 1000.  | 1100.  | 1100.  | 900.   | 900.    | 900.   | 1000.  | 2100.   | 112900. |
| 1939 | 1000.  | 1500.   | 1100.   | 900.    | 800.   | 800.   | 800.   | 1000.  | 219600. | 2800.  | 1500.  | 1500.   | 233300. |
| 1940 | 1900.  | 12600.  | 2100.   | 1900.   | 1500.  | 1300.  | 1300.  | 1200.  | 1200.   | 1900.  | 1200.  | 40600.  | 68700.  |
| 1941 | 27400. | 65400.  | 170600. | 109000. | 5900.  | 1000.  | 1400.  | 4100.  | 8300.   | 1400.  | 1400.  | 3300.   | 399200. |
| 1942 | 8500.  | 2700.   | 2300.   | 1400.   | 1400.  | 1100.  | 1300.  | 1100.  | 900.    | 1100.  | 1100.  | 1100.   | 24000.  |
| 1943 | 1200.  | 900.    | 2900.   | 1200.   | 900.   | 900.   | 900.   | 1100.  | 900.    | 1300.  | 1000.  | 1000.   | 14200.  |
| 1944 | 1000.  | 23000.  | 78100.  | 2300.   | 1500.  | 1300.  | 1300.  | 1200.  | 1400.   | 1200.  | 1200.  | 1400.   | 114900. |
| 1945 | 1300.  | 1100.   | 43600.  | 3800.   | 1500.  | 1200.  | 1200.  | 1600.  | 1000.   | 1000.  | 1100.  | 1600.   | 60000.  |
| 1946 | 1100.  | 1000.   | 1000.   | 1300.   | 800.   | 700.   | 900.   | 1000.  | 800.    | 500.   | 700.   | 9700.   | 19500.  |
| 1947 | 2000.  | 1000.   | 900.    | 800.    | 500.   | 400.   | 400.   | 1000.  | 900.    | 400.   | 600.   | 800.    | 9300.   |
| 1948 | 828.   | 712.    | 770.    | 606.    | 517.   | 380.   | 522.   | 1523.  | 325.    | 452.   | 532.   | 835.    | 7802.   |
| 1949 | 8872.  | 25377.  | 19716.  | 2097.   | 623.   | 437.   | 314.   | 404.   | 355.    | 1474.  | 541.   | 567.    | 58577.  |
| 1950 | 578.   | 627.    | 702.    | 564.    | 464.   | 331.   | 855.   | 436.   | 1188.   | 397.   | 449.   | 555.    | 7145.   |
| 1951 | 613.   | 535.    | 552.    | 548.    | 495.   | 317.   | 289.   | 59288. | 3731.   | 2711.  | 1365.  | 25123.  | 95567.  |
| 1952 | 40130. | 3409.   | 95083.  | 10168.  | 3172.  | 2751.  | 407.   | 405.   | 394.    | 443.   | 563.   | 695.    | 157647. |
| 1953 | 869.   | 839.    | 924.    | 636.    | 539.   | 422.   | 426.   | 768.   | 362.    | 424.   | 509.   | 545.    | 7261.   |
| 1954 | 748.   | 722.    | 55357.  | 2339.   | 549.   | 326.   | 447.   | 1057.  | 481.    | 368.   | 482.   | 572.    | 63448.  |
| 1955 | 852.   | 603.    | 585.    | 524.    | 403.   | 282.   | 3869.  | 25964. | 512.    | 536.   | 611.   | 728.    | 35269.  |
| 1956 | 1156.  | 936.    | 722.    | 614.    | 469.   | 385.   | 510.   | 347.   | 316.    | 391.   | 521.   | 606.    | 6973.   |
| 1957 | 1070.  | 2415.   | 803.    | 740.    | 493.   | 396.   | 474.   | 3020.  | 387.    | 1803.  | 4064.  | 754.    | 16419.  |
| 1958 | 774.   | 10844.  | 28239.  | 15481.  | 805.   | 599.   | 552.   | 359.   | 946.    | 788.   | 873.   | 823.    | 61083.  |
| 1959 | 813.   | 3515.   | 1160.   | 682.    | 481.   | 306.   | 202.   | 5319.  | 317.    | 323.   | 484.   | 3504.   | 17086.  |
| 1960 | 5599.  | 4852.   | 9279.   | 759.    | 379.   | 214.   | 236.   | 209.   | 267.    | 327.   | 420.   | 539.    | 23080.  |
| 1961 | 564.   | 563.    | 590.    | 476.    | 321.   | 253.   | 192.   | 1774.  | 593.    | 299.   | 305.   | 405.    | 6335.   |
| 1962 | 613.   | 7924.   | 2630.   | 840.    | 454.   | 335.   | 270.   | 286.   | 4023.   | 526.   | 485.   | 696.    | 19082.  |
| 1963 | 799.   | 754.    | 833.    | 687.    | 506.   | 278.   | 195.   | 17721. | 7464.   | 803.   | 2861.  | 1287.   | 34186.  |
| 1964 | 1004.  | 1057.   | 1224.   | 1281.   | 668.   | 304.   | 265.   | 21846. | 2351.   | 600.   | 698.   | 839.    | 32137.  |
| 1965 | 1059.  | 5090.   | 10634.  | 97691.  | 1295.  | 480.   | 377.   | 294.   | 319.    | 401.   | 34296. | 121890. | 273826. |
| 1966 | 15003. | 4766.   | 4245.   | 1595.   | 434.   | 318.   | 250.   | 1041.  | 332.    | 352.   | 424.   | 52637.  | 81397.  |
| 1967 | 1615.  | 1093.   | 1480.   | 946.    | 619.   | 443.   | 426.   | 2220.  | 4524.   | 617.   | 482.   | 19464.  | 33929.  |
| 1968 | 26083. | 13170.  | 1686.   | 573.    | 382.   | 225.   | 723.   | 474.   | 462.    | 402.   | 396.   | 571.    | 45147.  |
| 1969 | 11012. | 15275.  | 9929.   | 480.    | 155.   | 0.     | 0.     | 0.     | 76.     | 67.    | 92.    | 354.    | 37440.  |
| 1970 | 553.   | 453.    | 16091.  | 331.    | 328.   | 192.   | 218.   | 2480.  | 169.    | 541.   | 515.   | 611.    | 22493.  |
| 1971 | 580.   | 613.    | 505.    | 126.    | 150.   | 0.     | 0.     | 8750.  | 974.    | 302.   | 342.   | 891.    | 13233.  |
| 1972 | 686.   | 693.    | 733.    | 130.    | 152.   | 0.     | 0.     | 328.   | 501.    | 19010. | 7448.  | 5175.   | 34856.  |
| 1973 | 2467.  | 28729.  | 75621.  | 22377.  | 446.   | 48.    | 104.   | 482.   | 569.    | 308.   | 127.   | 278.    | 131554. |
| 1974 | 395.   | 427.    | 819.    | 267.    | 0.     | 0.     | 21.    | 176.   | 54.     | 149.   | 132.   | 78.     | 2318.   |
| 1975 | 93.    | 149.    | 307.    | 427.    | 51.    | 33.    | 7.     | 57.    | 3.      | 0.     | 0.     | 147.    | 1274.   |
| 1976 | 158.   | 17310.  | 15730.  | 14020.  | 23.    | 1470.  | 3060.  | 3070.  | 2890.   | 3010.  | 2980.  | 3310.   | 67031.  |
| 1977 | 1680.  | 1080.   | 966.    | 1160.   | 616.   | 276.   | 717.   | 757.   | 817.    | 687.   | 868.   | 494.    | 10118.  |
| 1978 | 226.   | 190.    | 10480.  | 11310.  | 8200.  | 29.    | 19.    | 39.    | 50.     | 3540.  | 10880. | 12310.  | 57273.  |
| 1979 | 5790.  | 23340.  | 34720.  | 11360.  | 24010. | 29400. | 21920. | 28420. | 20150.  | 26180. | 30070. | 37270.  | 292630. |
| 1980 | 14030. | 55820.  | 189100. | 33440.  | 44220. | 5050.  | 87210. | 56100. | 65970.  | 28040. | 720.   | 585.    | 580285. |
| 1981 | 594.   | 539.    | 519.    | 475.    | 1640.  | 1670.  | 14910. | 19600. | 17080.  | 824.   | 534.   | 506.    | 58891.  |
| 1982 | 418.   | 494.    | 641.    | 621.    | 710.   | 732.   | 714.   | 630.   | 661.    | 641.   | 651.   | 738.    | 7849.   |

AVERAGES

4284. 12841. 21883. 7611. 2377. 1287. 3206. 6040. 7961. 2374. 2515. 7573. 80051.

MONTHLY PERCENTAGES

5.4 16.0 27.3 9.5 3.0 1.6 4.1 7.5 9.9 3.0 3.1 9.5

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 80051. ACRE-FEET

Davis Dam to Parker Dam  
Flow Model

Flow Below Parker Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 321200.  | 265000.  | 436900.  | 421600.  | 504300.  | 924700.  | 665100.  | 575700.  | 553300.  | 570300.  | 552800.  | 300400.  | 6091300.  |
| 1936 | 285700.  | 314400.  | 534100.  | 562700.  | 535200.  | 552600.  | 656900.  | 587200.  | 525700.  | 433100.  | 341900.  | 299900.  | 5629400.  |
| 1937 | 285400.  | 472500.  | 520700.  | 531100.  | 526700.  | 546300.  | 843800.  | 632600.  | 532600.  | 482100.  | 396600.  | 379500.  | 5949900.  |
| 1938 | 369400.  | 342100.  | 532300.  | 555300.  | 532100.  | 572100.  | 601300.  | 609500.  | 534000.  | 559700.  | 415500.  | 385600.  | 6008900.  |
| 1939 | 647300.  | 1303000. | 652600.  | 585600.  | 563800.  | 588200.  | 638100.  | 651800.  | 817200.  | 663000.  | 646300.  | 660600.  | 8417500.  |
| 1940 | 681000.  | 452600.  | 545400.  | 623300.  | 495800.  | 574000.  | 621900.  | 621700.  | 657800.  | 798300.  | 736200.  | 848000.  | 7656000.  |
| 1941 | 626700.  | 560700.  | 749700.  | 608300.  | 1359000. | 1628000. | 997700.  | 1332000. | 1528000. | 1585000. | 1731000. | 2042000. | 14748100. |
| 1942 | 1957000. | 1482000. | 1494000. | 1136000. | 1588000. | 1536000. | 1226000. | 880100.  | 797200.  | 845400.  | 1041000. | 1213000. | 15195700. |
| 1943 | 1015000. | 746000.  | 886200.  | 677300.  | 956600.  | 975500.  | 1086000. | 990500.  | 1006000. | 1160000. | 1149000. | 1231000. | 12079100. |
| 1944 | 1241000. | 1223000. | 1297000. | 1164000. | 1116000. | 982600.  | 1035000. | 1148000. | 1114000. | 1178000. | 1156000. | 1187000. | 13841600. |
| 1945 | 1186000. | 1061000. | 1232000. | 984600.  | 969500.  | 919500.  | 913000.  | 770300.  | 824300.  | 1038000. | 1036000. | 1099000. | 12033200. |
| 1946 | 1041000. | 1028000. | 944100.  | 830300.  | 873300.  | 754300.  | 801100.  | 721600.  | 730100.  | 758700.  | 788600.  | 870000.  | 10141100. |
| 1947 | 952700.  | 899100.  | 939600.  | 797000.  | 904900.  | 859800.  | 844200.  | 892400.  | 819000.  | 836400.  | 879700.  | 1037000. | 10661800. |
| 1948 | 1160000. | 1160000. | 1107000. | 1083000. | 1115000. | 989000.  | 1108000. | 986000.  | 940600.  | 918000.  | 977700.  | 1106000. | 12650300. |
| 1949 | 1229000. | 1192000. | 1236000. | 1116000. | 982600.  | 923100.  | 951900.  | 1013000. | 1099000. | 1148000. | 1011000. | 1158000. | 13059600. |
| 1950 | 1080000. | 1036000. | 1209000. | 997900.  | 1066000. | 900100.  | 897100.  | 832700.  | 703900.  | 651200.  | 541700.  | 557200.  | 10472800. |
| 1951 | 550300.  | 500800.  | 729600.  | 764600.  | 675300.  | 861800.  | 944900.  | 944500.  | 723200.  | 709200.  | 560500.  | 707100.  | 8671800.  |
| 1952 | 1104000. | 1134000. | 1424000. | 1300000. | 1443000. | 1419000. | 1263000. | 1296000. | 1321000. | 1234000. | 1172000. | 1303000. | 15413000. |
| 1953 | 1198000. | 1020000. | 947300.  | 808100.  | 952700.  | 955600.  | 1093000. | 1056000. | 822900.  | 633900.  | 527400.  | 634300.  | 10649200. |
| 1954 | 797200.  | 660900.  | 782300.  | 863600.  | 1015000. | 882600.  | 1000000. | 981600.  | 754500.  | 636200.  | 637900.  | 659000.  | 9670800.  |
| 1955 | 733900.  | 598200.  | 732500.  | 758100.  | 792000.  | 866200.  | 963400.  | 848700.  | 693500.  | 498700.  | 369400.  | 286000.  | 8140600.  |
| 1956 | 317300.  | 365500.  | 627700.  | 683800.  | 670700.  | 786800.  | 864800.  | 823300.  | 633900.  | 486300.  | 321100.  | 287900.  | 6869100.  |
| 1957 | 242800.  | 348700.  | 589000.  | 731500.  | 645000.  | 782900.  | 890600.  | 816600.  | 680900.  | 503000.  | 780700.  | 1005000. | 7996700.  |
| 1958 | 1285000. | 564700.  | 1345000. | 1333000. | 1013000. | 853700.  | 930200.  | 866600.  | 713700.  | 609700.  | 622800.  | 752900.  | 10890300. |
| 1959 | 676800.  | 593000.  | 890000.  | 831700.  | 705700.  | 797000.  | 962400.  | 873300.  | 682100.  | 557900.  | 405100.  | 410500.  | 8185500.  |
| 1960 | 427700.  | 473800.  | 759900.  | 810200.  | 740200.  | 879300.  | 986200.  | 866000.  | 639400.  | 489700.  | 397100.  | 322300.  | 7793800.  |
| 1961 | 379400.  | 453100.  | 741600.  | 724500.  | 705000.  | 822500.  | 899900.  | 709700.  | 606000.  | 411800.  | 319300.  | 201800.  | 6974600.  |
| 1962 | 333700.  | 373600.  | 692000.  | 756500.  | 686000.  | 778100.  | 881900.  | 821200.  | 644100.  | 471000.  | 434200.  | 286500.  | 7158800.  |
| 1963 | 349500.  | 467300.  | 734700.  | 690300.  | 707700.  | 840200.  | 933400.  | 816600.  | 630100.  | 438300.  | 334300.  | 306500.  | 7250900.  |
| 1964 | 352800.  | 479400.  | 640100.  | 652400.  | 598100.  | 742000.  | 864000.  | 795200.  | 589300.  | 409200.  | 274900.  | 245000.  | 6652400.  |
| 1965 | 289400.  | 423000.  | 634400.  | 581000.  | 604100.  | 709900.  | 845900.  | 867000.  | 599300.  | 385400.  | 220100.  | 196700.  | 6356200.  |
| 1966 | 176000.  | 412900.  | 604100.  | 729300.  | 699000.  | 790400.  | 900700.  | 852300.  | 584800.  | 355700.  | 254500.  | 320200.  | 6679900.  |
| 1967 | 305900.  | 430700.  | 677300.  | 608300.  | 648400.  | 725600.  | 835200.  | 749200.  | 490300.  | 434565.  | 247144.  | 169768.  | 6322377.  |
| 1968 | 350465.  | 450473.  | 679924.  | 699481.  | 625933.  | 722272.  | 779396.  | 725287.  | 582534.  | 404336.  | 309287.  | 312262.  | 6641650.  |
| 1969 | 253868.  | 466559.  | 739984.  | 712394.  | 640591.  | 674430.  | 764639.  | 732903.  | 488040.  | 434089.  | 220089.  | 310319.  | 6437905.  |
| 1970 | 366947.  | 441983.  | 653662.  | 750259.  | 657074.  | 708729.  | 792210.  | 674648.  | 630031.  | 453726.  | 303852.  | 328011.  | 6658132.  |
| 1971 | 338623.  | 485759.  | 742741.  | 745955.  | 660585.  | 742900.  | 877500.  | 690020.  | 565357.  | 397136.  | 309347.  | 355483.  | 6911406.  |
| 1972 | 346002.  | 480027.  | 747165.  | 766504.  | 699620.  | 688830.  | 875120.  | 716123.  | 573659.  | 223699.  | 282748.  | 388826.  | 6788233.  |
| 1973 | 355285.  | 347828.  | 641842.  | 799747.  | 696287.  | 672942.  | 829103.  | 726120.  | 644003.  | 484034.  | 309624.  | 340388.  | 6846853.  |
| 1974 | 244508.  | 481435.  | 705015.  | 884211.  | 756110.  | 790623.  | 674327.  | 824462.  | 624485.  | 398800.  | 282000.  | 324700.  | 7170674.  |
| 1975 | 362600.  | 447300.  | 690000.  | 795400.  | 769800.  | 693800.  | 825300.  | 802500.  | 650500.  | 476500.  | 336800.  | 359500.  | 7210000.  |
| 1976 | 352800.  | 364500.  | 605300.  | 771100.  | 693600.  | 711200.  | 789500.  | 842800.  | 400000.  | 354800.  | 248900.  | 356300.  | 6696800.  |
| 1977 | 257800.  | 498500.  | 683100.  | 811600.  | 651900.  | 760300.  | 956200.  | 687600.  | 460300.  | 347800.  | 288100.  | 308500.  | 6711500.  |
| 1978 | 136700.  | 397800.  | 692100.  | 849100.  | 678800.  | 762800.  | 905900.  | 791500.  | 573000.  | 360300.  | 267300.  | 270100.  | 6685400.  |
| 1979 | 151800.  | 336800.  | 575800.  | 776100.  | 782900.  | 849700.  | 960600.  | 829800.  | 709400.  | 505200.  | 367900.  | 348700.  | 7194700.  |
| 1980 | 304100.  | 386500.  | 1056000. | 1121000. | 964000.  | 1145000. | 1247000. | 1164000. | 981600.  | 879300.  | 760100.  | 714700.  | 10723300. |
| 1981 | 462400.  | 453900.  | 697000.  | 869200.  | 676200.  | 829300.  | 942000.  | 881300.  | 563800.  | 335000.  | 253100.  | 298200.  | 7261400.  |
| 1982 | 340600.  | 487500.  | 649900.  | 833800.  | 638000.  | 635700.  | 766500.  | 637900.  | 494500.  | 383600.  | 230100.  | 261400.  | 6359500.  |

AVERAGES

588175. 611743. 800572. 805557. 791275. 835644. 894415. 832497. 704434. 611002. 542681. 578043. 8596038.

MONTHLY PERCENTAGES

6.8 7.1 9.3 9.4 9.2 9.7 10.4 9.7 8.2 7.1 6.3 6.7

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8596038. ACRE-FEET

Davis Dam to Parker Dam  
Salt Model

Reach Salt Gains and Losses Between Davis Dam and Parker Dam

| YEAR | JAN     | FEB      | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV      | DEC      | TOTAL    |
|------|---------|----------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|
| 1935 | 2703.   | 78988.   | 20683.  | 15617.  | -12690. | 3155.   | 9408.   | 3343.   | -645.   | -1634.  | -3988.   | 7248.    | 122208.  |
| 1936 | -5767.  | -4561.   | -11942. | -2139.  | 13232.  | 3123.   | 11435.  | 13659.  | 5088.   | 3958.   | -2307.   | -196344. | -172565. |
| 1937 | -2701.  | 129835.  | 15843.  | 1433.   | 15977.  | 15966.  | 36891.  | 23671.  | 19142.  | 6364.   | -2534.   | -11129.  | 248758.  |
| 1938 | -8656.  | -8783.   | 51192.  | -3540.  | 12632.  | 5615.   | 10320.  | 16798.  | 12245.  | 5350.   | -7770.   | -12140.  | 73263.   |
| 1939 | -19289. | 12599.   | 20793.  | -5005.  | 16356.  | 33567.  | 29145.  | 26354.  | 308200. | 997.    | -18740.  | -17480.  | 387497.  |
| 1940 | -16270. | -19718.  | -23432. | -849.   | 15876.  | 637.    | 21354.  | 11522.  | 15193.  | -4497.  | -12473.  | 21782.   | 9125.    |
| 1941 | 40374.  | 29897.   | 158085. | 80885.  | -74249. | 144786. | 85702.  | 43771.  | 26840.  | 24780.  | -33482.  | 165002.  | 692391.  |
| 1942 | 141428. | 52640.   | -39447. | -76269. | -78061. | -16400. | 82366.  | 66345.  | 3515.   | 82923.  | 64672.   | 2278.    | 290990.  |
| 1943 | 57323.  | -21444.  | -10072. | -26446. | 1730.   | 25926.  | 4161.   | -17224. | -37210. | 5129.   | -33583.  | -41175.  | -92865.  |
| 1944 | -20590. | -82567.  | -6819.  | -3846.  | -41636. | 42663.  | 10437.  | 12932.  | -20682. | -94969. | -157930. | -2564.   | -365371. |
| 1945 | -32230. | -78722.  | -1867.  | -25045. | -11147. | 45590.  | 15879.  | -28466. | -7242.  | -60141. | -46120.  | 21148.   | -208205. |
| 1946 | -17915. | -9948.   | 27247.  | 106297. | -30322. | 16038.  | -2701.  | -11934. | -16892. | -25124. | -2783.   | -21286.  | 10676.   |
| 1947 | -19786. | -6276.   | 45074.  | -45514. | -7652.  | 25535.  | -4063.  | 66318.  | 29316.  | -12058. | -51515.  | -97550.  | -78171.  |
| 1948 | 27771.  | 13475.   | -25195. | -55519. | 14488.  | 15921.  | 55249.  | 49561.  | 31425.  | 60968.  | -115838. | -2104.   | 70202.   |
| 1949 | 49715.  | 2074.    | -20655. | 39997.  | 237211. | -4111.  | 47296.  | 20243.  | 33331.  | 57274.  | -83364.  | -130565. | 245436.  |
| 1950 | 13696.  | -92234.  | -5292.  | -18133. | 45792.  | 1818.   | 58637.  | -17230. | 17427.  | 15012.  | -32896.  | -2222.   | -15615.  |
| 1951 | -5729.  | -67156.  | -46838. | -23429. | -21861. | 11514.  | 6074.   | 51629.  | -48292. | -22571. | -35001.  | -31885.  | -233545. |
| 1952 | 4797.   | -117257. | 20056.  | -48604. | 23720.  | 25328.  | 70517.  | 52065.  | 21078.  | -3206.  | -25774.  | -163025. | -140305. |
| 1953 | 194280. | -165772. | -8742.  | -21148. | 24731.  | 11095.  | 40183.  | 16328.  | -93.    | 17016.  | -27212.  | -8833.   | -316707. |
| 1954 | -35153. | -104217. | -41825. | -84773. | -29244. | -32681. | -862.   | 73353.  | -2900.  | -13379. | 17729.   | -22419.  | -374038. |
| 1955 | -8095.  | -86485.  | -61228. | -65532. | -33599. | -62912. | 58825.  | 32009.  | 66136.  | 8403.   | -829.    | 28103.   | -149930. |
| 1956 | 11509.  | -47215.  | -34379. | -13094. | -20253. | -43637. | 29294.  | 32009.  | -7168.  | 13946.  | -65396.  | 58632.   | 103426.  |
| 1957 | 17020.  | -53543.  | -3934.  | 284.    | 34357.  | -8095.  | 49187.  | 66136.  | -19448. | 11039.  | -51573.  | 588.     | -29330.  |
| 1958 | 91395.  | -85677.  | -1125.  | -39933. | 30695.  | -10729. | -8034.  | 33270.  | -19448. | 11039.  | -51573.  | 588.     | -29330.  |
| 1959 | -19453. | -55708.  | -54018. | -58458. | -2410.  | -27644. | 35125.  | 35460.  | -8270.  | 7601.   | -5377.   | -11045.  | -162197. |
| 1960 | -31623. | -65827.  | -64146. | -16612. | -7131.  | -15107. | 53362.  | 55050.  | 2158.   | 53.     | -21944.  | 40123.   | -71824.  |
| 1961 | -20365. | -84596.  | -42066. | -22592. | -28314. | -25695. | 62671.  | 44835.  | -36025. | -2026.  | 12780.   | 12826.   | -128570. |
| 1962 | -3946.  | -68858.  | -35399. | 3986.   | -15504. | 26854.  | 84333.  | 119821. | 19509.  | 32644.  | 27973.   | 27752.   | 199169.  |
| 1963 | -16045. | -41974.  | 26668.  | 9391.   | 29271.  | -22779. | 20868.  | 43256.  | 14026.  | 8687.   | -23928.  | -6582.   | 40859.   |
| 1964 | -346.   | -81170.  | -51733. | -38939. | 9169.   | -14920. | 3461.   | 22305.  | -22237. | 27021.  | -17470.  | -12225.  | -195422. |
| 1965 | -4836.  | -93831.  | -70692. | 15636.  | -25950. | -12435. | -311.   | 26591.  | -25515. | 25018.  | 16768.   | 75041.   | -74516.  |
| 1966 | -38404. | -61348.  | -35492. | -22515. | 20652.  | 10376.  | 64228.  | 58238.  | 16526.  | -2876.  | 578.     | 60716.   | 50679.   |
| 1967 | 10237.  | -60198.  | -14561. | -18663. | -10803. | 405.    | 35562.  | 49064.  | 15758.  | 15427.  | 5528.    | -9793.   | 17983.   |
| 1968 | -10729. | -75909.  | -14063. | -18299. | 626.    | -17621. | 47479.  | 13339.  | -1423.  | 18001.  | -12639.  | 627.     | -70811.  |
| 1969 | 8866.   | -56462.  | -52169. | -20536. | 41782.  | -24596. | 26104.  | -13402. | -6586.  | 1094.   | -6555.   | -13790.  | -113250. |
| 1970 | 3917.   | -75979.  | -15767. | -36289. | 36718.  | -18930. | 53554.  | 58661.  | 5595.   | 33092.  | 1178.    | 599.     | 46569.   |
| 1971 | 7096.   | -69104.  | -10548. | 20584.  | 49478.  | 16901.  | 53889.  | 83275.  | 28300.  | 22765.  | -12359.  | 10418.   | 200395.  |
| 1972 | 1742.   | -26673.  | 40230.  | 29887.  | 28471.  | -38063. | 65252.  | 37364.  | -2100.  | 4314.   | -18532.  | -6216.   | 115686.  |
| 1973 | -4490.  | -47280.  | 1812.   | -29737. | 35161.  | -8570.  | 43628.  | 38737.  | 1757.   | 19608.  | 46.      | 4991.    | 53863.   |
| 1974 | -26621. | -82311.  | 7387.   | -20315. | 32467.  | -11200. | 26310.  | -18804. | -46809. | 10645.  | -22836.  | -3262.   | -155349. |
| 1975 | 2583.   | -35557.  | -774.   | -30551. | 24057.  | 5528.   | 22639.  | -7834.  | -5778.  | 17282.  | -10789.  | -3712.   | -22906.  |
| 1976 | -4292.  | -30397.  | -17098. | -22674. | -674.   | 4536.   | 11582.  | 19178.  | 48148.  | -3981.  | -27660.  | -7274.   | -30286.  |
| 1977 | -8010.  | -62775.  | 12187.  | -2500.  | 25030.  | -38929. | 8307.   | -6868.  | 5589.   | 12587.  | -5165.   | 18560.   | -41987.  |
| 1978 | 14660.  | -62721.  | -28909. | -29702. | -19161. | -68477. | -19841. | -22638. | -27912. | 19986.  | -13552.  | -8200.   | -266465. |
| 1979 | 17329.  | -28572.  | -22972. | 54797.  | -1380.  | 3732.   | 11188.  | 2298.   | -6451.  | -4320.  | 3114.    | -14214.  | 14547.   |
| 1980 | 6329.   | -15545.  | -3800.  | 21166.  | -1486.  | 28491.  | 62580.  | 2729.   | 30047.  | 21346.  | -11124.  | 3240.    | 144173.  |
| 1981 | 10301.  | -8214.   | -26598. | 5306.   | -696.   | -16805. | -15937. | 2516.   | 33071.  | 11142.  | 13215.   | 40218.   | 47719.   |
| 1982 | 65001.  | -28409.  | -39584. | -28719. | 9742.   | -298.   | -20680. | 34913.  | 13832.  | 20060.  | 21965.   | 2391.    | 50234.   |

AVERAGES

|        |         |         |       |       |        |        |        |        |       |        |        |        |
|--------|---------|---------|-------|-------|--------|--------|--------|--------|-------|--------|--------|--------|
| -8202. | -16765. | -23319. | 1433. | 6077. | 13389. | 29142. | 30267. | 20241. | 8798. | -7117. | -8183. | 45761. |
|--------|---------|---------|-------|-------|--------|--------|--------|--------|-------|--------|--------|--------|

MONTHLY PERCENTAGES

|       |       |       |     |      |      |      |      |      |      |       |       |
|-------|-------|-------|-----|------|------|------|------|------|------|-------|-------|
| -17.9 | -36.6 | -51.0 | 3.1 | 13.3 | 29.3 | 63.7 | 66.1 | 44.2 | 19.2 | -15.6 | -17.9 |
|-------|-------|-------|-----|------|------|------|------|------|------|-------|-------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 45761. ACRE-FEET

Davis Dam to Parker Dam  
Salt Model

Salt Load Below Davis Dam

| YEAR | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1935 | 597936  | 333574  | 633359  | 525078  | 498339  | 631900  | 337679  | 259269  | 279784  | 390353  | 469805  | 332108  | 5289184  |
| 1936 | 362619  | 401975  | 628552  | 628813  | 520604  | 435532  | 405807  | 345559  | 307600  | 286798  | 245501  | 457948  | 5006908  |
| 1937 | 287518  | 306912  | 509289  | 593221  | 570024  | 605879  | 704381  | 682674  | 576813  | 484854  | 399859  | 376042  | 6097464  |
| 1938 | 352582  | 344232  | 432999  | 599108  | 579624  | 639940  | 665676  | 587051  | 500525  | 679756  | 661987  | 345594  | 6389072  |
| 1939 | 556465  | 1289608 | 665133  | 857383  | 616593  | 651494  | 712119  | 732640  | 701407  | 666057  | 730531  | 736995  | 8818425  |
| 1940 | 719043  | 495502  | 660008  | 691923  | 630556  | 629726  | 732691  | 733009  | 757905  | 843731  | 821256  | 861244  | 8581094  |
| 1941 | 656170  | 579650  | 650430  | 588500  | 543560  | 1909480 | 1024330 | 1384970 | 1480670 | 1540740 | 1678310 | 1957680 | 14994490 |
| 1942 | 1993880 | 1525250 | 1430190 | 1282620 | 1375190 | 1569840 | 1264330 | 859480  | 985220  | 1075990 | 997860  | 1001970 | 16361620 |
| 1943 | 969770  | 733660  | 914610  | 873580  | 969640  | 973090  | 1011660 | 959200  | 950240  | 1066330 | 1018660 | 1099860 | 11540300 |
| 1944 | 1147520 | 1220970 | 1254150 | 1139050 | 1182270 | 1038550 | 1033150 | 1115460 | 1011540 | 1142100 | 1156680 | 1128970 | 13572410 |
| 1945 | 1151820 | 1050590 | 1196900 | 968930  | 962270  | 929480  | 808250  | 816450  | 788210  | 949000  | 943610  | 957990  | 11543500 |
| 1946 | 973820  | 999990  | 887220  | 797320  | 870390  | 755650  | 761680  | 689690  | 699400  | 785990  | 707880  | 785760  | 9714790  |
| 1947 | 892260  | 818440  | 888450  | 849870  | 874920  | 878250  | 888070  | 813650  | 789080  | 772740  | 814370  | 970370  | 10350470 |
| 1948 | 1094460 | 1063750 | 1087540 | 1148850 | 1061530 | 951220  | 1000980 | 847920  | 842760  | 751860  | 899120  | 1028370 | 11758320 |
| 1949 | 1023590 | 1025300 | 1095060 | 1015590 | 862540  | 862530  | 864740  | 859090  | 900990  | 894720  | 848270  | 1054620 | 11307040 |
| 1950 | 866520  | 1030190 | 1054760 | 921690  | 955280  | 824000  | 775960  | 691410  | 606570  | 618220  | 498010  | 512930  | 9355540  |
| 1951 | 512660  | 530530  | 706940  | 790510  | 857370  | 847210  | 902560  | 816020  | 697960  | 719500  | 566320  | 690100  | 8436980  |
| 1952 | 846530  | 1195530 | 1253160 | 1306600 | 1397710 | 1384850 | 1103170 | 1071260 | 1087990 | 963270  | 868730  | 1064040 | 13602540 |
| 1953 | 1012000 | 1040030 | 900350  | 851340  | 810890  | 924030  | 975100  | 934430  | 753840  | 574430  | 473860  | 583870  | 9934170  |
| 1954 | 730140  | 680950  | 742240  | 883430  | 1027900 | 914250  | 898970  | 976100  | 780300  | 624610  | 661050  | 676110  | 9686150  |
| 1955 | 733450  | 637040  | 840140  | 911800  | 918470  | 1047790 | 1082330 | 885310  | 813580  | 584530  | 455010  | 319040  | 9288490  |
| 1956 | 375490  | 485060  | 822470  | 892860  | 823780  | 1040700 | 1017280 | 985320  | 750300  | 582970  | 426480  | 359490  | 8562200  |
| 1957 | 322350  | 501440  | 763720  | 900680  | 780600  | 948430  | 997720  | 872740  | 741770  | 580380  | 696030  | 1021110 | 9306970  |
| 1958 | 1201800 | 651880  | 1280150 | 1295480 | 941120  | 832000  | 877620  | 766240  | 661680  | 563780  | 601200  | 678280  | 10351250 |
| 1959 | 634720  | 570450  | 703800  | 866160  | 700950  | 820870  | 883630  | 749070  | 650610  | 340210  | 399120  | 390510  | 7905900  |
| 1960 | 423680  | 503080  | 745520  | 824160  | 751740  | 932520  | 950780  | 823240  | 666800  | 524350  | 448450  | 303000  | 7897300  |
| 1961 | 446320  | 561890  | 856440  | 807120  | 823730  | 929550  | 889880  | 748380  | 700000  | 465550  | 366550  | 239120  | 7831990  |
| 1962 | 427530  | 426800  | 766880  | 874710  | 794200  | 877920  | 921620  | 833870  | 715600  | 530660  | 488980  | 347260  | 8006030  |
| 1963 | 468840  | 582060  | 812410  | 800560  | 772180  | 928990  | 928080  | 824710  | 648580  | 482170  | 394530  | 342320  | 7985430  |
| 1964 | 416260  | 571420  | 739680  | 765300  | 691410  | 816510  | 946940  | 831710  | 696600  | 487920  | 368020  | 355670  | 7687440  |
| 1965 | 401030  | 564200  | 851790  | 714390  | 860340  | 934880  | 1061980 | 1039350 | 793830  | 541300  | 317000  | 177210  | 8257300  |
| 1966 | 185270  | 581150  | 804070  | 973120  | 904110  | 1031660 | 1037810 | 946680  | 747890  | 450000  | 349340  | 326680  | 8337780  |
| 1967 | 402420  | 574170  | 782750  | 756110  | 768170  | 867980  | 854050  | 812790  | 576840  | 489880  | 326070  | 206710  | 7417940  |
| 1968 | 404070  | 531540  | 744140  | 810310  | 740940  | 837730  | 808840  | 786670  | 685490  | 488920  | 414340  | 419650  | 7672640  |
| 1969 | 463560  | 642500  | 818420  | 883810  | 781710  | 843830  | 885500  | 865280  | 604710  | 522490  | 333980  | 421310  | 7946100  |
| 1970 | 463800  | 632870  | 782330  | 985290  | 795730  | 679410  | 872200  | 740460  | 626370  | 553040  | 423100  | 441500  | 8196100  |
| 1971 | 461800  | 657730  | 914120  | 935630  | 789380  | 860450  | 970040  | 729610  | 560260  | 500300  | 432000  | 434590  | 8345910  |
| 1972 | 476300  | 659580  | 904380  | 917740  | 833940  | 852450  | 944880  | 769880  | 670320  | 301680  | 378300  | 462100  | 8171950  |
| 1973 | 474210  | 447850  | 674380  | 916650  | 787850  | 805980  | 919470  | 805420  | 735730  | 581610  | 406130  | 413270  | 7950490  |
| 1974 | 357960  | 615890  | 800560  | 1004320 | 824880  | 891230  | 915380  | 886580  | 712230  | 477190  | 318200  | 378570  | 8181090  |
| 1975 | 415360  | 536650  | 752520  | 901870  | 813360  | 742510  | 858100  | 817890  | 685260  | 500310  | 377490  | 387460  | 7788780  |
| 1976 | 390350  | 415980  | 889760  | 862100  | 765180  | 772550  | 818460  | 865510  | 428270  | 374370  | 367940  | 423680  | 7254250  |
| 1977 | 283380  | 632550  | 757780  | 902010  | 712840  | 852640  | 965220  | 702900  | 611410  | 422800  | 380330  | 288110  | 7541770  |
| 1978 | 192930  | 478730  | 737970  | 905090  | 711060  | 845100  | 910130  | 809270  | 628060  | 364950  | 315420  | 309580  | 7204290  |
| 1979 | 174538  | 372694  | 610638  | 849138  | 916400  | 918400  | 1041000 | 922700  | 780864  | 504592  | 415800  | 388748  | 7905512  |
| 1980 | 367200  | 328700  | 982000  | 1221080 | 1041480 | 1239000 | 1244400 | 1242300 | 1077516 | 921393  | 830942  | 791010  | 11267021 |
| 1981 | 501858  | 487296  | 796855  | 977780  | 787931  | 956186  | 935390  | 958342  | 610421  | 365304  | 294314  | 309132  | 7980789  |
| 1982 | 370637  | 546915  | 714400  | 1014750 | 768339  | 723045  | 848346  | 663754  | 484380  | 399840  | 237500  | 284501  | 7056407  |

