

# **Yield Study Toledo Bend Reservoir**

**Sabine River Authority of Texas  
and  
Sabine River Authority, State of Louisiana**

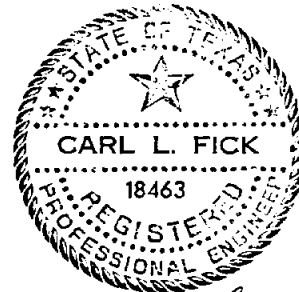
**Prepared by  
Brown & Root, Inc.  
July 1991**

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**Brown & Root**

**YIELD STUDY  
TOLEDO BEND RESERVOIR**

**SABINE RIVER AUTHORITY OF TEXAS  
AND  
SABINE RIVER AUTHORITY, STATE OF LOUISIANA**



**Prepared by  
Brown & Root Inc.  
July 1991**

*Carl L. Fick*  
7-31-'91



**Brown & Root, Inc.**

Post Office Box 3  
Houston, TX 77001-0003

July 31, 1991

Mr. M. E. Nelson  
Operations Manager  
Sabine River Authority  
P.O. Box 579  
Orange, Texas 77630

**Re: Toledo Bend Project Joint Operation  
Toledo Bend Reservoir Yield Analysis**

Dear Mr. Nelson:

We are pleased to transmit this final report on the yield analysis for Toledo Bend Reservoir prepared by Brown & Root, Inc. for the Toledo Bend Project Joint Operation. The analysis was developed using the most recent available data regarding flow and water resource development in the Sabine River Basin. The results of our evaluation confirm the anticipated reservoir yield previously predicted during initial design studies for the Sabine River Authority for Toledo Bend Reservoir. The firm yield of Toledo Bend Reservoir was calculated to be 2,086,600 acre-feet per year which is 12,100 acre-feet per year more or approximately 0.6% higher than computed in 1954.

It has been a pleasure to provide this service to the Joint Operation. We are grateful for the expert assistance and guidance provided by the Authorities in this effort; especially by you and Mr. Gray at the Sabine River Authority of Texas, and by Mr. Rumsey at the Sabine River Authority - State of Louisiana. We hope you will find this study meets all of your needs regarding the yield analysis and that it proves to be useful for other applications as well.

Sincerely,

**BROWN & ROOT, INC.**

Carl L. Fick, P.E.  
Project Manager

CLF/sd  
Enclosure

N:0639.ENV/3  
JR-0707-055



*Carl L. Fick*  
7-31-91



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D	Reservoir Operations Lake Cherokee Martin Lake Lake Murvaul





## **1.0 EXECUTIVE SUMMARY**

The Toledo Bend Project Joint Operation engaged Brown & Root to determine the amount of water which can be expected to be supplied from Toledo Bend Reservoir during critical drought periods. For this determination, reservoir operations were simulated over a 50-year period under various assumptions and operating conditions. Based on the results of these simulations, the amount of water which could be supplied by the reservoir for each year of operation is computed. The period of lowest available supply defines the "firm yield" of the reservoir.

The Texas Water Development Board computer program, RESOP III, was used to perform simulations using historical data over the period from January 1, 1940 to December 31, 1989. The simulations considered all inflows, outflows, and evaporation on a monthly basis using the existing conservation storage capacity for Toledo Bend Reservoir.

Historical runoff was calculated for different areas of the basin from gaging station data, reservoir content, evaporation data and actual water usage. Inflows into Toledo Bend Reservoir were adjusted by taking into account permitted diversions, return flows and evaporation. Water uses, both historical and projected, were also considered when analyzing firm yield of the reservoir. Water uses were divided into municipal, industrial, irrigation, and mining. Although Toledo Bend Reservoir also provides water for electric power generation, this use does not affect the quantity available for water supply purposes.

As a result of these simulations, the critical drought of the simulation period was found to be from May 1962 to March 1969. Under the assumed conditions, drawdown of the lowest level of the lake would have occurred in December 1967. The firm yield of Toledo Bend Reservoir was calculated to be 2,086,600 acre-feet per year.



## **2.0 INTRODUCTION**

The Toledo Bend Project Joint Operation between Sabine River Authority of Texas and Sabine River Authority, State of Louisiana (collectively referred to as SRAs in this report) engaged Brown & Root to perform a yield study for the Toledo Bend Reservoir. This report details the findings of that study. Figure 1 shows the location of the reservoir and selected gaging stations, along with county and state boundaries and Sabine River Basin drainage area limits. Also shown are boundaries for five subwatershed drainage areas used for analysis purposes in the study.

### **2.1 Purpose**

This study updates previous studies and better defines the "firm yield" of Toledo Bend Reservoir. Firm yield in this report is defined as the amount of water which can be supplied from a reservoir on an annual basis during the most critical drought period of record. The firm yield determined in this study is also defined as the amount of water that can be withdrawn from Toledo Bend Reservoir for water supply purposes on an annual basis without shortage during a "critical" dry period. Critical period is further defined as the period of lowest yield and is generally the period of lowest natural flow on record.

### **2.2 Background**

Sabine River Authority of Texas was created in Texas by the Texas Legislature in 1949; Sabine River Authority, State of Louisiana was created by the Louisiana Legislature in 1950. The SRAs joined together to construct Toledo Bend Reservoir as a jointly owned and operated project. Funding of the project was accomplished by sale of hydroelectric bonds and by a state loan in Texas and cash contributions in Louisiana. An agreement between the two states provides for an equitable division of available water of the Sabine River.

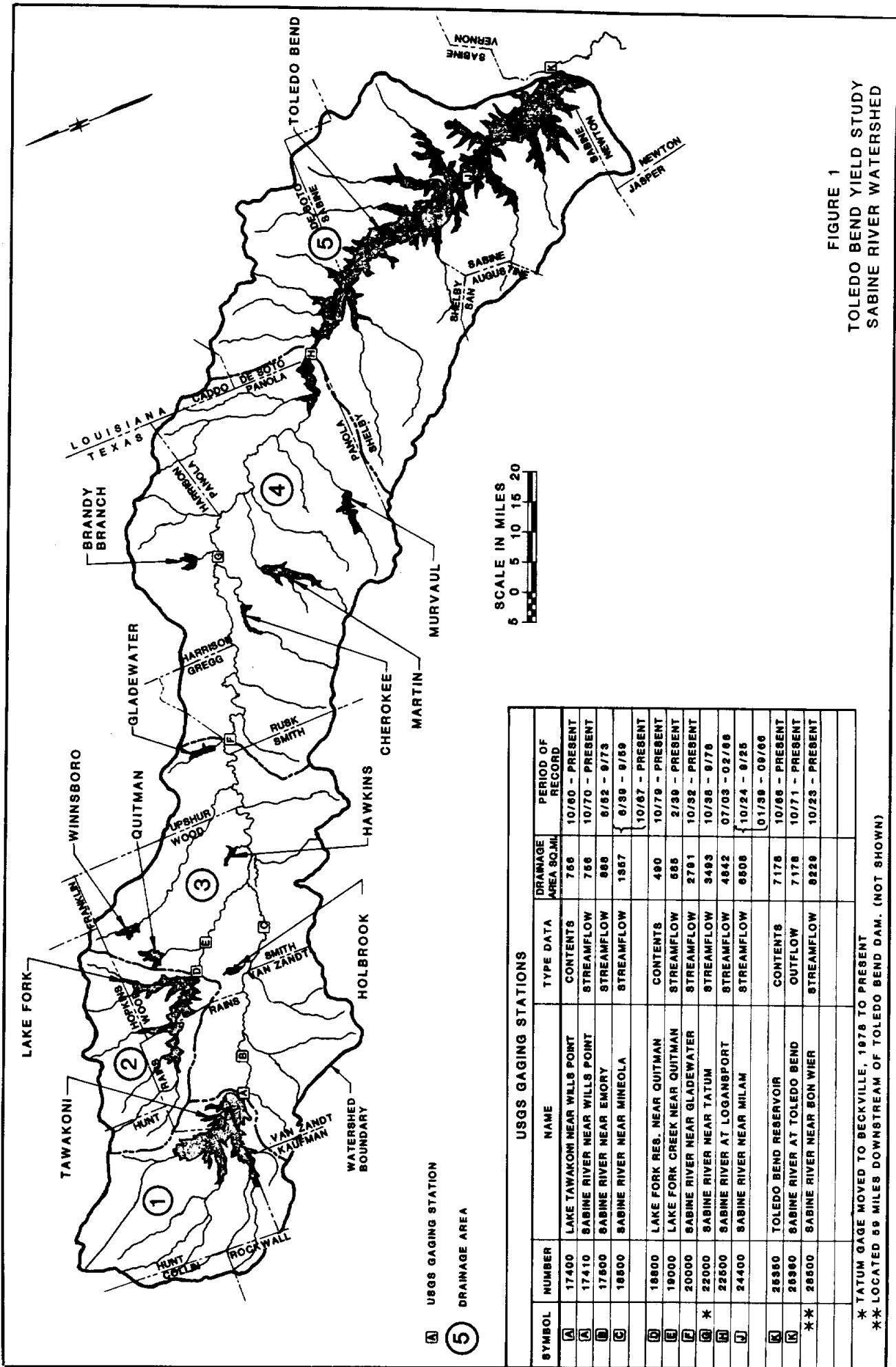


FIGURE 1  
 TOLEDO BEND YIELD STUDY  
 SABINE RIVER WATERSHED



The Toledo Bend Reservoir was constructed by the SRAs during the early 1960's. Impoundment began on October 3, 1966. The Toledo Bend Project Joint Operation was created by the SRAs and has operated the reservoir since that time.

In this evaluation, the reservoir is operated exclusively for water conservation. All storage below elevation 172.0 is assumed to be available for water supply. Toledo Bend Reservoir is actually operated for both electric power production and water supply. Water is stored in the reservoir during periods of high river flow for later release to accomplish both objectives. The "power pool" in the reservoir is that portion of storage from which flow is released to generate electrical power and is located between elevations 162.2 and 172.0. The "conservation pool" in the reservoir is that portion of storage located below elevation 172.0.