AVERAGES

|         |         |         |         |         |         |         |         |         |         |         |         |          |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 605487. | 684253. | 827567. | 887613. | 849032. | 903896. | 903511. | 820224. | 720069. | 622820. | 565028. | 582548. | 8972068. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|

MONTHLY PERCENTAGES

|     |     |     |     |     |      |      |     |     |     |     |     |
|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|
| 6.7 | 7.4 | 9.3 | 9.9 | 9.5 | 10.1 | 10.1 | 9.3 | 8.0 | 6.9 | 6.3 | 6.5 |
|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8972068 TONS



Diversion to Mohave Steam Plant by Southern California Edison

| YEAR                       | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   | OCT   | NOV   | DEC   | TOTAL  |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1935                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1936                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1937                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1938                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1939                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1940                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1941                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1942                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1943                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1944                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1945                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1946                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1947                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1948                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1949                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1950                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1951                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1952                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1953                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1954                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1955                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1956                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1957                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1958                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1959                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1960                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1961                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1962                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1963                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1964                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1965                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1966                       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1967                       | 0.    | 0.    | 0.    | 0.    | 0.    | 4.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 34.    |
| 1968                       | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 60.    |
| 1969                       | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 5.    | 60.    |
| 1970                       | 7.    | 7.    | 7.    | 7.    | 7.    | 7.    | 5.    | 5.    | 5.    | 5.    | 76.   | 28.   | 166.   |
| 1971                       | 160.  | 347.  | 446.  | 367.  | 668.  | 608.  | 701.  | 279.  | 544.  | 714.  | 512.  | 160.  | 5506.  |
| 1972                       | 315.  | 259.  | 1575. | 978.  | 1041. | 1280. | 1217. | 1298. | 1278. | 590.  | 260.  | 926.  | 11017. |
| 1973                       | 1149. | 548.  | 603.  | 831.  | 859.  | 953.  | 1439. | 1082. | 1530. | 1083. | 937.  | 791.  | 11805. |
| 1974                       | 1003. | 712.  | 838.  | 1012. | 1299. | 836.  | 1133. | 1401. | 1245. | 1114. | 999.  | 1057. | 12649. |
| 1975                       | 1291. | 787.  | 1075. | 690.  | 1119. | 1401. | 1549. | 1255. | 1068. | 1246. | 1315. | 857.  | 13653. |
| 1976                       | 1036. | 985.  | 174.  | 683.  | 1486. | 1520. | 1759. | 1416. | 1349. | 1005. | 1081. | 1272. | 13766. |
| 1977                       | 1307. | 713.  | 774.  | 1154. | 1265. | 1323. | 1325. | 1391. | 1340. | 1021. | 1039. | 580.  | 13232. |
| 1978                       | 541.  | 612.  | 558.  | 520.  | 645.  | 808.  | 952.  | 846.  | 845.  | 915.  | 621.  | 600.  | 8463.  |
| 1979                       | 725.  | 920.  | 600.  | 919.  | 815.  | 792.  | 1251. | 1315. | 796.  | 1356. | 1037. | 827.  | 11153. |
| 1980                       | 602.  | 471.  | 540.  | 1130. | 1003. | 1129. | 989.  | 922.  | 1148. | 313.  | 785.  | 595.  | 9807.  |
| 1981                       | 982.  | 1104. | 953.  | 1056. | 974.  | 1420. | 1186. | 1125. | 1148. | 1253. | 981.  | 1141. | 13323. |
| 1982                       | 1382. | 1306. | 1720. | 1104. | 1485. | 825.  | 1494. | 1653. | 1479. | 1337. | 1357. | 1282. | 16424. |
| <b>AVERAGES</b>            |       |       |       |       |       |       |       |       |       |       |       |       |        |
|                            | 219.  | 183.  | 206.  | 218.  | 264.  | 269.  | 313.  | 292.  | 287.  | 249.  | 229.  | 207.  | 2936.  |
| <b>MONTHLY PERCENTAGES</b> |       |       |       |       |       |       |       |       |       |       |       |       |        |
|                            | 7.5   | 8.2   | 7.0   | 7.4   | 9.0   | 9.2   | 10.7  | 9.9   | 9.8   | 8.5   | 7.8   | 7.0   |        |

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 2936. TONS

Davis Dam to Parker Dam  
Salt Model

Salt Removed from the Flow Regime by Phreatophyte Concentration

| YEAR | JAN   | FEB   | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    | OCT    | NOV    | DEC   | TOTAL   |
|------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|
| 1935 | 6231. | 5934. | 9462.  | 17195. | 23841. | 26180. | 22431. | 17843. | 14431. | 13445. | 8130.  | 5246. | 170369. |
| 1936 | 4166. | 4614. | 7267.  | 15187. | 24976. | 29719. | 27696. | 24319. | 17042. | 12322. | 6867.  | 4104. | 178279. |
| 1937 | 3402. | 3856. | 6606.  | 15560. | 28336. | 43306. | 50630. | 44862. | 32612. | 20530. | 9870.  | 4606. | 264177. |
| 1938 | 3201. | 3687. | 6183.  | 15032. | 28617. | 43456. | 47250. | 40306. | 28292. | 19006. | 8999.  | 4253. | 248282. |
| 1939 | 3208. | 3854. | 6917.  | 15278. | 28713. | 44166. | 50981. | 46050. | 36245. | 21664. | 10765. | 5234. | 273075. |
| 1940 | 3712. | 4094. | 7151.  | 16192. | 30804. | 47077. | 54013. | 48504. | 34809. | 23152. | 11060. | 5343. | 285911. |
| 1941 | 3963. | 4459. | 7890.  | 16582. | 31164. | 47203. | 53997. | 46410. | 31385. | 21403. | 9975.  | 5242. | 279473. |
| 1942 | 3921. | 3941. | 6730.  | 15067. | 28317. | 43277. | 48473. | 48113. | 32269. | 21786. | 10474. | 4519. | 266887. |
| 1943 | 3370. | 3494. | 6644.  | 14279. | 27402. | 42310. | 44852. | 41228. | 29262. | 20399. | 9274.  | 4452. | 246966. |
| 1944 | 3277. | 3670. | 6606.  | 14799. | 27814. | 42942. | 47566. | 43697. | 29073. | 19604. | 9425.  | 4833. | 253306. |
| 1945 | 2521. | 4881. | 10085. | 17649. | 27734. | 42486. | 46885. | 41037. | 29289. | 15959. | 7162.  | 2414. | 248102. |
| 1946 | 2417. | 5154. | 9558.  | 19545. | 27760. | 39519. | 46418. | 40620. | 29317. | 17102. | 7329.  | 2443. | 247182. |
| 1947 | 2445. | 4944. | 10104. | 18247. | 29263. | 42136. | 49525. | 43856. | 31602. | 17118. | 7014.  | 2230. | 258484. |
| 1948 | 2582. | 4949. | 9791.  | 17322. | 26924. | 40023. | 45995. | 40695. | 28404. | 16192. | 6536.  | 2475. | 241888. |
| 1949 | 2396. | 4578. | 9046.  | 16584. | 31096. | 38338. | 45525. | 38445. | 26815. | 15077. | 6219.  | 1992. | 236109. |
| 1950 | 2318. | 4581. | 9054.  | 16599. | 26085. | 37511. | 43520. | 38481. | 27163. | 16222. | 7033.  | 2399. | 230966. |
| 1951 | 2400. | 4802. | 9710.  | 16804. | 26703. | 36840. | 46636. | 40809. | 28463. | 16993. | 7283.  | 2454. | 241917. |
| 1952 | 2457. | 4806. | 9811.  | 17386. | 28212. | 41036. | 46166. | 39012. | 26242. | 14362. | 5750.  | 1863. | 236903. |
| 1953 | 1837. | 4486. | 9728.  | 17592. | 27347. | 39777. | 45695. | 39507. | 27563. | 16268. | 6972.  | 2351. | 239123. |
| 1954 | 2326. | 4599. | 9304.  | 16282. | 27074. | 40679. | 47794. | 42782. | 30510. | 17797. | 7627.  | 2543. | 249297. |
| 1955 | 2572. | 5198. | 10612. | 18761. | 30376. | 45915. | 56582. | 50166. | 34761. | 20467. | 8934.  | 2951. | 287295. |
| 1956 | 3008. | 6070. | 12248. | 21245. | 32789. | 48580. | 58179. | 51594. | 37395. | 20866. | 9104.  | 3117. | 304175. |
| 1957 | 3119. | 6130. | 12151. | 20895. | 32520. | 46869. | 54626. | 47953. | 32873. | 19366. | 8381.  | 2820. | 287503. |
| 1958 | 2715. | 5159. | 9882.  | 16914. | 25981. | 37356. | 44260. | 38768. | 27040. | 15963. | 6841.  | 2308. | 233257. |
| 1959 | 2282. | 4511. | 9130.  | 16168. | 26303. | 38695. | 44401. | 37417. | 26739. | 15978. | 6848.  | 2255. | 230727. |
| 1960 | 1876. | 3642. | 10277. | 16753. | 26937. | 42519. | 45792. | 39661. | 28369. | 15142. | 6764.  | 3136. | 240868. |
| 1961 | 2704. | 4948. | 9953.  | 16675. | 26599. | 41723. | 45202. | 38329. | 24714. | 15150. | 6162.  | 2965. | 234724. |
| 1962 | 2316. | 4507. | 7819.  | 19686. | 24396. | 37901. | 44410. | 42119. | 28627. | 16335. | 8110.  | 3762. | 239988. |
| 1963 | 2083. | 5676. | 9257.  | 13425. | 27498. | 31575. | 40649. | 34084. | 25805. | 15004. | 5952.  | 2759. | 213767. |
| 1964 | 1834. | 3349. | 7274.  | 12533. | 21821. | 31782. | 39901. | 34226. | 24516. | 17103. | 5307.  | 3251. | 202897. |
| 1965 | 2486. | 4336. | 8233.  | 14110. | 24269. | 32601. | 42835. | 38264. | 23905. | 17425. | 7532.  | 2626. | 218622. |
| 1966 | 1357. | 3404. | 9531.  | 18739. | 27204. | 36861. | 40555. | 35620. | 26130. | 12643. | 6339.  | 2866. | 219249. |
| 1967 | 2043. | 4156. | 8504.  | 9910.  | 21321. | 28476. | 35581. | 32858. | 21208. | 13301. | 6287.  | 2152. | 185797. |
| 1968 | 1870. | 3938. | 7707.  | 11087. | 20516. | 28332. | 31959. | 26320. | 21092. | 12077. | 5420.  | 2097. | 172415. |
| 1969 | 2158. | 3079. | 6220.  | 12621. | 23193. | 27258. | 33316. | 31070. | 21212. | 9971.  | 5346.  | 2675. | 178119. |
| 1970 | 1727. | 3814. | 6479.  | 9705.  | 20208. | 27601. | 32216. | 28547. | 18218. | 10192. | 5117.  | 2270. | 168094. |
| 1971 | 1718. | 3183. | 6740.  | 10298. | 15998. | 23658. | 30265. | 24291. | 17912. | 8942.  | 4146.  | 1932. | 149083. |
| 1972 | 1471. | 3332. | 8668.  | 10776. | 16795. | 23566. | 28122. | 21912. | 15796. | 8097.  | 3274.  | 1649. | 143458. |
| 1973 | 1206. | 2444. | 3973.  | 8017.  | 16116. | 22503. | 25439. | 21255. | 14380. | 8640.  | 3511.  | 1935. | 129419. |
| 1974 | 1133. | 2244. | 5210.  | 7790.  | 13908. | 20825. | 21239. | 18215. | 13615. | 7779.  | 3237.  | 1439. | 116634. |
| 1975 | 1083. | 1934. | 3882.  | 5425.  | 11638. | 18615. | 19857. | 16767. | 12494. | 6863.  | 3022.  | 1633. | 101213. |
| 1976 | 1110. | 2089. | 3775.  | 5955.  | 11858. | 15618. | 17892. | 14991. | 10271. | 3956.  | 2814.  | 1313. | 93642.  |
| 1977 | 982.  | 2134. | 3240.  | 6789.  | 8925.  | 16038. | 18114. | 14489. | 10706. | 6929.  | 3005.  | 1735. | 93096.  |
| 1978 | 1042. | 1783. | 4122.  | 5689.  | 10434. | 16000. | 18198. | 15011. | 10517. | 6993.  | 2466.  | 1036. | 93281.  |
| 1979 | 757.  | 1613. | 3548.  | 6546.  | 10722. | 18002. | 18038. | 14603. | 13040. | 6874.  | 2445.  | 1271. | 95459.  |
| 1980 | 1122. | 1996. | 3115.  | 6113.  | 9171.  | 15418. | 18550. | 15373. | 11522. | 6662.  | 3065.  | 1729. | 93836.  |
| 1981 | 1363. | 2243. | 4179.  | 8097.  | 11488. | 17645. | 18705. | 16875. | 11371. | 5574.  | 3081.  | 1511. | 102132. |
| 1982 | 996.  | 2130. | 3873.  | 6563.  | 11243. | 14906. | 17981. | 15610. | 10571. | 5691.  | 2496.  | 1208. | 93268.  |

AVERAGES

|       |       |       |        |        |        |        |        |        |        |       |       |         |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|---------|
| 2339. | 3925. | 7634. | 13839. | 23300. | 33600. | 38648. | 33811. | 23867. | 14341. | 6433. | 2779. | 204516. |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|---------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |      |     |     |     |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| 1.1 | 1.9 | 3.7 | 6.8 | 11.4 | 16.4 | 18.9 | 16.5 | 11.7 | 7.0 | 3.1 | 1.4 |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 204516. TONS

Davis Dam to Parker Dam  
Salt Model

Change in Storage in Lake Havasu

| YEAR | JAN    | FEB    | MAR    | APR    | MAY     | JUN    | JUL    | AUG    | SEP    | OCT    | NOV    | DEC    | TOTAL   |
|------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1935 | 0      | 0      | 0      | 0      | 0       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0       |
| 1936 | 0      | 0      | 0      | 0      | 0       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0       |
| 1937 | 0      | 0      | 0      | 0      | 0       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0       |
| 1938 | 0      | 0      | 0      | 0      | 0       | 0      | 32670  | -3536  | -1372  | 164444 | 278730 | -4784  | 466152  |
| 1939 | 33966  | -39216 | -11400 | 12768  | -1792   | 4440   | 660    | 0      | 67326  | -34986 | 1995   | 1040   | 3480    |
| 1940 | -13653 | -5700  | 18810  | -23408 | 53200   | -72483 | -7260  | 5816   | 2156   | -54096 | 2185   | -16432 | -111065 |
| 1941 | 4218   | -9234  | -13794 | -5376  | -82768  | 196470 | -41690 | -3536  | -20580 | -8428  | -10070 | -5304  | -92     |
| 1942 | 654    | 94000  | -93258 | 42218  | -335017 | -40299 | 97804  | -61097 | 160000 | 287595 | 14553  | -78943 | 88210   |
| 1943 | 78213  | 52976  | 40158  | -3230  | 9118    | -9702  | -7290  | -1456  | -21960 | -16468 | -24795 | -15921 | 79643   |
| 1944 | 5580   | 16560  | 5760   | -18326 | 19110   | 64548  | 12730  | -23424 | -33375 | -12760 | -30184 | 658    | 6877    |
| 1945 | 3290   | 637    | 45120  | 15604  | 4512    | 19800  | -62836 | 42660  | -6461  | -15895 | -32574 | -11070 | 2787    |
| 1946 | 14670  | -4416  | 61410  | 19864  | -19834  | 29072  | -16744 | -4272  | -26390 | 30212  | -19292 | -23478 | 40802   |
| 1947 | 4641   | -19136 | 40514  | 8924   | 27720   | -5194  | -1843  | -19776 | -15092 | -23933 | -11136 | 415    | -13896  |
| 1948 | -3840  | -6256  | 14378  | 56304  | 10920   | -8370  | 1440   | -32129 | -4048  | -1806  | -23814 | -5428  | -2649   |
| 1949 | -29637 | 11135  | 26544  | 45780  | 23415   | -16376 | 6942   | -21420 | -25813 | 11040  | -27951 | 55648  | 59287   |
| 1950 | -61576 | 42925  | 14112  | -2112  | 16368   | -4524  | 9945   | -78960 | -4620  | 45236  | -22446 | 1246   | -44406  |
| 1951 | 3293   | 3471   | -16200 | 52065  | -9990   | 21960  | -21294 | -18089 | -6561  | -6156  | -4118  | -6210  | -40772  |
| 1952 | -50778 | 15842  | 8455   | 39284  | 8550    | 9405   | -20520 | -27965 | -2125  | 9116   | -22016 | 9744   | 30767   |
| 1953 | 1972   | 19339  | 11160  | 37014  | 10580   | 4324   | -23229 | -25112 | -6016  | -6016  | -3572  | -2726  | -6966   |
| 1954 | -2408  | 935    | 19952  | 22380  | 20020   | -10528 | -22878 | -16089 | -749   | -8316  | 0      | -6540  | -14136  |
| 1955 | 2090   | 2784   | 12544  | 43065  | 12138   | -18974 | -8360  | -43818 | -29670 | -68310 | -7952  | -11385 | -66098  |
| 1956 | -444   | -15344 | 27346  | 51408  | -2970   | 27552  | -29945 | -6384  | -15049 | 8364   | -32754 | 3744   | -2579   |
| 1957 | 2530   | 2373   | 31472  | 36079  | -3270   | -10584 | -11236 | -14248 | -15521 | 5964   | -15204 | 2125   | 8229    |
| 1958 | -20300 | 12635  | 12649  | 31684  | 22011   | 6536   | -21414 | -12936 | -17253 | 6314   | 3696   | -5460  | 498     |
| 1959 | 0      | 1079   | 15204  | 34935  | -7392   | -14774 | -11094 | -17253 | 6314   | 3696   | -5460  | 498    | 5753    |
| 1960 | -12464 | 9594   | -3901  | 29841  | 704     | 9450   | 3916   | -27090 | -10057 | -698   | -8030  | 198    | -5095   |
| 1961 | -3312  | -9191  | 31740  | 12052  | 11280   | -940   | -20088 | 2790   | -5244  | -14742 | 1410   | -13064 | -7309   |
| 1962 | 23343  | -31713 | 24816  | 47424  | -8730   | -8000  | -11834 | -1287  | -9991  | -10486 | -5044  | -11700 | -3202   |
| 1963 | 900    | -22300 | 37026  | 35838  | 7954    | -6840  | -33764 | 8463   | -20839 | 5368   | -2816  | -9790  | -800    |
| 1964 | 13377  | -8910  | 8190   | 46774  | 13984   | -30400 | -7220  | -19190 | -8736  | 7392   | -9792  | -4500  | 969     |
| 1965 | 3434   | -25200 | 18128  | 16430  | 52216   | -11211 | -8720  | -22788 | -10584 | 6771   | -10780 | 9500   | 17196   |
| 1966 | -11680 | 4888   | 15120  | 38288  | 9680    | 2912   | -17120 | -27872 | 3210   | -7872  | -11000 | -6790  | -10236  |
| 1967 | 9016   | -14039 | 19012  | 44590  | 6468    | 6868   | -38665 | -9506  | -1746  | -12160 | 372    | -3264  | 6946    |
| 1968 | 6392   | -8455  | 12555  | 39618  | 8342    | 5320   | -25248 | -18050 | -9702  | -5880  | -10989 | -1600  | -7697   |
| 1969 | -5353  | 21522  | 1235   | 45320  | 11880   | -2940  | -21321 | -13761 | -7326  | -5820  | -4120  | -16422 | 2894    |
| 1970 | 7622   | -8008  | 7854   | 50232  | 22454   | -3914  | -7800  | -23358 | -25452 | -927   | 5096   | -15696 | 8103    |
| 1971 | 428    | 309    | 17680  | 35738  | 15330   | -2424  | -12036 | -18972 | -4949  | -11440 | -10094 | -12168 | -2598   |
| 1972 | 945    | 9095   | 20009  | 29925  | 19788   | -10706 | -9800  | -20758 | -11956 | -21562 | -8051  | 8700   | 3609    |
| 1973 | 1818   | -4500  | 25935  | 33024  | 9900    | -3600  | -10504 | -21917 | -11466 | -7938  | 388    | -9506  | 1634    |
| 1974 | -8134  | 14700  | 17480  | 35890  | 3492    | -1344  | -22232 | -8556  | -11284 | 7440   | -20608 | -14060 | -8236   |
| 1975 | 9797   | 7448   | 3038   | 45695  | 8256    | -9216  | -3610  | -20700 | -1395  | -13632 | -4462  | -8730  | 12489   |
| 1976 | 2850   | -7315  | 16800  | 32640  | 18620   | -11834 | -27075 | -10622 | 22936  | -8648  | -27600 | 24960  | 25712   |
| 1977 | -22560 | 7050   | 16450  | 25380  | 13020   | -7360  | -14076 | -17139 | -920   | -5301  | -6204  | -6930  | -18590  |
| 1978 | 5856   | 2139   | 11408  | 24645  | 13206   | 184    | -19320 | -14105 | -3069  | -10028 | 372    | -11349 | -61     |
| 1979 | -12250 | -4410  | 8174   | 7178   | 35200   | -15700 | -3800  | 700    | 6958   | -7656  | -198   | -9090  | 3106    |
| 1980 | 11220  | -58710 | 48100  | 42042  | -396    | -4000  | -17850 | -16059 | 7668   | -792   | -6958  | 19008  | 21273   |
| 1981 | -12936 | -3384  | 20855  | 35114  | 4268    | 784    | -31862 | -5488  | -2328  | -20088 | 7144   | -20646 | -28567  |
| 1982 | 5917   | 6460   | -6016  | 67221  | 11285   | -12350 | -15066 | -7644  | -22540 | -6144  | -5035  | -11040 | 5049    |

AVERAGES

|      |      |       |       |      |      |        |        |       |      |       |       |       |
|------|------|-------|-------|------|------|--------|--------|-------|------|-------|-------|-------|
| -277 | 1135 | 13304 | 27412 | 1309 | 1147 | -10865 | -14378 | -3602 | 3889 | -2790 | -4689 | 11593 |
|------|------|-------|-------|------|------|--------|--------|-------|------|-------|-------|-------|

MONTHLY PERCENTAGES

|      |     |       |       |      |     |       |        |       |      |       |       |
|------|-----|-------|-------|------|-----|-------|--------|-------|------|-------|-------|
| -2.4 | 9.8 | 114.8 | 236.4 | 11.3 | 9.9 | -93.7 | -124.0 | -31.1 | 33.5 | -24.1 | -40.4 |
|------|-----|-------|-------|------|-----|-------|--------|-------|------|-------|-------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 11593 TONS

Davis Dam to Parker Dam  
Salt Model

Salt Pumped from Lake Havasu by the Metropolitan Water District  
Of Southern California

| YEAR | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1935 | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1936 | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1937 | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1938 | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.       |
| 1939 | 6593.   | 27748.  | 7900.   | 7840.   | 12432.  | 13142.  | 13376.  | 26759.  | 16248.  | 12769.  | 23446.  | 13697.  | 181950.  |
| 1940 | -14952. | -2018.  | 26277.  | 8915.   | 11861.  | 12798.  | 14806.  | 8521.   | 12475.  | 13975.  | 10545.  | 0.      | 101203.  |
| 1941 | 5317.   | 186.    | 2611.   | 4133.   | 2990.   | 4329.   | 1397.   | 3619.   | 4753.   | 387.    | 1615.   | 1560.   | 32897.   |
| 1942 | 3194.   | 26.     | 0.      | 2848.   | 4091.   | 0.      | 0.      | 0.      | 0.      | 13484.  | 7613.   | 0.      | 31256.   |
| 1943 | 2539.   | 0.      | 340.    | 3629.   | 7682.   | 11152.  | 1593.   | 1747.   | 1062.   | 1389.   | 1784.   | 0.      | 32917.   |
| 1944 | 1989.   | 4223.   | 9370.   | 0.      | 1254.   | 2010.   | 1102.   | 7018.   | 4842.   | 4626.   | 5208.   | 6277.   | 47919.   |
| 1945 | 0.      | 1738.   | 0.      | 7942.   | 8771.   | 3458.   | 1099.   | 12301.  | 8843.   | 7311.   | 1780.   | 0.      | 53223.   |
| 1946 | 2815.   | 3240.   | 4066.   | 1757.   | 11893.  | 9712.   | 1038.   | 0.      | 15843.  | 23543.  | 5.      | 0.      | 73912.   |
| 1947 | 0.      | 0.      | 418.    | 4585.   | 14842.  | 24565.  | 17777.  | 0.      | 0.      | 6699.   | 2128.   | 9955.   | 80967.   |
| 1948 | 10401.  | 11913.  | 11434.  | 23839.  | 23946.  | 16028.  | 12020.  | 12618.  | 22366.  | 9331.   | 9057.   | 12380.  | 175333.  |
| 1949 | 11339.  | 10421.  | 10710.  | 12804.  | 14018.  | 15255.  | 12634.  | 11718.  | 21439.  | 8680.   | 8609.   | 9958.   | 147585.  |
| 1950 | 11146.  | 10362.  | 11315.  | 11378.  | 20918.  | 10014.  | 19295.  | 19557.  | 11147.  | 12066.  | 9614.   | 11606.  | 154418.  |
| 1951 | 11971.  | 9826.   | 12402.  | 18165.  | 11430.  | 22563.  | 23669.  | 21965.  | 22053.  | 20700.  | 21060.  | 11621.  | 207425.  |
| 1952 | 11821.  | 10956.  | 11561.  | 11739.  | 16228.  | 13500.  | 11673.  | 11008.  | 19699.  | 14379.  | 9663.   | 6859.   | 149084.  |
| 1953 | 0.      | 4518.   | 18904.  | 24572.  | 21650.  | 12216.  | 20395.  | 28828.  | 29139.  | 21254.  | 8543.   | 11546.  | 201565.  |
| 1954 | 10087.  | 10023.  | 20754.  | 19136.  | 28360.  | 22040.  | 33857.  | 34502.  | 33589.  | 32830.  | 33343.  | 34786.  | 313307.  |
| 1955 | 24020.  | 28793.  | 38383.  | 34351.  | 34846.  | 39995.  | 36073.  | 39374.  | 38007.  | 42623.  | 39406.  | 39586.  | 435457.  |
| 1956 | 33175.  | 38513.  | 39785.  | 41758.  | 36331.  | 40049.  | 41532.  | 50306.  | 54763.  | 54669.  | 53145.  | 56926.  | 540952.  |
| 1957 | 55374.  | 47235.  | 57138.  | 47459.  | 63059.  | 60841.  | 59868.  | 58209.  | 49585.  | 55007.  | 53895.  | 26593.  | 636263.  |
| 1958 | 26412.  | 38674.  | 45398.  | 29228.  | 43370.  | 43686.  | 47138.  | 46027.  | 39118.  | 41387.  | 35550.  | 35142.  | 471128.  |
| 1959 | 45136.  | 19604.  | 46595.  | 50194.  | 59005.  | 60225.  | 57949.  | 56798.  | 52224.  | 59765.  | 52466.  | 38632.  | 588593.  |
| 1960 | 55886.  | 39016.  | 50266.  | 56499.  | 65901.  | 74249.  | 76909.  | 84690.  | 81798.  | 84185.  | 68745.  | 45496.  | 783640.  |
| 1961 | 77975.  | 69673.  | 91290.  | 89649.  | 95099.  | 90128.  | 90687.  | 90973.  | 87468.  | 88622.  | 71865.  | 76729.  | 1020158. |
| 1962 | 88084.  | 42990.  | 50397.  | 66031.  | 97980.  | 97046.  | 98154.  | 100104. | 94678.  | 96304.  | 93109.  | 97018.  | 1041895. |
| 1963 | 100964. | 90025.  | 66122.  | 77852.  | 79943.  | 83511.  | 83494.  | 89956.  | 89292.  | 85436.  | 75473.  | 71034.  | 993102.  |
| 1964 | 71374.  | 65214.  | 90991.  | 74415.  | 96729.  | 95556.  | 97136.  | 94681.  | 94681.  | 98104.  | 91701.  | 100379. | 1070661. |
| 1965 | 98844.  | 71897.  | 107938. | 108049. | 112575. | 113458. | 105831. | 114345. | 108010. | 114655. | 109709. | 83733.  | 1249044. |
| 1966 | 37177.  | 65555.  | 94626.  | 11236.  | 119332. | 117274. | 115058. | 111627. | 109511. | 101168. | 100425. | 102143. | 1185232. |
| 1967 | 103134. | 89740.  | 78107.  | 87585.  | 94651.  | 100542. | 99619.  | 106032. | 100847. | 91827.  | 95483.  | 45107.  | 1092674. |
| 1968 | 67816.  | 66962.  | 78857.  | 91252.  | 105860. | 100478. | 101973. | 103098. | 102166. | 104798. | 101394. | 107979. | 1132633. |
| 1969 | 105015. | 94113.  | 62107.  | 71954.  | 96702.  | 86759.  | 114026. | 108990. | 101135. | 98417.  | 100477. | 105026. | 1144721. |
| 1970 | 80857.  | 101786. | 94365.  | 109078. | 113269. | 110042. | 109301. | 107905. | 104001. | 109965. | 98403.  | 98464.  | 1237436. |
| 1971 | 104736. | 84955.  | 108367. | 111742. | 113370. | 105180. | 109949. | 109186. | 104837. | 112074. | 106729. | 86109.  | 1255234. |
| 1972 | 112569. | 107157. | 115489. | 101235. | 111299. | 104529. | 115473. | 110421. | 101413. | 107334. | 95053.  | 61499.  | 1243471. |
| 1973 | 108619. | 87258.  | 55026.  | 90296.  | 107097. | 104851. | 109415. | 108749. | 102384. | 105331. | 101109. | 95190.  | 1155325. |
| 1974 | 98043.  | 44465.  | 101079. | 101246. | 105221. | 100815. | 103213. | 98355.  | 93608.  | 100727. | 50394.  | 78466.  | 1075632. |
| 1975 | 54121.  | 52679.  | 67787.  | 64204.  | 77436.  | 73217.  | 78914.  | 74461.  | 82352.  | 65675.  | 40130.  | 41393.  | 752389.  |
| 1976 | 46027.  | 50123.  | 85274.  | 86201.  | 73639.  | 77171.  | 89852.  | 88943.  | 88043.  | 48028.  | 37351.  | 49428.  | 760080.  |
| 1977 | 54925.  | 92184.  | 108191. | 104234. | 108894. | 104460. | 109048. | 99692.  | 83042.  | 109627. | 107223. | 116265. | 1197785. |
| 1978 | 69104.  | 41673.  | 59909.  | 59282.  | 39784.  | 57877.  | 57046.  | 60645.  | 59005.  | 58449.  | 48220.  | 55497.  | 666491.  |
| 1979 | 48067.  | 37050.  | 47680.  | 69750.  | 81130.  | 77850.  | 78520.  | 83770.  | 58870.  | 64500.  | 58600.  | 77147.  | 809195.  |
| 1980 | 48530.  | 43180.  | 35290.  | 94617.  | 83490.  | 77970.  | 78510.  | 87808.  | 58310.  | 74200.  | 69340.  | 59990.  | 792886.  |
| 1981 | 61207.  | 43846.  | 55616.  | 76258.  | 94590.  | 82650.  | 83087.  | 72280.  | 76580.  | 61985.  | 45727.  | 39060.  | 792886.  |
| 1982 | 35324.  | 36202.  | 54659.  | 66429.  | 100892. | 92234.  | 86253.  | 79473.  | 30564.  | 33156.  | 29450.  | 37565.  | 682001.  |

AVERAGES

41391. 36953. 44015. 48653. 54660. 53446. 54537. 54808. 50623. 51515. 45635. 42531. 578766.

MONTHLY PERCENTAGES

7.2 6.4 7.6 8.4 9.4 9.2 9.4 9.5 8.7 8.9 7.9 7.3

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 578766. TONS

Bill Williams River Salt Load

| YEAR | JAN    | FEB    | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    | OCT    | NOV    | DEC    | TOTAL   |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1935 | 6239.  | 24052. | 11997. | 1142.  | 1142.  | 1061.  | 979.   | 1862.  | 2427.  | 898.   | 898.   | 898.   | 53595.  |
| 1936 | 898.   | 979.   | 816.   | 734.   | 653.   | 653.   | 3545.  | 4505.  | 1061.  | 734.   | 816.   | 1495.  | 16889.  |
| 1937 | 1934.  | 52275. | 12591. | 2358.  | 1061.  | 979.   | 1061.  | 979.   | 1643.  | 1387.  | 898.   | 979.   | 78146.  |
| 1938 | 898.   | 898.   | 25125. | 979.   | 816.   | 898.   | 898.   | 734.   | 734.   | 734.   | 816.   | 1643.  | 35173.  |
| 1939 | 816.   | 1224.  | 898.   | 734.   | 653.   | 653.   | 653.   | 816.   | 54900. | 2148.  | 1224.  | 1224.  | 65943.  |
| 1940 | 1495.  | 7502.  | 1643.  | 1495.  | 1224.  | 1061.  | 1061.  | 979.   | 979.   | 1495.  | 979.   | 16981. | 36894.  |
| 1941 | 12591. | 25062. | 42650. | 27250. | 4155.  | 816.   | 1142.  | 3032.  | 5488.  | 1142.  | 1142.  | 2496.  | 126966. |
| 1942 | 5591.  | 2077.  | 1789.  | 1142.  | 1142.  | 898.   | 1061.  | 898.   | 734.   | 898.   | 898.   | 898.   | 18026.  |
| 1943 | 979.   | 734.   | 2218.  | 979.   | 734.   | 734.   | 734.   | 898.   | 734.   | 1061.  | 816.   | 816.   | 11437.  |
| 1944 | 816.   | 11210. | 19525. | 1789.  | 1224.  | 1061.  | 1061.  | 979.   | 1142.  | 979.   | 979.   | 1142.  | 41907.  |
| 1945 | 1061.  | 898.   | 18072. | 2834.  | 1224.  | 979.   | 979.   | 1306.  | 816.   | 816.   | 898.   | 1306.  | 31189.  |
| 1946 | 898.   | 816.   | 816.   | 1061.  | 653.   | 571.   | 734.   | 816.   | 653.   | 408.   | 571.   | 6191.  | 14188.  |
| 1947 | 1569.  | 816.   | 734.   | 490.   | 408.   | 326.   | 326.   | 816.   | 734.   | 326.   | 490.   | 490.   | 7325.   |
| 1948 | 512.   | 581.   | 628.   | 494.   | 422.   | 310.   | 426.   | 1243.  | 265.   | 369.   | 434.   | 681.   | 6365.   |
| 1949 | 4603.  | 11958. | 10149. | 1841.  | 508.   | 357.   | 256.   | 330.   | 290.   | 1203.  | 441.   | 463.   | 32195.  |
| 1950 | 472.   | 512.   | 573.   | 460.   | 379.   | 270.   | 698.   | 356.   | 969.   | 324.   | 366.   | 451.   | 5830.   |
| 1951 | 500.   | 437.   | 450.   | 447.   | 404.   | 259.   | 236.   | 23626. | 2788.  | 2084.  | 1114.  | 11879. | 44224.  |
| 1952 | 16813. | 2591.  | 23771. | 6413.  | 2408.  | 2113.  | 332.   | 330.   | 322.   | 361.   | 459.   | 567.   | 56480.  |
| 1953 | 709.   | 685.   | 754.   | 519.   | 440.   | 344.   | 348.   | 625.   | 295.   | 346.   | 415.   | 445.   | 5925.   |
| 1954 | 610.   | 589.   | 22373. | 1817.  | 448.   | 266.   | 365.   | 863.   | 392.   | 300.   | 393.   | 467.   | 28883.  |
| 1955 | 532.   | 492.   | 477.   | 428.   | 329.   | 230.   | 2880.  | 12142. | 418.   | 437.   | 499.   | 594.   | 19458.  |
| 1956 | 943.   | 764.   | 589.   | 501.   | 383.   | 314.   | 416.   | 283.   | 258.   | 319.   | 425.   | 494.   | 5689.   |
| 1957 | 873.   | 1872.  | 655.   | 604.   | 402.   | 323.   | 387.   | 2302.  | 316.   | 1471.  | 3009.  | 615.   | 12829.  |
| 1958 | 632.   | 6730.  | 12854. | 8649.  | 657.   | 489.   | 450.   | 293.   | 772.   | 643.   | 712.   | 672.   | 33553.  |
| 1959 | 663.   | 2642.  | 947.   | 540.   | 392.   | 250.   | 165.   | 3805.  | 259.   | 264.   | 395.   | 2635.  | 12957.  |
| 1960 | 3975.  | 3515.  | 5985.  | 619.   | 309.   | 175.   | 193.   | 171.   | 218.   | 267.   | 343.   | 440.   | 16210.  |
| 1961 | 460.   | 459.   | 461.   | 388.   | 282.   | 206.   | 157.   | 1448.  | 484.   | 244.   | 249.   | 320.   | 5168.   |
| 1962 | 500.   | 5290.  | 2027.  | 685.   | 370.   | 273.   | 220.   | 233.   | 292.   | 429.   | 396.   | 568.   | 13973.  |
| 1963 | 652.   | 615.   | 860.   | 561.   | 413.   | 225.   | 159.   | 9463.  | 5043.  | 655.   | 2191.  | 1050.  | 21707.  |
| 1964 | 819.   | 863.   | 999.   | 1045.  | 545.   | 248.   | 216.   | 10842. | 1826.  | 490.   | 570.   | 685.   | 19148.  |
| 1965 | 864.   | 3664.  | 6633.  | 24423. | 1057.  | 392.   | 308.   | 240.   | 260.   | 327.   | 14803. | 30473. | 83444.  |
| 1966 | 8468.  | 3461.  | 3127.  | 1302.  | 354.   | 259.   | 204.   | 849.   | 271.   | 287.   | 346.   | 21417. | 40345.  |
| 1967 | 1318.  | 892.   | 1208.  | 772.   | 505.   | 361.   | 346.   | 1731.  | 3307.  | 503.   | 393.   | 10060. | 21398.  |
| 1968 | 12179. | 7740.  | 1376.  | 468.   | 312.   | 164.   | 590.   | 387.   | 377.   | 328.   | 323.   | 466.   | 24730.  |
| 1969 | 8806.  | 8571.  | 6301.  | 392.   | 128.   | 0.     | 0.     | 0.     | 82.    | 55.    | 75.    | 289.   | 22677.  |
| 1970 | 451.   | 370.   | 8877.  | 270.   | 276.   | 157.   | 178.   | 1919.  | 138.   | 441.   | 420.   | 499.   | 13996.  |
| 1971 | 473.   | 500.   | 412.   | 103.   | 122.   | 0.     | 0.     | 5719.  | 795.   | 246.   | 279.   | 727.   | 9376.   |
| 1972 | 560.   | 565.   | 898.   | 106.   | 124.   | 0.     | 0.     | 268.   | 409.   | 9907.  | 5034.  | 3716.  | 21287.  |
| 1973 | 1910.  | 13008. | 18905. | 11012. | 364.   | 39.    | 85.    | 393.   | 464.   | 251.   | 104.   | 225.   | 46760.  |
| 1974 | 322.   | 348.   | 505.   | 218.   | 0.     | 0.     | 17.    | 144.   | 44.    | 109.   | 98.    | 59.    | 1864.   |
| 1975 | 71.    | 109.   | 236.   | 325.   | 40.    | 27.    | 6.     | 47.    | 2.     | 0.     | 0.     | 120.   | 983.    |
| 1976 | 125.   | 6574.  | 6449.  | 6309.  | 17.    | 1073.  | 2111.  | 2272.  | 2081.  | 2348.  | 2384.  | 2615.  | 34328.  |
| 1977 | 1428.  | 896.   | 802.   | 951.   | 511.   | 226.   | 588.   | 613.   | 645.   | 543.   | 712.   | 395.   | 8310.   |
| 1978 | 185.   | 152.   | 3668.  | 4411.  | 3444.  | 22.    | 15.    | 30.    | 40.    | 2867.  | 6419.  | 6401.  | 27654.  |
| 1979 | 4864.  | 10126. | 12846. | 3862.  | 11200. | 10876. | 8110.  | 16199. | 14911. | 12305. | 10224. | 14535. | 130058. |
| 1980 | 6033.  | 23444. | 45384. | 20064. | 14593. | 2980.  | 27035. | 19635. | 32985. | 10655. | 396.   | 339.   | 205543. |
| 1981 | 358.   | 297.   | 327.   | 304.   | 1066.  | 1102.  | 9841.  | 11564. | 10077. | 511.   | 331.   | 319.   | 36095.  |
| 1982 | 258.   | 306.   | 547.   | 416.   | 469.   | 468.   | 464.   | 410.   | 430.   | 417.   | 417.   | 480.   | 5082.   |

AVERAGES

|       |       |       |       |       |      |       |       |       |       |       |       |        |
|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|--------|
| 2432. | 5212. | 7114. | 3011. | 1224. | 740. | 1501. | 3112. | 3276. | 1361. | 1387. | 3182. | 33550. |
|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|--------|

MONTHLY PERCENTAGES

|     |      |      |     |     |     |     |     |     |     |     |     |
|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 7.2 | 15.5 | 21.2 | 9.0 | 3.6 | 2.2 | 4.5 | 9.3 | 9.8 | 4.1 | 4.1 | 9.5 |
|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 33550. TONS

Davis Dam to Parker Dam  
Salt Model

Salt Load Below Parker Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 600647.  | 430680.  | 666577.  | 524642.  | 462950.  | 609936.  | 325835.  | 246631.  | 267135.  | 376172.  | 458605.  | 335008.  | 5294818.  |
| 1936 | 353584.  | 393379.  | 610159.  | 612221.  | 509513.  | 409589.  | 393091.  | 339404.  | 296707.  | 259168.  | 237143.  | 258995.  | 4672953.  |
| 1937 | 283247.  | 485166.  | 531117.  | 581452.  | 558726.  | 579518.  | 691703.  | 662462.  | 564985.  | 472075.  | 388353.  | 361286.  | 6160190.  |
| 1938 | 341623.  | 332660.  | 503133.  | 581513.  | 564455.  | 602997.  | 596974.  | 567813.  | 486584.  | 502390.  | 367304.  | 335628.  | 5783074.  |
| 1939 | 594225.  | 1311045. | 683407.  | 617226.  | 594249.  | 623966.  | 676900.  | 687001.  | 944688.  | 671755.  | 676809.  | 700768.  | 8782039.  |
| 1940 | 729161.  | 486910.  | 585981.  | 690870.  | 556291.  | 644032.  | 693547.  | 684869.  | 724637.  | 857698.  | 785972.  | 911096.  | 8351064.  |
| 1941 | 695637.  | 639198.  | 854658.  | 681296.  | 1522080. | 1807080. | 1097470. | 1385280. | 1497440. | 1553300. | 1644450. | 2123680. | 15501569. |
| 1942 | 2133130. | 1482000. | 1479060. | 1147360. | 1603880. | 1551360. | 1201480. | 941707.  | 797200.  | 836946.  | 1030590. | 1079570. | 15284283. |
| 1943 | 943950.  | 656480.  | 859614.  | 833435.  | 927902.  | 955990.  | 977400.  | 901355.  | 905400.  | 1067200. | 999630.  | 1070970. | 11099326. |
| 1944 | 1116900. | 1125160. | 1245120. | 1140720. | 1093680. | 972774.  | 983250.  | 1102080. | 991460.  | 1036640. | 1017280. | 1115780. | 12940844. |
| 1945 | 1114840. | 965510.  | 1158080. | 925524.  | 911330.  | 913035.  | 839960.  | 693270.  | 750113.  | 882300.  | 922040.  | 989100.  | 11062372. |
| 1946 | 936900.  | 986880.  | 840249.  | 863512.  | 820902.  | 693956.  | 729001.  | 642224.  | 664391.  | 690417.  | 717626.  | 791700.  | 9377758.  |
| 1947 | 866957.  | 827172.  | 883224.  | 773090.  | 895851.  | 842604.  | 818874.  | 856704.  | 802620.  | 761124.  | 765339.  | 860710.  | 9954269.  |
| 1948 | 1113600. | 1067200. | 1007370. | 996360.  | 1014650. | 919770.  | 997200.  | 877540.  | 827728.  | 789480.  | 791937.  | 1017520. | 11420355. |
| 1949 | 1093810. | 1013200. | 1038240. | 982080.  | 1031730. | 821559.  | 847191.  | 850920.  | 912170.  | 918400.  | 778470.  | 856920.  | 11144690. |
| 1950 | 928800.  | 880600.  | 1015560. | 878152.  | 938080.  | 783087.  | 762535.  | 699468.  | 591276.  | 560032.  | 471279.  | 495908.  | 9004777.  |
| 1951 | 489767.  | 445712.  | 656640.  | 680494.  | 607770.  | 775620.  | 859859.  | 840605.  | 836416.  | 638280.  | 504450.  | 843461.  | 7779704.  |
| 1952 | 1004640. | 1009280. | 1267360. | 1196000. | 1370850. | 1348050. | 1136700. | 1101600. | 1070010. | 937840.  | 832120.  | 899070.  | 13173500. |
| 1953 | 814640.  | 846600.  | 852570.  | 751533.  | 876484.  | 879152.  | 972770.  | 908180.  | 699468.  | 545154.  | 453564.  | 551841.  | 9151933.  |
| 1954 | 685592.  | 561765.  | 872778.  | 742696.  | 923650.  | 829644.  | 930000.  | 912888.  | 709230.  | 598025.  | 599628.  | 619460.  | 8785357.  |
| 1955 | 697205.  | 574272.  | 717850.  | 750519.  | 807840.  | 918172.  | 1059740. | 925083.  | 742045.  | 538596.  | 406340.  | 311740.  | 8449402.  |
| 1956 | 352203.  | 409360.  | 709301.  | 765856.  | 737770.  | 881216.  | 977224.  | 922096.  | 728985.  | 534930.  | 359632.  | 331085.  | 7709558.  |
| 1957 | 279220.  | 394031.  | 659680.  | 797335.  | 703090.  | 845532.  | 944036.  | 849264.  | 667509.  | 513080.  | 804121.  | 1045200. | 8502038.  |
| 1958 | 1285000. | 536465.  | 1223330. | 1186370. | 881310.  | 734182.  | 799972.  | 727944.  | 592371.  | 512148.  | 522152.  | 639965.  | 9642829.  |
| 1959 | 568512.  | 492190.  | 579800.  | 706945.  | 621016.  | 709330.  | 827664.  | 707373.  | 559322.  | 488636.  | 340284.  | 340715.  | 6921587.  |
| 1960 | 350714.  | 388516.  | 630717.  | 704874.  | 651376.  | 791370.  | 877718.  | 781200.  | 569066.  | 426039.  | 357390.  | 293293.  | 6822273.  |
| 1961 | 349048.  | 412321.  | 682272.  | 666540.  | 662700.  | 773150.  | 636907.  | 660021.  | 557520.  | 374738.  | 300142.  | 185656.  | 6461015.  |
| 1962 | 310341.  | 347448.  | 650480.  | 726240.  | 665420.  | 778100.  | 855443.  | 812988.  | 624777.  | 461580.  | 421174.  | 285500.  | 6940491.  |
| 1963 | 349500.  | 467300.  | 727353.  | 683397.  | 686489.  | 798190.  | 858728.  | 744926.  | 573391.  | 385704.  | 294184.  | 272785.  | 6841927.  |
| 1964 | 330148.  | 431460.  | 582491.  | 593664.  | 550252.  | 704900.  | 820800.  | 755440.  | 565728.  | 392832.  | 263904.  | 245000.  | 6236639.  |
| 1965 | 292294.  | 423000.  | 653432.  | 615860.  | 646387.  | 787989.  | 922031.  | 936360.  | 647244.  | 427794.  | 242110.  | 186865.  | 6781366.  |
| 1966 | 128480.  | 429416.  | 652428.  | 787644.  | 768900.  | 885248.  | 963749.  | 886392.  | 625736.  | 341472.  | 254500.  | 310594.  | 7034559.  |
| 1967 | 299782.  | 435007.  | 663754.  | 596134.  | 635432.  | 732856.  | 793440.  | 734216.  | 475591.  | 412837.  | 229844.  | 162977.  | 6171870.  |
| 1968 | 329437.  | 400921.  | 632329.  | 650517.  | 607155.  | 686158.  | 748220.  | 689023.  | 570883.  | 396249.  | 306194.  | 312262.  | 6329348.  |
| 1969 | 256407.  | 475890.  | 702985.  | 733766.  | 691838.  | 708152.  | 787578.  | 725574.  | 483160.  | 421066.  | 226692.  | 316525.  | 6529633.  |
| 1970 | 377955.  | 459662.  | 668735.  | 780269.  | 676766.  | 726901.  | 792210.  | 888141.  | 533331.  | 467338.  | 316006.  | 357532.  | 6844666.  |
| 1971 | 362327.  | 500332.  | 772451.  | 798172.  | 693614.  | 750329.  | 895050.  | 703820.  | 571011.  | 413021.  | 318627.  | 369702.  | 7148456.  |
| 1972 | 363302.  | 513629.  | 799467.  | 804829.  | 713612.  | 695718.  | 875120.  | 694639.  | 562098.  | 221462.  | 274266.  | 388262.  | 6906968.  |
| 1973 | 388838.  | 347628.  | 608560.  | 767757.  | 689403.  | 672942.  | 837394.  | 733361.  | 831123.  | 474353.  | 300325.  | 330176.  | 6726890.  |
| 1974 | 239616.  | 471806.  | 682865.  | 838265.  | 733427.  | 758998.  | 839354.  | 758505.  | 568281.  | 370884.  | 258440.  | 308465.  | 6830926.  |
| 1975 | 351722.  | 428354.  | 678200.  | 755630.  | 739006.  | 666048.  | 784035.  | 738300.  | 604965.  | 457440.  | 328698.  | 348715.  | 6887113.  |
| 1976 | 335160.  | 346275.  | 773088.  | 740256.  | 658920.  | 695684.  | 750025.  | 792232.  | 376000.  | 326416.  | 228988.  | 342048.  | 6365092.  |
| 1977 | 242144.  | 468590.  | 642114.  | 782904.  | 606267.  | 699476.  | 879704.  | 598212.  | 423476.  | 323454.  | 270814.  | 305415.  | 6222570.  |
| 1978 | 131232.  | 389954.  | 636732.  | 789663.  | 631284.  | 701776.  | 833428.  | 720265.  | 532890.  | 331476.  | 256608.  | 261997.  | 6197305.  |
| 1979 | 145728.  | 319970.  | 535494.  | 737295.  | 751584.  | 832706.  | 950994.  | 780012.  | 688118.  | 479940.  | 353184.  | 331265.  | 6906290.  |
| 1980 | 298018.  | 378778.  | 939840.  | 1087370. | 906160.  | 1133550. | 1234530. | 1152360. | 981600.  | 817749.  | 752499.  | 714700.  | 10397154. |
| 1981 | 462400.  | 462978.  | 697000.  | 869200.  | 869438.  | 796128.  | 894900.  | 846048.  | 535610.  | 318250.  | 242976.  | 289254.  | 7084182.  |
| 1982 | 333788.  | 477750.  | 630403.  | 800448.  | 618660.  | 629343.  | 751170.  | 612384.  | 479665.  | 372092.  | 225496.  | 258786.  | 6190187.  |

AVERAGES

|         |         |         |         |         |         |         |         |         |         |         |         |          |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 562964. | 585831. | 789427. | 785374. | 774798. | 813649. | 852557. | 782679. | 658608. | 561166. | 497879. | 538886. | 8184017. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |      |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 6.9 | 7.2 | 9.4 | 9.6 | 9.5 | 9.9 | 10.4 | 9.7 | 8.0 | 6.9 | 6.1 | 6.6 |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8184017. TONS

**Appendix 6**

**PHREATOPHYTE  
CONSUMPTIVE USE**

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 PHREATOPHYTE CONSUMPTIVE USE
Davis Dam to Parker Dam and Parker Dam to Imperial Dam Reaches

In River Planning studies, it is often necessary to make estimates of the evapotranspiration (consumptive use) by native phreatophytes. It is generally accepted that no simple solution is available for estimating such consumptive use for a specific locality, depth to water table, and density of growth. Several methods and considerable engineering judgment have been used in previous studies.

The following outlines the approach used for the Lower Colorado Region data base.

Estimating Evapotranspiration

A popular method for estimating consumptive use is the Blaney-Criddle formula. This method is based on the assumption that with ample moisture available, evapotranspiration is affected primarily by temperature, duration of daylight, and type of vegetation. The Blaney-Criddle equation for evapotranspiration is:

$$U = KF$$

where U is the consumptive use rate or evapotranspiration;

K is an empirical consumptive-use coefficient that is dependent upon the species of vegetation;

F is a climatic factor derived by multiplying the mean monthly temperature in degrees Fahrenheit (T) by the monthly percentage of total daytime hours in the year (P) (Fig. 1) :  $F = \frac{T \times P}{100}$

The monthly values are totaled to obtain an annual value.

For the Davis Dam to Parker Dam reach temperature and precipitation values for Parker Reservoir, California, were used (Table 1). For the Parker Dam to Imperial Dam reach the temperature and precipitation values for Blythe, California, were used (Table 2). These areas were chosen since they best represent the temperatures and precipitation of their respective reaches. For months in which no data existed averages for the available record were used.

Tables of the mean monthly temperatures, precipitation value, and phreatophyte acreages used to calculate the phreatophyte consumptive use values are included on the following pages. Also included is an explanation of how the monthly "K" factors were derived, a chart of monthly percentage of daylight hours, and tables of the resultant "K" factors and consumptive use values for the phreatophytes.

The annual consumptive use coefficients ("K" factors), used for both the Davis Dam to Parker Dam reach and the Parker Dam to Imperial Dam reach were derived from data found in "Determining Consumptive Use and Irrigation Water Requirements," Bulletin No. 1275, Agricultural Research Service, USDA. The monthly distribution of these annual "K" factors was calculated using alfalfa as a model. Alfalfa's "K" factor most closely resembled those of the phreatophytes since it is a deep rooted plant using approximately the same amount of water and is perennial. By using the percentage which the monthly "K" factors represent of the annual total for alfalfa, Table 3, and the annual "K" factors for the phreatophytes, monthly "K" factors for the phreatophytes were calculated (Table 4).

The phreatophyte consumptive use values are statistically represented in Tables 5 and 6 and the annual consumptive use is graphically represented in Figures 2 and 3.

TABLE 1  
 Mean Monthly Temperature Data Used Parker Reservoir  
 (Davis Dam to Parker Dam Reach)  
 Units: Deg. Fahrenheit X10

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1960 | 496 | 546 | 677 | 740 | 807 | 939 | 968 | 948 | 896 | 760 | 628 | 533 |
| 1961 | 556 | 602 | 639 | 733 | 793 | 929 | 960 | 936 | 845 | 758 | 603 | 527 |
| 1962 | 529 | 584 | 593 | 787 | 767 | 882 | 952 | 967 | 897 | 772 | 679 | 570 |
| 1963 | 502 | 635 | 634 | 672 | 824 | 849 | 956 | 932 | 899 | 795 | 633 | 537 |
| 1964 | 504 | 544 | 605 | 689 | 777 | 868 | 953 | 934 | 875 | 826 | 593 | 557 |
| 1965 | 556 | 590 | 617 | 693 | 778 | 837 | 945 | 947 | 839 | 798 | 661 | 532 |
| 1966 | 507 | 537 | 656 | 755 | 825 | 899 | 950 | 953 | 895 | 755 | 653 | 557 |
| 1967 | 541 | 601 | 665 | 643 | 797 | 858 | 966 | 965 | 871 | 792 | 685 | 509 |
| 1968 | 543 | 634 | 668 | 706 | 807 | 902 | 940 | 909 | 887 | 768 | 642 | 507 |
| 1969 | 572 | 555 | 620 | 732 | 833 | 870 | 952 | 986 | 908 | 728 | 643 | 567 |
| 1970 | 531 | 615 | 627 | 668 | 821 | 905 | 975 | 961 | 863 | 734 | 644 | 529 |
| 1971 | 536 | 589 | 650 | 696 | 757 | 878 | 968 | 921 | 882 | 711 | 609 | 519 |
| 1972 | 522 | 608 | 736 | 737 | 807 | 904 | 975 | 928 | 872 | 717 | 583 | 509 |
| 1973 | 505 | 568 | 576 | 697 | 830 | 920 | 960 | 930 | 865 | 765 | 619 | 566 |
| 1974 | 515 | 572 | 661 | 710 | 814 | 939 | 940 | 939 | 905 | 775 | 633 | 524 |
| 1975 | 526 | 558 | 604 | 638 | 786 | 883 | 953 | 941 | 897 | 752 | 624 | 566 |
| 1976 | 555 | 605 | 625 | 868 | 828 | 890 | 947 | 923 | 852 | 749 | 643 | 540 |
| 1977 | 531 | 613 | 592 | 732 | 729 | 922 | 966 | 941 | 876 | 796 | 655 | 597 |
| 1978 | 539 | 572 | 660 | 682 | 790 | 921 | 968 | 937 | 865 | 803 | 606 | 490 |
| 1979 | 472 | 547 | 620 | 724 | 796 | 908 | 946 | 908 | 934 | 786 | 596 | 557 |
| 1980 | 565 | 599 | 613 | 713 | 758 | 889 | 967 | 929 | 884 | 765 | 649 | 601 |
| 1981 | 591 | 610 | 641 | 769 | 802 | 933 | 966 | 964 | 887 | 718 | 656 | 569 |
| 1982 | 525 | 602 | 629 | 715 | 798 | 864 | 936 | 931 | 851 | 718 | 596 | 516 |

MONTHLY PRECIPITATION FOR PARKER RESERVOIR  
 (DAVIS DAM TO PARKER DAM REACH)  
 Units: Inches x100

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1960 | 76  | 46  | 3   | 0   | 0   | 0   | 43  | 0   | 140 | 0   | 58  | 0   |
| 1961 | 29  | 0   | 28  | 1   | 0   | 0   | 28  | 128 | 51  | 0   | 2   | 48  |
| 1962 | 66  | 64  | 0   | 0   | 2   | 12  | 2   | 0   | 100 | 12  | 2   | 112 |
| 1963 | 7   | 63  | 41  | 9   | 0   | 0   | 0   | 58  | 100 | 116 | 80  | 0   |
| 1964 | 4   | 0   | 29  | 13  | 0   | 0   | 12  | 20  | 0   | 0   | 80  | 12  |
| 1965 | 32  | 129 | 46  | 175 | 9   | 0   | 16  | 19  | 24  | 0   | 208 | 279 |
| 1966 | 34  | 83  | 16  | 0   | 0   | 0   | 27  | 2   | 28  | 40  | 99  | 20  |
| 1967 | 47  | 0   | 24  | 25  | 0   | 0   | 4   | 77  | 71  | 5   | 51  | 174 |
| 1968 | 2   | 35  | 34  | 3   | 0   | 0   | 46  | 9   | 0   | 63  | 7   | 16  |
| 1969 | 136 | 26  | 20  | 0   | 13  | 0   | 50  | 4   | 81  | 36  | 82  | 0   |
| 1970 | 10  | 26  | 215 | 6   | 0   | 0   | 3   | 22  | 14  | 5   | 20  | 19  |
| 1971 | 0   | 12  | 0   | 0   | 43  | 0   | 0   | 128 | 44  | 20  | 3   | 29  |
| 1972 | 0   | 0   | 0   | 0   | 0   | 130 | 0   | 118 | 105 | 192 | 155 | 36  |
| 1973 | 32  | 106 | 216 | 0   | 13  | 0   | 0   | 10  | 0   | 0   | 71  | 0   |
| 1974 | 135 | 0   | 57  | 0   | 0   | 0   | 5   | 4   | 0   | 35  | 8   | 116 |
| 1975 | 3   | 3   | 59  | 24  | 0   | 0   | 0   | 0   | 107 | 14  | 22  | 8   |
| 1976 | 0   | 200 | 9   | 85  | 24  | 0   | 33  | 0   | 202 | 12  | 11  | 7   |
| 1977 | 63  | 0   | 7   | 12  | 13  | 4   | 1   | 281 | 0   | 81  | 3   | 19  |
| 1978 | 348 | 318 | 64  | 53  | 9   | 0   | 5   | 1   | 0   | 326 | 108 | 135 |
| 1979 | 159 | 15  | 152 | 0   | 19  | 0   | 131 | 77  | 0   | 11  | 0   | 10  |
| 1980 | 554 | 217 | 110 | 4   | 21  | 2   | 194 | 0   | 22  | 25  | 0   | 5   |
| 1981 | 5   | 40  | 115 | 4   | 34  | 0   | 69  | 41  | 96  | 151 | 69  | 0   |
| 1982 | 42  | 116 | 149 | 0   | 55  | 0   | 52  | 158 | 0   | 0   | 60  | 166 |

TABLE 2  
 Mean Monthly Temperature Data for Blythe, California  
 (Parker Dam to Imperial Dam Reach)  
 Units: Deg. Fahrenheit X10

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1960 | 497 | 543 | 660 | 715 | 772 | 885 | 924 | 912 | 861 | 712 | 587 | 504 |
| 1961 | 543 | 586 | 627 | 706 | 758 | 878 | 923 | 908 | 808 | 705 | 573 | 512 |
| 1962 | 531 | 574 | 582 | 748 | 747 | 845 | 906 | 921 | 860 | 729 | 628 | 539 |
| 1963 | 502 | 631 | 612 | 665 | 786 | 815 | 900 | 894 | 852 | 742 | 600 | 505 |
| 1964 | 486 | 538 | 601 | 671 | 750 | 832 | 919 | 902 | 826 | 771 | 566 | 531 |
| 1965 | 544 | 568 | 599 | 676 | 749 | 800 | 903 | 906 | 799 | 741 | 626 | 527 |
| 1966 | 495 | 531 | 634 | 714 | 800 | 859 | 917 | 923 | 845 | 721 | 615 | 536 |
| 1967 | 527 | 588 | 639 | 631 | 766 | 823 | 935 | 931 | 840 | 747 | 643 | 504 |
| 1968 | 529 | 630 | 650 | 694 | 779 | 858 | 917 | 880 | 842 | 730 | 619 | 485 |
| 1969 | 577 | 559 | 616 | 707 | 801 | 832 | 933 | 960 | 879 | 704 | 618 | 544 |
| 1970 | 520 | 602 | 612 | 654 | 783 | 871 | 947 | 941 | 835 | 703 | 608 | 510 |
| 1971 | 519 | 578 | 635 | 675 | 740 | 851 | 940 | 921 | 847 | 686 | 587 | 506 |
| 1972 | 498 | 586 | 703 | 712 | 784 | 878 | 948 | 895 | 840 | 706 | 570 | 504 |
| 1973 | 503 | 567 | 591 | 680 | 794 | 879 | 933 | 911 | 823 | 724 | 595 | 535 |
| 1974 | 503 | 559 | 645 | 699 | 786 | 897 | 920 | 909 | 875 | 740 | 600 | 488 |
| 1975 | 514 | 544 | 591 | 619 | 758 | 850 | 927 | 907 | 858 | 702 | 588 | 536 |
| 1976 | 534 | 581 | 596 | 667 | 787 | 845 | 899 | 866 | 812 | 702 | 607 | 536 |
| 1977 | 527 | 582 | 587 | 710 | 711 | 883 | 932 | 911 | 843 | 752 | 622 | 562 |
| 1978 | 536 | 580 | 587 | 679 | 711 | 881 | 933 | 894 | 839 | 773 | 594 | 493 |
| 1979 | 489 | 553 | 615 | 697 | 775 | 860 | 917 | 873 | 872 | 742 | 580 | 548 |
| 1980 | 573 | 600 | 610 | 694 | 775 | 851 | 917 | 912 | 839 | 728 | 604 | 574 |
| 1981 | 579 | 583 | 624 | 729 | 775 | 851 | 917 | 923 | 855 | 728 | 615 | 553 |
| 1982 | 529 | 599 | 619 | 699 | 772 | 833 | 917 | 897 | 824 | 690 | 578 | 509 |

MONTHLY PRECIPITATION FOR BLYTHE, CALIFORNIA  
 (PARKER DAM TO IMPERIAL DAM REACH)  
 Units: Inches X100

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1960 | 38  | 31  | 32  | 3   | 0   | 0   | 10  | 75  | 92  | 2   | 33  | 0   |
| 1961 | 26  | 0   | 1   | 0   | 0   | 0   | 12  | 57  | 0   | 0   | 3   | 85  |
| 1962 | 90  | 32  | 4   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 59  |
| 1963 | 35  | 34  | 13  | 0   | 0   | 0   | 0   | 171 | 180 | 110 | 71  | 0   |
| 1964 | 0   | 0   | 35  | 9   | 0   | 12  | 4   | 0   | 0   | 33  | 38  | 17  |
| 1965 | 17  | 12  | 48  | 191 | 2   | 0   | 2   | 6   | 7   | 0   | 85  | 231 |
| 1966 | 97  | 9   | 76  | 0   | 0   | 0   | 0   | 10  | 0   | 105 | 58  | 18  |
| 1967 | 25  | 0   | 30  | 7   | 0   | 0   | 2   | 125 | 78  | 0   | 72  | 103 |
| 1968 | 0   | 5   | 32  | 0   | 0   | 0   | 54  | 0   | 0   | 11  | 1   | 17  |
| 1969 | 88  | 4   | 5   | 0   | 2   | 0   | 33  | 56  | 24  | 23  | 85  | 6   |
| 1970 | 14  | 38  | 187 | 0   | 0   | 0   | 6   | 182 | 0   | 0   | 6   | 10  |
| 1971 | 8   | 0   | 3   | 5   | 0   | 0   | 0   | 135 | 72  | 5   | 0   | 1   |
| 1972 | 0   | 0   | 0   | 0   | 0   | 93  | 2   | 12  | 0   | 217 | 54  | 0   |
| 1973 | 6   | 146 | 32  | 0   | 0   | 0   | 0   | 63  | 0   | 0   | 16  | 0   |
| 1974 | 63  | 0   | 40  | 0   | 0   | 0   | 10  | 57  | 0   | 37  | 0   | 56  |
| 1975 | 2   | 0   | 19  | 63  | 0   | 0   | 10  | 0   | 98  | 2   | 6   | 11  |
| 1976 | 0   | 251 | 0   | 0   | 0   | 0   | 72  | 0   | 262 | 13  | 0   | 17  |
| 1977 | 16  | 1   | 8   | 0   | 14  | 0   | 2   | 146 | 87  | 12  | 0   | 32  |
| 1978 | 194 | 50  | 48  | 2   | 7   | 0   | 0   | 118 | 0   | 91  | 67  | 103 |
| 1979 | 117 | 17  | 61  | 0   | 63  | 0   | 12  | 52  | 2   | 0   | 0   | 21  |
| 1980 | 77  | 214 | 53  | 38  | 56  | 1   | 11  | 173 | 0   | 0   | 0   | 5   |
| 1981 | 9   | 13  | 91  | 0   | 4   | 1   | 0   | 1   | 0   | 2   | 6   | 0   |
| 1982 | 10  | 0   | 68  | 0   | 21  | 0   | 0   | 105 | 56  | 0   | 39  | 125 |

TABLE 3  
Monthly and Annual "K" Factors for Alfalfa

|                       | Jan             | Feb             | Mar             | Apr             | May             | Jun             | Jul             | Aug             | Sep             | Oct             | Nov             | Dec             | Ann. |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|
| Alfalfa               | 0.35            | 0.55            | 0.75            | 0.90            | 1.05            | 1.15            | 1.15            | 1.10            | 1.00            | 0.85            | 0.65            | 0.45            | 9.95 |
| <del>% Mo./Ann.</del> | <del>0.35</del> | <del>.055</del> | <del>.075</del> | <del>.090</del> | <del>.106</del> | <del>.116</del> | <del>.116</del> | <del>.110</del> | <del>.101</del> | <del>.085</del> | <del>.065</del> | <del>.045</del> |      |

TABLE 4  
Monthly and Annual "K" Factors for Phreatophytes

| Phreatophytes | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | Ann. |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Saltcedar     | 0.59 | 0.92 | 1.26 | 1.51 | 1.78 | 1.95 | 1.95 | 1.85 | 1.70 | 1.43 | 1.09 | 0.76 | 16.8 |
| Arrowweed     | 0.55 | 0.86 | 1.17 | 1.40 | 1.65 | 1.81 | 1.81 | 1.72 | 1.58 | 1.33 | 1.01 | 0.70 | 13.6 |
| Mesquite      | 0.27 | 0.43 | 0.59 | 0.70 | 0.83 | 0.90 | 0.90 | 0.86 | 0.79 | 0.66 | 0.51 | 0.35 | 7.8  |
| Willow        | 0.46 | 0.73 | 0.99 | 1.19 | 1.40 | 1.53 | 1.53 | 1.45 | 1.33 | 1.12 | 0.86 | 0.59 | 11.2 |
| Marsh         | 0.59 | 0.92 | 1.26 | 1.51 | 1.78 | 1.95 | 1.95 | 1.85 | 1.70 | 1.43 | 1.09 | 0.76 | 16.8 |

The results of the Blaney-Griddle analysis for the consumptive use of the phreatophytes in the Davis Dam to Parker Dam and Parker Dam to Imperial Dam reaches were multiplied by 0.56. This factor represents a vertical and horizontal phreatophyte density of 75%. This factor is the product of searches through previous studies, field observations, and engineering judgement.