### **2.3 Approach**

The analysis to determine the firm yield of Toledo Bend Reservoir basically consisted of performing a simulation of the "operation" of the reservoir over a period of time in accordance with appropriate rules governing operation. From the simulation, the impact of the critical period of low flow on the amount of water available for water supply from the reservoir can be determined. As a part of the simulation, all significant factors affecting flow into the reservoir must be estimated and properly accounted.

A 50-year period from 1940 to 1989 was studied to define the yield and the critical period. All existing reservoirs and all active permits at the end of 1989 were assumed to be using water to the maximum extent authorized. In this simulated operation, various factors were considered to define inflow into Toledo Bend Reservoir:

- 1) spills from upstream reservoirs,
- 2) runoff from contributing drainage areas,
- 3) evaporation losses from reservoir surfaces, and
- 4) diversions for permitted uses and their subsequent return flows.



Inflow is decreased by existing upstream reservoirs and the diversions from those reservoirs. This decrease is calculated based on flow measurements made at different gages in the Sabine River drainage area.

In this simulation, the reservoir was operated exclusively for water supply. In no instances were releases simulated from reservoir storage only to generate power without meeting downstream water user requirements.

#### **2.4 Previous Studies**

A previous yield study was made by Forrest & Cotton, Inc., in 1959 in conjunction with the design of Toledo Bend Reservoir. That study used the historical period from 1904 to 1957 and estimated firm yield to be 1,852 million gallons per day (mgd) or 2,074,500 acre-feet per year. The critical period was established in the study to be from 1909 to 1911. [Ref. 1]

The yield analysis made for this study did not use the same period because of concerns regarding the accuracy and completeness of the data records. Stream flow gaging data and water use records are generally not as comprehensive and as reliable prior to 1940 as are subsequent records. The 50-year period (1940-1989), which was used for this analysis, is considered adequate in length for a yield determination. In spite of the significant differences in the general approach, data, and period of record used between this and the previous study, the final results of the two studies are remarkably similar. This study predicts a firm yield for Toledo Bend Reservoir of 2,086,600 acre-feet per year, which is 12,100 acre-feet per year or approximately 0.6% higher than the value computed in 1959.



### **3.0 WATER RESOURCE DEVELOPMENT**

Development of water resources in the Sabine River Basin began with diversions from the Sabine River for irrigation in the 1800's. The earliest priority date for an active appropriation on file with the Texas Water Commission is 1871. Most current surface water uses in the watershed above Toledo Bend are for municipal and industrial purposes and are supplied from major reservoirs. The first major reservoir constructed upstream of the Toledo Bend area was Lake Cherokee which was developed in 1948. Numerous other reservoirs have been constructed since that date including Toledo Bend Reservoir. Major water resource developments in the Sabine River Basin are summarized in this section.

#### **3.1 Major Reservoirs**

Major reservoirs and their associated water use have a significant impact on flow into Toledo Bend Reservoir. Pertinent information on reservoirs with authorized storage capacities greater than 5,000 acre-feet are provided in Table 3-1. There are eleven such reservoirs upstream from Toledo Bend. More than 85 percent of total storage capacity upstream of Toledo Bend is contained in two of the reservoirs, Lake Fork and Lake Tawakoni, located in the upper reaches of the Sabine watershed. Lake Fork and Lake Tawakoni are permitted for municipal and industrial purposes and have contracts for diversion of water to Trinity and Sulphur River basins. The combined capacity of these two reservoirs is over 25 percent of the storage capacity of the entire watershed and significantly affects inflow into Toledo Bend Reservoir.

Of the other nine major reservoirs upstream of Toledo Bend Reservoir, those which will have the most effect on inflow to Toledo Bend are Murvaul, Martin, and Cherokee. The largest of the nine is Martin Lake, representing over 30 percent of total storage capacity of these nine reservoirs. Murvaul and Cherokee represent another 42 percent of that capacity.



TABLE 3-1  
 DATA FOR MAJOR RESERVOIRS  
 IN SABINE RIVER BASIN

RESERVOIR NAME	YEAR COMPLETED	PURPOSE	STREAM	DRAINAGE AREA SQ. MILES	AUTHORIZED CAPACITY ACRE FEET	OWNER
LAKE TAWAKONI	1960	M,I	SABINE RIVER	756	927,440	SABINE RIVER AUTHORITY OF TEXAS
LAKE HOLBROOK	1962	REC	KEYS CREEK	15	7,990	WOOD COUNTY
LAKE FORK	1980	M,I	LAKE FORK CREEK	490	675,819	SABINE RIVER AUTHORITY OF TEXAS
LAKE QUITMAN	1962	REC	DRY CREEK	31	7,440	WOOD COUNTY
LAKE HAWKINS	1962	REC	LITTLE SANDY CREEK	30	11,890	WOOD COUNTY
LAKE WINNSBORO	1962	REC	BIG SANDY CREEK	27	8,100	WOOD COUNTY
LAKE GLADEWATER	1952	M	GLADE CREEK	35	6,900	CITY OF GLADEWATER
LAKE CHEROKEE	1948	M,I	CHEROKEE BAYOU	158	62,400	CHEROKEE WATER COMPANY
BRANDY BRANCH	1983	I	BRANDY BRANCH	4	29,513	SOUTHWESTERN ELECTRIC POWER COMPANY
MARTIN LAKE	1973	I	MARTIN CREEK	130	77,619	TEXAS UTILITIES
LAKE MURVAUL	1958	M,I	MURVAUL BAYOU	115	44,650	PANOLA COUNTY FRESH WATER SUPPLY DIST. NO.1
TOLEDO BEND	1969	M,I,IRR	SABINE RIVER	7178	4,477,000	SABINE RIVER AUTHORITIES, TEXAS AND STATE OF LOUISIANA

NOTES:  
 PURPOSE OF USE: M IS MUNICIPAL; I IS INDUSTRIAL; IRR IS IRRIGATION; REC IS RECREATIONAL.  
 REFERENCE 2 AND 3



Martin Lake is an on-channel cooling reservoir, (i.e., evaporation makeup water) with inflow provided from the drainage area on Martin Creek, located in Panola County. Lake Murvaul, also located in Panola County, is permitted for municipal, industrial, and irrigation uses. Lake Cherokee, located in Rusk County, provides water for municipal and industrial purposes and also serves as a power plant cooling reservoir.

Of the other major reservoirs, four lakes in Wood County, Holbrook, Quitman, Hawkins, and Winnsboro, are used for recreation only. Brandy Branch located in Harrison County, is used only for power plant cooling purposes. Brandy Branch is an off-channel cooling reservoir with a drainage area of only four square miles. Makeup for this reservoir is diverted from the Cypress River Basin; therefore, Brandy Branch Reservoir has little effect on basin runoff. Gladewater Reservoir located in Upsher County is permitted for municipal and irrigation uses.

### **3.2 Minor Reservoirs**

There are approximately 110 minor reservoirs permitted by the Texas Water Commission in the watershed above Toledo Bend. All of these reservoirs are located below Lake Fork and Lake Tawakoni. Two reservoirs are in Area 5, thirty-one are in Area 4, and seventy-seven in Area 3. The drainage areas are identified in Figure 1. The combined surface area of the 110 minor reservoirs is estimated to be 4,800 acres. These figures do not include non-permitted small stock ponds or Soil Conservation Service structures, as further explained below.

### **3.3 Soil Conservation Service Structures**

Three Soil Conservation Service (SCS) Watershed Protection and Flood Prevention Projects are located in the upper watershed. [Ref. 6] The first is the Caddo Creek Project in Collin County upstream from Tawakoni Reservoir; however, there are no existing or planned floodwater retarding structures in this project area. The second is Lake Fork Creek Project, located upstream from Lake Fork. As of January 1988, 23 of 26 planned floodwater retarding structures





were completed and two other structures were under construction. The third and only SCS project in the intervening drainage area, below Tawakoni and Lake Fork, is the Mill Creek Project in Van Zandt County. One multipurpose reservoir is completed for this project and the City of Canton holds the permit for impoundment and diversion of water for municipal purposes. Eleven other floodwater retarding structures that were originally planned for this project have not been constructed and probably will not be constructed. All existing or soon-to-be completed SCS structures were considered when estimating inflow into Toledo Bend Reservoir.

### **3.4 Downstream Reservoirs**

Two significant water supply reservoirs have been constructed downstream of Toledo Bend Reservoir. Lake Anacoco, built in 1951, has a capacity of 24,000 acre-feet; Lake Vernon, built in 1963, has a capacity of 57,000 acre-feet. These reservoirs are not located on the main stem of the Sabine River, but are on tributaries in Louisiana.

The yield of Toledo Bend Reservoir is not influenced by the two downstream reservoirs; therefore, they were not included in the yield analysis. If Toledo Bend and these two reservoirs were under a system operation, the yield of the three reservoirs could possibly increase the total yield available to the basin; however, the increase would be very small. A system operation would require formal agreements between the owners of the reservoirs; therefore, the potential benefits were not considered as a part of the yield study.

### **3.5 Historical Water Uses**

Municipal, industrial, irrigation, and mining water uses are shown on Table 3-2 for the intervening area below Tawakoni and Lake Fork (Areas 3, 4, and 5). Irrigation uses have decreased since the peak period of the late 1960's, while municipal and industrial uses have steadily and significantly increased. The water uses shown in Table 3-1 do not reflect return flows. Return flows were considered, however, when inflows to Toledo Bend were calculated.



TABLE 3-2

ANNUAL WATER USE FOR AREAS 3, 4, & 5  
SABINE RIVER BASIN  
(ACRE-FEET)

YEAR	MUNICIPAL	INDUSTRIAL	IRRIGATION	MINING	OTHER	TOTAL CONSUMED
1940	112	1,013	0	22	0	1,147
1941	0	1,149	0	5	0	1,154
1942	1,538	1,325	0	0	0	2,863
1943	2,026	1,098	0	0	0	3,124
1944	2,334	1,185	0	0	0	3,519
1945	2,254	646	0	0	0	2,900
1946	2,913	610	0	0	0	3,523
1947	2,293	620	0	0	0	2,913
1948	2,708	544	0	0	0	3,252
1949	2,823	422	0	0	0	3,245
1950	3,071	345	0	0	0	3,416
1951	3,989	1,115	0	0	0	5,104
1952	4,298	1,877	0	0	0	6,175
1953	5,102	1,820	115	0	0	7,037
1954	6,632	2,308	0	0	0	8,940
1955	5,164	2,775	56	0	0	7,995
1956	6,638	3,235	776	0	0	10,649
1957	6,198	6,190	151	0	0	12,539
1958	6,418	7,611	21	0	0	14,050
1959	6,534	7,986	55	0	0	14,575
1960	7,496	7,443	88	0	0	15,027
1961	7,480	9,055	7	0	0	16,542
1962	8,824	9,707	29	0	0	18,560
1963	8,652	10,351	11,048	0	0	30,051
1964	8,885	10,969	11,195	0	0	31,049
1965	9,090	10,572	11,939	0	0	31,601
1966	9,453	12,742	12,019	0	0	34,214
1967	8,835	14,417	11,881	0	0	35,133
1968	9,905	15,408	618	500	0	26,431
1969	14,344	16,187	2,157	500	0	33,188
1970	15,400	16,261	2,977	500	0	35,138
1971	16,723	16,237	2,952	0	0	35,912
1972	17,215	8,067	3,628	0	0	28,910
1973	16,063	12,192	3,517	0	0	31,772
1974	16,744	50,835	2,616	0	0	70,195
1975	17,891	15,037	2,883	222	0	36,033
1976	18,228	20,084	2,569	255	0	41,136
1977	21,748	21,905	1,223	255	0	45,131
1978	25,249	32,857	3,272	251	0	61,629
1979	19,922	31,618	3,160	251	0	54,951
1980	19,986	30,239	3,080	251	0	53,556
1981	19,927	26,172	2,685	251	0	49,035
1982	18,335	25,301	1,539	24	0	45,199
1983	20,232	28,287	1,253	218	0	49,990
1984	21,517	26,754	1,388	417	0	50,076
1985	21,689	32,589	1,628	330	0	56,236
1986	20,540	34,800	1,364	373	0	57,077
1987	24,251	35,254	1,460	159	0	61,124
1988	26,525	34,144	2,001	150	0	62,820
1989	26,525	34,144	2,001	150	0	62,820



## 4.0 METHODOLOGY

### 4.1 General Procedures

A simulation of drought conditions in the Sabine River Basin was developed to allow determination of yield for Toledo Bend Reservoir. The simulation included all hydrologic and water use aspects that influence a water supply including: runoff, stream flow, evaporation, reservoir operation, and diversions. The simulation uses computer software, called RESOP III, developed by the Texas Water Development Board. This program is used to make a mathematical "balance" calculation each month from 1940 through 1989. The program calculates inflow based on the formula shown below and then determines (by trial-and-error) the end-of-month storage, associated surface area, and evaporation loss. If end-of-month storage does not match the trial value, the program tries another end-of-month value until water volumes balance for the month.

The basic equation used in yield determination defines inflow into Toledo Bend Reservoir and accounts for all "water in" and "water out" as follows:

$$I = SF - D - E + R \pm \Delta S$$

where:

I = Inflow into the reservoir

SF = Stream flow (measured or calculated)

D = Diversions from natural flows based on permitted values

E = Evaporation from lake surfaces

R = Return flows

$\Delta S$  = Change in reservoir storage

Stream flow is, in some instances, the actual gaged record of flow in the headwaters of the reservoir, while in other instances the gaged records were adjusted to special circumstances applicable to a particular point or location in the basin. After inflows and outflows are all considered appropriately, a monthly



reservoir operation is simulated to quantify the maximum amount of monthly releases that could be made from the reservoir on a continuing basis. Annual releases possible during the critical drought period then constitute firm yield of the reservoir.

#### **4.2 Stream Flow Calculations and Reservoir Operations**

Permitted stream flow is the critical parameter that forms the basis for calculated yield of the reservoir. Stream flow calculations were made in this study to identify the amount of flow expected to enter Toledo Bend Reservoir. Calculations require adjustments to historical gaged flow data because "natural condition flows" have been modified by reservoirs and diversions. These adjustments were used to quantify monthly permitted inflows that were ultimately used in simulation of Toledo Bend Reservoir operation.

Permit condition inflow to Toledo Bend, that is the inflow used in reservoir operation analysis, was calculated by assuming that all existing reservoirs, both minor and major, and all authorized diversions were utilized for purposes and to extents allowed by permits or by recognized riparian rights. Therefore, permit condition inflow, with subtracted diversions, is always less than that which occurred naturally.

To determine permitted flow from drainage areas above Lake Tawakoni and Lake Fork, Texas Water Development Board values for permitted spills were used. For Lakes Murvaul, Martin, and Cherokee, the reservoir's operations were simulated under permit conditions. When operated in this manner, only spills from reservoirs added flow downstream from each dam. These flows become part of the permitted stream flow into Toledo Bend Reservoir. For the drainage area downstream of these five lakes and upstream of Toledo Bend Dam, permitted stream flow was calculated by using gaged historical runoff, adding historical diversions, subtracting return flows, and subtracting permitted diversions and evaporation. Subtracted diversions and evaporation included all other reservoirs, both major and minor, in determining permitted inflow into Toledo Bend Reservoir. In addition, after the beginning of Toledo Bend Reservoir



impoundment, the stream flow calculations also accounted for monthly records of changes in reservoir content, evaporation, and releases made from Toledo Bend.

#### **4.3 Minimum Releases From Toledo Bend**

A minimum release of 144 cfs is now made from the Toledo Bend Reservoir spillway. The minimum release is required under provisions of Federal Energy Regulatory Commission License 2305 in order to maintain flow in the spillway discharge channel between the spillway and where the discharge channel connects to the river channel. In reservoir operation simulation, the minimum release is considered to be a part of the yield of the reservoir. If the minimum release is made from storage below elevation 172.0, then that release is part of the yield. When flood releases are made from the reservoir, the minimum release requirement is met by those releases. The 144 cfs minimum release would not be a part of the yield if all diversions for water supply are made upstream of the dam.

#### **4.4 Electric Power Generation**

Electric power generation has no influence on the calculated yield of Toledo Bend Reservoir because the reservoir is simulated to be operated exclusively for water conservation. All releases made from reservoir storage of 4,477,000 acre-feet are made to meet water supply or yield requirements. In this study, no releases are made from reservoir storage for the sole purpose of generating electrical energy. However, water released from reservoir storage for water supply purposes may also be used to generate electrical power.

#### **4.5 Downstream Reservoirs**

Two existing downstream reservoirs, lake Anacoco and Lake Vernon, have no influence on the calculated yield of Toledo Bend Reservoir. Operation of the two reservoirs will create a definite yield which is available to meet water supply



needs in the lower basin. However, the yield from Toledo Bend is not presently influenced by these reservoirs.

Combined storage capacity of Lake Anacoco and Lake Vernon is approximately 81,000 acre-feet. This represents only 1.8% of the 4,477,000 acre-feet of reservoir storage at Toledo Bend. While it may be possible to operate the two downstream reservoirs and Toledo Bend Reservoir as a "system" in order to increase the total yield of the three reservoirs, this is not currently the practice. Such a system operation would require formal agreements between owners of the reservoirs.

If the two downstream reservoirs were located on the main stem of the Sabine River, a significant increase in total yield for the three reservoirs might be achieved by operation as a system. Because the actual location is on small tributaries to the Sabine River, any increase in yield would probably be very small.

The impact of system operations would be highly dependent on the actual terms of any operating agreement; therefore, no calculations have been conducted as a part of this study to evaluate this possibility.



## **5.0 STREAM FLOW DATA**

### **5.1 General**

This section explains how historical stream or gaged flows were calculated at Toledo Bend, Lake Tawakoni, and Lake Fork, and how the influences of Lake Tawakoni and Lake Fork were quantified in order to simulate a natural flow at Toledo Bend. The term "natural flow" is defined as stream flow which results after the influence of Lake Tawakoni and Lake Fork are adjusted from the historical records to reflect the influence of the lakes. Historical flows reflect actual diversions that have been made from the streams throughout each year. The calculated historical stream flows were developed so that natural stream flows could be determined.

### **5.2 Stream Flows at Toledo Bend**

Methods used to determine historical stream inflow at Toledo Bend for periods prior to and following the date impoundment of water in Toledo Bend Reservoir began are described in the following paragraphs. Annual historical or gaged flows so determined are provided in Column 2 of Table 5-1.

Records from gaging stations were used to determine historical flows from the Sabine River Basin above Toledo Bend. Locations of the gages used in the calculation are shown on Figure 1. Gaging of data recorded and periods of record are also provided on Figure 1. Gaging station records were also used to define runoff in different areas of the Sabine River Basin as further explained below.