TABLE 5  
Acreages of Vegetative Types (Davis to Parker Reach)

| Year | Vegetative Type |           |          |        |       |
|------|-----------------|-----------|----------|--------|-------|
|      | Saltcedar       | Arrowweed | Mesquite | Willow | Marsh |
| 1960 | 24,740          | 11,490    | 6,200    | 40     | 5,110 |
| 1961 | 23,850          | 10,900    | 5,900    | 600    | 4,925 |
| 1962 | 22,900          | 10,325    | 5,600    | 380    | 4,725 |
| 1963 | 21,900          | 9,725     | 5,300    | 550    | 4,525 |
| 1964 | 21,000          | 9,125     | 5,000    | 720    | 4,350 |
| 1965 | 20,000          | 8,575     | 4,700    | 900    | 4,150 |
| 1966 | 19,100          | 8,000     | 4,400    | 1,070  | 3,950 |
| 1967 | 18,250          | 7,400     | 4,125    | 1,240  | 3,750 |
| 1968 | 17,250          | 6,800     | 3,825    | 1,420  | 3,550 |
| 1969 | 16,250          | 6,275     | 3,525    | 1,590  | 3,375 |
| 1970 | 15,400          | 5,700     | 3,250    | 1,760  | 3,175 |
| 1971 | 14,400          | 5,100     | 2,950    | 1,960  | 3,000 |
| 1972 | 13,500          | 4,500     | 2,650    | 2,100  | 2,800 |
| 1973 | 12,500          | 3,925     | 2,360    | 2,280  | 2,625 |
| 1974 | 11,500          | 3,350     | 2,095    | 2,460  | 2,425 |
| 1975 | 10,600          | 2,750     | 1,775    | 2,630  | 2,225 |
| 1976 | 9,752           | 2,190     | 1,495    | 2,799  | 2,017 |
| 1977 | 9,752           | 2,190     | 1,495    | 2,799  | 2,017 |
| 1978 | 9,752           | 2,190     | 1,495    | 2,799  | 2,017 |
| 1979 | 9,752           | 2,190     | 1,495    | 2,799  | 2,017 |
| 1980 | 9,752           | 2,190     | 1,495    | 2,799  | 2,017 |
| 1981 | 9,752           | 2,190     | 1,495    | 2,799  | 2,017 |
| 1982 | 9,752           | 2,190     | 1,495    | 2,799  | 2,017 |
|      | 53%             | 12%       | 8%       | 15%    | 11%   |

TABLE 6  
Acreages of Vegetative Types (Parker to Imperial Reach)

| Year       | Saltcedar | Arrowweed | Mesquite | Willow | Marsh |
|------------|-----------|-----------|----------|--------|-------|
| (ACREAGES) |           |           |          |        |       |
| 1960       | 24,430    | 35,950    | 39,700   | 0      | 5,470 |
| 1961       | 24,125    | 33,600    | 38,925   | 300    | 5,275 |
| 1962       | 23,800    | 31,500    | 38,200   | 575    | 5,075 |
| 1963       | 23,500    | 29,400    | 37,400   | 850    | 4,875 |
| 1964       | 23,175    | 27,150    | 36,650   | 1,050  | 4,700 |
| 1965       | 22,875    | 25,050    | 35,875   | 1,425  | 4,500 |
| 1966       | 22,525    | 22,900    | 35,100   | 1,700  | 4,300 |
| 1967       | 22,250    | 20,700    | 34,350   | 2,000  | 4,100 |
| 1968       | 21,950    | 18,600    | 33,600   | 2,275  | 3,925 |
| 1969       | 21,650    | 16,500    | 32,800   | 2,575  | 3,725 |
| 1970       | 21,325    | 14,250    | 32,100   | 2,825  | 3,550 |
| 1971       | 21,000    | 12,150    | 31,300   | 3,125  | 3,350 |
| 1972       | 20,700    | 10,050    | 30,525   | 3,400  | 3,175 |
| 1973       | 20,375    | 7,900     | 29,800   | 3,700  | 2,950 |
| 1974       | 20,075    | 5,800     | 29,000   | 3,975  | 2,775 |
| 1975       | 19,750    | 3,600     | 28,250   | 4,275  | 2,550 |
| 1976       | 19,426    | 1,557     | 27,426   | 4,559  | 2,375 |
| 1977       | 19,426    | 1,557     | 27,426   | 4,559  | 2,375 |
| 1978       | 19,426    | 1,557     | 27,426   | 4,559  | 2,375 |
| 1979       | 19,426    | 1,557     | 27,426   | 4,559  | 2,375 |
| 1980       | 19,426    | 1,557     | 27,426   | 4,559  | 2,375 |
| 1981       | 19,426    | 1,557     | 27,426   | 4,559  | 2,375 |
| 1982       | 19,426    | 1,557     | 27,426   | 4,559  | 2,375 |
|            | 35%       | 3%        | 50%      | 8%     | 4%    |

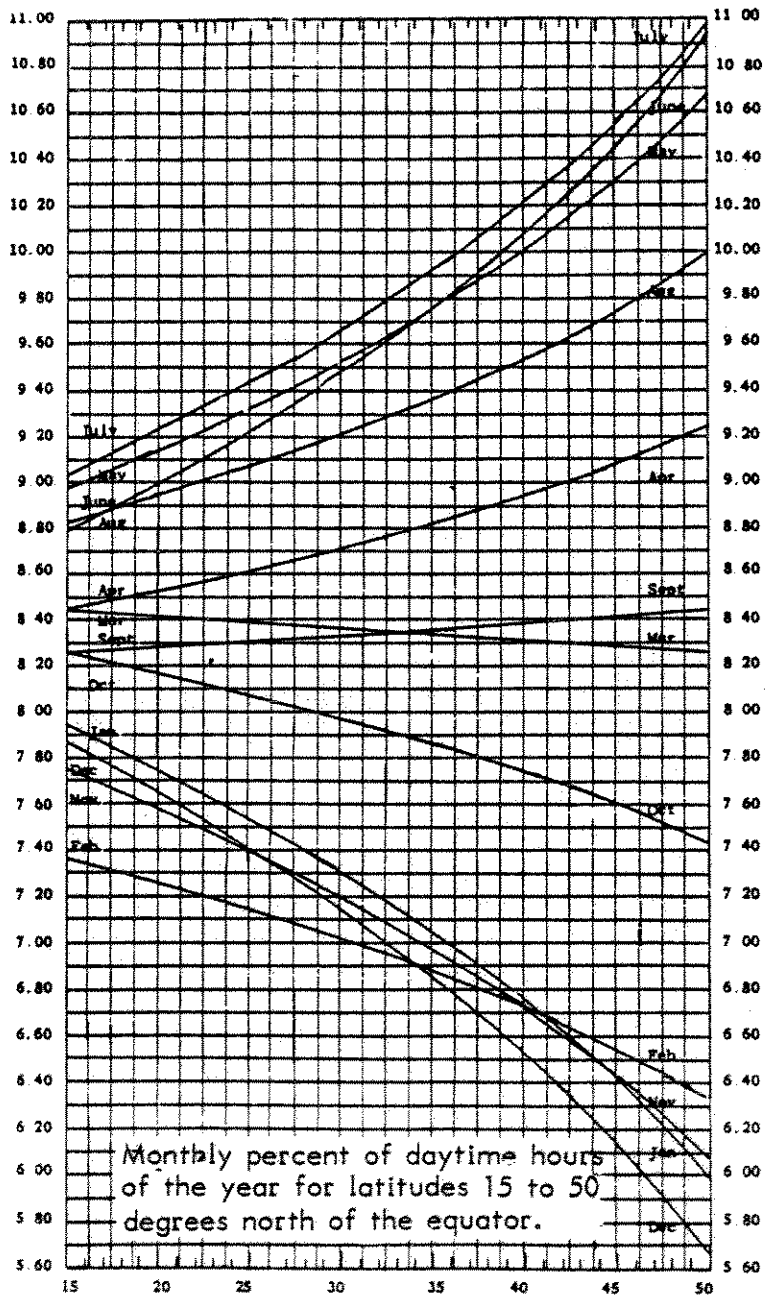


FIGURE 1

# Annual Phreatophyte Consumptive Use (Davis Dam to Parker Dam Reach)

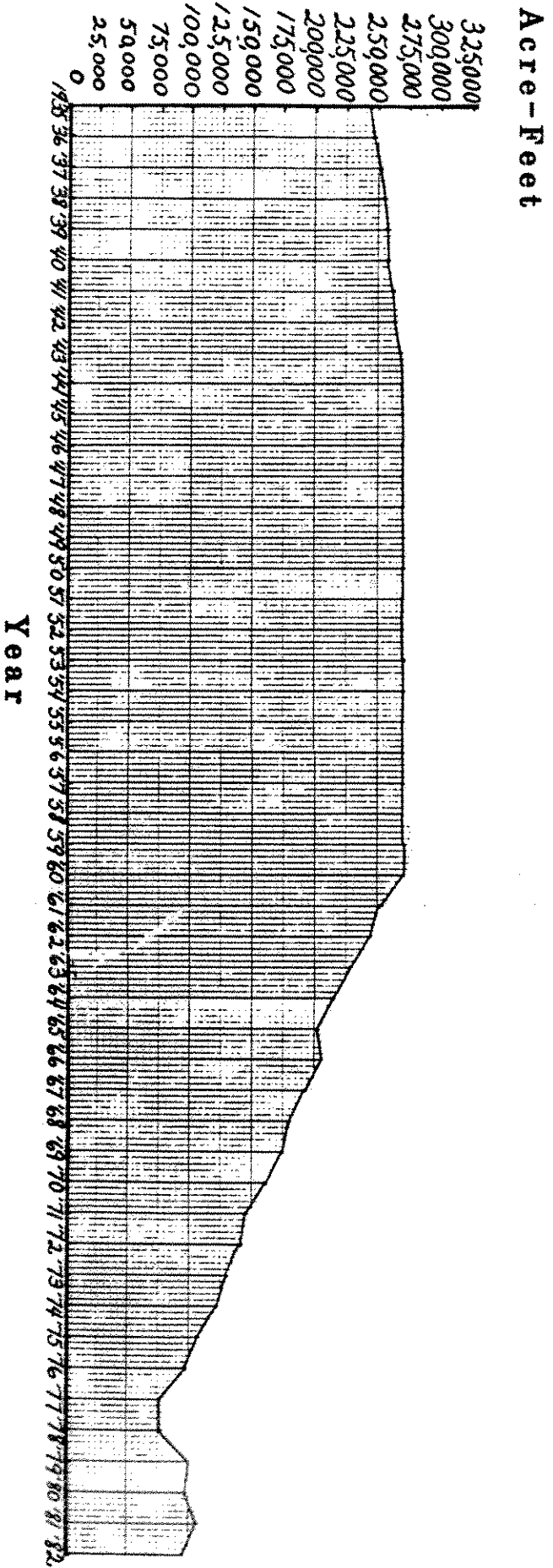


FIGURE 2



# Annual Phreatophyte Consumptive Use (Parker Dam to Imperial Dam Reach)

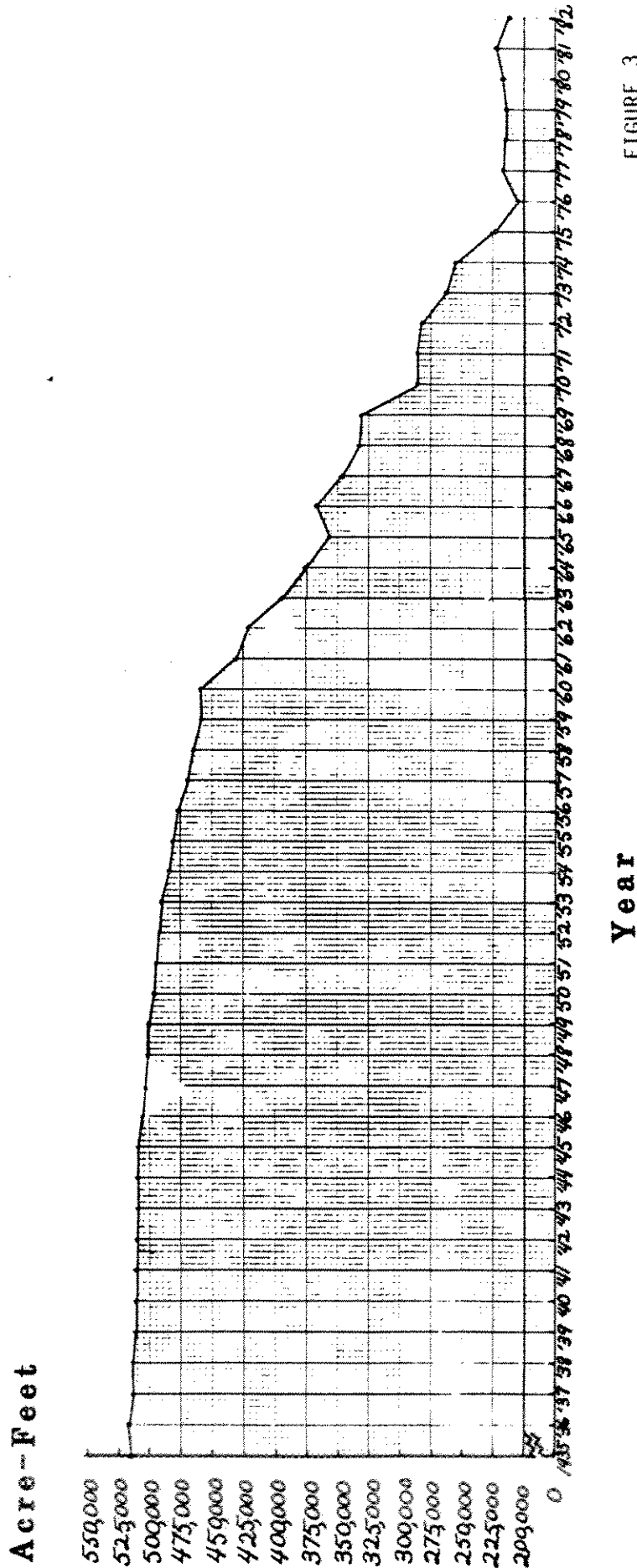


FIGURE 3

**Appendix 7**

**PARKER DAM TO  
IMPERIAL DAM REACH**

Parker Dam to Imperial Dam  
Flow Model

Reach Flow Gains and Losses Between Parker Dam and Imperial Dam

| YEAR | JAN     | FEB     | MAR     | APR     | MAY      | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | TOTAL    |
|------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1935 | -8701.  | 5638.   | 4426.   | 3294.   | 10065.   | 47692.  | 69478.  | 38554.  | 14041.  | -13506. | -10428. | -3104.  | 155447.  |
| 1936 | -17573. | -20566. | -46047. | -17787. | 22421.   | 20256.  | 19960.  | 28229.  | -6269.  | -6185.  | -1464.  | -14526. | -42511.  |
| 1937 | -12598. | -39818. | -14204. | -2389.  | 18284.   | 17827.  | 34073.  | 19383.  | 18371.  | 6967.   | -1132.  | -12906. | 32096.   |
| 1938 | 18874.  | -4081.  | -24121. | 1567.   | 16847.   | 22391.  | 44007.  | 40227.  | 11206.  | 3164.   | 12473.  | 13553.  | 120559.  |
| 1939 | 66871.  | -63084. | 31152.  | -3708.  | 10207.   | 9783.   | 32842.  | 17695.  | 101241. | 24086.  | 9974.   | 11530.  | 97919.   |
| 1940 | -7238.  | 21941.  | -13408. | 10172.  | -28962.  | 33019.  | 29434.  | 19082.  | 6673.   | -31285. | -13010. | -25109. | 59233.   |
| 1941 | 22549.  | -7016.  | 21707.  | 5860.   | -126723. | 82258.  | 94209.  | -28312. | -4358.  | -33219. | -29646. | -18852. | -21743.  |
| 1942 | -72953. | 128441. | 14386.  | 747.    | 20828.   | 40289.  | 106102. | 82051.  | 29632.  | -32867. | -27516. | -21534. | 267606.  |
| 1943 | 5178.   | 3108.   | -4389.  | -17358. | -27802.  | 11892.  | 15876.  | 35834.  | -4528.  | -14843. | 8588.   | 7807.   | 19558.   |
| 1944 | -21705. | 14998.  | 27257.  | 22580.  | 28741.   | 36138.  | 24658.  | 16905.  | 17416.  | 902.    | 20965.  | -26071. | 182785.  |
| 1945 | -14387. | 9953.   | -2901.  | 24719.  | 25860.   | 56281.  | 40914.  | 84418.  | 6550.   | -73321. | 10492.  | -6116.  | 142292.  |
| 1946 | -18879. | 3087.   | 23775.  | -7700.  | 4846.    | 24401.  | 58234.  | 68875.  | 65488.  | 452.    | 2873.   | 2912.   | 156574.  |
| 1947 | -7826.  | 3815.   | 35078.  | -19286. | 17520.   | 84213.  | 44875.  | 65488.  | 6151.   | -26171. | 8649.   | 22210.  | 208736.  |
| 1948 | -40866. | 6867.   | 22981.  | -2552.  | 37369.   | 57514.  | 48473.  | 55714.  | 25845.  | 36847.  | 4666.   | 14478.  | 277236.  |
| 1949 | 18478.  | 23821.  | 43390.  | 48288.  | 54070.   | 86167.  | 72219.  | 52811.  | 1554.   | 11406.  | 28393.  | 9487.   | 448184.  |
| 1950 | 21693.  | -557.   | 20113.  | 26931.  | 53595.   | 94045.  | 101323. | 61360.  | 52142.  | 13905.  | 13368.  | 3960.   | 481898.  |
| 1951 | 19282.  | 31478.  | -38504. | 68298.  | 43420.   | -6892.  | 23169.  | 56168.  | 77837.  | 34440.  | 39974.  | 10286.  | 360755.  |
| 1952 | -5765.  | 12240.  | 56420.  | 69179.  | 21339.   | 40498.  | 105256. | 45550.  | 6323.   | 67789.  | 42088.  | 15915.  | 475842.  |
| 1953 | 32808.  | 42670.  | 31895.  | 42011.  | 28593.   | 16120.  | 73251.  | 39408.  | 66169.  | 71721.  | 38023.  | 7854.   | 478523.  |
| 1954 | -5009.  | 49743.  | 7440.   | 16001.  | 42485.   | 90405.  | 74648.  | 73637.  | 82521.  | 50423.  | 11899.  | 13467.  | 508670.  |
| 1955 | 8801.   | 41881.  | 14182.  | 55226.  | 68431.   | 39771.  | 101107. | 111688. | 58373.  | 69763.  | 53980.  | 34287.  | 851470.  |
| 1956 | -5584.  | 21278.  | -8989.  | 65768.  | 56399.   | 50452.  | 88456.  | 64347.  | 80993.  | 52253.  | 59296.  | 23287.  | 533929.  |
| 1957 | 26236.  | 2358.   | -2187.  | 27383.  | 54927.   | 28504.  | 82518.  | 97265.  | 66578.  | 85186.  | -50464. | -11967. | 384457.  |
| 1958 | 21849.  | 108871. | -22398. | 40081.  | 122742.  | 72169.  | 61281.  | 88015.  | 50749.  | 68960.  | 8702.   | 33617.  | 654616.  |
| 1959 | 13018.  | 36288.  | 6877.   | 36820.  | 58283.   | 42946.  | 50892.  | 98518.  | 72331.  | 64287.  | 51272.  | 47588.  | 574920.  |
| 1960 | 34200.  | 277.    | -29817. | 41822.  | 19527.   | 18994.  | 39310.  | 59931.  | 68410.  | 34367.  | -14206. | 47355.  | 321070.  |
| 1961 | -15602. | 3364.   | -15198. | 21130.  | 22275.   | 27958.  | 32117.  | 99170.  | 37086.  | 62377.  | 13689.  | 23185.  | 312570.  |
| 1962 | 10389.  | -30507. | -27750. | 14407.  | 33633.   | 17300.  | 36791.  | 75091.  | 57811.  | 32457.  | 29225.  | 23270.  | 272117.  |
| 1963 | -10933. | -27667. | -39750. | 24537.  | -1658.   | -6814.  | 17372.  | 78941.  | 61644.  | 89186.  | 28153.  | 17077.  | 210088.  |
| 1964 | -7424.  | -8193.  | -3755.  | 41098.  | 43800.   | -8526.  | 42538.  | 33707.  | 56635.  | 42319.  | 21422.  | 26797.  | 280829.  |
| 1965 | -11204. | -31928. | -6359.  | 40227.  | 49309.   | -7486.  | 40910.  | 31908.  | 47987.  | 59119.  | 48231.  | 30566.  | 285263.  |
| 1966 | 17782.  | -29550. | 5270.   | -1743.  | 2347.    | -1860.  | 4682.   | 38727.  | 63721.  | 82031.  | 37658.  | 14065.  | 213220.  |
| 1967 | 7090.   | 5740.   | -2618.  | 34208.  | 23404.   | 15410.  | 10461.  | 60193.  | 45341.  | 32078.  | 44951.  | 11018.  | 287280.  |
| 1968 | 11814.  | -18113. | -18124. | 28938.  | 28549.   | 17580.  | 16108.  | 24727.  | 21824.  | 38382.  | 20236.  | 16917.  | 199324.  |
| 1969 | 24703.  | -36627. | -38464. | 32488.  | 29774.   | 22328.  | 30086.  | 68749.  | 54618.  | 24794.  | 25813.  | 1174.   | 228244.  |
| 1970 | 5217.   | -31566. | -30866. | 23434.  | 7245.    | -18237. | 17202.  | 50419.  | 10282.  | 31786.  | 40574.  | 9317.   | 116787.  |
| 1971 | 3060.   | -21518. | -38307. | -985.   | -7273.   | -21085. | -12597. | 54537.  | 27362.  | 44742.  | 33913.  | 13697.  | 75546.   |
| 1972 | 12846.  | -18179. | -32065. | -4498.  | 708.     | 13052.  | -20969. | 60942.  | 12685.  | 45874.  | 23725.  | -16464. | 119634.  |
| 1973 | 13798.  | 13742.  | -47929. | -7606.  | 26193.   | 3028.   | 5078.   | 42614.  | 7687.   | 35678.  | 34311.  | 14038.  | 140633.  |
| 1974 | 20446.  | -3077.  | -42389. | -33983. | -5380.   | -10230. | 23615.  | 64572.  | 48653.  | 63030.  | 35050.  | -2288.  | 158019.  |
| 1975 | 25923.  | -3284.  | -32388. | -18232. | 15944.   | -6061.  | 11100.  | 5115.   | 20173.  | 38885.  | 29646.  | 14629.  | 88249.   |
| 1976 | 11117.  | -7301.  | -28258. | 8419.   | 34148.   | -7706.  | 21597.  | -26943. | 120482. | 46340.  | 37128.  | 23394.  | 235421.  |
| 1977 | 9474.   | -30924. | -20627. | -19834. | -1672.   | -9183.  | -22116. | 69108.  | 84425.  | 39674.  | 34485.  | 33149.  | 166059.  |
| 1978 | 26580.  | -26585. | -53182. | -13310. | 2611.    | -9639.  | -4338.  | 22408.  | 23459.  | 45337.  | 3219.   | 21156.  | 58329.   |
| 1979 | 32881.  | -24172. | -28016. | -38314. | -4426.   | -27878. | -19792. | 34792.  | 30727.  | 43885.  | 27088.  | 22556.  | 55302.   |
| 1980 | 20108.  | -21686. | -93462. | -4258.  | -4218.   | -77603. | 9638.   | -11596. | 2198.   | -12318. | -10839. | 8250.   | -199843. |
| 1981 | 52437.  | -11059. | 4814.   | 4737.   | 38812.   | -20778. | 7224.   | 28798.  | 64028.  | 48854.  | 23687.  | -5540.  | 238715.  |
| 1982 | 9718.   | -42855. | -18564. | 6732.   | 30785.   | 24785.  | -52079. | -836.   | -23269. | 14288.  | 28506.  | -13909. | -37791.  |

AVERAGES

|       |      |        |        |        |        |        |        |        |        |        |       |         |
|-------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|
| 2904. | 702. | -8889. | 13842. | 22242. | 20695. | 35760. | 47876. | 36805. | 29119. | 19075. | 9802. | 229632. |
|-------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|

MONTHLY PERCENTAGES

|     |     |      |     |     |     |      |      |      |      |     |     |
|-----|-----|------|-----|-----|-----|------|------|------|------|-----|-----|
| 1.3 | 0.3 | -3.9 | 6.0 | 9.7 | 9.0 | 15.8 | 20.8 | 15.9 | 12.7 | 8.3 | 4.3 |
|-----|-----|------|-----|-----|-----|------|------|------|------|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 229632. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Flow Below Parker Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 321200.  | 265000.  | 436900.  | 421600.  | 504300.  | 974700.  | 665100.  | 575700.  | 553300.  | 570300.  | 552800.  | 300400.  | 6091300.  |
| 1936 | 289700.  | 314400.  | 534100.  | 562700.  | 535200.  | 552600.  | 656900.  | 587200.  | 525700.  | 433100.  | 341900.  | 299900.  | 5629400.  |
| 1937 | 289400.  | 472500.  | 520700.  | 531100.  | 526700.  | 546300.  | 643800.  | 632600.  | 532600.  | 482100.  | 396600.  | 379500.  | 5949900.  |
| 1938 | 369400.  | 342100.  | 532300.  | 555300.  | 532100.  | 572100.  | 601300.  | 609500.  | 534000.  | 559700.  | 415500.  | 385600.  | 6008900.  |
| 1939 | 647300.  | 1303000. | 852600.  | 585600.  | 563800.  | 588200.  | 638100.  | 651800.  | 817200.  | 663000.  | 646300.  | 660600.  | 8417500.  |
| 1940 | 681000.  | 452600.  | 545400.  | 623300.  | 495800.  | 574000.  | 621900.  | 621700.  | 657800.  | 798300.  | 736200.  | 848000.  | 7656000.  |
| 1941 | 626700.  | 560700.  | 749700.  | 608300.  | 1359000. | 1628000. | 997700.  | 1332000. | 1528000. | 1585000. | 1731000. | 2042000. | 14748100. |
| 1942 | 1957000. | 1482000. | 1494000. | 1136000. | 1588000. | 1536000. | 1226000. | 880100.  | 797200.  | 845400.  | 1041000. | 1213000. | 15195700. |
| 1943 | 1015000. | 746000.  | 886200.  | 877300.  | 956600.  | 975500.  | 1086000. | 990500.  | 1006000. | 1160000. | 1149000. | 1231000. | 12079100. |
| 1944 | 1241000. | 1223000. | 1297000. | 1164000. | 1116000. | 982600.  | 1035000. | 1148000. | 1114000. | 1176000. | 1156000. | 1187000. | 13841600. |
| 1945 | 1186000. | 1061000. | 1232000. | 984800.  | 969500.  | 919500.  | 913000.  | 770300.  | 824300.  | 1038000. | 1036000. | 1099000. | 12033200. |
| 1946 | 1041000. | 1028000. | 944100.  | 830300.  | 873300.  | 754300.  | 801100.  | 721600.  | 730100.  | 758700.  | 788600.  | 870000.  | 10141100. |
| 1947 | 952700.  | 899100.  | 939600.  | 797000.  | 904900.  | 859800.  | 844200.  | 892400.  | 819000.  | 836400.  | 879700.  | 1037000. | 10661800. |
| 1948 | 1160000. | 1160000. | 1107000. | 1083000. | 1115000. | 989000.  | 1108000. | 966000.  | 940400.  | 918000.  | 918000.  | 1011000. | 13059600. |
| 1949 | 1229000. | 1192000. | 1236000. | 1116000. | 982600.  | 923100.  | 951900.  | 1013000. | 1099000. | 1148000. | 1011000. | 1158000. | 13059600. |
| 1950 | 1080000. | 1036000. | 1209000. | 997900.  | 1066000. | 900100.  | 897100.  | 832700.  | 703900.  | 651200.  | 551700.  | 557200.  | 10472800. |
| 1951 | 550300.  | 500800.  | 729600.  | 764600.  | 675300.  | 861800.  | 844900.  | 944500.  | 822500.  | 723200.  | 709200.  | 707100.  | 8671800.  |
| 1952 | 1104000. | 1134000. | 1424000. | 1300000. | 1443000. | 1419000. | 1263000. | 1296000. | 1321000. | 1234000. | 1172000. | 1303000. | 15413000. |
| 1953 | 1198000. | 1020000. | 947300.  | 808100.  | 952700.  | 955600.  | 1093000. | 1056000. | 822900.  | 633900.  | 634300.  | 634300.  | 10649200. |
| 1954 | 797200.  | 660900.  | 782300.  | 863600.  | 1015000. | 882600.  | 1000000. | 981600.  | 754500.  | 636200.  | 637900.  | 659000.  | 9670800.  |
| 1955 | 733900.  | 598200.  | 733500.  | 758100.  | 792000.  | 866200.  | 963400.  | 848700.  | 693500.  | 498700.  | 369400.  | 286000.  | 8140600.  |
| 1956 | 317300.  | 365300.  | 627700.  | 683800.  | 670700.  | 786800.  | 864800.  | 823300.  | 633900.  | 486300.  | 321100.  | 287900.  | 6869100.  |
| 1957 | 242800.  | 348700.  | 589000.  | 731500.  | 645000.  | 782900.  | 890600.  | 816600.  | 660900.  | 503000.  | 780700.  | 1005000. | 7996700.  |
| 1958 | 1285000. | 564700.  | 1345000. | 1333000. | 1013000. | 853700.  | 930200.  | 866600.  | 713700.  | 609700.  | 622800.  | 752900.  | 10890300. |
| 1959 | 678800.  | 593000.  | 690000.  | 831700.  | 705700.  | 797000.  | 967400.  | 873300.  | 682100.  | 557900.  | 405100.  | 410900.  | 8185500.  |
| 1960 | 427700.  | 473800.  | 759900.  | 810200.  | 740200.  | 879300.  | 886200.  | 868000.  | 639400.  | 489700.  | 397100.  | 322300.  | 7793800.  |
| 1961 | 379400.  | 453100.  | 741600.  | 724300.  | 705000.  | 822500.  | 899900.  | 709700.  | 606000.  | 411800.  | 319300.  | 201800.  | 6974600.  |
| 1962 | 333700.  | 373600.  | 692000.  | 756500.  | 686000.  | 781100.  | 881900.  | 821200.  | 644100.  | 471000.  | 434200.  | 286500.  | 7158800.  |
| 1963 | 349500.  | 467300.  | 734700.  | 690300.  | 707700.  | 840200.  | 933400.  | 818600.  | 630100.  | 438300.  | 334300.  | 306500.  | 7250900.  |
| 1964 | 362800.  | 479400.  | 640100.  | 652400.  | 598100.  | 742000.  | 864000.  | 795200.  | 589300.  | 409200.  | 274900.  | 245000.  | 6652400.  |
| 1965 | 289400.  | 423000.  | 634400.  | 581000.  | 604100.  | 709900.  | 845900.  | 867000.  | 599300.  | 385400.  | 220100.  | 196700.  | 6356200.  |
| 1966 | 176000.  | 412900.  | 604100.  | 729300.  | 699000.  | 790400.  | 900700.  | 852300.  | 584800.  | 355700.  | 254500.  | 320200.  | 6679900.  |
| 1967 | 305900.  | 430700.  | 677300.  | 608300.  | 648400.  | 725600.  | 835200.  | 749200.  | 490300.  | 434565.  | 247144.  | 169768.  | 6322377.  |
| 1968 | 350465.  | 450473.  | 679924.  | 699481.  | 625933.  | 722272.  | 779398.  | 732903.  | 488040.  | 434089.  | 220089.  | 310319.  | 6437905.  |
| 1969 | 253868.  | 466359.  | 739984.  | 712394.  | 640591.  | 674430.  | 764639.  | 732903.  | 530031.  | 453726.  | 303852.  | 328011.  | 6658132.  |
| 1970 | 336947.  | 441983.  | 653662.  | 750259.  | 657074.  | 705729.  | 792210.  | 674648.  | 565257.  | 397136.  | 309347.  | 355483.  | 6911406.  |
| 1971 | 338623.  | 483759.  | 742741.  | 745955.  | 660585.  | 742900.  | 877500.  | 690020.  | 573569.  | 223699.  | 22748.   | 388826.  | 6788233.  |
| 1972 | 346002.  | 480027.  | 747165.  | 766504.  | 699620.  | 688830.  | 875120.  | 716123.  | 644003.  | 484034.  | 309624.  | 340388.  | 6846883.  |
| 1973 | 355285.  | 347628.  | 641642.  | 799747.  | 696367.  | 672942.  | 824103.  | 726120.  | 644003.  | 484034.  | 309624.  | 340388.  | 6846883.  |
| 1974 | 244506.  | 481425.  | 705015.  | 854211.  | 756110.  | 790623.  | 874327.  | 824462.  | 624485.  | 398800.  | 282000.  | 324700.  | 7106674.  |
| 1975 | 362600.  | 447300.  | 690000.  | 795400.  | 769800.  | 693800.  | 825300.  | 802500.  | 650500.  | 476500.  | 336800.  | 359500.  | 7210000.  |
| 1976 | 352800.  | 364500.  | 805300.  | 771100.  | 693600.  | 717200.  | 789500.  | 842800.  | 400000.  | 354800.  | 248900.  | 356300.  | 6696800.  |
| 1977 | 257600.  | 496500.  | 682100.  | 811600.  | 651900.  | 760300.  | 956200.  | 687600.  | 480300.  | 347800.  | 288100.  | 308500.  | 6711500.  |
| 1978 | 136700.  | 397800.  | 682100.  | 849100.  | 678800.  | 762800.  | 905900.  | 791500.  | 573000.  | 360300.  | 267300.  | 270100.  | 6685400.  |
| 1979 | 151800.  | 336800.  | 575800.  | 778100.  | 782900.  | 849700.  | 960600.  | 829800.  | 709400.  | 505200.  | 367900.  | 348700.  | 7194700.  |
| 1980 | 304100.  | 388500.  | 1058000. | 1121000. | 964000.  | 1149000. | 1247000. | 1164000. | 981600.  | 879300.  | 760100.  | 714700.  | 10723300. |
| 1981 | 462400.  | 453900.  | 697000.  | 869200.  | 676200.  | 829300.  | 942000.  | 881300.  | 563800.  | 335000.  | 253100.  | 298200.  | 7261400.  |
| 1982 | 340600.  | 487500.  | 849900.  | 833800.  | 638000.  | 635700.  | 766500.  | 637900.  | 494500.  | 383600.  | 230100.  | 261400.  | 6359500.  |

AVERAGES

|         |         |         |         |         |         |         |         |         |         |         |         |          |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 588175. | 611743. | 800572. | 805557. | 791275. | 835644. | 894415. | 832497. | 704434. | 611002. | 542681. | 578043. | 8596038. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |      |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 6.8 | 7.1 | 9.3 | 9.4 | 9.2 | 9.7 | 10.4 | 9.7 | 8.2 | 7.1 | 6.3 | 6.7 |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8596038. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Cibola National Wildlife Refuge Consumptive Use

| YEAR | JAN   | FEB  | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   | OCT   | NOV   | DEC   | TOTAL  |
|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1935 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1936 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1937 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1938 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1939 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1940 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1941 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1942 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1943 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1944 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1945 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1946 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1947 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1948 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1949 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1950 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1951 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1952 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1953 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1954 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1955 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1956 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1957 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1958 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1959 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1960 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1961 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1962 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1963 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1964 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1965 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1966 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1967 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1968 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1969 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1970 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1971 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1972 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1973 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1974 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1975 | 0.    | 0.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1976 | 1011. | 484. | 1007. | 1103. | 1116. | 1630. | 1447. | 1488. | 1539. | 863.  | 969.  | 783.  | 13440. |
| 1977 | 146.  | 818. | 806.  | 1117. | 1031. | 1302. | 1289. | 1588. | 691.  | 1145. | 875.  | 570.  | 11378. |
| 1978 | 519.  | 39.  | 503.  | 923.  | 988.  | 1171. | 1424. | 1031. | 1278. | 737.  | 399.  | 394.  | 9406.  |
| 1979 | 478.  | 700. | 1756. | 1779. | 1723. | 1517. | 913.  | 797.  | 1027. | 886.  | 1039. | 1132. | 13547. |
| 1980 | 1606. | 876. | 2187. | 1971. | 1437. | 1217. | 1503. | 1549. | 1438. | 1106. | 455.  | 567.  | 15912. |
| 1981 | 782.  | 432. | 1932. | 1253. | 1158. | 1329. | 1030. | 724.  | 836.  | 1029. | 999.  | 748.  | 12232. |
| 1982 | 604.  | 570. | 800.  | 877.  | 737.  | 1208. | 1191. | 934.  | 514.  | 294.  | 416.  | 105.  | 8250.  |

AVERAGES

|      |     |      |      |      |      |      |      |      |      |      |     |       |
|------|-----|------|------|------|------|------|------|------|------|------|-----|-------|
| 107. | 82. | 187. | 186. | 171. | 195. | 183. | 169. | 153. | 122. | 107. | 90. | 1753. |
|------|-----|------|------|------|------|------|------|------|------|------|-----|-------|

MONTHLY PERCENTAGES

|     |     |      |      |     |      |      |     |     |     |     |     |
|-----|-----|------|------|-----|------|------|-----|-----|-----|-----|-----|
| 6.1 | 4.7 | 10.7 | 10.7 | 9.7 | 11.1 | 10.5 | 9.6 | 8.7 | 7.0 | 6.1 | 5.1 |
|-----|-----|------|------|-----|------|------|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 1753. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