#### **5.2.1 Flow Calculations Prior to Impoundment**

For the historical period prior to impoundment in Toledo Bend Reservoir (i.e. from January 1940 to September 1966), the gaging station near Milam, which is upstream from the dam, and the gaging station near Bon Wier, which is



**TABLE 5-1**  
**INFLOW AT TOLEDO BEND**

YEAR	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
1940	5,213.239	271.353	207.604	1,550	4,735.831
1941	7,475.088	373.575	234.416	1,400	6,868.496
1942	4,443.720	468.737	293.275	2,802	3,684.511
1943	1,935.477	310.739	216.306	3,752	1,412.185
1944	6,459.576	433.213	301.780	1,875	5,726.459
1945	8,451.485	820.655	763.851	1,767	6,868.745
1946	8,601.764	638.176	606.323	1,756	7,359.021
1947	4,452.450	241.987	227.982	2,634	3,985.115
1948	3,564.864	232.002	244.559	8,087	3,096.390
1949	4,263.936	259.213	270.656	493	3,734.560
1950	6,655.569	423.701	418.527	1,533	5,814.875
1951	1,771.256	114.305	83.718	9,811	1,583.044
1952	2,720.780	212.819	225.292	13,011	2,295.680
1953	5,839.850	250.276	265.272	7,213	5,331.515
1954	1,619.216	139.860	119.817	20,345	1,379.884
1955	2,177.991	50.404	64.015	11,830	2,075.402
1956	1,220.138	39.014	28.542	22,172	1,174.754
1957	6,564.593	827.095	585.548	1,756	5,153.705
1958	4,813.895	382.842	428.824	14,028	4,016.257
1959	2,760.002	252.122	270.733	12,191	2,249.338
1960	4,058.068	152.506	271.722	20,128	3,653.969
1961	6,130.320	0	245.146	17,492	5,952.666
1962	2,734.861	0	191.122	26,723	2,620.463
1963	934.665	0	76.539	52,263	910.389
1964	1,048.900	0	23.189	48,462	1,074.174
1965	2,093.442	327.752	165.716	41,055	1,641.030
1966	3,533.589	423.569	311.609	51,031	2,349.441
1967	1,071.281	246.820	205.293	52,551	671.719
1968	6,010.057	435.135	408.820	49,605	5,215.708
1969	5,390.702	456.688	338.848	47,398	4,642.563
1970	2,510.828	430.847	234.316	48,736	1,894.401
1971	1,460.568	281.682	247.447	60,045	991.484
1972	2,765.791	43.180	115.641	47,210	2,654.180
1973	7,574.483	646.209	504.304	41,046	6,465.015
1974	6,341.217	596.214	489.833	87,861	5,343.031
1975	5,395.850	381.088	337.283	66,044	4,743.523
1976	2,819.586	184.522	200.641	61,822	2,496.245
1977	2,839.556	323.389	210.083	82,184	2,357.768
1978	2,022.785	95.925	61.534	104,004	1,969.330
1979	6,675.911	356.870	275.053	89,623	6,133.611
1980	3,872.132	97.261	219.607	104,165	3,659.429
1981	2,070.492	325.640	106.518	83,234	1,721.618
1982	3,331.930	207.108	107.266	73,650	3,091.207
1983	4,606.500	252.240	97.902	83,733	4,340.092
1984	2,978.843	95.655	26.797	89,131	2,945.523
1985	3,790.838	336.692	95.720	104,912	3,463.337
1986	4,355.010	415.732	280.125	83,033	3,742.136
1987	3,866.533	161.473	193.627	82,519	3,593.952
1988	3,102.031	48.596	111.439	113,613	3,055.609
1989	7,357.500	0	0	59,844	7,417.345





downstream from the dam, were used to estimate historical stream flows at the present damsite. To calculate the monthly flow, the historical flow at Milam gage was added to an adjusted difference in flow between Bon Wier and Milam.

The adjustment is necessary to reflect that portion of flow above Bon Weir which would have been captured by the reservoir. The intervening drainage area between Toledo Bend and Milam is 670 square miles. The intervening drainage area between the Milam gage and Bon Wier is 1721 square miles. Average annual flow per square mile between 1940 and 1957 for the two intervening areas is 830 acre-feet and 910 acre-feet, respectively. Therefore, the coefficient (or adjustment ratio) was taken to be:

$$C = \frac{670}{1721} \times \frac{830}{910} = 0.355$$

Therefore, the formula used for calculating the stream flow at Toledo Bend Reservoir can be expressed as:

$$Q_{TB} = Q_M + (0.355)(Q_{BW} - Q_M)$$

where  $Q_{TB}$  = Toledo Bend Reservoir stream flow  
 $Q_M$  = Stream flow at gaging station near Milam  
 $Q_{BW}$  = Stream flow at gaging station near Bon Wier

## 5.2.2 Flow Calculations After Impoundment

After impoundment in Toledo Bend Reservoir began (i.e., after October 1966 to December 1989), historical monthly stream flow was calculated by making appropriate adjustments to historical records for influences of Toledo Bend Reservoir. Recorded outflows, changes in storage, pumpage from the reservoir and net evaporation are all considered using the following formula.

$$Q_i = Q_o + E_n + Q_p + (S_2 - S_1)$$

where  $Q_i$  = Stream flow at damsite

$Q_o$  = Reservoir outflow



- En = Net evaporation with rainfall adjusted for depth of runoff already included in Qi.
- Qp = Water supply pumpage from reservoir
- S2 = Storage at end of month
- S1 = Storage at beginning of month

Outflow was based on U. S. Geological Survey (USGS) records for the Sabine River at Toledo Bend Dam for the period of October 1971 to 1987. (USGS data is based on joint operation's records at the dam). Outflow prior to October 1971 and for years 1988 and 1989 were based on data furnished by SRAs. Pumpage from the reservoir was also based on data furnished by SRAs. Net evaporation for specific regions in the study area was obtained from the Texas Water Development Board for the period 1940 through 1987 [Ref. 4]. Data for years 1988 and 1989 were based on pan evaporation and rainfall data collected by SRAs at Toledo Bend Dam. End-of-month reservoir contents, recorded by the USGS from SRAs records, were obtained from Texas Water Development Board from the period up to year 1988. The monthly reservoir content for 1989 was also obtained from SRAs.

### **5.3 Intervening Runoff Below Lake Tawakoni and Lake Fork**

To develop a permit condition inflow to Toledo Bend, defining the flow contributed from the drainage areas above the damsites of Lake Tawakoni and Lake Fork was required. Intervening flow is flow from the drainage area upstream of Toledo Bend and downstream of Lake Tawakoni and Lake Fork. This adjustment ensures that only spills from the two reservoirs operated at permitted conditions during the study period are contributing to inflow to Toledo Bend Reservoir from their respective drainage areas. The adjustment covers periods prior to and after the two lakes began to impound water. Procedures used to define the flows for Lake Tawakoni and Lake Fork drainage areas are described in the following paragraphs.



### 5.3.1 Stream Flows at Lake Tawakoni

Lake Tawakoni began impounding water in October 1960. Prior to that date, stream flow from above the damsite was subtracted from Toledo Bend Reservoir historical stream flow to calculate intervening runoff. Stream flow was calculated as follows:

#### January 1940 to July 1952

Historical stream flow from the 756 square mile drainage area above Lake Tawakoni damsite was based on the Mineola gaging station which has a drainage area of 1357 square miles. A drainage area ratio of 0.557 (756 divided by 1357) was multiplied by monthly stream flow at the Mineola gage to obtain stream flow at Lake Tawakoni damsite. The flow per square mile of the two areas was assumed to be approximately the same.

#### August 1952 to September 1960

For this period, the Emory gaging station records were used for stream flow calculation. The drainage area of this gaging station is 888 square miles and the drainage area ratio used to calculate runoff at the damsite was 0.851 (756 divided by 888).

After Lake Tawakoni began to impound water, only outflows from the reservoir were subtracted from Toledo Bend Reservoir historical runoff to obtain intervening runoff. Monthly reservoir contents were recorded from the date of initial impoundment but spills were not gaged until September 1970. For periods indicated, the following methods were used to obtain Tawakoni historical outflows.

#### October 1960 to September 1970

Reservoir contents were reviewed for this period to determine the months when the reservoir had spills. For selected spill months, the estimated intervening runoff between the Emory gaging station and the damsite was subtracted each month from gaged streamflow to obtain the approximate spill volume. The intervening runoff estimate was based on the Lake Fork



Creek gaging station near Quitman which has a drainage area of 585 square miles. The drainage between Emory and the damsite is 132 square miles and the ratio of this area to the Quitman gage drainage area is 0.226 (132 divided by 585).

October 1970 to December 1988

Gaged outflow from Lake Tawakoni was used for this period.

Year 1989

No adjustment was made for this year. Historical spills were assumed to also be permit condition spills for the Lake Tawakoni adjustment.

The stream flow at Lake Tawakoni is shown in column 3 of Table 5-1 as spills operated at actual conditions.

5.3.2 Stream Flows at Lake Fork

Lake Fork began impounding water in October 1979. Prior to that time, runoff from the drainage area above the dam site was subtracted from Toledo Bend Reservoir historical runoff to obtain intervening runoff.

The Lake Fork damsite runoff prior to beginning impoundment was calculated by a drainage area ratio to the flow at the Quitman gaging station. Flow was not adjusted for the depletion effect of Lake Quitman, a recreation lake with a storage capacity of 7,400 acre-feet. The drainage area ratio used to calculate runoff above Lake Fork damsite is 0.838 (490 divided by 585).

For the period after impoundment began from October 1979 to December 1988, stream flow at Lake Fork was calculated and subtracted from Toledo Bend historical runoff. Reservoir content has been recorded at the damsite since impoundment began and was used in the stream flow calculation. Releases are reflected in the Quitman gage downstream from the dam. The intervening drainage area between the gage and the damsite is 95 square miles (585 minus 490). To obtain estimates of reservoir releases, estimated flow from the



intervening drainage area was subtracted from flow at the Quitman gage. Intervening flow estimate was based on flow from intervening drainage area between Lake Tawakoni and the gage on the Sabine River near Mineola. Releases from Lake Tawakoni were gaged during this period. The drainage area ratio of Lake Fork intervening area to the area below Tawakoni Reservoir is 0.158 (95 divided by 601). The coefficient was increased to 0.161 to account for higher runoff in the Lake Fork drainage area. For 1989, no adjustment was made because historical spills were assumed to also be permit condition spills for the Lake Fork adjustment.

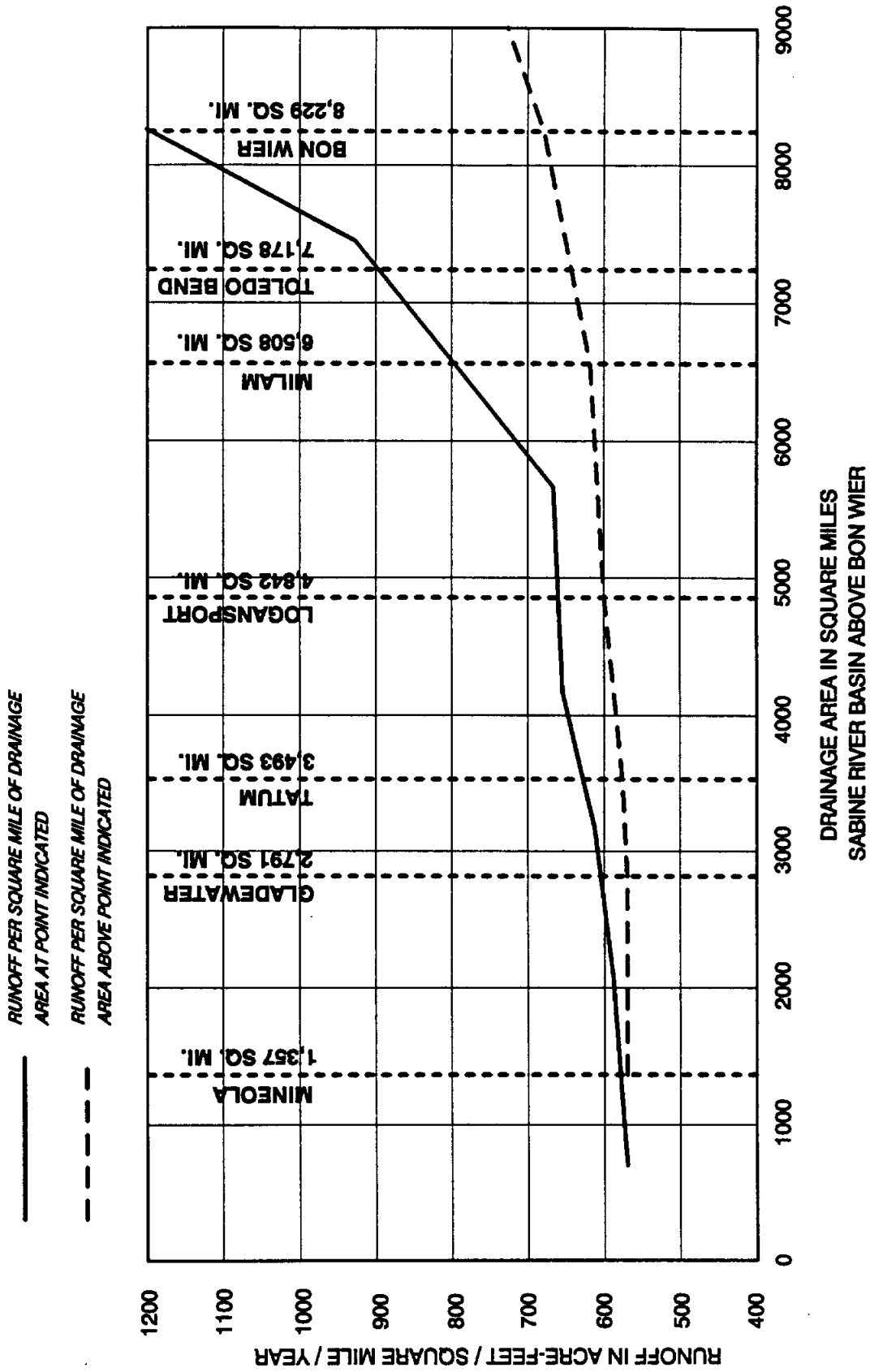
The stream flow at Lake Fork is shown in Column 4 of Table 5-1 as spills operated at actual conditions.

#### **5.4 Historical Runoff**

Historical runoff rates for different areas of the Sabine River Basin were subsequently developed. Analyses of records of stream flow gages during coincident time periods were used to determine historical runoff for different areas. Figure 2 shows runoff per square mile for the entire drainage area above specific locations in the basin (lower curve) and runoff per square mile at specific locations (upper curve). The period analyzed was 1940 to 1957. This period was selected because it preceded construction of all major reservoirs in the basin except Lake Cherokee which was completed in 1948 and Lake Gladewater which was completed in 1952. This information in Figure 2 was used to estimate runoff at locations that do not have gaging stations.

#### **5.5 Natural Stream Flow**

Intervening historical stream flow below Lake Fork and Lake Tawakoni was adjusted to a natural (or undepleted) flow as shown in Column 6 of Table 5-1. This adjustment was made to establish a basic runoff condition before subtracting withdrawals allowed by permits. The basis for adjustment to determine natural flow is further explained below.



**FIGURE 2**  
**TOLEDO BEND YIELD STUDY**  
**SABINE RIVER RUNOFF**



Monthly water use records were obtained from Texas Water Commission and from Sabine River Authority, State of Louisiana. Municipal and industrial uses (less return flows), and irrigation uses were added to historical flows to obtain the flow that would have occurred without actual uses.

From 1940 to 1989, year-to-year water surface areas were estimated for permitted reservoirs in Areas 3, 4, and 5. Monthly net evaporation depths were obtained from the Texas Water Development Board. [Ref. 4] Evaporation data from quadrangles 512 and 513 were used for Area 3, quadrangle 513 for Area 4, and quadrangle 614 for Area 5. Quadrangle areas are specific regions of evaporation identified in Reference 4. Monthly evaporation depths were applied to year-by-year water surface areas to obtain monthly evaporation depletions.

The natural flow at Toledo Bend Reservoir is therefore the historic stream flow at Toledo Bend minus the flow contributed by drainage areas above Lake Tawakoni and Lake Fork. These flows are shown in Appendix B on a monthly basis. Calculated flows on a yearly basis are shown in Table 5-1. Natural flow in the last column was calculated by subtracting stream flows (shown as spills in Table 5-1) at Lake Tawakoni and Lake Fork from historical or gaged stream flow at Toledo Bend Reservoir, shown in column 2. For example, for the year 1940, the natural flow is  $5,213,239 - 271,353 - 207,604 + 1,550 = 4,735,831$ . The natural flow at Toledo Bend Reservoir was used with permitted withdrawals to calculate permitted inflow at Toledo Bend.



## **6.0 INFLOW AND YIELD CALCULATIONS**

### **6.1 General**

Permit condition inflow is defined here as flow in a stream that remains after all authorized diversions are made. Permit condition inflow is the stream flow which is the basis for reservoir yield determination. For the permitted condition used in this study, all authorized diversions were assumed to be made for the purposes and at the amounts allowed by permit or riparian right. The inflow contains spills from upstream reservoirs, which were all assumed to be operating under permit conditions, and includes estimated return flows from municipal and industrial diversions. No return flows were assumed for other diversions. Evaporation depletions were also made for existing reservoirs.

### **6.2 Reservoir Operations**

Reservoir operations were simulated for three major reservoirs (Murvaul, Martin and Cherokee) to define their influence on flow into Toledo Bend Reservoir. Permit condition spills for Lake Tawakoni and Lake Fork were obtained from the Texas Water Commission. [Appendix B] Reservoir operations were not simulated for other reservoirs that have less impact on inflow into the Toledo Bend Reservoir; however, their influence on flows into the reservoir are a part of the calculations for specific areas as described later into this section. The resulting permit condition inflows into Toledo Bend Reservoir are shown in the last column in Table 6-1.

#### **6.2.1 Adjustment for Lakes Murvaul, Martin, and Cherokee**

Permit condition reservoir operations were simulated for three major reservoirs (Murvaul, Martin, and Cherokee) to determine depletion effects on inflow to Toledo Bend Reservoir. Runoff calculations for the three reservoir drainage areas were based on adjusted natural runoff from the intervening area below Lake Fork and Lake Tawakoni. Calculated runoff from all three drainage areas



TABLE 6-1

PERMIT CONDITION INFLOW TO TOLEDO BEND DAM



YEAR	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						NET DEPLECTIONS (AC-FT)	INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE SPELLS	MARTIN SPELLS	MURVAL SPELLS	TAWAKONI SPELLS	LAKE POKE SPELLS			
			(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)			
1940	4,735.831	278,940	30,802	77,700	69,738	46,566	0	(4,329)	4,686,027	
1941	6,868,496	404,554	71,202	121,571	109,807	294,203	109,454	(6,462)	7,176,442	
1942	3,684,511	217,018	32,099	53,304	49,218	333,372	91,449	(1,838)	4,028,973	
1943	1,412,183	83,178	0	2,800	3,332	45,251	0	6,260	1,374,131	
1944	5,726,459	337,288	23,789	90,105	81,982	243,447	42,305	(10,588)	5,883,366	
1945	6,868,745	404,549	56,300	117,457	105,866	752,784	516,012	(7,195)	8,019,791	
1946	7,359,021	433,446	77,347	133,989	120,469	458,086	365,923	(8,810)	8,090,196	
1947	3,985,115	234,723	37,247	63,160	57,722	48,804	63,761	359	4,020,727	
1948	3,096,390	182,377	0	40,208	37,374	143,640	111,438	4,782	3,242,091	
1949	3,734,340	219,964	0	44,642	40,037	0	0	(9,363)	3,608,627	
1950	5,814,873	342,496	30,463	105,672	95,695	208,695	187,976	(6,379)	6,124,254	
1951	1,583,044	93,241	0	11,384	10,681	0	0	1,835	1,510,032	
1952	2,295,680	135,216	0	22,147	20,489	0	0	4,549	2,196,351	
1953	5,331,515	314,006	23,259	82,163	74,403	0	0	(4,417)	5,201,733	
1954	1,379,884	81,273	0	4,043	4,538	0	0	9,518	1,297,672	
1955	2,073,402	122,241	0	4,563	4,594	0	0	(660)	1,962,980	
1956	1,174,754	69,193	0	3,237	4,570	0	0	10,585	1,102,784	
1957	5,153,705	303,553	0	67,172	60,398	0	0	(15,389)	4,993,311	
1958	4,016,257	236,558	24,130	60,733	54,328	151,074	64,953	(5,254)	4,140,195	
1959	2,349,338	132,486	0	24,330	23,830	0	0	(7,063)	2,172,295	
1960	3,653,969	215,219	0	49,518	44,692	36,798	63,241	(2,827)	3,635,226	
1961	5,952,666	330,612	30,309	102,129	92,377	140,907	60,426	(4,909)	6,033,102	
1962	2,620,463	154,345	17,814	36,154	33,733	110,644	0	(2,758)	2,667,242	
1963	910,389	53,622	0	0	0	29,142	0	7,777	878,132	
1964	1,074,174	63,269	0	0	0	0	0	3,643	1,007,260	
1965	1,641,030	96,637	0	0	0	39,511	0	(1,633)	1,585,517	
1966	2,849,441	167,832	0	31,372	30,742	139,044	0	837	2,881,931	
1967	671,719	39,584	0	0	0	0	0	1,105	631,030	
1968	5,215,708	307,205	0	59,139	53,340	383,307	0	5,863	5,396,426	
1969	4,642,543	273,447	46,541	79,933	73,180	314,779	41,328	2,811	4,922,086	
1970	1,884,491	111,580	0	7,020	7,333	126,390	0	2,838	1,920,739	
1971	991,484	58,398	0	0	0	173,497	0	9,391	1,098,991	
1972	2,654,180	156,331	0	804	3,211	0	0	7,039	2,494,825	
1973	4,465,013	380,789	16,728	108,097	96,273	380,236	0	982	4,681,579	
1974	5,343,031	314,788	36,807	80,353	73,880	521,095	255,761	2,290	5,993,933	
1975	4,743,323	279,393	51,733	77,868	71,236	296,218	230,708	7,631	5,184,261	
1976	2,496,245	147,029	0	12,628	12,969	0	0	3,332	2,371,461	
1977	2,387,768	140,640	0	25,389	24,271	295,152	0	10,492	2,581,448	
1978	1,969,330	113,994	0	1,700	2,956	0	0	12,570	1,845,423	
1979	4,133,611	361,270	24,400	90,249	82,966	330,292	0	8,733	4,291,499	
1980	3,689,429	213,540	19,942	59,198	54,568	0	0	14,380	3,363,007	
1981	1,721,618	101,400	0	0	0	138,000	0	9,204	1,749,829	
1982	3,091,207	182,072	0	16,770	18,078	0	0	6,333	2,937,848	
1983	4,340,092	253,631	12,549	58,644	54,244	72,000	0	7,993	4,273,906	
1984	2,945,323	173,491	0	28,649	27,181	0	0	11,301	2,816,564	
1985	3,443,337	203,991	0	36,944	35,110	179,000	0	13,404	3,496,801	
1986	3,742,134	220,412	0	45,734	42,541	264,000	0	3,534	3,866,465	
1987	3,393,952	211,684	0	42,003	39,433	0	0	3,392	3,458,312	
1988	3,033,609	179,975	0	40,571	37,808	0	0	2,913	2,951,100	
1989	7,417,345	436,882	64,658	126,202	114,430	289,000	0	(10,391)	7,578,144	