PVID Consumptive Use

| YEAR | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   | OCT   | NOV   | DEC   | TOTAL  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1935 | 1389  | 6946  | 9938  | 12716 | 13143 | 14747 | 17632 | 13464 | 9297  | 2992  | 2885  | 1710  | 106859 |
| 1936 | 1583  | 7913  | 11322 | 14487 | 14974 | 16801 | 20088 | 15340 | 10592 | 3409  | 3287  | 1948  | 121744 |
| 1937 | 1548  | 7739  | 11072 | 14167 | 14644 | 16429 | 19644 | 15001 | 10358 | 3334  | 3214  | 1905  | 119055 |
| 1938 | 1591  | 7956  | 11384 | 14566 | 15056 | 16892 | 20197 | 15423 | 10649 | 3427  | 3305  | 1959  | 122405 |
| 1939 | 1780  | 8900  | 12734 | 16294 | 16841 | 18895 | 22592 | 17252 | 11912 | 3834  | 3697  | 2191  | 136922 |
| 1940 | 2482  | 12409 | 17754 | 22718 | 23481 | 26345 | 26345 | 24054 | 16609 | 5345  | 5155  | 3055  | 185752 |
| 1941 | 2104  | 10518 | 15048 | 19255 | 19255 | 19903 | 26699 | 20388 | 14077 | 4531  | 4369  | 2589  | 158736 |
| 1942 | 2343  | 11716 | 16764 | 21450 | 22171 | 24875 | 29742 | 22712 | 15682 | 5047  | 4867  | 2884  | 180253 |
| 1943 | 2117  | 10588 | 15146 | 19381 | 20032 | 22475 | 26873 | 20521 | 14169 | 4560  | 4397  | 2606  | 162863 |
| 1944 | 2267  | 11337 | 18220 | 20755 | 21452 | 24068 | 28777 | 21975 | 15174 | 4883  | 4709  | 2791  | 174408 |
| 1945 | 2240  | 11201 | 16027 | 20507 | 21196 | 23781 | 29434 | 21713 | 14993 | 4825  | 4653  | 2757  | 173327 |
| 1946 | 2756  | 13814 | 19765 | 25290 | 26141 | 29328 | 35067 | 26778 | 18490 | 5951  | 5738  | 3400  | 212518 |
| 1947 | 3277  | 16386 | 23445 | 29999 | 31008 | 34789 | 41596 | 31764 | 21932 | 7059  | 6807  | 4034  | 252096 |
| 1948 | 3706  | 18528 | 26509 | 33920 | 35060 | 39335 | 47031 | 35915 | 24798 | 7981  | 7696  | 4561  | 285040 |
| 1949 | 4327  | 21637 | 30958 | 39612 | 40944 | 45937 | 54925 | 28960 | 28960 | 9321  | 8988  | 5326  | 319895 |
| 1950 | 5090  | 25449 | 36412 | 46592 | 48158 | 54031 | 64602 | 49332 | 34083 | 10963 | 10571 | 6264  | 391527 |
| 1951 | 4588  | 22939 | 32820 | 41995 | 43407 | 48700 | 58229 | 44465 | 30702 | 9881  | 9528  | 5646  | 352900 |
| 1952 | 4737  | 23886 | 32889 | 43364 | 44821 | 50287 | 60125 | 45914 | 31703 | 10203 | 9839  | 5830  | 364398 |
| 1953 | 4976  | 24882 | 35600 | 45553 | 47084 | 52826 | 63162 | 48238 | 33304 | 10718 | 10336 | 6123  | 382804 |
| 1954 | 5597  | 27990 | 40041 | 51236 | 52958 | 59416 | 71041 | 54249 | 37458 | 12055 | 11625 | 6889  | 430555 |
| 1955 | 5171  | 25953 | 36989 | 47330 | 48921 | 54887 | 65626 | 50114 | 34603 | 11370 | 10739 | 6364  | 397967 |
| 1956 | 6033  | 30185 | 43159 | 55225 | 57082 | 64043 | 76573 | 58474 | 40375 | 12994 | 12530 | 7425  | 464078 |
| 1957 | 5251  | 26257 | 37588 | 48071 | 49687 | 55746 | 66653 | 50899 | 35144 | 11311 | 10907 | 6463  | 403957 |
| 1958 | 5453  | 27265 | 39010 | 49917 | 51595 | 57887 | 69213 | 52854 | 36494 | 11745 | 11326 | 6712  | 419471 |
| 1959 | 5721  | 28604 | 40926 | 52368 | 54128 | 60729 | 72611 | 55448 | 38286 | 12322 | 11882 | 7041  | 440066 |
| 1960 | 4698  | 23490 | 33609 | 43006 | 44451 | 49872 | 59630 | 45535 | 31441 | 10119 | 9758  | 5782  | 361391 |
| 1961 | 13120 | 32530 | 35170 | 34130 | 48230 | 61600 | 68190 | 45220 | 39410 | 14360 | 6600  | -3310 | 392250 |
| 1962 | 3130  | 22140 | 31960 | 30190 | 39940 | 57590 | 68420 | 62780 | 37710 | 11480 | 8780  | -1740 | 372380 |
| 1963 | 1290  | 23600 | 35660 | 27110 | 40160 | 58120 | 69960 | 46170 | 31720 | 11900 | 7850  | 3470  | 357010 |
| 1964 | 12630 | 31080 | 28580 | 37880 | 42300 | 62940 | 72160 | 49310 | 38470 | 15110 | 3460  | 3860  | 397780 |
| 1965 | 1630  | 30770 | 34590 | 13320 | 38870 | 61530 | 70960 | 59300 | 41070 | 10520 | -2420 | -9380 | 350760 |
| 1966 | -8260 | 24910 | 45480 | 48540 | 49380 | 60380 | 67320 | 54400 | 43490 | 390   | 12000 | 6550  | 404560 |
| 1967 | 5500  | 37000 | 35040 | 38920 | 46940 | 53680 | 59950 | 41440 | 28230 | 14560 | 5220  | -3000 | 363480 |
| 1968 | 10440 | 31130 | 40180 | 45490 | 45270 | 51920 | 55870 | 51540 | 38150 | 7270  | 12470 | 3790  | 393520 |
| 1969 | -8250 | 31710 | 42850 | 43680 | 44630 | 50350 | 59810 | 64950 | 35830 | 10190 | 6760  | 11140 | 393650 |
| 1970 | 8910  | 24610 | 23560 | 52050 | 48880 | 53810 | 66720 | 42760 | 36330 | 20380 | 19890 | 12210 | 410110 |
| 1971 | 8750  | 30720 | 38840 | 52270 | 51990 | 54090 | 76610 | 44200 | 42680 | 17780 | 20780 | 19880 | 458570 |
| 1972 | 10450 | 29320 | 40500 | 58040 | 54940 | 53120 | 72580 | 52890 | 37150 | -8190 | 16590 | 17700 | 439640 |
| 1973 | 8230  | 10720 | 28610 | 66280 | 66650 | 61630 | 75260 | 59210 | 47670 | 21140 | 10350 | 9520  | 465250 |
| 1974 | 5690  | 34610 | 41250 | 58880 | 55840 | 61810 | 65190 | 55330 | 47030 | 12590 | 11820 | 8560  | 458400 |
| 1975 | 18578 | 27952 | 41384 | 53427 | 62934 | 44051 | 60397 | 56186 | 40751 | 23223 | 13405 | 7230  | 449516 |
| 1976 | 9363  | 8458  | 51771 | 49389 | 58389 | 57889 | 66738 | 60183 | 10352 | 7354  | 10929 | 1725  | 392320 |
| 1977 | 4403  | 28691 | 39974 | 55829 | 50013 | 67014 | 81781 | 46550 | 25481 | 12946 | 14830 | 7590  | 435062 |
| 1978 | -9946 | 22570 | 44480 | 68537 | 50911 | 63909 | 78171 | 48743 | 31145 | 11214 | 10838 | 273   | 420825 |
| 1979 | -5764 | 24439 | 45011 | 64234 | 61620 | 64085 | 67509 | 51116 | 49490 | 15029 | 10993 | 11888 | 459610 |
| 1980 | 2148  | 7361  | 49028 | 64041 | 39878 | 56038 | 71310 | 58913 | 42524 | 12789 | 7308  | 7168  | 418304 |
| 1981 | 9763  | 36569 | 35854 | 64501 | 60093 | 77466 | 85299 | 81016 | 54209 | 10701 | 2624  | 5739  | 523834 |
| 1982 | 8668  | 32499 | 39279 | 65870 | 54409 | 63759 | 0     | 0     | 0     | 0     | 0     | 0     | 264484 |

AVERAGES

|       |        |        |        |        |        |        |        |        |       |       |       |         |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|
| 4235. | 21824. | 31619. | 40466. | 41411. | 47492. | 54882. | 42062. | 29585. | 9436. | 8410. | 4898. | 336319. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|

MONTHLY PERCENTAGES

|     |     |     |      |      |      |      |      |     |     |     |     |
|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|
| 1.3 | 6.5 | 9.4 | 12.0 | 12.3 | 14.1 | 16.3 | 12.5 | 8.8 | 2.8 | 2.5 | 1.5 |
|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 336319. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Colorado River Indian Reservation (CRIR) Consumptive Use

| YEAR | JAN     | FEB    | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    | OCT    | NOV    | DEC    | TOTAL   |
|------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1935 | 140.    | 440.   | 1180.  | 2630.  | 2700.  | 2970.  | 4550.  | 4930.  | 2140.  | 1120.  | 300.   | 160.   | 23240.  |
| 1936 | 180.    | 580.   | 1520.  | 3430.  | 3520.  | 3890.  | 5950.  | 6440.  | 2790.  | 1460.  | 400.   | 210.   | 30370.  |
| 1937 | 0.      | 520.   | 1940.  | 4220.  | 3050.  | 4800.  | 6210.  | 7200.  | 4430.  | 287.   | 550.   | 395.   | 33602.  |
| 1938 | 481.    | 838.   | 1510.  | 3150.  | 3090.  | 3100.  | 4390.  | 5120.  | 2570.  | 4390.  | 564.   | 0.     | 29203.  |
| 1939 | 0.      | 285.   | 2490.  | 2880.  | 2820.  | 4380.  | 5540.  | 6470.  | 0.     | 248.   | 0.     | 159.   | 25032.  |
| 1940 | 436.    | 823.   | 1980.  | 4670.  | 4290.  | 4340.  | 7990.  | 8110.  | 2790.  | 1410.  | 286.   | 264.   | 37389.  |
| 1941 | 0.      | 456.   | 0.     | 2620.  | 5030.  | 3220.  | 6310.  | 6080.  | 4490.  | 1190.  | 635.   | 286.   | 30317.  |
| 1942 | 565.    | 1020.  | 2280.  | 5040.  | 4720.  | 4390.  | 9570.  | 10330. | 8130.  | 5470.  | 2490.  | 2320.  | 56325.  |
| 1943 | 1930.   | 1830.  | 7350.  | 8370.  | 8940.  | 7060.  | 9380.  | 10870. | 9450.  | 5870.  | 4120.  | 3960.  | 79130.  |
| 1944 | 2910.   | 2990.  | 5750.  | 9700.  | 10630. | 12980. | 13630. | 10340. | 10170. | 7060.  | 5850.  | 4920.  | 101650. |
| 1945 | 4290.   | 5090.  | 6800.  | 11720. | 11360. | 10420. | 13630. | 11460. | 8430.  | 5630.  | 3680.  | 4360.  | 91980.  |
| 1946 | 6280.   | 4650.  | 7910.  | 8380.  | 8480.  | 10240. | 12480. | 11970. | 10090. | 9710.  | 5770.  | 4080.  | 98820.  |
| 1947 | 3540.   | 6950.  | 8050.  | 7740.  | 7310.  | 11370. | 10740. | 12240. | 10090. | 9710.  | 5770.  | 4080.  | 98820.  |
| 1948 | 4370.   | 5760.  | 8100.  | 9820.  | 9430.  | 10660. | 14380. | 18250. | 10740. | 5630.  | 5210.  | 2820.  | 103170. |
| 1949 | 907.    | 3660.  | 9360.  | 11080. | 12070. | 12090. | 17510. | 19580. | 15910. | 6960.  | 5800.  | 6120.  | 119233. |
| 1950 | 3600.   | 8470.  | 10740. | 12810. | 13060. | 19320. | 20540. | 23960. | 19630. | 11240. | 10080. | 4910.  | 158360. |
| 1951 | 1990.   | 3870.  | 12370. | 17640. | 13270. | 23860. | -940.  | 20880. | 14120. | 12080. | 7620.  | 3810.  | 130570. |
| 1952 | 30580.  | 8140.  | 8680.  | 17720. | 18810. | 21310. | 35910. | 35760. | 17950. | 12130. | 4090.  | 5210.  | 216260. |
| 1953 | -5117.  | 8430.  | 19800. | 19630. | 20780. | 29440. | 33370. | 34740. | 21420. | 11670. | 9040.  | 6210.  | 209413. |
| 1954 | -1300.  | 14350. | 14070. | 26660. | 21600. | 31860. | 29670. | 33340. | 22730. | 19670. | 15670. | 12350. | 232870. |
| 1955 | -6308.  | 13980. | 19100. | 21570. | 26030. | 27970. | 28670. | 19240. | 21930. | 19530. | 10040. | 6270.  | 204022. |
| 1956 | 2890.   | 5420.  | 17110. | 20140. | 22000. | 30820. | 36310. | 32920. | 14680. | 8330.  | 1490.  | 3220.  | 195330. |
| 1957 | 1060.   | 3720.  | 16970. | 15980. | 15990. | 27220. | 26210. | 25840. | 20220. | 17400. | 5980.  | 5300.  | 161730. |
| 1958 | -2280.  | 2060.  | 18410. | 15610. | 15400. | 24270. | 24850. | 22240. | 17400. | 5980.  | 5300.  | 9430.  | 158690. |
| 1959 | 5480.   | 1770.  | 25790. | 19010. | 9890.  | 26680. | 32550. | 17080. | 17430. | 8090.  | 950.   | 840.   | 165560. |
| 1960 | 3830.   | 8270.  | 23670. | 13430. | 13380. | 31880. | 34040. | 29470. | 15510. | 8720.  | 1030.  | 4200.  | 185430. |
| 1961 | 3400.   | 14260. | 24430. | 13430. | 13380. | 31880. | 34040. | 29470. | 15510. | 8720.  | 1030.  | 4200.  | 185430. |
| 1962 | -870.   | 8040.  | 20110. | 17080. | 15770. | 24670. | 31670. | 31020. | 20100. | 6120.  | 2330.  | 2230.  | 170880. |
| 1963 | -3770.  | 12200. | 27720. | 15330. | 15080. | 26320. | 31970. | 28880. | 16700. | 6550.  | 3080.  | 5960.  | 179990. |
| 1964 | -1750.  | 11920. | 22810. | 14380. | 19730. | 27210. | 31680. | 27770. | 18100. | 8320.  | -780.  | 2600.  | 179990. |
| 1965 | -2210.  | 15400. | 23960. | 12630. | 15550. | 23160. | 28380. | 30870. | 19930. | 3660.  | -2780. | -7010. | 161540. |
| 1966 | -5313.  | 14375. | 24348. | 23378. | 23619. | 23028. | 31299. | 32349. | 23348. | 1469.  | 2748.  | 5318.  | 201966. |
| 1967 | 188.    | 18307. | 24128. | 19327. | 27947. | 31417. | 33097. | 25607. | 10267. | 10147. | 3247.  | 1156.  | 204835. |
| 1968 | 2014.   | 16955. | 31336. | 22205. | 28580. | 33665. | 36516. | 35142. | 18542. | 3346.  | 3520.  | 2493.  | 232314. |
| 1969 | 463.    | 18550. | 33378. | 19370. | 25630. | 33135. | 37629. | 34571. | 11267. | 6649.  | 1557.  | 0.     | 222199. |
| 1970 | -1957.  | 20844. | 15844. | 18431. | 26370. | 28889. | 40938. | 36385. | 23015. | 11843. | 4983.  | 3085.  | 228470. |
| 1971 | 608.    | 26664. | 33007. | 35602. | 34160. | 33062. | 43348. | 31238. | 32078. | 12387. | 7881.  | 7190.  | 297223. |
| 1972 | -4753.  | 29880. | 26825. | 31759. | 37719. | 35242. | 43416. | 35630. | 23421. | -1340. | 4367.  | 8079.  | 269245. |
| 1973 | -10918. | 24535. | 19174. | 36720. | 39175. | 38883. | 50261. | 39151. | 26499. | 11083. | 3405.  | 7535.  | 298439. |
| 1974 | -5138.  | 21766. | 26866. | 36040. | 35332. | 39802. | 50193. | 45056. | 29340. | 17325. | 5709.  | 12812. | 341022. |
| 1975 | -1816.  | 24238. | 31562. | 40069. | 46710. | 43849. | 47645. | 44833. | 18654. | 6752.  | 4564.  | 7034.  | 300870. |
| 1976 | -3164.  | 12625. | 43981. | 33827. | 37906. | 49908. | 44150. | 43479. | 18654. | 6752.  | 4564.  | 7034.  | 300870. |
| 1977 | -7648.  | 33822. | 36707. | 33682. | 35967. | 54693. | 59227. | 59227. | 47392. | 27713. | 11709. | 5972.  | 398465. |
| 1978 | -7231.  | 2051.  | 29893. | 46827. | 37632. | 53099. | 57891. | 57681. | 32333. | 5827.  | -1561. | 1236.  | 315678. |
| 1979 | -7915.  | 19784. | 32543. | 39205. | 38067. | 54374. | 59614. | 46887. | 29746. | 8413.  | 3327.  | 8410.  | 332455. |
| 1980 | -8891.  | 5349.  | 29182. | 48042. | 29069. | 51197. | 66359. | 58308. | 43034. | 14495. | 2966.  | 9591.  | 348701. |
| 1981 | -10582. | 28132. | 39014. | 47708. | 41703. | 65619. | 67456. | 57697. | 29269. | 7103.  | 1765.  | 4244.  | 379128. |
| 1982 | -2524.  | 21708. | 34207. | 40378. | 41497. | 59841. | 67830. | 30725. | 30809. | 8359.  | 1296.  | -1077. | 333049. |

AVERAGES

|       |        |        |        |        |        |        |        |        |       |       |       |         |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|
| -441. | 10706. | 18414. | 19618. | 19868. | 26208. | 29931. | 27097. | 17964. | 7980. | 3686. | 3877. | 184909. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|

MONTHLY PERCENTAGES

|      |     |      |      |      |      |      |      |     |     |     |     |
|------|-----|------|------|------|------|------|------|-----|-----|-----|-----|
| -0.2 | 5.8 | 10.0 | 10.6 | 10.7 | 14.2 | 16.2 | 14.7 | 9.7 | 4.3 | 2.0 | 2.1 |
|------|-----|------|------|------|------|------|------|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 184909. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Imperial National Wildlife Refuge Consumptive Use

| YEAR   | JAN | FEB | MAR | APR  | MAY  | JUN  | JUL           | AUG  | SEP | OCT | NOV | DEC | TOTAL |
|--|-----|-----|-----|------|------|------|---------------|------|-----|-----|-----|-----|-------|
| 1935   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1936   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1937   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1938   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1939   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1940   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1941   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1942   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1943   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1944   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1945   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1946   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1947   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1948   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1949   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1950   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1951   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1952   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1953   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1954   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1955   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1956   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1957   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1958   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1959   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1960   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1961   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1962   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1963   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1964   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1965   | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.            | 0.   | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1966   | 4.  | 20. | 29. | 37.  | 38.  | 42.  | 51.           | 39.  | 27. | 9.  | 8.  | 5.  | 310.  |
| 1967   | 5.  | 23. | 33. | 42.  | 43.  | 48.  | 58.           | 44.  | 30. | 10. | 9.  | 6.  | 351.  |
| 1968   | 5.  | 23. | 34. | 43.  | 44.  | 50.  | 60.           | 45.  | 31. | 10. | 10. | 8.  | 361.  |
| 1969   | 6.  | 29. | 42. | 53.  | 55.  | 62.  | 74.           | 56.  | 39. | 13. | 12. | 7.  | 448.  |
| 1970   | 3.  | 14. | 20. | 25.  | 26.  | 30.  | 35.           | 27.  | 19. | 6.  | 6.  | 3.  | 214.  |
| 1971   | 1.  | 7.  | 11. | 14.  | 14.  | 16.  | 19.           | 14.  | 10. | 3.  | 3.  | 2.  | 114.  |
| 1972   | 2.  | 10. | 14. | 18.  | 19.  | 21.  | 25.           | 19.  | 13. | 4.  | 4.  | 2.  | 151.  |
| 1973   | 3.  | 15. | 21. | 27.  | 28.  | 31.  | 37.           | 28.  | 19. | 6.  | 6.  | 4.  | 225.  |
| 1974   | 2.  | 9.  | 13. | 17.  | 18.  | 20.  | 24.           | 18.  | 13. | 4.  | 4.  | 2.  | 144.  |
| 1975   | 4.  | 20. | 28. | 36.  | 37.  | 42.  | 50.           | 38.  | 26. | 8.  | 8.  | 5.  | 302.  |
| 1976   | 3.  | 16. | 23. | 29.  | 30.  | 34.  | 40.           | 31.  | 21. | 7.  | 7.  | 4.  | 245.  |
| 1977   | 2.  | 10. | 14. | 18.  | 19.  | 21.  | 26.           | 20.  | 13. | 4.  | 4.  | 2.  | 153.  |
| 1978   | 4.  | 22. | 32. | 41.  | 42.  | 47.  | 57.           | 43.  | 30. | 10. | 9.  | 5.  | 342.  |
| 1979   | 4.  | 18. | 26. | 32.  | 33.  | 38.  | 45.           | 35.  | 24. | 8.  | 8.  | 4.  | 275.  |
| 1980   | 4.  | 22. | 32. | 40.  | 40.  | 47.  | 56.           | 43.  | 29. | 10. | 9.  | 5.  | 337.  |
| 1981   | 8.  | 9.  | 9.  | 16.  | 14.  | 15.  | 14.           | 15.  | 12. | 11. | 10. | 5.  | 138.  |
| 1982   | 8.  | 9.  | 10. | 17.  | 15.  | 16.  | 15.           | 16.  | 12. | 11. | 10. | 5.  | 144.  |
| AVERAGES   | 1.  | 6.  | 8.  | 11.  | 11.  | 12.  | 14.           | 11.  | 8.  | 3.  | 3.  | 2.  | 89.   |
| MONTHLY PERCENTAGES                                      | 1.6 | 6.5 | 9.2 | 11.9 | 12.1 | 13.7 | 16.1          | 12.5 | 8.7 | 3.1 | 3.0 | 1.7 |       |
| THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS |     |     |     |      |      |      | 89. ACRE-FEET |      |     |     |     |     |       |



Parker Dam to Imperial Dam  
Flow Model

Town of Parker Consumptive Use

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 1935 | 12. | 13. | 16. | 18. | 26. | 31. | 36. | 36. | 28. | 19. | 14. | 11. | 260.  |
| 1936 | 12. | 13. | 16. | 19. | 27. | 33. | 38. | 37. | 29. | 20. | 14. | 12. | 270.  |
| 1937 | 13. | 14. | 17. | 20. | 28. | 34. | 39. | 38. | 31. | 20. | 15. | 12. | 281.  |
| 1938 | 13. | 14. | 18. | 21. | 29. | 35. | 40. | 40. | 35. | 21. | 15. | 12. | 293.  |
| 1939 | 14. | 15. | 18. | 21. | 30. | 36. | 42. | 41. | 33. | 22. | 16. | 13. | 304.  |
| 1940 | 14. | 15. | 19. | 22. | 31. | 38. | 43. | 42. | 34. | 23. | 16. | 13. | 310.  |
| 1941 | 15. | 16. | 20. | 23. | 32. | 39. | 44. | 44. | 35. | 23. | 17. | 14. | 322.  |
| 1942 | 15. | 16. | 20. | 23. | 33. | 40. | 46. | 45. | 36. | 24. | 17. | 14. | 329.  |
| 1943 | 16. | 17. | 21. | 24. | 34. | 41. | 47. | 47. | 37. | 25. | 17. | 15. | 341.  |
| 1944 | 16. | 17. | 21. | 25. | 35. | 42. | 49. | 48. | 38. | 26. | 18. | 15. | 350.  |
| 1945 | 17. | 18. | 22. | 26. | 36. | 44. | 50. | 49. | 39. | 26. | 19. | 15. | 361.  |
| 1946 | 17. | 18. | 23. | 26. | 37. | 45. | 51. | 51. | 40. | 27. | 19. | 16. | 370.  |
| 1947 | 17. | 19. | 23. | 27. | 38. | 46. | 53. | 52. | 41. | 28. | 20. | 16. | 380.  |
| 1948 | 18. | 19. | 24. | 28. | 39. | 47. | 54. | 53. | 43. | 28. | 20. | 17. | 390.  |
| 1949 | 18. | 20. | 24. | 28. | 40. | 48. | 56. | 55. | 44. | 29. | 21. | 17. | 400.  |
| 1950 | 19. | 20. | 25. | 29. | 41. | 50. | 57. | 56. | 45. | 30. | 21. | 18. | 411.  |
| 1951 | 20. | 21. | 26. | 31. | 43. | 52. | 60. | 59. | 47. | 31. | 22. | 18. | 430.  |
| 1952 | 20. | 22. | 27. | 31. | 44. | 53. | 61. | 60. | 48. | 32. | 23. | 19. | 440.  |
| 1953 | 21. | 22. | 27. | 32. | 45. | 54. | 63. | 62. | 49. | 33. | 23. | 19. | 450.  |
| 1954 | 22. | 23. | 29. | 33. | 47. | 57. | 65. | 64. | 51. | 34. | 24. | 20. | 469.  |
| 1955 | 22. | 24. | 29. | 34. | 48. | 58. | 67. | 66. | 52. | 35. | 25. | 21. | 481.  |
| 1956 | 23. | 25. | 30. | 36. | 49. | 61. | 69. | 69. | 54. | 37. | 26. | 22. | 501.  |
| 1957 | 23. | 25. | 31. | 36. | 50. | 62. | 71. | 70. | 56. | 37. | 27. | 22. | 510.  |
| 1958 | 24. | 26. | 32. | 38. | 52. | 64. | 74. | 73. | 58. | 39. | 28. | 23. | 531.  |
| 1959 | 25. | 26. | 33. | 38. | 53. | 65. | 75. | 74. | 59. | 39. | 28. | 23. | 538.  |
| 1960 | 26. | 27. | 34. | 40. | 55. | 68. | 78. | 77. | 61. | 41. | 29. | 24. | 560.  |
| 1961 | 26. | 28. | 35. | 40. | 56. | 69. | 79. | 78. | 62. | 42. | 30. | 25. | 570.  |
| 1962 | 27. | 28. | 35. | 41. | 57. | 70. | 81. | 79. | 63. | 42. | 30. | 25. | 578.  |
| 1963 | 27. | 29. | 36. | 42. | 58. | 71. | 82. | 81. | 64. | 43. | 31. | 25. | 589.  |
| 1964 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1965 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1966 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1967 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1968 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1969 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1970 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1971 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1972 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1973 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1974 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1975 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1976 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1977 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1978 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1979 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1980 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1981 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |
| 1982 | 29. | 32. | 38. | 44. | 61. | 75. | 86. | 85. | 67. | 45. | 32. | 26. | 610.  |

AVERAGES

|     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 26. | 29. | 37. | 46. | 61. | 74. | 85. | 77. | 61. | 42. | 30. | 25. | 593. |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |      |     |     |     |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| 4.4 | 4.8 | 6.3 | 7.8 | 10.3 | 12.9 | 14.3 | 13.0 | 10.4 | 7.0 | 5.1 | 4.2 |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 593. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Consumptive Use of Other Decree Users in Arizona

| YEAR | JAN   | FEB   | MAR   | APR   | MAY   | JUN    | JUL   | AUG   | SEP   | OCT   | NOV   | DEC   | TOTAL  |
|------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|--------|
| 1935 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1936 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1937 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1938 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1939 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1940 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1941 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1942 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1943 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1944 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1945 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1946 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1947 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1948 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1949 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1950 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1951 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1952 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1953 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1954 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1955 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1956 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1957 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1958 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1959 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1960 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1961 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1962 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1963 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1964 | 2904. | 4556. | 5266. | 5172. | 5460. | 5186.  | 7030. | 6332. | 5210. | 3486. | 2145. | 2051. | 55798. |
| 1965 | 1444. | 3506. | 4852. | 3293. | 4552. | 5683.  | 6633. | 6419. | 5312. | 3088. | 1958. | 974.  | 47514. |
| 1966 | 622.  | 2654. | 4651. | 4853. | 4889. | 5592.  | 6417. | 6045. | 5249. | 2480. | 2489. | 2195. | 48246. |
| 1967 | 1485. | 2785. | 4832. | 5210. | 5271. | 7714.  | 7984. | 6477. | 5099. | 3914. | 2807. | 1155. | 54733. |
| 1968 | 1319. | 3259. | 4442. | 6041. | 5497. | 10314. | 6563. | 6430. | 6422. | 3958. | 1938. | 2869. | 59052. |
| 1969 | 1187. | 1713. | 4022. | 4339. | 4553. | 4048.  | 4992. | 4101. | 3809. | 4425. | 2065. | 1744. | 40994. |
| 1970 | 1356. | 1924. | 4046. | 3072. | 4273. | 3376.  | 4822. | 3954. | 3608. | 2247. | 2067. | 1959. | 36857. |
| 1971 | 1481. | 2730. | 3383. | 3570. | 3660. | 6071.  | 5311. | 3617. | 3693. | 2304. | 1937. | 1693. | 41663. |
| 1972 | 1628. | 2337. | 5301. | 2929. | 4842. | 4407.  | 5888. | 3403. | 2108. | 915.  | 1064. | 853.  | 34806. |
| 1973 | 720.  | 2757. | 3324. | 4013. | 5354. | 4482.  | 5263. | 4031. | 4131. | 2595. | 2580. | 1617. | 38161. |
| 1974 | 1232. | 2584. | 5782. | 2415. | 2469. | 3871.  | 5329. | 3712. | 2549. | 3382. | 2430. | 1388. | 44541. |
| 1975 | 7503. | 2369. | 6195. | 3097. | 2819. | 3818.  | 3177. | 3512. | 3372. | 1611. | 1804. | 1700. | 28423. |
| 1976 | 1847. | 1012. | 2442. | 2136. | 2194. | 3848.  | 3171. | 5688. | 2482. | 3066. | 2272. | 2530. | 39093. |
| 1977 | 470.  | 2192. | 2574. | 3103. | 3156. | 3849.  | 4569. | 3310. | 4102. | 2366. | 1280. | 1265. | 30188. |
| 1978 | 1654. | 125.  | 1615. | 2963. | 3172. | 3757.  | 4569. | 3310. | 4102. | 2366. | 1280. | 1265. | 30188. |
| 1979 | 780.  | 1036. | 3633. | 4884. | 5232. | 3101.  | 3112. | 2948. | 2939. | 2261. | 1625. | 1778. | 33527. |
| 1980 | 1813. | 1480. | 1016. | 2355. | 3987. | 2180.  | 3437. | 2891. | 3585. | 3013. | 1223. | 1027. | 29427. |
| 1981 | 973.  | 1469. | 2991. | 2745. | 3252. | 4234.  | 4478. | 4061. | 3665. | 2953. | 978.  | 1621. | 33420. |
| 1982 | 1812. | 1863. | 2734. | 2889. | 2527. | 4132.  | 4104. | 3413. | 2337. | 1549. | 1316. | 415.  | 29091. |

AVERAGES

|      |      |       |       |       |       |       |       |       |       |      |      |        |
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|--------|
| 672. | 882. | 1523. | 1439. | 1610. | 1909. | 2024. | 1807. | 1536. | 1110. | 763. | 638. | 15911. |
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|--------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |     |     |     |     |
|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|
| 4.2 | 5.5 | 9.6 | 9.0 | 10.1 | 12.0 | 12.7 | 11.4 | 9.7 | 7.0 | 4.8 | 4.0 |
|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 15911. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Consumptive Use of Other Decree Users in California

| YEAR | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   | OCT   | NOV   | DEC   | TOTAL  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1935 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1936 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1937 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1938 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1939 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1940 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1941 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1942 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1943 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1944 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1945 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1946 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1947 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1948 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1949 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1950 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1951 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1952 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1953 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1954 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1955 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1956 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1957 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1958 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1959 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1960 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1961 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1962 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1963 | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.     |
| 1964 | 1005. | 1539. | 2277. | 1847. | 2023. | 2513. | 2391. | 2221. | 1818. | 1130. | 884.  | 659.  | 20307. |
| 1965 | 693.  | 1574. | 2190. | 1460. | 1903. | 2498. | 2782. | 2679. | 2213. | 1305. | 725.  | 361.  | 20383. |
| 1966 | 251.  | 1069. | 1874. | 1959. | 2010. | 2252. | 2580. | 2435. | 2115. | 999.  | 1003. | 884.  | 19431. |
| 1967 | 897.  | 1510. | 1918. | 1833. | 2224. | 2426. | 2710. | 2416. | 1960. | 1631. | 1149. | 859.  | 21533. |
| 1968 | 963.  | 1674. | 2188. | 1909. | 2234. | 2345. | 2049. | 3421. | 2366. | 1425. | 1166. | 1455. | 23195. |
| 1969 | 1205. | 2040. | 2034. | 2123. | 2511. | 2119. | 2513. | 2453. | 2337. | 1095. | 767.  | 1713. | 22960. |
| 1970 | 853.  | 1414. | 1048. | 1860. | 1958. | 2057. | 2158. | 1732. | 1207. | 890.  | 1091. | 582.  | 16247. |
| 1971 | 851.  | 843.  | 1258. | 2044. | 2041. | 2540. | 2845. | 2137. | 1833. | 527.  | 947.  | 1224. | 18690. |
| 1972 | 665.  | 643.  | 1214. | 1387. | 1828. | 1392. | 1899. | 2071. | 1894. | 597.  | 194.  | 588.  | 14142. |
| 1973 | 235.  | 359.  | 386.  | 610.  | 541.  | 663.  | 722.  | 631.  | 622.  | 436.  | 180.  | 94.   | 5479.  |
| 1974 | 29.   | 299.  | 274.  | 553.  | 711.  | 874.  | 756.  | 552.  | 756.  | 295.  | 273.  | 113.  | 5485.  |
| 1975 | 304.  | 161.  | 803.  | 982.  | 1361. | 1391. | 1420. | 1524. | 1251. | 1335. | 53.   | 15.   | 10580. |
| 1976 | 2006. | 990.  | 2210. | 392.  | 194.  | 1731. | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 7523.  |
| 1977 | 31.   | 142.  | 167.  | 201.  | 205.  | 250.  | 241.  | 369.  | 161.  | 200.  | 147.  | 99.   | 2213.  |
| 1978 | 70.   | 99.   | 124.  | 457.  | 257.  | 421.  | 394.  | 324.  | 330.  | 77.   | 40.   | 13.   | 2606.  |
| 1979 | 60.   | 33.   | 359.  | 243.  | 235.  | 437.  | 531.  | 597.  | 328.  | 70.   | 39.   | 44.   | 2976.  |
| 1980 | 25.   | 148.  | 310.  | 427.  | 270.  | 423.  | 529.  | 778.  | 514.  | 290.  | 71.   | 43.   | 3828.  |
| 1981 | 118.  | 176.  | 358.  | 334.  | 389.  | 507.  | 536.  | 486.  | 439.  | 353.  | 117.  | 194.  | 4005.  |
| 1982 | 50.   | 115.  | 308.  | 396.  | 475.  | 533.  | 512.  | 608.  | 445.  | 266.  | 129.  | 44.   | 3881.  |

AVERAGES

|      |      |      |      |      |      |      |      |      |      |      |      |       |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 211. | 309. | 444. | 433. | 475. | 570. | 570. | 572. | 471. | 269. | 187. | 187. | 4697. |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |      |     |     |     |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| 4.5 | 6.8 | 9.4 | 9.2 | 10.1 | 12.1 | 12.1 | 12.2 | 10.0 | 5.7 | 4.0 | 4.0 |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 4697. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Consumptive Use of Parker Dam and Government Camp

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 1935 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1936 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1937 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1938 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1939 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1940 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1941 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1942 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1943 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1944 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1945 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1946 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1947 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1948 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1949 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1950 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1951 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1952 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1953 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1954 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1955 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1956 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1957 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1958 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1959 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1960 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1961 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1962 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1963 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1964 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1965 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1966 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1967 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1968 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1969 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1970 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1971 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1972 | 14. | 13. | 13. | 33. | 35. | 33. | 35. | 33. | 33. | 10. | 9.  | 9.  | 270.  |
| 1973 | 5.  | 5.  | 5.  | 22. | 23. | 22. | 60. | 59. | 59. | 13. | 13. | 11. | 297.  |
| 1974 | 5.  | 6.  | 10. | 14. | 24. | 35. | 34. | 29. | 24. | 16. | 10. | 6.  | 313.  |
| 1975 | 7.  | 7.  | 10. | 14. | 17. | 27. | 29. | 29. | 24. | 14. | 10. | 5.  | 193.  |
| 1976 | 6.  | 5.  | 8.  | 12. | 37. | 35. | 34. | 34. | 21. | 10. | 7.  | 9.  | 218.  |
| 1977 | 10. | 11. | 15. | 17. | 17. | 23. | 28. | 24. | 20. | 17. | 12. | 10. | 202.  |
| 1978 | 11. | 13. | 16. | 19. | 19. | 26. | 29. | 27. | 22. | 19. | 14. | 11. | 226.  |
| 1979 | 13. | 14. | 17. | 22. | 25. | 35. | 41. | 34. | 29. | 25. | 18. | 15. | 266.  |
| 1980 | 8.  | 8.  | 11. | 21. | 25. | 32. | 38. | 45. | 34. | 26. | 14. | 11. | 273.  |
| 1981 | 8.  | 10. | 13. | 16. | 21. | 38. | 36. | 55. | 31. | 21. | 16. | 15. | 280.  |
| 1982 | 7.  | 8.  | 8.  | 19. | 23. | 36. | 40. | 30. | 28. | 15. | 7.  | 7.  | 228.  |

AVERAGES

|    |    |    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 2. | 2. | 3. | 4. | 6. | 7. | 8. | 8. | 7. | 4. | 3. | 2. | 56. |
|----|----|----|----|----|----|----|----|----|----|----|----|-----|

MONTHLY PERCENTAGES

|     |     |     |     |     |      |      |      |      |     |     |     |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|
| 3.5 | 3.7 | 4.7 | 7.8 | 9.9 | 12.7 | 15.0 | 14.8 | 12.1 | 6.9 | 4.8 | 4.1 |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 56. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Phreatophyte Consumptive Use

| YEAR | JAN  | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   | OCT   | NOV   | DEC   | TOTAL  |
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1935 | 5158 | 7739  | 13412 | 30430 | 58298 | 82544 | 94380 | 85624 | 61376 | 41261 | 25273 | 10315 | 515788 |
| 1936 | 5152 | 7728  | 13395 | 30397 | 58160 | 82432 | 94304 | 85512 | 61320 | 41216 | 25245 | 10304 | 518605 |
| 1937 | 5141 | 7711  | 13387 | 30330 | 58072 | 82264 | 94080 | 85344 | 61152 | 41128 | 25189 | 10282 | 514058 |
| 1938 | 5141 | 7711  | 13367 | 30330 | 58072 | 82264 | 94080 | 85344 | 61152 | 41128 | 25189 | 10282 | 514058 |
| 1939 | 5135 | 7706  | 13350 | 30298 | 58016 | 82152 | 93968 | 85232 | 61096 | 41082 | 25161 | 10270 | 513464 |
| 1940 | 5130 | 7694  | 13339 | 30262 | 57960 | 82096 | 93856 | 85176 | 61040 | 41037 | 25133 | 10259 | 512982 |
| 1941 | 5130 | 7694  | 13339 | 30262 | 57960 | 82096 | 93856 | 85176 | 61040 | 41037 | 25133 | 10259 | 512982 |
| 1942 | 5124 | 7689  | 13322 | 30234 | 57904 | 81984 | 93744 | 85064 | 60984 | 40992 | 25110 | 10248 | 512399 |
| 1943 | 5113 | 7672  | 13294 | 30167 | 57792 | 81816 | 93572 | 84896 | 60816 | 40902 | 25054 | 10226 | 511324 |
| 1944 | 5102 | 7655  | 13266 | 30100 | 57624 | 81648 | 93392 | 84728 | 60704 | 40813 | 24998 | 10203 | 510697 |
| 1945 | 5096 | 7644  | 13250 | 30066 | 57568 | 81536 | 93300 | 84616 | 60648 | 40768 | 24970 | 10192 | 510154 |
| 1946 | 5068 | 7605  | 13177 | 29904 | 57288 | 81088 | 92736 | 84112 | 60312 | 40544 | 24836 | 10136 | 506806 |
| 1947 | 5040 | 7560  | 13160 | 2968  | 57064 | 80808 | 92456 | 83832 | 60088 | 40432 | 24752 | 10080 | 502936 |
| 1948 | 5040 | 7560  | 13048 | 29680 | 56840 | 80472 | 92008 | 83496 | 59864 | 40208 | 24640 | 10080 | 502936 |
| 1949 | 5040 | 7504  | 13048 | 29568 | 56616 | 80192 | 91728 | 83216 | 59640 | 40096 | 24584 | 10024 | 501256 |
| 1950 | 4984 | 7504  | 12936 | 29400 | 56336 | 79744 | 91224 | 82712 | 59304 | 39872 | 24416 | 9968  | 498400 |
| 1951 | 4984 | 7448  | 12880 | 29232 | 56000 | 79296 | 90720 | 82264 | 58968 | 39648 | 24304 | 9912  | 495656 |
| 1952 | 4928 | 7392  | 12824 | 29064 | 55664 | 78848 | 90160 | 81816 | 58632 | 39424 | 24136 | 9856  | 492744 |
| 1953 | 4928 | 7336  | 12768 | 28896 | 55384 | 78400 | 89656 | 81368 | 58296 | 39200 | 24024 | 9800  | 490056 |
| 1954 | 4872 | 7280  | 12600 | 28672 | 54880 | 77872 | 88872 | 80584 | 57792 | 38864 | 23800 | 9688  | 485576 |
| 1955 | 4816 | 7224  | 12544 | 28392 | 54432 | 77056 | 88144 | 79968 | 57288 | 38528 | 23576 | 9632  | 481600 |
| 1956 | 4760 | 7168  | 12432 | 28168 | 53928 | 76328 | 87304 | 79184 | 56784 | 38192 | 23352 | 9520  | 477120 |
| 1957 | 4704 | 7056  | 12284 | 27776 | 53200 | 75376 | 86184 | 78176 | 56056 | 37688 | 23072 | 9408  | 470960 |
| 1958 | 4648 | 7000  | 12152 | 27496 | 52696 | 74648 | 85344 | 77448 | 55496 | 37296 | 22848 | 9352  | 466424 |
| 1959 | 4592 | 6888  | 11972 | 27104 | 51912 | 73742 | 84056 | 76216 | 54656 | 36736 | 22512 | 9184  | 459256 |
| 1960 | 4346 | 8290  | 21970 | 33346 | 51841 | 77376 | 86762 | 75849 | 54798 | 28187 | 12075 | 5649  | 460489 |
| 1961 | 5252 | 9666  | 18766 | 31280 | 47988 | 73389 | 83578 | 72522 | 45784 | 26595 | 10989 | 5680  | 431470 |
| 1962 | 4802 | 8885  | 15146 | 34596 | 44866 | 85070 | 85070 | 72412 | 51038 | 27815 | 13285 | 6255  | 421689 |
| 1963 | 4020 | 10804 | 16534 | 25355 | 48744 | 57875 | 73760 | 65410 | 48260 | 27993 | 11492 | 5122  | 395369 |
| 1964 | 3558 | 7030  | 15226 | 24925 | 42093 | 58378 | 74391 | 64217 | 43276 | 29436 | 9585  | 5599  | 377714 |
| 1965 | 4572 | 7780  | 14587 | 24469 | 40477 | 51477 | 68972 | 62558 | 38684 | 25899 | 11822 | 5299  | 356556 |
| 1966 | 3456 | 6302  | 16055 | 26737 | 45268 | 58164 | 68592 | 62661 | 42229 | 23343 | 10882 | 5313  | 369002 |
| 1967 | 3892 | 7792  | 15706 | 19148 | 39224 | 50653 | 68760 | 61327 | 39994 | 24335 | 11629 | 4363  | 346943 |
| 1968 | 3769 | 8837  | 15698 | 23039 | 39226 | 53429 | 63174 | 51832 | 38580 | 22130 | 10184 | 3791  | 333689 |
| 1969 | 4478 | 6317  | 13209 | 23039 | 40036 | 47689 | 62867 | 60327 | 40714 | 19462 | 9712  | 4862  | 332712 |
| 1970 | 3292 | 7193  | 12393 | 18264 | 36219 | 50434 | 61948 | 54982 | 34535 | 18486 | 8899  | 3938  | 310583 |
| 1971 | 3120 | 6229  | 12906 | 18759 | 30283 | 45583 | 58046 | 49917 | 33986 | 16625 | 7783  | 3677  | 286914 |
| 1972 | 2670 | 6128  | 15630 | 20233 | 32925 | 46536 | 56267 | 44516 | 31722 | 16919 | 6889  | 3462  | 283697 |
| 1973 | 2993 | 5351  | 9773  | 17199 | 32108 | 44186 | 51419 | 43875 | 28674 | 16995 | 7250  | 3816  | 263239 |
| 1974 | 2452 | 4885  | 11416 | 17366 | 29665 | 43734 | 47111 | 41280 | 31161 | 16909 | 6997  | 2854  | 255820 |
| 1975 | 2433 | 4289  | 8684  | 12210 | 25840 | 36381 | 45025 | 38595 | 28006 | 14046 | 6260  | 3408  | 224977 |
| 1976 | 2517 | 4743  | 8329  | 13718 | 26272 | 33724 | 39481 | 32663 | 23206 | 13196 | 6357  | 3202  | 207408 |
| 1977 | 2435 | 4762  | 8025  | 15896 | 20756 | 37258 | 42812 | 36619 | 25277 | 15494 | 6744  | 3603  | 219681 |
| 1978 | 2541 | 4722  | 8025  | 14310 | 20756 | 37068 | 42915 | 35098 | 25005 | 16512 | 6031  | 2588  | 215571 |
| 1979 | 2011 | 4197  | 8989  | 19221 | 25359 | 35098 | 41282 | 33263 | 27293 | 16019 | 5688  | 3384  | 216804 |
| 1980 | 3000 | 5130  | 8813  | 19067 | 25359 | 34270 | 41282 | 36709 | 25005 | 14368 | 6281  | 3796  | 219080 |
| 1981 | 3078 | 4782  | 9309  | 16908 | 25359 | 34270 | 41282 | 37712 | 26102 | 14368 | 6562  | 3462  | 223194 |
| 1982 | 2458 | 5109  | 9131  | 15324 | 25133 | 32644 | 41282 | 35364 | 23998 | 12671 | 5640  | 2809  | 211563 |

AVERAGES

|       |       |        |        |        |        |        |        |        |        |        |       |         |
|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|
| 4199. | 7008. | 12891. | 24699. | 46017. | 64602. | 75472. | 67516. | 47746. | 30310. | 16882. | 7196. | 404540. |
|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |      |     |     |     |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| 1.0 | 1.7 | 3.2 | 6.1 | 11.4 | 16.0 | 18.7 | 18.7 | 11.8 | 7.5 | 4.2 | 1.8 |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 404540. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Senator Wash Operations Loss

| YEAR                       | JAN    | FEB    | MAR    | APR   | MAY    | JUN    | JUL    | AUG    | SEP    | OCT    | NOV   | DEC    | TOTAL  |
|----------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| 1935                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1936                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1937                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1938                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1939                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1940                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1941                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1942                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1943                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1944                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1945                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1946                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1947                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1948                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1949                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1950                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1951                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1952                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1953                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1954                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1955                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1956                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1957                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1958                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1959                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1960                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1961                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1962                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1963                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1964                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1965                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1966                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     |
| 1967                       | 0.     | 0.     | 0.     | 0.    | 0.     | 0.     | 0.     | 0.     | 0.     | 0.     | 0.    | 2227.  | 2227.  |
| 1968                       | 1748.  | 4460.  | 3880.  | 7851. | 3570.  | 7850.  | 8190.  | 2520.  | 5890.  | 5530.  | 3200. | 4750.  | 57239. |
| 1969                       | 8460.  | 2550.  | 4950.  | 4230. | 2830.  | 7180.  | 4750.  | 5090.  | 5480.  | 0.     | 0.    | 0.     | 45520. |
| 1970                       | 7882.  | 2382.  | 7540.  | 3150. | 6930.  | 200.   | 9107.  | 8710.  | 1479.  | 7400.  | 7870. | 700.   | 61460. |
| 1971                       | 3040.  | 6010.  | 2580.  | 5857. | 7100.  | 4064.  | 3310.  | 13015. | 6470.  | 2270.  | 3772. | 1230.  | 58918. |
| 1972                       | 7150.  | 6490.  | 3001.  | 3590. | 8140.  | 380.   | 7510.  | 5190.  | 5260.  | 4230.  | 9450. | 800.   | 61161. |
| 1973                       | 7180.  | 11600. | 380.   | 4230. | 7580.  | 2040.  | 5370.  | 9210.  | 475.   | 9480.  | 8923. | 530.   | 66998. |
| 1974                       | 5640.  | 6171.  | 5870.  | 890.  | 570.   | 5505.  | 3260.  | 9644.  | 5440.  | 9280.  | 120.  | 690.   | 53180. |
| 1975                       | 10478. | 2830.  | 9890.  | 4290. | 4148.  | 3030.  | 10300. | 1940.  | 7630.  | 5785.  | 4720. | 222.   | 85261. |
| 1976                       | 9280.  | 810.   | 12230. | 70.   | 9560.  | 4030.  | 8920.  | 3010.  | 13210. | 2290.  | 4340. | 10190. | 77940. |
| 1977                       | 3180.  | 8080.  | 5230.  | 830.  | 4990.  | 610.   | 10860. | 3520.  | 10120. | 1820.  | 8940. | 11270. | 69450. |
| 1978                       | 4610.  | 1540.  | 4200.  | 4650. | 4550.  | 4560.  | 8000.  | 3540.  | 1120.  | 12800. | 9020. | 440.   | 59030. |
| 1979                       | 10670. | -2640. | 11190. | 2090. | 2080.  | 2320.  | 5620.  | 5800.  | 5190.  | 7490.  | 4170. | 5550.  | 59530. |
| 1980                       | 7450.  | 1400.  | 14690. | 5730. | -1280. | 870.   | 2950.  | 6020.  | 3070.  | 3790.  | 4170. | 3690.  | 52550. |
| 1981                       | 6660.  | 3210.  | 9970.  | 5350. | 3900.  | 830.   | 4890.  | 4140.  | 8130.  | 2240.  | 6650. | -420.  | 55550. |
| 1982                       | 8080.  | 2810.  | 4000.  | 7070. | 10960. | -1740. | 9770.  | 5060.  | -2510. | 7750.  | 3040. | 7260.  | 61550. |
| <b>AVERAGES</b>            |        |        |        |       |        |        |        |        |        |        |       |        |        |
|                            | 2111.  | 1202.  | 2092.  | 1239. | 1576.  | 869.   | 2100.  | 1759.  | 1593.  | 1712.  | 1633. | 1024.  | 18908. |
| <b>MONTHLY PERCENTAGES</b> |        |        |        |       |        |        |        |        |        |        |       |        |        |
|                            | 11.2   | 6.4    | 11.1   | 6.6   | 8.3    | 4.6    | 11.1   | 9.3    | 8.4    | 9.1    | 8.6   | 5.4    |        |

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 18908. ACRE-FEET

Parker Dam to Imperial Dam  
Flow Model

Flow at Imperial Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 305800.  | 255500.  | 416800.  | 379100.  | 440200.  | 872100.  | 818000.  | 508200.  | 494500.  | 511400.  | 513900.  | 285100.  | 5600600.  |
| 1936 | 261200.  | 277500.  | 461800.  | 496500.  | 477500.  | 469700.  | 556500.  | 505100.  | 444700.  | 380800.  | 311500.  | 272900.  | 4915900.  |
| 1937 | 266100.  | 416900.  | 480100.  | 479000.  | 470200.  | 460400.  | 557900.  | 544400.  | 475000.  | 444300.  | 366500.  | 354000.  | 5315000.  |
| 1938 | 345500.  | 321500.  | 481900.  | 508800.  | 472700.  | 492200.  | 526800.  | 543800.  | 470800.  | 513900.  | 398900.  | 388900.  | 5463500.  |
| 1939 | 553500.  | 1224000. | 655200.  | 532400.  | 496500.  | 492500.  | 548800.  | 560500.  | 845500.  | 843900.  | 827400.  | 659500.  | 7839700.  |
| 1940 | 665700.  | 453800.  | 498900.  | 575800.  | 439000.  | 494200.  | 523100.  | 523400.  | 584000.  | 719200.  | 692800.  | 809300.  | 8978800.  |
| 1941 | 642000.  | 535000.  | 743000.  | 562000.  | 1150000. | 1605000. | 965000.  | 1192000. | 1444000. | 1505000. | 1671000. | 2010000. | 14024000. |
| 1942 | 1876000. | 1590000. | 1476000. | 1080000. | 1524000. | 1465000. | 1199000. | 844000.  | 742000.  | 761000.  | 981000.  | 1178000. | 14714000. |
| 1943 | 1011000. | 729000.  | 846000.  | 802000.  | 842000.  | 876000.  | 972000.  | 910000.  | 917000.  | 1094000. | 1124000. | 1222000. | 11345000. |
| 1944 | 1209000. | 1216000. | 1289000. | 1126000. | 1055000. | 900000.  | 920000.  | 1041000. | 1041000. | 1123000. | 1142000. | 1143000. | 13205000. |
| 1945 | 1160000. | 1047000. | 1193000. | 947000.  | 905000.  | 860000.  | 817000.  | 718000.  | 745000.  | 912000.  | 1011000. | 1075000. | 11390000. |
| 1946 | 1008000. | 1005000. | 927000.  | 759000.  | 786000.  | 858000.  | 719000.  | 666000.  | 639000.  | 707000.  | 757000.  | 855000.  | 9486000.  |
| 1947 | 933000.  | 872000.  | 934000.  | 737000.  | 827000.  | 787000.  | 743000.  | 830000.  | 733000.  | 753000.  | 851000.  | 1041000. | 10041000. |
| 1948 | 1108000. | 1135000. | 1092000. | 1007000. | 1051000. | 916000.  | 1003000. | 906000.  | 871000.  | 901000.  | 945000.  | 1103000. | 12036000. |
| 1949 | 1237000. | 1183000. | 1226000. | 1084000. | 927000.  | 871000.  | 860000.  | 934000.  | 996000.  | 1103000. | 1000000. | 1148000. | 12567000. |
| 1950 | 1088000. | 994000.  | 1189000. | 936000.  | 1002000. | 841000.  | 822000.  | 758000.  | 643000.  | 603000.  | 510000.  | 540000.  | 9906000.  |
| 1951 | 558000.  | 498000.  | 635000.  | 744000.  | 608000.  | 703000.  | 820000.  | 853000.  | 697000.  | 682000.  | 559000.  | 698000.  | 8053000.  |
| 1952 | 1058000. | 1107000. | 1424000. | 1279000. | 1345000. | 1309000. | 1182000. | 1178000. | 1219000. | 1240000. | 1176000. | 1298000. | 14815000. |
| 1953 | 1218000. | 1022000. | 911000.  | 756000.  | 856000.  | 811000.  | 980000.  | 931000.  | 776000.  | 644000.  | 522000.  | 620000.  | 10045000. |
| 1954 | 783000.  | 661000.  | 723000.  | 773000.  | 929000.  | 804000.  | 885000.  | 887000.  | 719000.  | 620000.  | 602000.  | 644000.  | 9030000.  |
| 1955 | 739000.  | 593000.  | 678000.  | 716000.  | 729000.  | 746000.  | 882000.  | 811000.  | 638000.  | 499000.  | 379000.  | 298000.  | 7708000.  |
| 1956 | 298000.  | 344000.  | 546000.  | 648000.  | 594000.  | 666000.  | 753000.  | 717000.  | 583000.  | 479000.  | 343000.  | 297000.  | 6266000.  |
| 1957 | 258000.  | 314000.  | 520000.  | 687000.  | 581000.  | 551000.  | 794000.  | 759000.  | 616000.  | 511000.  | 695000.  | 978000.  | 7344000.  |
| 1958 | 1299000. | 637000.  | 1253000. | 1280000. | 1018000. | 789000.  | 812000.  | 802000.  | 855000.  | 624000.  | 592000.  | 761000.  | 10500000. |
| 1959 | 674000.  | 592000.  | 618000.  | 770000.  | 646000.  | 679000.  | 824000.  | 821000.  | 844000.  | 585000.  | 421000.  | 441000.  | 7695000.  |
| 1960 | 449000.  | 436000.  | 651000.  | 762000.  | 650000.  | 738000.  | 845000.  | 777000.  | 606000.  | 481000.  | 360000.  | 354000.  | 7107000.  |
| 1961 | 342000.  | 400000.  | 648000.  | 686000.  | 618000.  | 691000.  | 753000.  | 671000.  | 541000.  | 427000.  | 312000.  | 222000.  | 6291000.  |
| 1962 | 337000.  | 304000.  | 597000.  | 689000.  | 619000.  | 648000.  | 741000.  | 730000.  | 593000.  | 458000.  | 312000.  | 222000.  | 6291000.  |
| 1963 | 337000.  | 393000.  | 615000.  | 647000.  | 602000.  | 691000.  | 775000.  | 797000.  | 595000.  | 461000.  | 340000.  | 308000.  | 6522000.  |
| 1964 | 337000.  | 415000.  | 562000.  | 609000.  | 530000.  | 576000.  | 719000.  | 679000.  | 539000.  | 396000.  | 281000.  | 257000.  | 5900000.  |
| 1965 | 272000.  | 332000.  | 548000.  | 566000.  | 548000.  | 558000.  | 709000.  | 737000.  | 540000.  | 400000.  | 257000.  | 237000.  | 5704000.  |
| 1966 | 203000.  | 334000.  | 517000.  | 622000.  | 576000.  | 637000.  | 729000.  | 733000.  | 532000.  | 389000.  | 263000.  | 314000.  | 5849000.  |
| 1967 | 301000.  | 369000.  | 593000.  | 558000.  | 550000.  | 595000.  | 673000.  | 672000.  | 450000.  | 412000.  | 268000.  | 174000.  | 5615000.  |
| 1968 | 342000.  | 366000.  | 566000.  | 622000.  | 532000.  | 580000.  | 625000.  | 609000.  | 494000.  | 399000.  | 297000.  | 309000.  | 5741000.  |
| 1969 | 271000.  | 367000.  | 601000.  | 638000.  | 550000.  | 553000.  | 622000.  | 628000.  | 443000.  | 417000.  | 229000.  | 292000.  | 5607000.  |
| 1970 | 352000.  | 352000.  | 558000.  | 677000.  | 540000.  | 549000.  | 623000.  | 577000.  | 440000.  | 423000.  | 299000.  | 315000.  | 5705000.  |
| 1971 | 324000.  | 391000.  | 612000.  | 627000.  | 524000.  | 579000.  | 676000.  | 600000.  | 472000.  | 390000.  | 300000.  | 334000.  | 5829000.  |
| 1972 | 341000.  | 389000.  | 618000.  | 644000.  | 560000.  | 559000.  | 667000.  | 633000.  | 484000.  | 295000.  | 267000.  | 340000.  | 5797000.  |
| 1973 | 361000.  | 306000.  | 532000.  | 663000.  | 571000.  | 524000.  | 645000.  | 613000.  | 539000.  | 452000.  | 310000.  | 331000.  | 5847000.  |
| 1974 | 255000.  | 408000.  | 571000.  | 714000.  | 626000.  | 624000.  | 727000.  | 733000.  | 558000.  | 409000.  | 292000.  | 301000.  | 6218000.  |
| 1975 | 351000.  | 382000.  | 559000.  | 662000.  | 642000.  | 555000.  | 654000.  | 662000.  | 561000.  | 450000.  | 334000.  | 349000.  | 6161000.  |
| 1976 | 341000.  | 328000.  | 658000.  | 679000.  | 592000.  | 557000.  | 647000.  | 670000.  | 450000.  | 369000.  | 257000.  | 355000.  | 5903000.  |
| 1977 | 284000.  | 389000.  | 585000.  | 681000.  | 534000.  | 586000.  | 734000.  | 603000.  | 433000.  | 325000.  | 277000.  | 310000.  | 5705000.  |
| 1978 | 171000.  | 340000.  | 550000.  | 697000.  | 563000.  | 589000.  | 708000.  | 664000.  | 501000.  | 357000.  | 274000.  | 285000.  | 5699000.  |
| 1979 | 184000.  | 265000.  | 447000.  | 613000.  | 644000.  | 681000.  | 782000.  | 723000.  | 524000.  | 500000.  | 368000.  | 339000.  | 6130000.  |
| 1980 | 317000.  | 343000.  | 657000.  | 979000.  | 861000.  | 921000.  | 1065000. | 986000.  | 864000.  | 817000.  | 727000.  | 697000.  | 9434000.  |
| 1981 | 904000.  | 368000.  | 602000.  | 735000.  | 579000.  | 624000.  | 744000.  | 725000.  | 508000.  | 345000.  | 257000.  | 277000.  | 6265000.  |
| 1982 | 331100.  | 378900.  | 540800.  | 707600.  | 532900.  | 499900.  | 589500.  | 560800.  | 415400.  | 366900.  | 246700.  | 237881.  | 5408381.  |

AVERAGES

|         |         |         |         |         |         |         |         |         |         |         |         |          |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 579956. | 570396. | 724365. | 731256. | 702313. | 714400. | 764904. | 739296. | 641915. | 589133. | 530052. | 569908. | 7857894. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 7.4 | 7.3 | 9.2 | 9.3 | 8.9 | 9.1 | 9.7 | 9.4 | 8.2 | 7.5 | 6.7 | 7.3 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 7857894. ACRE-FEET

Parker Dam to Imperial Dam  
Salt Model

Reach Salt Gains and Losses Between Parker Dam and Imperial Dam

| YEAR | JAN      | FEB     | MAR      | APR     | MAY      | JUN     | JUL     | AUG     | SEP      | OCT     | NOV     | DEC      | TOTAL    |
|------|----------|---------|----------|---------|----------|---------|---------|---------|----------|---------|---------|----------|----------|
| 1935 | -105808. | -6750.  | -9207.   | -77945. | 3976.    | -66195. | -2807.  | 14259.  | 4690.    | -43138. | 82130.  | 34746.   | -171749. |
| 1936 | -20061.  | -31336. | -46936.  | -30170. | -48.     | -36129. | 16337.  | 24392.  | 4973.    | 16531.  | 25186.  | -2413.   | -79674.  |
| 1937 | -11718.  | -86514. | -12391.  | -23819. | -52382.  | -4691.  | 70007.  | 18078.  | -19588.  | 836.    | 3480.   | -28267.  | -149969. |
| 1938 | -11389.  | -68968. | 33823.   | 14326.  | 24314.   | 25967.  | 10582.  | 25891.  | 24952.   | 9795.   | 17745.  | 3100.    | 110138.  |
| 1939 | -77154.  | 22663.  | 51126.   | -1991.  | 14255.   | 7891.   | 33188.  | 10393.  | -145565. | 57254.  | 19587.  | 14004.   | 565 L    |
| 1940 | -7147.   | 13996.  | -16512.  | 4613.   | 9050.    | 13393.  | 14021.  | -5222.  | -14648.  | -18716. | 18067.  | -112578. | -101683. |
| 1941 | -1678.   | -22691. | -173724. | -59961. | -180092. | 232840. | 145649. | 1515.   | -14642.  | 4566.   | 69532.  | -39438.  | -38124.  |
| 1942 | -121394. | 250866. | 141943.  | 88921.  | 133612.  | 164595. | 235974. | 66465.  | 82931.   | 7357.   | -11901. | 52574.   | 1091943. |
| 1943 | -7862.   | 13769.  | -44579.  | -29591. | -46157.  | -14598. | 49111.  | 29147.  | 4609.    | -20127. | 52363.  | 8876.    | -4639.   |
| 1944 | -55997.  | 16985.  | 15948.   | 20167.  | 30057.   | 30659.  | 26645.  | -13541. | 35115.   | 13337.  | 4766.   | -107258. | 17283.   |
| 1945 | 6735.    | 49274.  | 9744.    | 36696.  | 49628.   | 24543.  | 40425.  | 59788.  | -18032.  | -64643. | -16883. | 1458.    | 174733.  |
| 1946 | 30015.   | -63764. | 40833.   | -98846. | 4219.    | 38244.  | 63999.  | 57082.  | -10674.  | 11317.  | 14367.  | 1490.    | 88282.   |
| 1947 | -1131.   | -2346.  | 42087.   | -11571. | -3647.   | 45021.  | 32699.  | 42811.  | -20798.  | -33985. | 1807.   | 30830.   | 121777.  |
| 1948 | -62738.  | -4346.  | 39238.   | -14638. | 36357.   | 30019.  | 52278.  | 46225.  | 7550.    | 20218.  | 19056.  | 3821.    | 173040.  |
| 1949 | 21362.   | 22991.  | 49415.   | -37751. | -122526. | 85618.  | 38348.  | 37521.  | -16243.  | 1397.   | 149396. | 7305.    | 292335.  |
| 1950 | 16736.   | -20251. | 22054.   | -2913.  | 24788.   | 39206.  | 59568.  | 33646.  | 7202.    | 15352.  | 13386.  | 1395.    | 210249.  |
| 1951 | 15585.   | 27126.  | -37396.  | 68392.  | 45589.   | -7599.  | 42128.  | 39516.  | 52698.   | 23650.  | 35840.  | 2278.    | 328507.  |
| 1952 | -25709.  | 47940.  | 51443.   | 80685.  | 28869.   | 29134.  | 107423. | 49485.  | 27082.   | 104298. | 77230.  | 53831.   | 631511.  |
| 1953 | 94503.   | 56288.  | 21268.   | 49042.  | 42412.   | 12088.  | 64708.  | 43817.  | 80488.   | 75280.  | 47280.  | 16022.   | 583191.  |
| 1954 | 21892.   | 82180.  | 15484.   | 18772.  | 105310.  | 80297.  | 83488.  | 73938.  | 66287.   | 45748.  | 10062.  | 22558.   | 576117.  |
| 1955 | 12211.   | 29787.  | 16862.   | 68046.  | 75137.   | 69167.  | 123367. | 116882. | 53403.   | 69195.  | 62433.  | 51952.   | 748222.  |
| 1956 | 8354.    | 11543.  | -30794.  | 71662.  | 74083.   | 48024.  | 81895.  | 38984.  | 47058.   | 67700.  | 77821.  | 34020.   | 540330.  |
| 1957 | 42791.   | 14212.  | -8487.   | 30534.  | 48796.   | 20763.  | 137323. | 47089.  | 67452.   | 85257.  | -16302. | -276792. | 192696.  |
| 1958 | 48325.   | 137941. | 104643.  | 155368. | 184414.  | 118423. | 72008.  | 113905. | 77352.   | 116211. | 60078.  | 73696.   | 1262364. |
| 1959 | 65955.   | 84876.  | 58054.   | 105941. | 107537.  | 65838.  | 81345.  | 200872. | 145729.  | 110246. | 88001.  | 78588.   | 1193082. |
| 1960 | 73904.   | 39817.  | 29981.   | 90083.  | 95791.   | 79206.  | 126581. | 110460. | 130343.  | 92784.  | 33621.  | 85077.   | 987628.  |
| 1961 | 21663.   | 42272.  | 46556.   | 94220.  | 92869.   | 53594.  | 86677.  | 159560. | 90537.   | 82672.  | 27833.  | 46843.   | 845296.  |
| 1962 | 27903.   | -6954.  | -5290.   | 49880.  | 70218.   | 23239.  | 64441.  | 74898.  | 69787.   | 54490.  | 68315.  | 41469.   | 532396.  |
| 1963 | -3852.   | -36025. | -36996.  | 59846.  | 20994.   | 754.    | 37923.  | 83857.  | 75857.   | 97322.  | 63050.  | 43970.   | 406700.  |
| 1964 | 6882.    | 3603.   | 25161.   | 95536.  | 77065.   | 28263.  | 58376.  | 44488.  | 77680.   | 79323.  | 64905.  | 48421.   | 609703.  |
| 1965 | 9049.    | -12165. | 18630.   | 75185.  | 70693.   | -38874. | 71680.  | 75316.  | 90001.   | 75459.  | 77571.  | 69155.   | 581700.  |
| 1966 | 56360.   | -34453. | -10039.  | 14977.  | 1574.    | 31341.  | 9411.   | 43627.  | 47842.   | 116502. | 56372.  | 22659.   | 356173.  |
| 1967 | 19093.   | -14353. | 15473.   | 81215.  | 47907.   | 24408.  | 26326.  | 57461.  | 71689.   | 26393.  | 69898.  | 34476.   | 459986.  |
| 1968 | 14746.   | -913.   | 11214.   | 73455.  | 73055.   | 30303.  | 67498.  | 77665.  | 33108.   | 57674.  | 27940.  | 29060.   | 494803.  |
| 1969 | 46302.   | -39771. | -13847.  | 75503.  | 13729.   | 7628.   | 30176.  | 79632.  | 88861.   | 59886.  | 38753.  | 19998.   | 406850.  |
| 1970 | 20106.   | -48678. | -1639.   | 31596.  | 19238.   | -17076. | 18715.  | 50942.  | 18611.   | 41619.  | 36702.  | 84168.   | 254304.  |
| 1971 | 4994.    | -14975. | -32321.  | -9471.  | -12394.  | -5515.  | -15525. | 25336.  | 6194.    | 44663.  | 45453.  | 22456.   | 58895.   |
| 1972 | 15396.   | -19701. | -43126.  | -5034.  | -7475.   | 16222.  | -18281. | 64291.  | 22145.   | 112890. | 38283.  | 2295.    | 177885.  |
| 1973 | 5336.    | 12767.  | -17358.  | -2329.  | 21133.   | 202.    | -24218. | 38470.  | 3103.    | 31507.  | 43291.  | 48540.   | 160546.  |
| 1974 | 32558.   | 715.    | -28453.  | 4588.   | 19355.   | 9849.   | 38582.  | 87414.  | 92847.   | 69790.  | 60501.  | 16679.   | 424405.  |
| 1975 | 13477.   | 6069.   | -33382.  | 9173.   | 30340.   | 13074.  | -2385.  | 42511.  | 36143.   | 45637.  | 30885.  | 20845.   | 212387.  |
| 1976 | 19872.   | 8551.   | -33784.  | 16319.  | 34896.   | -27177. | 12509.  | -25769. | 88550.   | 55502.  | 48017.  | 21329.   | 219215.  |
| 1977 | 21504.   | -23177. | -15.     | 7399.   | 16484.   | 15488.  | -13768. | 92168.  | 60211.   | 28800.  | 35633.  | 8926.    | 249633.  |
| 1978 | 33527.   | -10198. | -32729.  | 2076.   | 13337.   | 8191.   | 11551.  | 54695.  | 36872.   | 49462.  | 31146.  | 30881.   | 228811.  |
| 1979 | 40850.   | -13713. | -25147.  | -44033. | 4165.    | -27790. | -13144. | 79916.  | 47304.   | 47207.  | 13458.  | 2584.    | 136657.  |
| 1980 | 24679.   | -34910. | -130704. | -10879. | 14852.   | -67582. | -23110. | -41178. | -19569.  | 20699.  | 3658.   | 7649.    | -256895. |
| 1981 | 67086.   | -26962. | -4363.   | 2247.   | 27831.   | -4043.  | -11596. | 43677.  | 45889.   | 31340.  | 10029.  | -8729.   | 172406.  |
| 1982 | -6967.   | -76347. | -71127.  | -45631. | 5831.    | 6079.   | 3780.   | 41793.  | 2776.    | -1880.  | 43921.  | -62624.  | -160596. |

AVERAGES

|       |       |       |        |        |        |        |        |        |        |        |        |         |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 9186. | 5124. | -612. | 24279. | 28927. | 24840. | 45875. | 52647. | 35963. | 41981. | 39038. | 12636. | 319865. |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|

MONTHLY PERCENTAGES

|     |     |      |     |     |     |      |      |      |      |      |     |
|-----|-----|------|-----|-----|-----|------|------|------|------|------|-----|
| 2.9 | 1.6 | -0.2 | 7.6 | 9.0 | 7.8 | 14.3 | 16.5 | 11.2 | 10.1 | 12.2 | 4.0 |
|-----|-----|------|-----|-----|-----|------|------|------|------|------|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 319865. TONS