was subtracted and spills from each were added to Toledo Bend Reservoir inflow. Appendix C shows monthly values for the three reservoirs.

Data used in simulating the three reservoir operations are explained in the following paragraphs. Results of the simulation of reservoir operations for these three reservoirs are provided in Appendix D.

Monthly inflows to the three lakes were calculated by the formula:

$$Q_i = (C) (\text{Toledo Bend Inflow})$$

(C) is a calculated coefficient based on drainage area ratios and runoff rates. (C) for Lake Cherokee is 0.0209; for Martin Lake is 0.0191; and for Lake Murvaul is 0.0189. "Toledo Bend Inflow" is the natural runoff from the intervening drainage area below Lake Fork and Lake Tawakoni.

### 6.2.2 Adjustments for Lake Tawakoni and Lake Fork

For the period 1940 to 1980, permit condition spills were obtained from the Texas Water Commission. For the years 1981 to 1989, Lake Tawakoni historical spills were adjusted to reflect permit condition demands on the reservoir. Lake Fork was assumed to not spill during this period, although spills did occur in April, May, and June of 1989. The permit condition spills so obtained for the two reservoirs were added to the intervening runoff above Toledo Bend Reservoir.

Specific data used in the calculations for each reservoir is shown in Table 6-2. Elevation, capacity, and area data were obtained from Texas Water Development Board Report No. 126 [Ref. 2] for each of the three reservoirs. Monthly net evaporation was based on data obtained from Texas Water Development Board. [Ref. 4].



**TABLE 6-2**  
**DATA FOR LAKES CHEROKEE, MARTIN, AND MURVAUL**

<b>PARAMETER</b>	<b>LAKE CHEROKEE</b>	<b>LAKE MARTIN</b>	<b>LAKE MURVAUL</b>
Total Storage capacity at top of conservation storage (acre-feet)	46,700	77,619	45,840
Drainage area (square miles)	158	130	115
Lake surface area at top of conservation storage (acres)	3987	5020	3820
Permitted demand (acre-feet/year)	* 62,400	25,000	27,400

\* The 62,400 acre-feet/year is permitted demand. The present reservoir has much less yield but the owner may continue development of the facility and divert the 62,400 acre feet/year.



### **6.3 Permit Condition Diversions and Return Flows**

Permit condition diversions, return flows, and net depletions by months for Areas 3, 4, and 5 are shown on Table 6-3. Return flows are higher than diversions in Area 3 because of municipal diversions from Lake Fork that are used downstream in Area 3. Diversions were accounted for in the simulation of Lake Fork operations. This situation also occurs in Area 4 where diversions are made in simulation of the operation of Lake Cherokee and Lake Murvaul and return flow occurs downstream.

### **6.4 Permit Condition Lake Evaporation Depletions**

Evaporation depletions were calculated for all permitted lakes in Areas 3, 4, and 5 which were not already included in reservoir operations, (i.e., excluding Lakes Murvaul, Martin, and Cherokee). For 1990, lake surface areas to which evaporation depletions were applied are: 7,720 acres for Area 3; 423 acres for Area 4; and 100 acres for Area 5. For analysis of evaporation rates, the Texas Water Development Board (TWDB) has divided the state into specific areas called quadrangles. [Ref. 4] Evaporation data for quadrangle 512 and 513 were used for lakes in Area 3, quadrangle 513 was used for lakes in Area 4, and quadrangle 614 was used for Area 5. The monthly net evaporation depletions so determined for the three areas were subtracted from inflow to Toledo Bend.

### **6.5 Firm Yield Calculations**

The TWDB computer program, RESOP III, was used to perform the monthly yield calculations. The RESOP III program was used because it addressed all essential aspects of reservoir operation including inflow, releases, evaporation, and storage. The program was also recommended by TWDB's staff. Input data and results of the calculations are presented in Appendix A and further explained below. Elevation, surface area, and capacity data for Toledo Bend Reservoir were taken from Table 16 in Reference 1.



**TABLE 6-3**  
**PERMIT CONDITION INFLOW TO TOLEDO BEND DAM**

PERMIT CONDITION - AUTHORIZED DIVERSION DEPLETIONS  
IN 1,000 ACRE-FEET

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
<b>AREA 3</b>													
DIVERSIONS	0.4	0.4	0.4	1.3	1.3	1.4	1.6	1.7	0.6	0.4	0.4	0.4	10.3
MINUS RETURN FLOWS	0.9	0.9	0.9	1.5	1.5	1.5	1.7	1.8	1.5	1.2	0.9	0.9	15.2
NET DEPLETIONS	-0.5	-0.5	-0.5	-0.2	-0.2	-0.1	-0.1	-0.1	-0.9	-0.8	-0.5	-0.5	-4.9
<b>AREA 4</b>													
DIVERSIONS	3.3	3.3	3.4	3.8	3.9	3.9	4.5	4.7	3.9	3.7	3.3	3.4	45.1
MINUS RETURN FLOWS	3.6	3.5	3.7	4.2	4.3	4.4	5.7	6.2	5.2	4.3	3.6	3.6	52.3
NET DEPLETIONS	-0.3	-0.2	-0.3	-0.4	-0.4	-0.5	-1.2	-1.5	-1.3	-0.6	-0.3	-0.2	-7.2
<b>AREA 5</b>													
DIVERSIONS	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.6	0.5	0.4	0.4	6.1
MINUS RETURN FLOWS	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.2	0.2	3.6
NET DEPLETIONS	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	2.5
<b>TOTAL FOR AREAS 3, 4, &amp; 5</b>													
DIVERSIONS	4.1	4.1	4.3	5.6	5.7	5.9	6.7	7.1	5.1	4.6	4.1	4.2	61.5
RETURN FLOWS	4.7	4.6	4.9	6.0	6.1	6.3	7.8	8.4	7.1	5.8	4.7	4.7	71.1
NET DEPLETIONS	-0.6	-0.5	-0.6	-0.4	-0.4	-0.4	-1.1	-1.3	-2.0	-1.2	-0.6	-0.5	-9.6



### 6.5.1 Reservoir Inflow

Permit condition inflow to Toledo Bend Reservoir, described in preceding sections, was used in performing the yield calculations. The resulting yearly inflow is summarized Table 6-1.

### 6.5.2 Conservation Storage Capacity

Reservoir operations were simulated with total reservoir storage capacity dedicated to water supply. Reservoir storage capacity was set at 4,477,000 acre-feet at elevation 172.0. Drawdown to near zero capacity was allowed in the yield analysis as shown for December 1967, in Appendix A.

### 6.5.3 Monthly Distribution of Annual Demand

Monthly distribution of annual demand was based on 80 percent equal-day distribution, 13 percent municipal-type variable monthly distribution, and 7 percent April through September seasonal use distribution. When applying the 80 percent, 13 percent and 7 percent distribution percentages, 80 percent of annual demand was distributed equally to all days of the year. The 13 percent of annual demand was distributed in a varying manner over all days of year so as to reflect typical changes in water use. The 7 percent of annual demand was distributed equally to all days from April 1 through September 30 to reflect larger uses of water during those months. The resulting distribution demand factors for each month are shown below. However, actual variation in assumed distribution would have little or no effect on the final yield determination.

#### MONTHLY DISTRIBUTION DEMAND FACTORS

<u>JAN</u> .076	<u>FEB</u> .073	<u>MAR</u> .076	<u>APR</u> .083	<u>MAY</u> .091	<u>JUNE</u> .091
<u>JULY</u> .095	<u>AUG</u> .095	<u>SEPT</u> .085	<u>OCT</u> .083	<u>NOV</u> .076	<u>DEC</u> .076



## 6.6 Results

A computer printout of the resulting simulated reservoir operation is provided in Appendix A. The printout shows monthly inflows for the 1940 through 1989 period. Upstream spills are accounted for in inflows. The printout also shows monthly demands or yield on reservoir content. The demand storage column was not used in calculation and has no bearing on calculated yield. Downstream spills are calculated to occur when flow into the reservoir would cause a reservoir content greater than 4,477,000 acre-feet. Downstream spills are either releases for power generation or spillway releases.