Parker Dam to Imperial Dam  
Salt Model

Salt Load Below Parker Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 600647.  | 430680.  | 856377.  | 524642.  | 462950.  | 609936.  | 325635.  | 248631.  | 267135.  | 376172.  | 458605.  | 235008.  | 5294618.  |
| 1936 | 353584.  | 393379.  | 610159.  | 612221.  | 509513.  | 409589.  | 393091.  | 339404.  | 296707.  | 259168.  | 237143.  | 258995.  | 4672953.  |
| 1937 | 283347.  | 485166.  | 531117.  | 581452.  | 558726.  | 579518.  | 691703.  | 662462.  | 564985.  | 472075.  | 388353.  | 361286.  | 6160190.  |
| 1938 | 341623.  | 332660.  | 503133.  | 581513.  | 564455.  | 602997.  | 596974.  | 567813.  | 486584.  | 502390.  | 367304.  | 335628.  | 5783074.  |
| 1939 | 394225.  | 1311045. | 683407.  | 617226.  | 594249.  | 623966.  | 676900.  | 687001.  | 944688.  | 671755.  | 676609.  | 700768.  | 8782038.  |
| 1940 | 729161.  | 486910.  | 565981.  | 690870.  | 556291.  | 644032.  | 693547.  | 684869.  | 724637.  | 857698.  | 785972.  | 911096.  | 8351064.  |
| 1941 | 695637.  | 639198.  | 854658.  | 681296.  | 1522080. | 1807080. | 1097470. | 1385280. | 1497440. | 1533300. | 1644450. | 2123680. | 15501569. |
| 1942 | 2133130. | 1482000. | 1479060. | 1147360. | 1603880. | 1551360. | 1201480. | 941707.  | 797200.  | 836946.  | 1030590. | 1079570. | 15284283. |
| 1943 | 943950.  | 656480.  | 859614.  | 833435.  | 927902.  | 955990.  | 977400.  | 901355.  | 905400.  | 1067200. | 999630.  | 1070970. | 11099326. |
| 1944 | 1116900. | 1125160. | 1245120. | 1140720. | 1093680. | 972774.  | 983250.  | 1102080. | 991460.  | 1036640. | 1017280. | 1115780. | 12940844. |
| 1945 | 1114840. | 965510.  | 1158080. | 925524.  | 911330.  | 910305.  | 839960.  | 693270.  | 750113.  | 882300.  | 922040.  | 989100.  | 11062372. |
| 1946 | 936900.  | 986880.  | 840249.  | 863512.  | 820902.  | 693956.  | 729001.  | 644224.  | 664391.  | 690417.  | 717626.  | 791700.  | 9377758.  |
| 1947 | 866957.  | 827172.  | 883224.  | 773090.  | 895851.  | 842604.  | 816874.  | 856704.  | 802620.  | 781124.  | 765339.  | 860710.  | 9954269.  |
| 1948 | 1113600. | 1067200. | 1007370. | 996360.  | 1014650. | 919770.  | 997200.  | 877540.  | 827728.  | 789480.  | 791937.  | 1017520. | 11442035. |
| 1949 | 1093810. | 1013200. | 1038240. | 982080.  | 1031730. | 821559.  | 847191.  | 850920.  | 912170.  | 918400.  | 778470.  | 856920.  | 11144690. |
| 1950 | 928600.  | 880600.  | 1015560. | 878152.  | 938080.  | 783087.  | 762535.  | 699468.  | 591276.  | 560032.  | 471279.  | 495908.  | 9004777.  |
| 1951 | 489767.  | 445712.  | 656640.  | 880494.  | 607770.  | 775620.  | 859859.  | 840605.  | 636416.  | 638280.  | 504480.  | 643461.  | 7779074.  |
| 1952 | 1004640. | 1009260. | 1267360. | 1196000. | 1370850. | 1348050. | 1136700. | 1101600. | 1070010. | 937840.  | 832120.  | 899070.  | 13173500. |
| 1953 | 814640.  | 846600.  | 852570.  | 751533.  | 876484.  | 879152.  | 927270.  | 908160.  | 699465.  | 545154.  | 453564.  | 551841.  | 9151933.  |
| 1954 | 685592.  | 561765.  | 672778.  | 742696.  | 923650.  | 829644.  | 930000.  | 912888.  | 709230.  | 598028.  | 599626.  | 619460.  | 8785357.  |
| 1955 | 697205.  | 974272.  | 7117850. | 750519.  | 807840.  | 918172.  | 1059740. | 925083.  | 742045.  | 538596.  | 406340.  | 311740.  | 8449402.  |
| 1956 | 352203.  | 409360.  | 709301.  | 765856.  | 737770.  | 881216.  | 977224.  | 922096.  | 728985.  | 534930.  | 359632.  | 331085.  | 7709658.  |
| 1957 | 279220.  | 394031.  | 695960.  | 797335.  | 703050.  | 645532.  | 944036.  | 849264.  | 687509.  | 513060.  | 804121.  | 1045200. | 8502038.  |
| 1958 | 185000.  | 536465.  | 1223950. | 1186370. | 881310.  | 734182.  | 799972.  | 727944.  | 592371.  | 512148.  | 523152.  | 639965.  | 9642629.  |
| 1959 | 568512.  | 492190.  | 579600.  | 706945.  | 621016.  | 709330.  | 827664.  | 707373.  | 559322.  | 468636.  | 340284.  | 340715.  | 6921567.  |
| 1960 | 350714.  | 388516.  | 630717.  | 704874.  | 651376.  | 791370.  | 877718.  | 781200.  | 569066.  | 426039.  | 357390.  | 293293.  | 6822273.  |
| 1961 | 3149048. | 412321.  | 662272.  | 666540.  | 662700.  | 773150.  | 836907.  | 660021.  | 557520.  | 374738.  | 300142.  | 185656.  | 6481015.  |
| 1962 | 343041.  | 347448.  | 650480.  | 726240.  | 665420.  | 778100.  | 855443.  | 812988.  | 624777.  | 461580.  | 421174.  | 285500.  | 6940491.  |
| 1963 | 349500.  | 467300.  | 727353.  | 663397.  | 686469.  | 798190.  | 886728.  | 744926.  | 573391.  | 385704.  | 294184.  | 272785.  | 6236639.  |
| 1964 | 330148.  | 431460.  | 582491.  | 593684.  | 550252.  | 704900.  | 820800.  | 755440.  | 565728.  | 392832.  | 263904.  | 245000.  | 6841927.  |
| 1965 | 292294.  | 423000.  | 653432.  | 615860.  | 646387.  | 787989.  | 922031.  | 936360.  | 647244.  | 427794.  | 242110.  | 186865.  | 6781366.  |
| 1966 | 128480.  | 429416.  | 652428.  | 787644.  | 788900.  | 885248.  | 963749.  | 886392.  | 625736.  | 341472.  | 254500.  | 310594.  | 6171870.  |
| 1967 | 299782.  | 435007.  | 663754.  | 596134.  | 635432.  | 732856.  | 793440.  | 734216.  | 475591.  | 412837.  | 229844.  | 162977.  | 312262.   |
| 1968 | 329437.  | 400921.  | 632329.  | 850517.  | 607155.  | 689158.  | 746220.  | 689023.  | 570883.  | 396249.  | 306194.  | 312262.  | 6329348.  |
| 1969 | 256407.  | 475890.  | 702985.  | 733766.  | 691838.  | 726901.  | 792210.  | 688141.  | 535331.  | 467338.  | 316006.  | 357532.  | 6848666.  |
| 1970 | 377955.  | 459662.  | 666735.  | 780269.  | 676786.  | 676786.  | 708152.  | 787578.  | 725574.  | 483160.  | 421066.  | 226692.  | 316525.   |
| 1971 | 362327.  | 500332.  | 772451.  | 798172.  | 693614.  | 750329.  | 695050.  | 703820.  | 571011.  | 413021.  | 318827.  | 369702.  | 7148456.  |
| 1972 | 363302.  | 513629.  | 799467.  | 804829.  | 713612.  | 695718.  | 875120.  | 694639.  | 562098.  | 221462.  | 274266.  | 388826.  | 6906968.  |
| 1973 | 358838.  | 347628.  | 609560.  | 767757.  | 689403.  | 672942.  | 837394.  | 733381.  | 631123.  | 474353.  | 300335.  | 330176.  | 6752890.  |
| 1974 | 239616.  | 471806.  | 883865.  | 836285.  | 733427.  | 758998.  | 839354.  | 758505.  | 568281.  | 370884.  | 259440.  | 308465.  | 6820926.  |
| 1975 | 351722.  | 438354.  | 876200.  | 755630.  | 739008.  | 666048.  | 784035.  | 738300.  | 604965.  | 457440.  | 326696.  | 348715.  | 6887113.  |
| 1976 | 335160.  | 346275.  | 773088.  | 740256.  | 658920.  | 695684.  | 750025.  | 729232.  | 376000.  | 326416.  | 228988.  | 342048.  | 6365092.  |
| 1977 | 242144.  | 468590.  | 642114.  | 782904.  | 606267.  | 699476.  | 879704.  | 598212.  | 423476.  | 323454.  | 270814.  | 305415.  | 6222570.  |
| 1978 | 131232.  | 369954.  | 636732.  | 789663.  | 631284.  | 701776.  | 833428.  | 720265.  | 532890.  | 331476.  | 256608.  | 261997.  | 6197305.  |
| 1979 | 145728.  | 319970.  | 535494.  | 737295.  | 751984.  | 832706.  | 950994.  | 780012.  | 688118.  | 479940.  | 353184.  | 331265.  | 6906290.  |
| 1980 | 298018.  | 378778.  | 939840.  | 1087370. | 906160.  | 1133550. | 1234530. | 1152360. | 981600.  | 817749.  | 752499.  | 714700.  | 10397154. |
| 1981 | 462400.  | 462978.  | 697000.  | 869200.  | 669438.  | 796128.  | 894900.  | 826048.  | 535610.  | 318250.  | 242976.  | 289254.  | 7084182.  |
| 1982 | 333788.  | 477750.  | 630403.  | 800448.  | 618860.  | 629343.  | 751170.  | 612364.  | 479665.  | 372092.  | 225498.  | 258786.  | 6190187.  |

AVERAGES

|         |         |         |         |         |         |         |         |         |         |         |         |          |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 562964. | 585831. | 769427. | 785374. | 774798. | 813649. | 852557. | 782879. | 658608. | 561166. | 497879. | 538886. | 8184017. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|

MONTHLY PERCENTAGES

|     |     |     |     |     |     |      |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 6.9 | 7.2 | 9.4 | 9.6 | 9.5 | 9.9 | 10.4 | 9.6 | 8.0 | 6.9 | 6.1 | 6.6 |
|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8184017. TONS

Parker Dam to Imperial Dam  
Salt Model

Parker Dam and Government Camp Consumptive Use

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 1935 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1936 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1937 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1938 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1939 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1940 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1941 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1942 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1943 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1944 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1945 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1946 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1947 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1948 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1949 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1950 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1951 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1952 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1953 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1954 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1955 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1956 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1957 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1958 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1959 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1960 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1961 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1962 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1963 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1964 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1965 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1966 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1967 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1968 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1969 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1970 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1971 | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    |
| 1972 | 15. | 14. | 14. | 25. | 36. | 33. | 35. | 32. | 32. | 10. | 9.  | 9.  | 274.  |
| 1973 | 5.  | 5.  | 5.  | 21. | 23. | 22. | 61. | 60. | 58. | 13. | 13. | 11. | 297.  |
| 1974 | 5.  | 6.  | 10. | 14. | 23. | 34. | 33. | 27. | 22. | 15. | 9.  | 6.  | 204.  |
| 1975 | 7.  | 7.  | 10. | 13. | 16. | 26. | 26. | 27. | 22. | 13. | 10. | 5.  | 164.  |
| 1976 | 6.  | 5.  | 8.  | 12. | 35. | 34. | 32. | 32. | 20. | 9.  | 6.  | 9.  | 208.  |
| 1977 | 9.  | 10. | 14. | 16. | 16. | 21. | 24. | 21. | 18. | 16. | 11. | 10. | 186.  |
| 1978 | 11. | 12. | 15. | 18. | 18. | 24. | 27. | 25. | 20. | 17. | 13. | 11. | 211.  |
| 1979 | 12. | 13. | 16. | 21. | 24. | 34. | 41. | 32. | 28. | 24. | 17. | 14. | 276.  |
| 1980 | 8.  | 8.  | 10. | 20. | 24. | 32. | 38. | 45. | 34. | 24. | 14. | 11. | 268.  |
| 1981 | 8.  | 10. | 13. | 16. | 21. | 36. | 34. | 53. | 29. | 20. | 15. | 15. | 270.  |
| 1982 | 7.  | 8.  | 8.  | 18. | 22. | 36. | 40. | 29. | 27. | 15. | 7.  | 7.  | 324.  |

AVERAGES

|    |    |    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 2. | 2. | 3. | 4. | 5. | 7. | 8. | 8. | 6. | 4. | 3. | 2. | 54. |
|----|----|----|----|----|----|----|----|----|----|----|----|-----|

MONTHLY PERCENTAGES

|     |     |     |     |     |      |      |      |      |     |     |     |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|
| 3.6 | 3.8 | 4.7 | 7.8 | 9.9 | 12.8 | 15.1 | 14.7 | 11.9 | 6.8 | 4.8 | 4.2 |
|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 54. TONS

Parker Dam to Imperial Dam  
Salt Model

Town of Parker Consumptive Use

| YEAR | JAN | FEB | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | OCT | NOV | DEC | TOTAL |
|------|-----|-----|------|------|------|------|------|------|------|-----|-----|-----|-------|
| 1935 | 0.  | 0.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1936 | 0.  | 0.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1937 | 0.  | 0.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1938 | 0.  | 0.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1939 | 0.  | 0.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1940 | 0.  | 0.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1941 | 0.  | 0.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.    |
| 1942 | 16. | 16. | 20.  | 23.  | 33.  | 40.  | 45.  | 48.  | 36.  | 24. | 17. | 12. | 330.  |
| 1943 | 15. | 15. | 20.  | 23.  | 33.  | 402. | 42.  | 43.  | 33.  | 23. | 15. | 13. | 677.  |
| 1944 | 14. | 16. | 20.  | 25.  | 34.  | 42.  | 47.  | 46.  | 34.  | 23. | 16. | 14. | 331.  |
| 1945 | 16. | 16. | 21.  | 24.  | 34.  | 44.  | 46.  | 44.  | 35.  | 22. | 17. | 14. | 333.  |
| 1946 | 15. | 17. | 20.  | 27.  | 35.  | 41.  | 46.  | 45.  | 36.  | 25. | 17. | 15. | 339.  |
| 1947 | 15. | 17. | 22.  | 26.  | 38.  | 45.  | 51.  | 50.  | 40.  | 25. | 17. | 13. | 359.  |
| 1948 | 17. | 17. | 22.  | 26.  | 35.  | 44.  | 49.  | 47.  | 38.  | 24. | 16. | 16. | 351.  |
| 1949 | 16. | 17. | 20.  | 25.  | 42.  | 43.  | 50.  | 46.  | 37.  | 23. | 16. | 13. | 348.  |
| 1950 | 16. | 17. | 21.  | 26.  | 36.  | 44.  | 48.  | 47.  | 38.  | 26. | 18. | 16. | 353.  |
| 1951 | 18. | 19. | 23.  | 28.  | 39.  | 47.  | 55.  | 53.  | 41.  | 28. | 20. | 16. | 387.  |
| 1952 | 18. | 20. | 24.  | 29.  | 42.  | 50.  | 55.  | 51.  | 39.  | 24. | 16. | 13. | 381.  |
| 1953 | 14. | 18. | 24.  | 30.  | 41.  | 50.  | 56.  | 53.  | 42.  | 28. | 20. | 17. | 393.  |
| 1954 | 19. | 20. | 25.  | 28.  | 43.  | 54.  | 60.  | 60.  | 48.  | 32. | 23. | 19. | 431.  |
| 1955 | 21. | 23. | 28.  | 34.  | 49.  | 61.  | 74.  | 72.  | 56.  | 38. | 28. | 23. | 507.  |
| 1956 | 26. | 28. | 34.  | 40.  | 54.  | 68.  | 78.  | 77.  | 62.  | 41. | 29. | 25. | 562.  |
| 1957 | 26. | 28. | 35.  | 39.  | 55.  | 67.  | 75.  | 73.  | 57.  | 38. | 28. | 23. | 544.  |
| 1958 | 24. | 25. | 29.  | 34.  | 45.  | 55.  | 64.  | 61.  | 48.  | 33. | 24. | 20. | 462.  |
| 1959 | 21. | 22. | 28.  | 32.  | 47.  | 58.  | 65.  | 60.  | 48.  | 33. | 24. | 19. | 457.  |
| 1960 | 21. | 22. | 28.  | 35.  | 46.  | 61.  | 69.  | 69.  | 54.  | 36. | 26. | 22. | 491.  |
| 1961 | 24. | 25. | 32.  | 37.  | 53.  | 65.  | 73.  | 73.  | 57.  | 38. | 28. | 23. | 528.  |
| 1962 | 25. | 26. | 33.  | 39.  | 55.  | 70.  | 79.  | 78.  | 61.  | 41. | 29. | 25. | 561.  |
| 1963 | 27. | 29. | 36.  | 42.  | 56.  | 67.  | 75.  | 74.  | 58.  | 38. | 27. | 22. | 551.  |
| 1964 | 26. | 74. | 169. | 268. | 270. | 235. | 272. | 54.  | 59.  | 36. | 26. | 28. | 1527. |
| 1965 | 68. | 62. | 84.  | 58.  | 61.  | 73.  | 90.  | 89.  | 63.  | 52. | 29. | 24. | 753.  |
| 1966 | 16. | 21. | 36.  | 46.  | 69.  | 91.  | 100. | 102. | 67.  | 39. | 28. | 19. | 634.  |
| 1967 | 23. | 23. | 27.  | 27.  | 54.  | 73.  | 78.  | 80.  | 59.  | 44. | 32. | 20. | 540.  |
| 1968 | 20. | 20. | 30.  | 38.  | 59.  | 75.  | 76.  | 80.  | 75.  | 48. | 34. | 25. | 580.  |
| 1969 | 22. | 23. | 33.  | 54.  | 76.  | 87.  | 93.  | 103. | 81.  | 48. | 30. | 28. | 678.  |
| 1970 | 26. | 27. | 29.  | 43.  | 65.  | 72.  | 92.  | 94.  | 78.  | 49. | 36. | 28. | 639.  |
| 1971 | 34. | 39. | 51.  | 58.  | 67.  | 85.  | 105. | 84.  | 77.  | 41. | 28. | 19. | 688.  |
| 1972 | 23. | 29. | 56.  | 60.  | 79.  | 88.  | 108. | 96.  | 67.  | 39. | 32. | 29. | 708.  |
| 1973 | 36. | 26. | 38.  | 58.  | 100. | 108. | 166. | 189. | 104. | 71. | 50. | 45. | 973.  |
| 1974 | 39. | 47. | 44.  | 61.  | 98.  | 128. | 107. | 86.  | 76.  | 54. | 38. | 33. | 809.  |
| 1975 | 35. | 49. | 54.  | 60.  | 78.  | 93.  | 100. | 103. | 89.  | 64. | 49. | 43. | 817.  |
| 1976 | 46. | 53. | 42.  | 41.  | 67.  | 94.  | 105. | 97.  | 101. | 52. | 47. | 45. | 790.  |
| 1977 | 40. | 45. | 57.  | 69.  | 89.  | 89.  | 102. | 90.  | 81.  | 64. | 49. | 43. | 798.  |
| 1978 | 36. | 32. | 46.  | 59.  | 78.  | 95.  | 105. | 102. | 87.  | 69. | 46. | 40. | 795.  |
| 1979 | 42. | 45. | 54.  | 72.  | 86.  | 118. | 140. | 110. | 98.  | 80. | 59. | 49. | 953.  |
| 1980 | 44. | 39. | 43.  | 66.  | 93.  | 122. | 153. | 147. | 106. | 91. | 63. | 52. | 1019. |
| 1981 | 51. | 52. | 64.  | 106. | 122. | 205. | 193. | 185. | 128. | 71. | 63. | 50. | 1290. |
| 1982 | 50. | 53. | 67.  | 88.  | 106. | 154. | 174. | 109. | 95.  | 71. | 51. | 42. | 1060. |

AVERAGES

|     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 23. | 25. | 33. | 42. | 55. | 75. | 76. | 68. | 54. | 36. | 26. | 22. | 536. |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |      |     |     |     |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| 4.3 | 4.7 | 6.2 | 7.8 | 10.3 | 14.0 | 14.2 | 12.6 | 10.1 | 6.8 | 4.9 | 4.1 |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 536. TONS

Parker Dam to Imperial Dam  
Salt Model

CRIR Salt Retention

| YEAR | JAN    | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT    | NOV    | DEC    | TOTAL   |
|------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|---------|
| 1935 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1936 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1937 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1938 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1939 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1940 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1941 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1942 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1943 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1944 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1945 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1946 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1947 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1948 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1949 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1950 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1951 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1952 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1953 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1954 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1955 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1956 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1957 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1958 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1959 | 0.     | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.      | 0.     | 0.     | 0.     | 0.      |
| 1960 | 361.   | -99.    | -148.   | -195.   | -163.   | -295.   | -325.   | -242.   | -44.    | 167.   | 212.   | 162.   | -611.   |
| 1961 | 996.   | -272.   | -408.   | -540.   | -452.   | -819.   | -902.   | -868.   | -122.   | 460.   | 587.   | 447.   | -1693.  |
| 1962 | 1681.  | -459.   | -688.   | -910.   | -782.   | -1381.  | -1521.  | -1127.  | -205.   | 776.   | 990.   | 753.   | -2853.  |
| 1963 | 2283.  | -624.   | -934.   | -1236.  | -1036.  | -1876.  | -2066.  | -1531.  | -279.   | 1054.  | 1345.  | 1023.  | -3876.  |
| 1964 | 3015.  | -824.   | -1234.  | -1633.  | -1367.  | -2478.  | -2729.  | -2022.  | -369.   | 1393.  | 1777.  | 1352.  | -5119.  |
| 1965 | 3752.  | -1026.  | -1540.  | -2036.  | -1706.  | -3092.  | -3405.  | -2523.  | -460.   | 1738.  | 2217.  | 1686.  | -6388.  |
| 1966 | 5001.  | -1367.  | -2046.  | -2709.  | -2267.  | -4110.  | -4526.  | -3354.  | -611.   | 2310.  | 2947.  | 2242.  | -8490.  |
| 1967 | 6691.  | -1829.  | -2738.  | -3624.  | -3033.  | -5498.  | -6055.  | -4467.  | -818.   | 3090.  | 3942.  | 2999.  | -11360. |
| 1968 | 8686.  | -2496.  | -3678.  | -4844.  | -3912.  | -7424.  | -8186.  | -6220.  | -1118.  | 4192.  | 5242.  | 4044.  | -15000. |
| 1969 | 11191. | -3059.  | -4579.  | -6061.  | -5073.  | -9196.  | -10127. | -7505.  | -1368.  | 5168.  | 6593.  | 5016.  | -20000. |
| 1970 | 13547. | -3703.  | -5543.  | -7337.  | -6141.  | -11132. | -12259. | -9085.  | -1856.  | 6256.  | 7981.  | -6072. | -23000. |
| 1971 | 17324. | -4616.  | -6638.  | -8810.  | -7452.  | -13684. | -15099. | -11442. | -2358.  | 8220.  | 10421. | 8181.  | -28948. |
| 1972 | 22538. | -5926.  | -8656.  | -11350. | -9537.  | -17683. | -19549. | -14781. | -3611.  | 10677. | 13887. | 10740. | -38206. |
| 1973 | 29640. | -7731.  | -11181. | -14836. | -12690. | -22421. | -24828. | -18931. | -4922.  | 13922. | 17992. | 14159. | -51382. |
| 1974 | 38681. | -10123. | -14473. | -19433. | -16435. | -28472. | -31683. | -24051. | -6433.  | 18113. | 23113. | 18113. | -68116. |
| 1975 | 50456. | -13363. | -18833. | -25433. | -21433. | -36472. | -40472. | -30472. | -8433.  | 23333. | 29433. | 23110. | -9354.  |
| 1976 | 66278. | -17656. | -24133. | -32133. | -27433. | -45472. | -50472. | -38472. | -10433. | 30433. | 39433. | 30433. | -11021. |
| 1977 | 86816. | -23119. | -31133. | -41133. | -35472. | -58472. | -64472. | -48472. | -12433. | 40433. | 51433. | 40433. | -14178. |
| 1978 | 11347. | -3059.  | -4579.  | -6061.  | -5073.  | -9196.  | -10127. | -7505.  | -1368.  | 5168.  | 6593.  | 5016.  | -20000. |
| 1979 | 14837. | -4016.  | -5638.  | -7452.  | -6141.  | -10132. | -11259. | -8085.  | -1718.  | 6256.  | 7981.  | -6072. | -23000. |
| 1980 | 19624. | -5226.  | -7256.  | -9537.  | -7937.  | -13684. | -15099. | -11442. | -2358.  | 8220.  | 10421. | 8181.  | -28948. |
| 1981 | 25640. | -7231.  | -10181. | -13836. | -11690. | -19421. | -21628. | -16931. | -4922.  | 10677. | 13887. | 10740. | -38206. |
| 1982 | 33681. | -9423.  | -12933. | -17433. | -14433. | -24472. | -27683. | -20951. | -6433.  | 13922. | 17992. | 14159. | -51382. |

AVERAGES

|       |        |        |        |        |        |        |        |        |       |       |       |         |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|
| 6881. | -1404. | -2011. | -4333. | -3251. | -6547. | -7386. | -5095. | -1271. | 2960. | 4300. | 3519. | -14641. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|---------|

MONTHLY PERCENTAGES

|       |     |      |      |      |      |      |      |     |       |       |       |
|-------|-----|------|------|------|------|------|------|-----|-------|-------|-------|
| -47.0 | 9.6 | 20.6 | 29.8 | 22.2 | 44.7 | 50.5 | 34.8 | 8.7 | -20.2 | -29.4 | -24.0 |
|-------|-----|------|------|------|------|------|------|-----|-------|-------|-------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS -14641. TONS

Parker Dam to Imperial Dam  
Salt Model

PVID Salt Pickup

| YEAR | JAN    | FEB    | MAR    | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT    | NOV    | DEC    | TOTAL   |
|------|--------|--------|--------|---------|---------|---------|---------|---------|---------|--------|--------|--------|---------|
| 1935 | 12182. | 5043.  | 1148.  | -3195.  | -50.    | -1847.  | -4893.  | 2297.   | 5242.   | 12482. | 10235. | 11284. | 49928.  |
| 1936 | 14045. | 5814.  | 1324.  | -3684.  | -58.    | -2130.  | -5641.  | 2648.   | 6044.   | 14391. | 11800. | 13009. | 57562.  |
| 1937 | 14189. | 5873.  | 1337.  | -3722.  | -58.    | -2152.  | -5699.  | 2675.   | 6106.   | 14538. | 11921. | 13142. | 58150.  |
| 1938 | 13325. | 5516.  | 1256.  | -3495.  | -55.    | -2021.  | -5352.  | 2512.   | 5734.   | 13653. | 11195. | 12342. | 54610.  |
| 1939 | 14742. | 6102.  | 1390.  | -3867.  | -60.    | -2235.  | -5921.  | 2779.   | 6344.   | 15105. | 12386. | 13654. | 60418.  |
| 1940 | 16763. | 6939.  | 1580.  | -4397.  | -69.    | -2542.  | -6733.  | 3160.   | 7214.   | 17176. | 14084. | 15527. | 68702.  |
| 1941 | 17735. | 7341.  | 1672.  | -4652.  | -73.    | -2689.  | -7123.  | 3343.   | 7632.   | 18171. | 14900. | 16427. | 72684.  |
| 1942 | 19865. | 8223.  | 1872.  | -5210.  | -81.    | -3012.  | -7978.  | 3745.   | 8548.   | 20353. | 16689. | 18399. | 81413.  |
| 1943 | 18533. | 7671.  | 1747.  | -4861.  | -76.    | -2810.  | -7443.  | 3494.   | 7975.   | 18989. | 15571. | 17166. | 75956.  |
| 1944 | 19303. | 7990.  | 1820.  | -5063.  | -79.    | -2927.  | -7753.  | 3639.   | 8307.   | 19778. | 16218. | 17879. | 79112.  |
| 1945 | 20333. | 8417.  | 1917.  | -5333.  | -83.    | -3063.  | -8167.  | 3833.   | 8750.   | 20833. | 17083. | 18833. | 83333.  |
| 1946 | 21864. | 9050.  | 2061.  | -5735.  | -90.    | -3315.  | -8782.  | 4122.   | 9409.   | 22402. | 18370. | 20251. | 89607.  |
| 1947 | 24876. | 10297. | 2345.  | -6525.  | -102.   | -3772.  | -9991.  | 4690.   | 10705.  | 25488. | 20900. | 23041. | 101952. |
| 1948 | 27044. | 11194. | 2549.  | -7094.  | -111.   | -4101.  | -10862. | 5098.   | 11638.  | 27709. | 22721. | 25049. | 110834. |
| 1949 | 27430. | 11354. | 2586.  | -7195.  | -112.   | -4159.  | -11017. | 5171.   | 11804.  | 28105. | 23046. | 25406. | 112419. |
| 1950 | 26866. | 11121. | 2532.  | -7047.  | -110.   | -4074.  | -10790. | 5065.   | 11561.  | 27527. | 22572. | 24884. | 110107. |
| 1951 | 29251. | 12108. | 2757.  | -7872.  | -120.   | -4436.  | -11748. | 5515.   | 12588.  | 29971. | 24576. | 27093. | 119883. |
| 1952 | 30670. | 12695. | 2891.  | -8045.  | -126.   | -4651.  | -12318. | 5782.   | 13198.  | 31425. | 25788. | 28408. | 125697. |
| 1953 | 32468. | 13439. | 3060.  | -8516.  | -133.   | -4923.  | -13040. | 6121.   | 13972.  | 33266. | 27278. | 30072. | 133064. |
| 1954 | 32920. | 13627. | 3103.  | -8635.  | -135.   | -4992.  | -13222. | 6206.   | 14167.  | 33730. | 27659. | 30492. | 134920. |
| 1955 | 34325. | 14208. | 3236.  | -9003.  | -141.   | -5205.  | -13786. | 6471.   | 14771.  | 35169. | 28839. | 31793. | 140677. |
| 1956 | 35229. | 14583. | 3321.  | -9240.  | -144.   | -5342.  | -14149. | 6642.   | 15160.  | 36096. | 29596. | 32630. | 144384. |
| 1957 | 34942. | 14464. | 3294.  | -9185.  | -143.   | -5299.  | -14034. | 6587.   | 15036.  | 35801. | 29357. | 32364. | 143204. |
| 1958 | 35486. | 14689. | 3345.  | -9306.  | -145.   | -5361.  | -14253. | 6690.   | 15271.  | 36359. | 29814. | 32869. | 145436. |
| 1959 | 36779. | 15224. | 3467.  | -9647.  | -151.   | -5577.  | -14772. | 6934.   | 15827.  | 37683. | 30900. | 34065. | 150732. |
| 1960 | 37040. | 15332. | 3491.  | -9715.  | -152.   | -5617.  | -14877. | 6983.   | 15939.  | 37951. | 31120. | 34308. | 151803. |
| 1961 | 37832. | 15660. | 3568.  | -9923.  | -155.   | -5737.  | -15195. | 7132.   | 16280.  | 38763. | 31785. | 35041. | 155049. |
| 1962 | 38996. | 16143. | 3678.  | -10229. | -160.   | -5914.  | -15663. | 7352.   | 16782.  | 39957. | 32785. | 36121. | 159828. |
| 1963 | 40397. | 16722. | 3806.  | -10596. | -166.   | -6126.  | -16225. | 7616.   | 17384.  | 41391. | 33940. | 37417. | 165562. |
| 1964 | 40675. | 16795. | 3825.  | -10643. | -166.   | -6153.  | -16296. | 7649.   | 17460.  | 41573. | 34089. | 37582. | 166290. |
| 1965 | 41128. | 17024. | 3877.  | -10788. | -169.   | -6237.  | -16519. | 7754.   | 17699.  | 42140. | 34554. | 38094. | 168557. |
| 1966 | 42389. | 17546. | 3998.  | -11118. | -174.   | -6428.  | -17025. | 7991.   | 18241.  | 43432. | 35614. | 39262. | 173726. |
| 1967 | 42738. | 17691. | 4029.  | -11210. | -175.   | -6481.  | -17185. | 8057.   | 18391.  | 43789. | 35907. | 39585. | 175156. |
| 1968 | 42626. | 17645. | 4018.  | -11181. | -175.   | -6464.  | -17121. | 8036.   | 18344.  | 43676. | 35814. | 39483. | 174703. |
| 1969 | 43272. | 17912. | 4079.  | -11350. | -177.   | -6562.  | -17380. | 8158.   | 18621.  | 44336. | 36355. | 40080. | 177344. |
| 1970 | 42199. | 17465. | -3978. | -11069. | -173.   | -6399.  | -16949. | 7956.   | 18159.  | 43237. | 35454. | 39066. | 164991. |
| 1971 | 39933. | 14537. | 12914. | -1340.  | 1519.   | -5360.  | -26331. | 21280.  | 17875.  | 31523. | 21555. | 28245. | 156350. |
| 1972 | 32899. | 8607.  | 2917.  | -8891.  | -867.   | -412.   | -20379. | 3076.   | 11781.  | 66584. | 26710. | 27054. | 149079. |
| 1973 | 37903. | 29969. | 12725. | -16068. | -6187.  | -5459.  | -16303. | 1694.   | 18784.  | 36188. | 36430. | 25379. | 155075. |
| 1974 | 34780. | 7133.  | 6988.  | -10593. | 1083.   | -8883.  | -8144.  | 3979.   | -7509.  | 32256. | 33051. | 36094. | 120235. |
| 1975 | 25990. | 9162.  | 1605.  | -1813.  | -2175.  | 1905.   | 407.    | -69.    | 13241.  | 24702. | 29985. | 39193. | 142233. |
| 1976 | 31735. | 31543. | -5136. | 5943.   | 4132.   | 4551.   | -7158.  | 4007.   | 41351.  | 43133. | 40639. | 49025. | 243765. |
| 1977 | 38034. | 13766. | 4916.  | -7786.  | 7489.   | -9770.  | -18147. | 25081.  | 31945.  | 32427. | 19610. | 31195. | 168760. |
| 1978 | 41594. | 7490.  | -6657. | -22463. | 2957.   | -9339.  | -13557. | 9368.   | 19356.  | 33740. | 29902. | 36311. | 128701. |
| 1979 | 38869. | 11154. | 1666.  | -19779. | -11144. | -14669. | -18814. | -9056.  | -12096. | 28190. | 30705. | 24675. | 49703.  |
| 1980 | 29806. | 28220. | -47.   | -16431. | 10908.  | -11058. | -8970.  | -5529.  | 13606.  | 54061. | 35264. | 37414. | 167244. |
| 1981 | 22317. | -1802. | -2575. | -22885. | -18883. | -31827. | -30368. | -26369. | 5323.   | 40247. | 42626. | 33502. | 9496.   |
| 1982 | 24756. | 23991. | 2059.  | -16329. | 3434.   | -12412. | -18245. | 4482.   | 4033.   | 33978. | 38701. | 47339. | 135787. |

AVERAGES

|        |        |       |        |       |        |         |       |        |        |        |        |         |
|--------|--------|-------|--------|-------|--------|---------|-------|--------|--------|--------|--------|---------|
| 30395. | 12977. | 2570. | -8678. | -251. | -5490. | -12748. | 4830. | 12794. | 32156. | 26584. | 29116. | 124255. |
|--------|--------|-------|--------|-------|--------|---------|-------|--------|--------|--------|--------|---------|

MONTHLY PERCENTAGES

|      |      |     |      |      |      |       |     |      |      |      |      |
|------|------|-----|------|------|------|-------|-----|------|------|------|------|
| 24.5 | 10.4 | 2.1 | -7.0 | -0.2 | -4.4 | -10.3 | 3.9 | 10.3 | 25.9 | 21.4 | 23.4 |
|------|------|-----|------|------|------|-------|-----|------|------|------|------|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 124255. TONS

Parker Dam to Imperial Dam  
Salt Model

Salt Removed from the Flow Regime by Phreatophyte Concentration

| YEAR | JAN   | FEB    | MAR    | APR    | MAY    | JUN    | JUL     | AUG    | SEP    | OCT    | NOV    | DEC    | TOTAL   |
|------|-------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|---------|
| 1935 | 8253. | 11995. | 19313. | 31039. | 47803. | 43748. | 40575.  | 35106. | 28233. | 25582. | 26789. | 12687. | 331123. |
| 1936 | 6543. | 9196.  | 15002. | 31309. | 54824. | 51932. | 55639.  | 50452. | 35565. | 25966. | 19944. | 9789.  | 366162. |
| 1937 | 5347. | 7834.  | 14035. | 32756. | 58653. | 87200. | 103488. | 87904. | 60540. | 40303. | 24937. | 9151.  | 531948. |
| 1938 | 5244. | 6863.  | 13902. | 31847. | 61556. | 84732. | 86554.  | 78516. | 56260. | 36602. | 21914. | 9048.  | 493038. |
| 1939 | 4878. | 8091.  | 14151. | 32114. | 61497. | 87081. | 99606.  | 90346. | 58041. | 43547. | 26167. | 10886. | 536405. |
| 1940 | 5438. | 8156.  | 14673. | 33288. | 63756. | 90306. | 103242. | 91990. | 65923. | 44320. | 26892. | 10567. | 558551. |
| 1941 | 5694. | 8848.  | 13606. | 32683. | 64915. | 95231. | 106996. | 91138. | 60430. | 41037. | 24882. | 10669. | 556129. |
| 1942 | 5585. | 8073.  | 13855. | 32048. | 61378. | 86903. | 98431.  | 91869. | 64643. | 42632. | 25361. | 9531.  | 540309. |
| 1943 | 4806. | 6905.  | 12762. | 28960. | 56636. | 80180. | 87026.  | 78953. | 55951. | 38039. | 22549. | 8999.  | 481786. |
| 1944 | 4592. | 7119.  | 12868. | 29799. | 57624. | 82464. | 91095.  | 82132. | 55848. | 36732. | 22248. | 9387.  | 491908. |
| 1945 | 4892. | 7185.  | 12720. | 28863. | 55841. | 80721. | 88172.  | 77847. | 55796. | 35468. | 22223. | 9377.  | 479105. |
| 1946 | 4764. | 7149.  | 12123. | 29904. | 54996. | 77844. | 87172.  | 77383. | 58090. | 38111. | 23346. | 9426.  | 478308. |
| 1947 | 4687. | 7106.  | 12634. | 2968.  | 57064. | 80808. | 91531.  | 82155. | 59487. | 37602. | 22029. | 8568.  | 466839. |
| 1948 | 4889. | 7031.  | 12135. | 27602. | 52861. | 75644. | 85567.  | 76816. | 53878. | 35363. | 20698. | 9374.  | 461878. |
| 1949 | 4586. | 6528.  | 11221. | 26611. | 56050. | 72975. | 83472.  | 71566. | 50694. | 32879. | 20896. | 7618.  | 445096. |
| 1950 | 4386. | 6453.  | 11125. | 26166. | 50702. | 70175. | 79365.  | 71132. | 51001. | 35885. | 22219. | 9171.  | 437780. |
| 1951 | 4585. | 6927.  | 11978. | 27186. | 53200. | 74538. | 86184.  | 75683. | 53661. | 36873. | 22846. | 9416.  | 463077. |
| 1952 | 4583. | 6875.  | 11670. | 27611. | 54551. | 76483. | 84750.  | 72816. | 49251. | 31539. | 18102. | 7096.  | 445327. |
| 1953 | 3597. | 6309.  | 11874. | 30209. | 53722. | 75264. | 83380.  | 74045. | 51883. | 35672. | 22102. | 8918.  | 454795. |
| 1954 | 4385. | 6552.  | 11340. | 25805. | 53782. | 76895. | 86206.  | 78972. | 56636. | 38475. | 23324. | 9591.  | 471963. |
| 1955 | 4720. | 7224.  | 12920. | 29828. | 58787. | 87073. | 102247. | 91164. | 64163. | 43922. | 27584. | 11462. | 540794. |
| 1956 | 5760. | 8458.  | 14794. | 33238. | 63635. | 90630. | 103892. | 92645. | 68141. | 44685. | 28022. | 11710. | 565810. |
| 1957 | 5927. | 8679.  | 14472. | 31665. | 60648. | 89929. | 98250.  | 82667. | 59980. | 41080. | 25148. | 8749.  | 523394. |
| 1958 | 4787. | 7070.  | 11909. | 26396. | 49534. | 70169. | 77863.  | 70478. | 49946. | 34685. | 21020. | 8510.  | 432167. |
| 1959 | 4225. | 6268.  | 11093. | 25207. | 50355. | 70523. | 78172.  | 70119. | 50830. | 34532. | 21161. | 8449.  | 430944. |
| 1960 | 3998. | 7544.  | 19993. | 31012. | 50604. | 76602. | 85027.  | 74332. | 54250. | 27905. | 12317. | 5818.  | 449602. |
| 1961 | 5515. | 9956.  | 18954. | 31260. | 49909. | 74123. | 84414.  | 73972. | 47158. | 26595. | 11319. | 5964.  | 439139. |
| 1962 | 4896. | 9152.  | 15145. | 34942. | 46661. | 68974. | 80621.  | 76033. | 53080. | 29762. | 14215. | 6618.  | 440301. |
| 1963 | 4301. | 11344. | 17195. | 26369. | 50206. | 67875. | 72285.  | 62794. | 47295. | 27433. | 11492. | 5173.  | 393762. |
| 1964 | 3594. | 6960.  | 15074. | 24676. | 42514. | 61297. | 75879.  | 65501. | 45440. | 32085. | 10639. | 6327.  | 389986. |
| 1965 | 5166. | 8769.  | 16315. | 27161. | 46144. | 59713. | 80697.  | 73816. | 46421. | 31079. | 14423. | 5776.  | 415482. |
| 1966 | 3214. | 7121.  | 18303. | 30748. | 52964. | 70960. | 77509.  | 69554. | 48141. | 25677. | 12405. | 5738.  | 422334. |
| 1967 | 4281. | 6493.  | 16491. | 20488. | 42077. | 55212. | 69468.  | 63167. | 42794. | 25065. | 12559. | 5017.  | 355112. |
| 1968 | 3995. | 5837.  | 15855. | 23269. | 42364. | 54498. | 66333.  | 54424. | 41666. | 24343. | 11406. | 4284.  | 351274. |
| 1969 | 5150. | 6949.  | 13605. | 25804. | 45241. | 52935. | 69154.  | 65756. | 45193. | 21408. | 11363. | 5591.  | 368149. |
| 1970 | 3687. | 8128.  | 13632. | 20090. | 40927. | 56486. | 68143.  | 61030. | 38679. | 20889. | 10145. | 4666.  | 346522. |
| 1971 | 3744. | 7039.  | 14455. | 21196. | 34220. | 49685. | 62690.  | 53910. | 37045. | 18786. | 9028.  | 4265.  | 316065. |
| 1972 | 3097. | 7047.  | 17662. | 22459. | 36218. | 50724. | 60768.  | 46297. | 34260. | 19964. | 7785.  | 3877.  | 310158. |
| 1973 | 2878. | 5940.  | 10066. | 17543. | 34356. | 47721. | 54504.  | 47385. | 30108. | 18185. | 7975.  | 4198.  | 280859. |
| 1974 | 2771. | 5178.  | 11873. | 18050. | 31148. | 45483. | 48524.  | 41280. | 31473. | 17754. | 7627.  | 3111.  | 264272. |
| 1975 | 2603. | 4546.  | 9031.  | 12454. | 26666. | 37836. | 45926.  | 38595. | 28566. | 14889. | 6823.  | 3681.  | 231616. |
| 1976 | 2693. | 5075.  | 8412.  | 13992. | 27060. | 35073. | 39876.  | 32990. | 23438. | 13724. | 6929.  | 3458.  | 212720. |
| 1977 | 2634. | 4905.  | 8186.  | 16055. | 21171. | 37258. | 42384.  | 36253. | 25783. | 16269. | 7149.  | 3891.  | 221958. |
| 1978 | 2922. | 4769.  | 7945.  | 14167. | 20964. | 37068. | 42915.  | 35098. | 25505. | 17007. | 6453.  | 2821.  | 216734. |
| 1979 | 2272. | 4407.  | 8989.  | 15221. | 25866. | 35800. | 42108.  | 33596. | 27566. | 15169. | 5972.  | 3384.  | 220350. |
| 1980 | 3090. | 5181.  | 7755.  | 14314. | 24345. | 34813. | 40669.  | 36342. | 25005. | 14366. | 6407.  | 3834.  | 216123. |
| 1981 | 3232. | 5117.  | 9681.  | 17415. | 26373. | 34955. | 41282.  | 38843. | 27668. | 15517. | 7218.  | 3774.  | 231075. |
| 1982 | 2556. | 5364.  | 9040.  | 15784. | 26138. | 35908. | 44997.  | 38193. | 24718. | 13811. | 6430.  | 3090.  | 226029. |

AVERAGES

|       |       |        |        |        |        |        |        |        |        |        |       |         |
|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|
| 4364. | 7219. | 13163. | 25148. | 47056. | 65135. | 74689. | 65901. | 46336. | 29587. | 16677. | 7140. | 402395. |
|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|

MONTHLY PERCENTAGES

|     |     |     |     |      |      |      |      |      |     |     |     |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| 1.1 | 1.8 | 3.3 | 6.2 | 11.7 | 16.2 | 18.6 | 16.4 | 11.5 | 7.3 | 4.1 | 1.8 |
|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 402395. TONS

Parker Dam to Imperial Dam  
Salt Model

Salt Load at Imperial Dam

| YEAR | JAN      | FEB      | MAR      | APR      | MAY      | JUN      | JUL      | AUG      | SEP      | OCT      | NOV      | DEC      | TOTAL     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1935 | 499068.  | 416978.  | 629205.  | 412483.  | 419073.  | 498148.  | 277360.  | 228081.  | 248834.  | 319934.  | 524181.  | 388351.  | 4841674.  |
| 1936 | 341025.  | 358861.  | 549545.  | 547058.  | 454583.  | 319398.  | 348148.  | 315992.  | 272158.  | 264124.  | 254185.  | 259802.  | 4284679.  |
| 1937 | 280471.  | 396891.  | 506028.  | 521155.  | 447633.  | 485475.  | 652523.  | 592311.  | 490963.  | 447146.  | 378817.  | 337010.  | 5536423.  |
| 1938 | 338315.  | 262345.  | 524310.  | 560497.  | 527158.  | 542211.  | 515650.  | 517700.  | 461010.  | 489236.  | 374330.  | 342022.  | 5454784.  |
| 1939 | 526935.  | 1331719. | 721772.  | 579284.  | 548947.  | 542541.  | 604561.  | 809827.  | 747426.  | 700567.  | 682615.  | 717540.  | 8311704.  |
| 1940 | 733339.  | 499689.  | 556376.  | 657798.  | 501516.  | 564577.  | 597593.  | 590817.  | 651280.  | 811838.  | 791231.  | 803478.  | 7759532.  |
| 1941 | 706000.  | 615000.  | 669000.  | 584000.  | 1277000. | 1942000. | 1129000. | 1299000. | 1430000. | 1530000. | 1704000. | 2090000. | 14960000. |
| 1942 | 2026000. | 1733000. | 1609000. | 1199000. | 1676000. | 1626000. | 1331000. | 920000.  | 824000.  | 822000.  | 1010000. | 1141000. | 15917000. |
| 1943 | 950000.  | 871000.  | 804000.  | 770000.  | 825000.  | 858000.  | 932000.  | 855000.  | 862000.  | 1028000. | 1045000. | 1088000. | 10688000. |
| 1944 | 1076000. | 1143000. | 1250000. | 1128000. | 1066000. | 918000.  | 911000.  | 1010000. | 979000.  | 1033000. | 1016000. | 1017000. | 12545000. |
| 1945 | 1137000. | 1018000. | 1157000. | 928000.  | 905000.  | 851000.  | 784000.  | 675000.  | 685000.  | 803000.  | 900000.  | 1000000. | 10841000. |
| 1946 | 984000.  | 925000.  | 871000.  | 729000.  | 770000.  | 651000.  | 697000.  | 626000.  | 607000.  | 686000.  | 727000.  | 804000.  | 9077000.  |
| 1947 | 886000.  | 828000.  | 915000.  | 752000.  | 835000.  | 803000.  | 750000.  | 822000.  | 733000.  | 715000.  | 766000.  | 906000.  | 9711000.  |
| 1948 | 1073000. | 1067000. | 1037000. | 947000.  | 998000.  | 807000.  | 953000.  | 852000.  | 793000.  | 802000.  | 813000.  | 1037000. | 11242000. |
| 1949 | 1138000. | 1041000. | 1079000. | 986000.  | 853000.  | 810000.  | 791000.  | 822000.  | 857000.  | 918000.  | 930000.  | 882000.  | 11104000. |
| 1950 | 968000.  | 865000.  | 1029000. | 842000.  | 912000.  | 748000.  | 732000.  | 667000.  | 559000.  | 567000.  | 485000.  | 513000.  | 8887000.  |
| 1951 | 530000.  | 478000.  | 610000.  | 714000.  | 600000.  | 689000.  | 804000.  | 810000.  | 648000.  | 655000.  | 542000.  | 684000.  | 7764000.  |
| 1952 | 1005000. | 1063000. | 1310000. | 1241000. | 1345000. | 1296000. | 1147000. | 1084000. | 1061000. | 1042000. | 917000.  | 974000.  | 13485000. |
| 1953 | 938000.  | 910000.  | 865000.  | 764000.  | 865000.  | 511000.  | 941000.  | 884000.  | 722000.  | 618000.  | 506000.  | 589000.  | 9413000.  |
| 1954 | 736000.  | 621000.  | 680000.  | 727000.  | 975000.  | 828000.  | 894000.  | 914000.  | 733000.  | 639000.  | 614000.  | 663000.  | 9024000.  |
| 1955 | 739000.  | 611000.  | 725000.  | 780000.  | 824000.  | 895000.  | 1067000. | 957000.  | 746000.  | 599000.  | 470000.  | 384000.  | 8797000.  |
| 1956 | 390000.  | 427000.  | 677000.  | 795000.  | 748000.  | 833000.  | 941000.  | 875000.  | 723000.  | 594000.  | 439000.  | 386000.  | 7828000.  |
| 1957 | 351000.  | 414000.  | 640000.  | 787000.  | 691000.  | 775000.  | 969000.  | 820000.  | 690000.  | 593000.  | 792000.  | 792000.  | 8314000.  |
| 1958 | 1364000. | 682000.  | 1320000. | 1306000. | 1016000. | 777000.  | 780000.  | 778000.  | 635000.  | 630000.  | 592000.  | 738000.  | 10618000. |
| 1959 | 667000.  | 586000.  | 630000.  | 778000.  | 678000.  | 699000.  | 816000.  | 845000.  | 670000.  | 582000.  | 438000.  | 445000.  | 7834000.  |
| 1960 | 458000.  | 436000.  | 644000.  | 754000.  | 696000.  | 788000.  | 904000.  | 824000.  | 661000.  | 529000.  | 410000.  | 407000.  | 7511000.  |
| 1961 | 404000.  | 460000.  | 713000.  | 719000.  | 705000.  | 746000.  | 823000.  | 752000.  | 617000.  | 470000.  | 349000.  | 262000.  | 7020000.  |
| 1962 | 374000.  | 347000.  | 633000.  | 730000.  | 688000.  | 725000.  | 822000.  | 818000.  | 658000.  | 527000.  | 509000.  | 358000.  | 7189000.  |
| 1963 | 384000.  | 436000.  | 676000.  | 705000.  | 656000.  | 733000.  | 809000.  | 772000.  | 619000.  | 498000.  | 381000.  | 350000.  | 7016000.  |
| 1964 | 377000.  | 444000.  | 595000.  | 652000.  | 583000.  | 663000.  | 784000.  | 740000.  | 615000.  | 483000.  | 354000.  | 326000.  | 6616000.  |
| 1965 | 341000.  | 418000.  | 658000.  | 651000.  | 669000.  | 680000.  | 893000.  | 943000.  | 708000.  | 516000.  | 342000.  | 290000.  | 7109000.  |
| 1966 | 229000.  | 404000.  | 626000.  | 758000.  | 715000.  | 835000.  | 874000.  | 865000.  | 643000.  | 478000.  | 337000.  | 369000.  | 7133000.  |
| 1967 | 384000.  | 428000.  | 664000.  | 642000.  | 638000.  | 690000.  | 727000.  | 732000.  | 522000.  | 461000.  | 327000.  | 235000.  | 6430000.  |
| 1968 | 404000.  | 403000.  | 623000.  | 678000.  | 628000.  | 638000.  | 713000.  | 706000.  | 578000.  | 483000.  | 371000.  | 386000.  | 6611000.  |
| 1969 | 352000.  | 444000.  | 675000.  | 766000.  | 655000.  | 647000.  | 721000.  | 740000.  | 544000.  | 509000.  | 297000.  | 376000.  | 6726000.  |
| 1970 | 423000.  | 424000.  | 653000.  | 788000.  | 661000.  | 658000.  | 738000.  | 695000.  | 535000.  | 525000.  | 370000.  | 470000.  | 6940000.  |
| 1971 | 427000.  | 482000.  | 728000.  | 751000.  | 637000.  | 679000.  | 772000.  | 687000.  | 550000.  | 480000.  | 389000.  | 428000.  | 7010000.  |
| 1972 | 435000.  | 481000.  | 735000.  | 756000.  | 659000.  | 648000.  | 766000.  | 708000.  | 567000.  | 407000.  | 343000.  | 424000.  | 6929000.  |
| 1973 | 432000.  | 371000.  | 594000.  | 722000.  | 658000.  | 601000.  | 715000.  | 707000.  | 610000.  | 524000.  | 383000.  | 407000.  | 6724000.  |
| 1974 | 326000.  | 465000.  | 642000.  | 795000.  | 713000.  | 696000.  | 798000.  | 795000.  | 621000.  | 480000.  | 364000.  | 370000.  | 7065000.  |
| 1975 | 411000.  | 438000.  | 622000.  | 731000.  | 722000.  | 623000.  | 713000.  | 724000.  | 622000.  | 521000.  | 401000.  | 413000.  | 6941000.  |
| 1976 | 403000.  | 387000.  | 707000.  | 742000.  | 680000.  | 618000.  | 701000.  | 722000.  | 492000.  | 427000.  | 324000.  | 422000.  | 6605000.  |
| 1977 | 326000.  | 438000.  | 627000.  | 740000.  | 598000.  | 640000.  | 779000.  | 661000.  | 489000.  | 381000.  | 329000.  | 359000.  | 6367000.  |
| 1978 | 229000.  | 375000.  | 578000.  | 732000.  | 617000.  | 639000.  | 765000.  | 721000.  | 555000.  | 412000.  | 332000.  | 343000.  | 6298000.  |
| 1979 | 246158.  | 312936.  | 491040.  | 649886.  | 708620.  | 728640.  | 838090.  | 794860.  | 688070.  | 550880.  | 405240.  | 383522.  | 6795942.  |
| 1980 | 373824.  | 380952.  | 797103.  | 1018264. | 903420.  | 995004.  | 1129960. | 1034670. | 922256.  | 865608.  | 800030.  | 767360.  | 9998651.  |
| 1981 | 574560.  | 419520.  | 662200.  | 806500.  | 638900.  | 686400.  | 773760.  | 797500.  | 555500.  | 393300.  | 303260.  | 326880.  | 6938260.  |
| 1982 | 364210.  | 416790.  | 540800.  | 707600.  | 586190.  | 549890.  | 648450.  | 616860.  | 456940.  | 403590.  | 320710.  | 261669.  | 5873719.  |

AVERAGES

805019. 595281. 755175. 771448. 753105. 761235. 803523. 769284. 659697. 608655. 551096. 576992. 8210508.

MONTHLY PERCENTAGES

7.4 7.3 9.2 9.4 9.2 9.3 9.8 9.4 8.0 7.4 6.7 7.0

THE AVERAGE ANNUAL INFLOW FOR THE PERIOD 1935 TO 1982 IS 8210508. TONS

**Appendix 8**

**CONSUMPTIVE USE - PVID**



APPENDIX 8

CONSUMPTIVE USE OF THE PALO VERDE IRRIGATION DISTRICT (PVID)

Actual data for total diversions and returns for PVID are published in the Decree Accounting records for the period 1964-1982. The consumptive use of PVID is also published for 1939 and 1940 in Water Supply Paper 899 by the USGS. Before 1964 only total diversions have been continuously recorded back to 1925.

The return flow from PVID utilizes a wasteway and an outfall drain. The outfall drain flows are known for the period 1949 to 1959 and the wasteway flows are known for the period 1925 to 1940. From 1941 to 1958 the USGS estimated the wasteway flows to be 10 percent of the total diversion. Wasteway flows for the period 1949 to 1959 were calculated as 10 percent of the diversion and added to the outfall drain values for the same period to yield a complete return flow. From this return flow a consumptive use for the period 1949 to 1959 was calculated as shown below:

$$\begin{array}{rclclcl} \text{Consumptive} & & \text{Total} & & \text{Outfall} & & \text{10 percent of} \\ \text{Use} & = & \text{Diversion} & - & \text{Drain} & - & \text{Total Diversion} \\ (1949-1959) & & & & & & \end{array}$$

For the water year 1940 both the wasteway and outfall drain flows were recorded. In this year the outfall drain showed to be 250 percent of the wasteway flow. This percentage was applied to all recorded wasteway flows from 1922 to 1923 and 1925 to 1940. From this data consumptive use for the periods 1922 to 1923 and 1925 to 1940 was calculated as shown below:

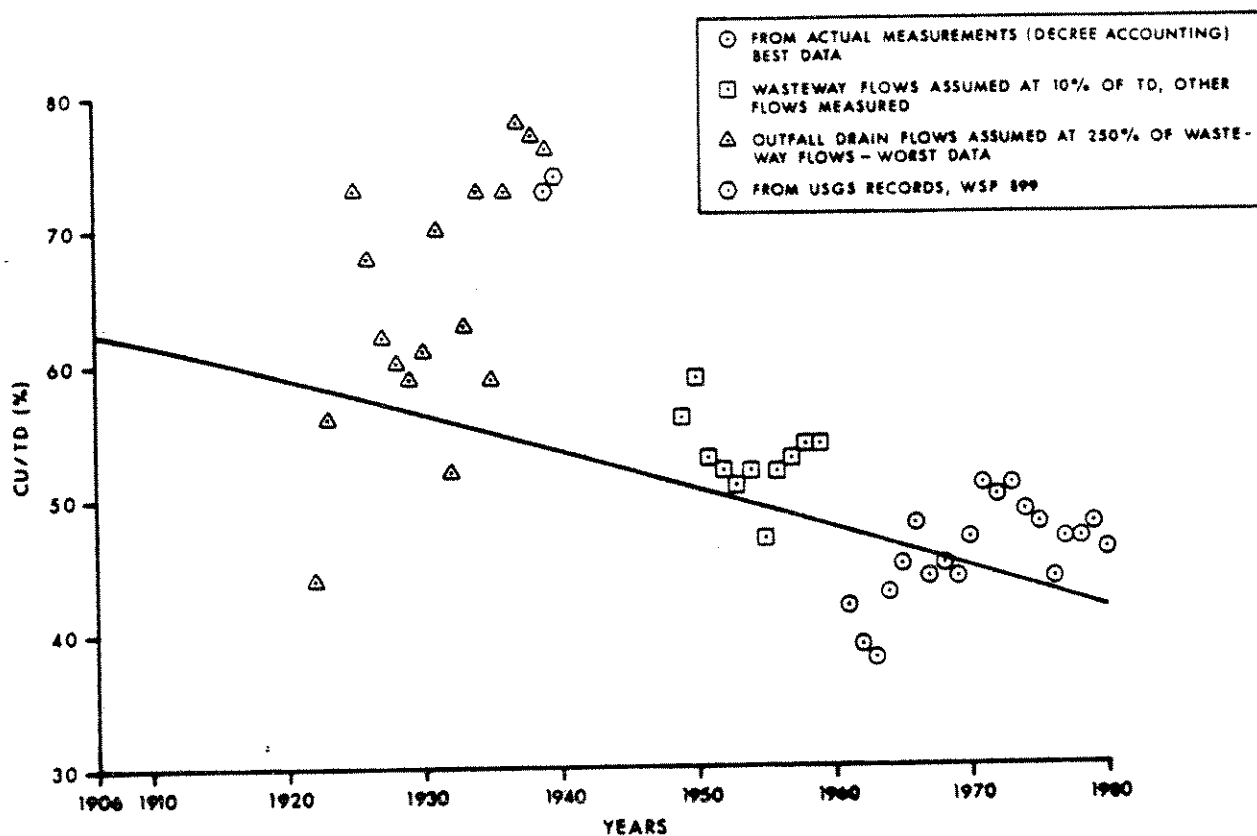
$$\begin{array}{rclclcl} \text{Consumptive} & & \text{Total} & & \text{Wasteway} & & \text{250 percent} \\ \text{Use} & = & \text{Diversion} & - & \text{Flows} & - & \text{Wasteway Flows} \end{array}$$

The ratio of consumptive uses to total diversions for the years described above were plotted (Figure 1). A line was hand fitted to these points (also shown in Figure 1). The consumptive use to diversion ratio defined by this line was applied to diversion data to compute consumptive use for the 1935 to 1963 period to provide a consistent estimate of consumptive use.

The consumptive use data generated from Figure 1 were annual data. These were reduced to monthly data from the average monthly consumptive use percentages from the Decree Accounting data shown in Table 1.

TABLE 1  
PVID AVERAGE MONTHLY DISTRIBUTION OF CONSUMPTIVE USE

| Month     | (ac-ft)<br>1964-80<br>Average | Percent of<br>Annual |
|-----------|-------------------------------|----------------------|
| January   | 5,210                         | 1.3                  |
| February  | 26,950                        | 6.5                  |
| March     | 38,770                        | 9.3                  |
| April     | 49,500                        | 11.9                 |
| May       | 51,190                        | 12.3                 |
| June      | 57,190                        | 13.8                 |
| July      | 68,630                        | 16.5                 |
| August    | 52,470                        | 12.6                 |
| September | 36,250                        | 8.7                  |
| October   | 11,770                        | 2.8                  |
| November  | 11,110                        | 2.7                  |
| December  | 6,510                         | 1.6                  |
| Annual    | 415,550                       | 100.0                |



PVID Consumptive Use/Total Diversions  
vs. Time in Years

FIGURE 1

## Appendix 9

**PVID SALT LOADING  
CRIR SALT RETENTION**

## APPENDIX 9

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### PVID AND COLORADO RIVER INDIAN RESERVATION (CRIR) SALT PICKUP AND SALT RETENTION

Salt pickup calculations for the PVID and the salt retention calculations for the CRIR were done on a mass balance basis for the 1971 to 1979 time frame. This information was then extrapolated back to cover the 1935 to 1970 time frame.

The inflow for the PVID is the Palo Verde Canal. The outflow is the sum of the PVID returns above Taylor Ferry, and the PVID returns below Taylor Ferry.

The inflow for the CRIR is the Headgate Rock Dam diversions. The outflow is the sum of the Gardner Wasteway, the Poston Wasteway and Drain, the Levee Drain and the Lower Main Drain.

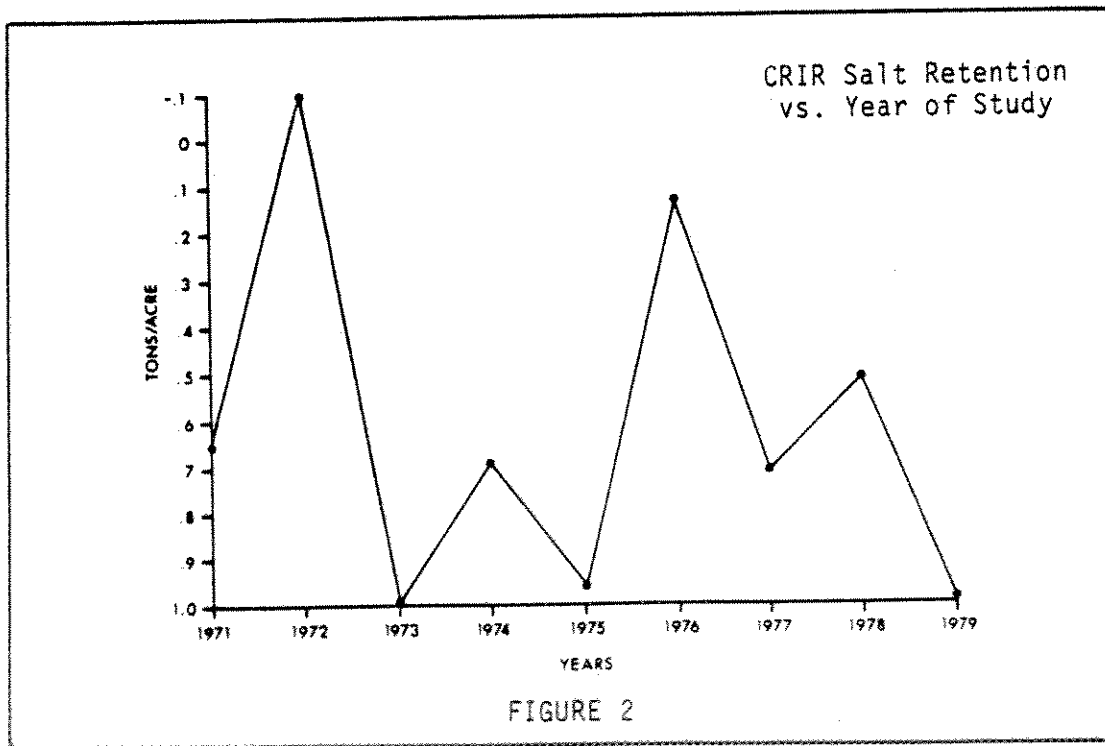
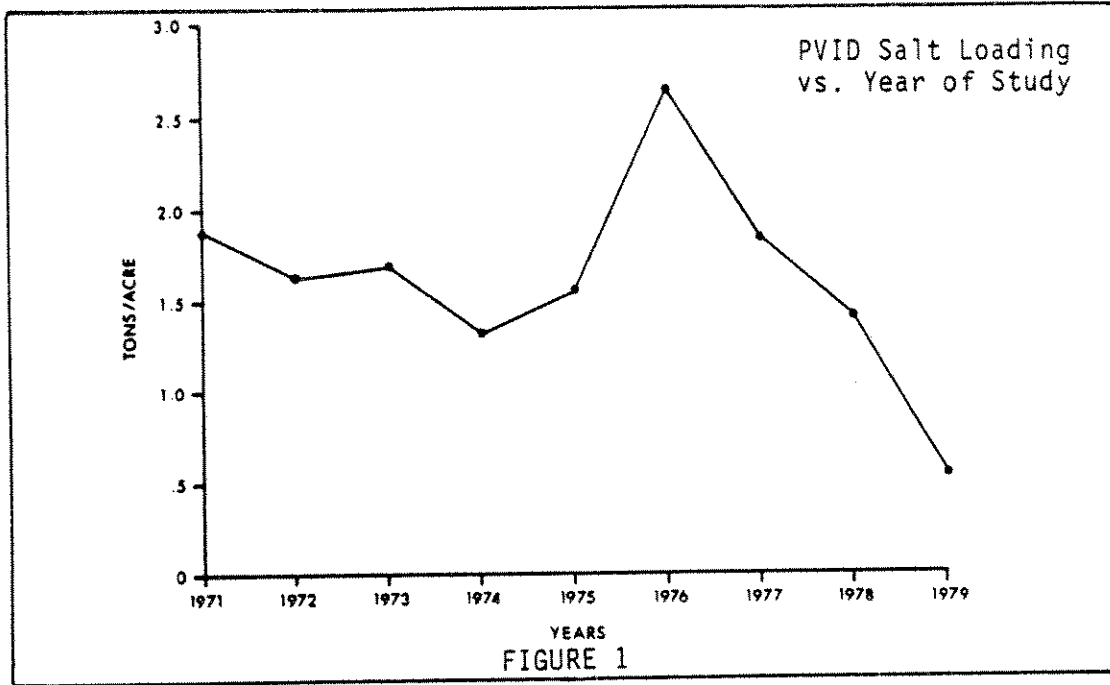
The most comprehensive compiled data for the Colorado Indian Reservation and the Palo Verde Irrigation District were supplied by Reclamation data for the ISSP for calendar years 1971 to 1979. Data were expressed in monthly and annual tons. Salt data, compiled from other sources for the period prior to 1971, were not complete enough to be used. Acreage data for the years 1935 to 1979 for the CRIR were supplied by the Bureau of Indian Affairs. Acreage data of the same period for the PVID were supplied by the Palo Verde Irrigation District. The annual salt loading, in tons, was divided by the irrigated acreages of the corresponding years to yield salt loading, and in Figures 1 and 2 as tons/acre vs. time (years) and a straight line was fitted through the data. For the CRIR the value of salt retention decreased as the analysis moved backwards in time. The fitted straight line was brought back to a value of zero tons per acre, where there is no other data, which corresponds to an assumption of equilibrium unless there is data to indicate otherwise. This assumption is used for all irrigation projects along the Lower Colorado River. For the PVID the salt loading increased as the analysis was moved backwards in time. Where no other data were available a value of 2 tons per acre was used as described in Interiors Progress Report No. 8 (1977, page 32). There is no evidence that an equilibrium situation ever existed at the PVID (See Figures 3 and 4). Values for 1935 to 1970 were estimated from the graph (Figures 3 and 4) and multiplied by the acreages for their specific years to put the data back into the unit of tons. These data were annual data; thus it was necessary to determine monthly percentages of the salt flow from the average monthly percentage distributions calculated from the 1971 to 1979 data (Tables 1 and 2).

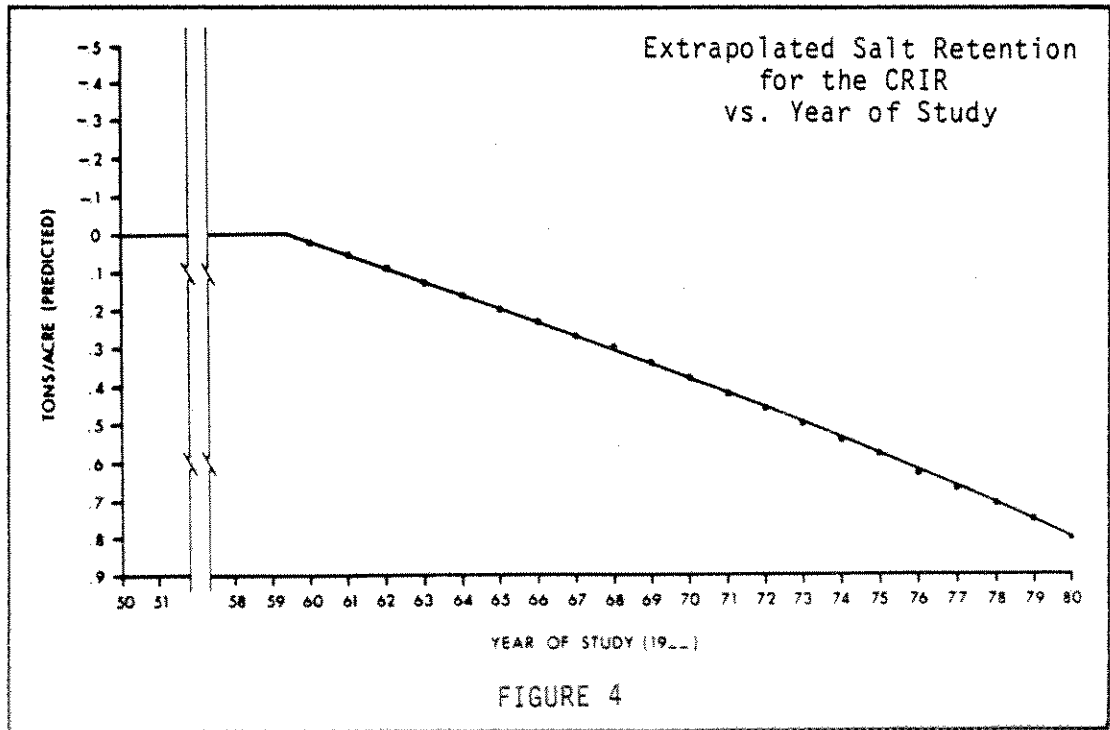
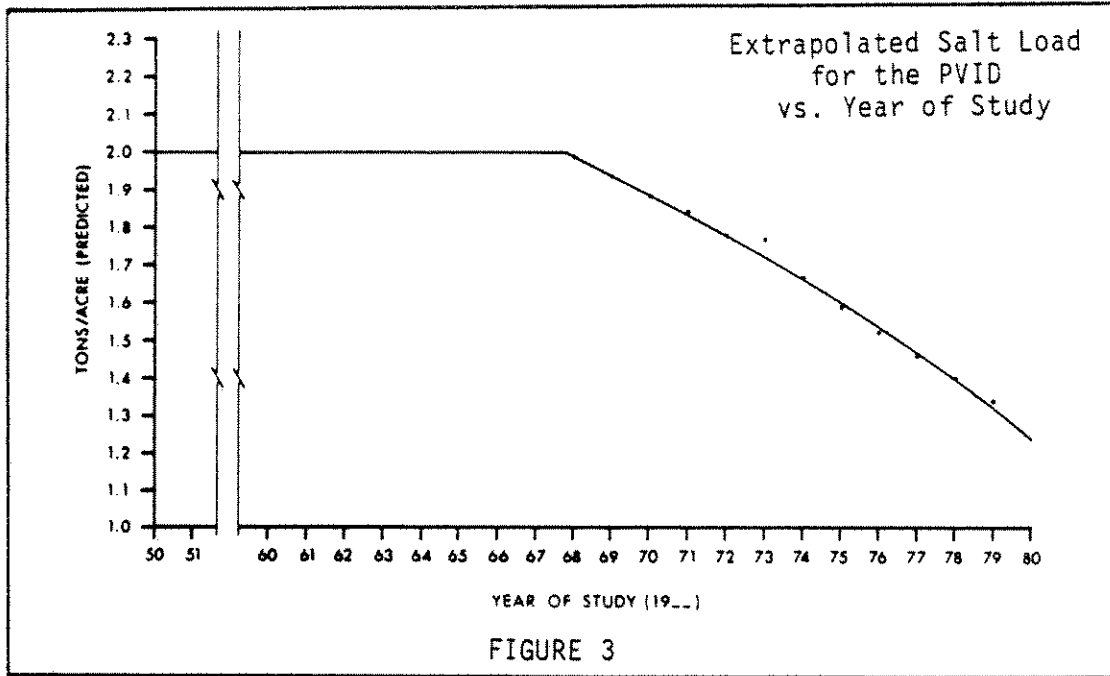
TABLE 1  
Palo Verde Irrigation District (PVID) Acreage and Salt Loading

| Year | Annual Salt Loading (Tons)<br>(Yearly Average) | Acreage | Tons/Acre |
|------|--|---------|-----------|
| 1971 | 156,350  | 91,595  | 1.71      |
| 1972 | 149,079  | 91,453  | 1.63      |
| 1973 | 155,075  | 91,582  | 1.69      |
| 1974 | 120,235  | 91,778  | 1.31      |
| 1975 | 142,233  | 91,784  | 1.55      |
| 1976 | 243,765  | 92,215  | 2.64      |
| 1977 | 168,760  | 92,121  | 1.83      |
| 1978 | 128,702  | 92,175  | 1.40      |
| 1979 | 49,543   | 92,349  | 0.54      |

TABLE 2  
Colorado River Indian Reservation (CRIR) Acreage and Salt Retention

| Year | Salt Retention (Tons)<br>(Yearly Total) | Acreage | Tons/Acre |
|------|---|---------|-----------|
| 1971 | 36,948                                  | 56,982  | 0.65      |
| 1972 | -6,206                                  | 60,296  | -0.10     |
| 1973 | 62,382                                  | 62,748  | 0.99      |
| 1974 | 45,281                                  | 66,003  | 0.69      |
| 1975 | 68,116                                  | 71,153  | 0.96      |
| 1976 | 9,354                                   | 72,377  | 0.13      |
| 1977 | 51,021                                  | 72,166  | 0.71      |
| 1978 | 38,178                                  | 75,405  | 0.51      |
| 1979 | 74,677                                  | 75,136  | 0.99      |







# GLOSSARY

- Acre-foot - The quantity of water required to cover one acre to a depth of one foot and is equivalent to 43,560 cubic feet or about 326,000 gallons.
- Consumptive Use - The total amount of water taken up by vegetation for transpiration and evaporation or the loss of water to the system from municipal and/or industrial uses. Consumptive use is most often expressed as the user's diversion minus the user's return flow to a stream or other body of water.
- Contents - The surface storage of a lake or reservoir, usually given as end-of-month value in acre-feet.
- CRSM - Colorado River Simulation Model.
- CRSS - Colorado River Simulation System, containing the CRSM, all peripheral programs and data bases necessary for the computer modeling of the Colorado River.
- Data Base - A collection of data which describe the physical character of a system.
- Data Element - A specific portion or collection of data within a data base which describe a unique characteristic of the system, such as a diversion, return, or storage in a reservoir.
- Diversion - The total amount of water or salt withdrawn from the system.
- Inflow - Water or salt which enters the system from a source not associated with a withdrawal, i.e., not a return flow.
- mg/L - Milligrams per liter.
- Outflow - Water or salt which leaves the system and does not return, i.e., an export.
- Reach Gains - The residuals of flow and salt after all identifiable sources and sinks have been accounted for. A reach gain is associated with a plus (+) sign or no sign, and a reach loss is associated with a negative (-) sign.
- Regression - A mathematical relationship between two or more sets of data, not necessarily based on a quantified physical relationship.
- Return Flow - The return to the system of the unused portion of a diversion.
- Salinity - The sum of the dissolved solids concentrated in water, either by evaporation, or by sum of constituents, expressed as parts per million, tons per acre-foot, or milligrams per liter.
- Salt - The total mass of dissolved solids in water, either by evaporation or by sum of constituents, expressed in units of tons.
- Salt Load - Total quantity (weight) of salts flowing past a given point in the river system during a given time. The load is calculated as a function of concentration and discharge.
- Salt Pickup - The amount of additional salt introduced into the river system over and above the amount of salt diverted, i.e., salt diverted minus salt returned. Expressed in tons or tons per acre of irrigated land.
- Salt Retention - The same as salt pickup, with the exception that the algebraic sign is opposite, i.e., salt retention is - salt pickup.
- Storage - See Contents.
- Tons - A unit of weight used to describe the total weight (mass) of dissolved solids in water.