As shown in results of this simulation, the firm yield of Toledo Bend Reservoir was found to be 2,086,600 acre-feet per year. The critical period occurred from May 1962 to March 1969, and drawdown occurred to the lowest level in December 1967.



## **7.0 REFERENCES**

- 1) Report on Feasibility of Toledo Bend Reservoir, Appendix I, Hydrology and Hydraulic Design, prepared for Sabine River Authorities of Texas and Louisiana by Forrest and Cotton, Inc., March, 1959.
- 2) Texas Water Development Board, Report 126, Engineering Data on Dams and Reservoirs in Texas, Part 1, October, 1974.
- 3) Texas Board of Water Engineers, Bulletin 5807A, compilation of Surface Water Records in Texas, September, 1958.
- 4) Texas Water Development Board, Report 64, Monthly Evaporation Rates for Texas, 1940 through 1965.
- 5) Water for Texas, Technical Appendix, Volume 2, Texas Department of Water Resources, November, 1984.
- 6) Watershed Progress Report, Texas, U.S. Department of Agriculture, Soil, Conservation Service, January, 1988.
- 7) Update of the Master Plan for the Sabine River and Tributaries in Texas, prepared for Sabine Authority of Texas by Espey, Houston, and Associates, Inc. and Tudor Engineering Company, March, 1985.



**YIELD STUDY  
TOLEDO BEND RESERVOIR**

**APPENDICES**

**Appendix**

**Title**

<b>A</b>	<b>Toledo Bend Reservoir Operations</b>
<b>B</b>	<b>Natural Runoff Calculation</b>
<b>C</b>	<b>Permit Condition Runoff Calculations</b>
<b>D</b>	<b>Reservoir Operations</b>
	<b>Lake Cherokee</b>
	<b>Martin Lake</b>
	<b>Lake Murvaul</b>

**APPENDIX A**  
**TOLEDO BEND RESERVOIR OPERATIONS**

TOLEDO BEND OPERATION  
PERMITTED CONDITIONS

REVERSE RESERVOIR OPERATION-TDWR  
 TOLEDO BEND OPERATION  
 PERMITTED CONDITIONS  
 PERIOD 1940 TO 1989

## \* DEMAND DISTRIBUTION FACTORS \*

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
---	---	---	---	---	---	---	---	---	---	---	---
.076	.073	.076	.083	.091	.091	.095	.095	.085	.083	.076	.076

## \* AREA VERSUS CAPACITY TABLE \*

NUM	ACRES	ACRE-FEET
---	-----	-----
1	0.	0.
2	170.	704.
3	225.	1096.
4	290.	1609.
5	554.	4076.
6	1500.	6901.
7	2000.	8651.
8	10250.	64026.
9	18900.	165415.
10	23400.	228665.
11	35700.	433815.
12	42000.	550165.
13	59200.	901743.
14	68000.	1092243.
15	103050.	1942468.
16	144400.	3175251.
17	191400.	4849951.
18	243200.	7018549.

SIZE	CAPACITY
* INFORMATION	ACRE-FEET *

TOP CONS. POOL	4477000.
TOP MIN. POOL	0.

## REVERSE \* TRIAL-DEMAND-RUNS \*

ITERATION NUMBER	MONTHS	SHORTAGE	DELTA DEMAND	ANNUAL DEMAND	MAX DRAWDN
-----	-----	-----	-----	-----	-----
1	67	88870.	0.	2104000.	0.
2	67	0.	-31834.	2072166.	80402.
3	67	0.	14400.	2086567.	3645.

## \*CONVERGENCE CRITERIA SATISFIED\*

ANNUAL DEMAND 2086567. AC-FT  
MAX DRAWDOWN 3645. AC-FT

TOLEDO BEND OPERATION

PERMITTED CONDITIONS

\*\*\*\*\*  
 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
 \*\*\*\*\*

YEAR\*1940\*

JAN	210300	0	158579	180933	-.040	-7236	58959	0	4477000
FEB	732600	0	152319	180933	-.200	-36186	616467	0	4477000
MAR	123100	0	158579	180107	.130	23414	0	0	4418107
APR	295500	0	173185	180933	-.100	-18092	81516	0	4477000
MAY	250800	0	189878	180933	.100	18093	42829	0	4477000
JUN	372900	0	189878	180933	-.100	-18092	201116	0	4477000
JUL	164300	0	198224	180053	.160	28808	0	0	4414268
AUG	178800	0	198224	179151	-.100	-17914	0	0	4412759
SEP	90700	0	177358	177268	.260	46090	0	0	4280011
OCT	23000	0	173185	172716	.240	41452	0	0	4088374
NOV	466600	0	158579	176078	-.700	-123254	42650	0	4477000
DEC	1777500	0	158579	180933	-.400	-72372	1691295	0	4477000

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 ANN 4686100 0 2086566 -.750 -135296 2734831 0

YEAR\*1941\*

JAN	1339800	0	158579	180933	-.040	-7236	1188459	0	4477000
FEB	518900	0	152319	180933	-.100	-18092	384674	0	4477000
MAR	897900	0	158579	180933	.000	0	739321	0	4477000
APR	361400	0	173185	180933	.030	5428	182787	0	4477000
MAY	875600	0	189878	180933	-.300	-54279	740003	0	4477000
JUN	920200	0	189878	180933	-.200	-36186	766509	0	4477000
JUL	655500	0	198224	180933	-.100	-18092	475370	0	4477000
AUG	75200	0	198224	178531	.270	48203	0	0	4305773
SEP	92300	0	177358	174763	.070	12233	0	0	4208482
OCT	175000	0	173185	174156	-.300	-52246	0	0	4262544
NOV	804900	0	158579	180933	.000	0	431865	0	4477000
DEC	460200	0	158579	180933	.000	0	301621	0	4477000

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 ANN 7176900 0 2086566 -.670 -120272 5210607 0

YEAR\*1942\*

JAN	334200	0	158579	180933	.020	3619	172003	0	4477000
FEB	315400	0	152319	180933	-.100	-18092	181174	0	4477000
MAR	544900	0	158579	180933	.000	0	386321	0	4477000
APR	472500	0	173185	180933	-.100	-18092	317409	0	4477000
MAY	1266600	0	189878	180933	.000	0	1076723	0	4477000
JUN	555500	0	189878	180933	.000	0	365623	0	4477000
JUL	111600	0	198224	179165	.220	39416	0	0	4350960
AUG	96800	0	198224	175603	.150	26340	0	0	4223196
SEP	181500	0	177358	173382	.200	34676	0	0	4192661
OCT	38400	0	173185	170416	.270	46012	0	0	4011864
NOV	54600	0	158579	166117	.130	21595	0	0	3886290
DEC	57100	0	158579	163160	-.100	-16315	0	0	3801127

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 ANN 4029100 0 2086566 .690 119157 2499251 0

TOLEDO BEND OPERATION

PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1943\*

JAN	270700	0	158579	163607	-.030	-4907	0	0	3918156
FEB	110500	0	152319	164386	.120	19726	0	0	3856610
MAR	106000	0	158579	162784	.000	0	0	0	3804031
APR	194700	0	173185	162007	.150	24301	0	0	3801245
MAY	56500	0	189878	159962	.060	9598	0	0	3658270
JUN	135700	0	189878	156909	.130	20398	0	0	3583694
JUL	327100	0	198224	157252	.190	29878	0	0	3682693
AUG	18000	0	198224	155328	.360	55918	0	0	3446551
SEP	14400	0	177358	149434	.140	20921	0	0	3262672
OCT	45000	0	173185	144588	.230	33255	0	0	3101232
NOV	36500	0	158579	139682	.080	11175	0	0	2967978
DEC	59000	0	158579	136006	-.100	-13600	0	0	2882000

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 ANN 1374100 0 2086566 1.330 206661 0 0

YEAR\*1944\*

JAN	459700	0	158579	140557	-.400	-56222	0	0	3239343
FEB	436500	0	152319	150398	-.100	-15039	0	0	3538564
MAR	738700	0	158579	162737	.000	0	0	0	4118685
APR	790000	0	173185	179785	-.100	-17977	276478	0	4477000
MAY	2084800	0	189878	180933	-.600	-108559	2003483	0	4477000
JUN	831100	0	189878	180933	.220	39805	601417	0	4477000
JUL	41100	0	198224	177880	.340	60479	0	0	4259397
AUG	22700	0	198224	172363	.000	0	0	0	4083873
SEP	71900	0	177358	167902	.220	36938	0	0	3941477
OCT	18100	0	173185	163041	.300	48912	0	0	3737479
NOV	61300	0	158579	159261	-.200	-31851	0	0	3672052
DEC	327500	0	158579	161620	-.400	-64647	0	0	3905621

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 ANN 5883400 0 2086566 -.720 -108165 2881378 0

YEAR\*1945\*

JAN	1296100	0	158579	180933	-.170	-30758	596901	0	4477000
FEB	526200	0	152319	180933	-.100	-18092	391974	0	4477000
MAR	939500	0	158579	180933	-.100	-18092	799015	0	4477000
APR	3097300	0	173185	180933	-.200	-36186	2960302	0	4477000
MAY	383200	0	189878	180933	.000	0	193323	0	4477000
JUN	155700	0	189878	180302	.060	10818	0	0	4432005
JUL	724800	0	198224	180933	.000	0	481581	0	4477000
AUG	132100	0	198224	179552	.180	32319	0	0	4378557
SEP	37800	0	177358	175596	.250	43899	0	0	4195100
OCT	290600	0	173185	175161	-.200	-35031	0	0	4347547
NOV	138800	0	158579	176874	.060	10612	0	0	4317155
DEC	297900	0	158579	178402	.000	0	0	0	4456476

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 ANN 8020000 0 2086566 -.220 -40514 5423094 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1946\*

JAN	1122000	0	158579	180933	-.540	-97703	1040601	0	4477000
FEB	1456200	0	152319	180933	-.300	-54279	1358161	0	4477000
MAR	1137200	0	158579	180933	-.100	-18092	996715	0	4477000
APR	602900	0	173185	180933	.080	14475	415241	0	4477000
MAY	714100	0	189878	180933	-.300	-54279	578503	0	4477000
JUN	1501900	0	189878	180933	.000	0	1312023	0	4477000
JUL	201800	0	198224	180527	.180	32495	0	0	4448081
AUG	57100	0	198224	177742	.160	28439	0	0	4278518
SEP	64800	0	177358	173467	.130	22551	0	0	4143409
OCT	57000	0	173185	169845	.040	6794	0	0	4020430
NOV	449500	0	158579	172930	-.300	-51878	0	0	4363230
DEC	725700	0	158579	180933	-.100	-18092	471445	0	4477000

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 ANN 8090200 0 2086566 -1.050 -189576 6172686 0

YEAR\*1947\*

JAN	1218200	0	158579	180933	-.490	-88656	1148279	0	4477000
FEB	449900	0	152319	180933	.000	0	297581	0	4477000
MAR	743300	0	158579	180933	-.100	-18092	602815	0	4477000
APR	672700	0	173185	180933	.000	0	499515	0	4477000
MAY	388100	0	189878	180933	.000	0	198223	0	4477000
JUN	104700	0	189878	179461	.110	19741	0	0	4372082
JUL	63200	0	198224	175307	.320	56098	0	0	4180960
AUG	15200	0	198224	169226	.350	59229	0	0	3938707
SEP	27800	0	177358	162996	.320	52159	0	0	3736990
OCT	18700	0	173185	157577	.190	29940	0	0	3552566
NOV	63800	0	158579	154092	-.200	-30817	0	0	3488605
DEC	255200	0	158579	154985	-.200	-30996	0	0	3616223

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 ANN 4020800 0 2086566 .300 48600 2746411 0

YEAR\*1948\*

JAN	425000	0	158579	160898	-.170	-27352	0	0	3909997
FEB	841200	0	152319	175179	-.200	-35035	156913	0	4477000
MAR	726900	0	158579	180933	.010	1809	566512	0	4477000
APR	437700	0	173185	180933	.050	9047	255469	0	4477000
MAY	374900	0	189878	180933	.000	0	185023	0	4477000
JUN	216500	0	189878	180622	.270	48768	0	0	4454855
JUL	35000	0	198224	177325	.280	49651	0	0	4241980
AUG	17700	0	198224	170917	.370	63239	0	0	3998217
SEP	13100	0	177358	164660	.230	37872	0	0	3796087
OCT	11700	0	173185	159022	.240	38165	0	0	3596436
NOV	79400	0	158579	155985	-.400	-62393	0	0	3579651
DEC	63000	0	158579	154408	.000	0	0	0	3484072

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 ANN 3242100 0 2086566 .680 123769 1163915 0



TOLEDO BEND OPERATION

PERMITTED CONDITIONS

\*\*\*\*\*  
 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1949\*

JAN	383200	0	158579	157012	-.360	-56523	0	0	3765218
FEB	500000	0	152319	166069	-.100	-16606	0	0	4129505
MAR	688500	0	158579	179120	-.200	-35823	218250	0	4477000
APR	486600	0	173185	180933	-.100	-18092	331509	0	4477000
MAY	260300	0	189878	180933	.220	39805	30617	0	4477000
JUN	145900	0	189878	180316	.000	0	0	0	4433023
JUL	115400	0	198224	178487	.020	3570	0	0	4346629
AUG	124000	0	198224	175592	.260	45654	0	0	4226751
SEP	47700	0	177358	171777	.130	22331	0	0	4074762
OCT	260800	0	173185	171838	-.400	-68734	0	0	4231112
NOV	249400	0	158579	174767	.220	38449	0	0	4283484
DEC	346900	0	158579	178898	-.300	-53668	48475	0	4477000

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 ANN 3608700 0 2086566 -.610 -99643 628850 0

YEAR\*1950\*

JAN	1136600	0	158579	180933	-.300	-54279	1032301	0	4477000
FEB	1119100	0	152319	180933	-.300	-54279	1021061	0	4477000
MAR	1070600	0	158579	180933	.010	1809	910212	0	4477000
APR	197500	0	173185	180933	-.100	-18092	42409	0	4477000
MAY	1022100	0	189878	180933	-.200	-36186	868409	0	4477000
JUN	1177100	0	189878	180933	-.200	-36186	1023409	0	4477000
JUL	100900	0	198224	179190	.150	26879	0	0	4352798
AUG	95500	0	198224	175538	.190	33352	0	0	4216722
SEP	58800	0	177358	171965	.000	0	0	0	4098163
OCT	52300	0	173185	168298	.130	21879	0	0	3955400
NOV	44800	0	158579	164629	.030	4939	0	0	3836682
DEC	49000	0	158579	161380	.020	3228	0	0	3723875

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 ANN 6124300 0 2086566 -.570 -106940 4897800 0

YEAR\*1951\*

JAN	194700	0	158579	160914	-.270	-43446	0	0	3803443
FEB	216800	0	152319	163393	-.200	-32678	0	0	3900603
MAR	372200	0	158579	167990	-.100	-16798	0	0	4131023
APR	282800	0	173185	172568	.080	13805	0	0	4226832
MAY	152100	0	189878	173115	.110	19043	0	0	4170012
JUN	50200	0	189878	170358	.000	0	0	0	4030334
JUL	66500	0	198224	165990	.240	39838	0	0	3858773
AUG	15300	0	198224	160095	.410	65639	0	0	3610210
SEP	28600	0	177358	154737	-.100	-15473	0	0	3476926
OCT	14500	0	173185	150050	.280	42014	0	0	3276227
NOV	20700	0	158579	145279	.010	1453	0	0	3136895
DEC	95700	0	158579	142537	-.200	-28506	0	0	3102523

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 ANN 1510100 0 2086566 .260 44886 0 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
 \*\*\*\*\*

YEAR\*1952\*

JAN	101300	0	158579	141189	-.080	-11294	0	0	3056540
FEB	444700	0	152319	145375	-.100	-14537	0	0	3363458
MAR	380600	0	158579	152797	.000	0	0	0	3585479
APR	419900	0	173185	160275	-.400	-64109	0	0	3896304
MAY	420500	0	189878	168345	-.200	-33668	0	0	4160595
JUN	256200	0	189878	172283	.290	49962	0	0	4176956
JUL	59600	0	198224	170807	-.100	-17080	0	0	4055413
AUG	20300	0	198224	165652	.410	67917	0	0	3809572
SEP	10200	0	177358	158920	.420	66746	0	0	3575667
OCT	7900	0	173185	152314	.470	71587	0	0	3338795
NOV	9300	0	158579	146443	.220	32217	0	0	3157298
DEC	68000	0	158579	142279	.000	0	0	0	3066719

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 ANN 2198500 0 2086566 .930 147738 0 0

YEAR\*1953\*

JAN	167900	0	158579	141011	-.040	-5639	0	0	3081681
FEB	368200	0	152319	145211	-.200	-29041	0	0	3326604
MAR	916600	0	158579	159733	-.200	-31946	0	0	4116571
APR	125900	0	173185	171115	-.400	-68445	0	0	4137732
MAY	2524500	0	189878	180933	-.800	-144746	2140101	0	4477000
JUN	702100	0	189878	180933	.180	32568	479655	0	4477000
JUL	102300	0	198224	179537	.020	3591	0	0	4377486
AUG	79600	0	198224	175982	.200	35196	0	0	4223665
SEP	34900	0	177358	171080	.310	53035	0	0	4028172
OCT	17600	0	173185	165457	.300	49637	0	0	3822950
NOV	24200	0	158579	160624	.030	4819	0	0	3683752
DEC	138000	0	158579	158382	.000	0	0	0	3663173

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 ANN 5201800 0 2086566 -.600 -100975 2619756 0

YEAR\*1954\*

JAN	137600	0	158579	157976	-.080	-12637	0	0	3654832
FEB	184000	0	152319	157817	.220	34720	0	0	3651793
MAR	99800	0	158579	156685	.120	18802	0	0	3574212
APR	161700	0	173185	155436	.000	0	0	0	3562727
MAY	469700	0	189878	159649	-.200	-31929	0	0	3874479
JUN	69700	0	189878	161521	.360	58148	0	0	3696154
JUL	14200	0	198224	155412	.470	73044	0	0	3439087
AUG	9400	0	198224	148074	.520	76999	0	0	3173264
SEP	7400	0	177358	140376	.470	65977	0	0	2937329
OCT	6600	0	173185	133112	.230	30616	0	0	2740128
NOV	73500	0	158579	128120	.120	15374	0	0	2639675
DEC	64100	0	158579	124684	.080	9975	0	0	2535221

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 ANN 1297700 0 2086566 2.310 339086 0 0

TOLEDO BEND OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
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YEAR\*1955\*

JAN	111400	0	158579	122490	-.170	-20822	0	0	2508865
FEB	282200	0	152319	124854	-.300	-37455	0	0	2676202
MAR	239300	0	158579	128756	.120	15451	0	0	2741472
APR	541800	0	173185	136261	-.100	-13625	0	0	3123713
MAY	248900	0	189878	143661	.000	0	0	0	3182736
JUN	79200	0	189878	142056	.310	44037	0	0	3028021
JUL	59900	0	198224	137096	.020	2742	0	0	2886955
AUG	276700	0	198224	136046	.000	0	0	0	2965431
SEP	49000	0	177358	134848	-.160	21576	0	0	2815497
OCT	28500	0	173185	129106	.370	47769	0	0	2623043
NOV	14900	0	158579	123158	.150	18474	0	0	2460891
DEC	31200	0	158579	118243	.030	3547	0	0	2329964

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 ANN 1963000 0 2086566 .590 81690 0 0

YEAR\*1956\*

JAN	51800	0	158579	114410	-.080	-9152	0	0	2232338
FEB	292000	0	152319	115503	-.200	-23100	0	0	2395119
MAR	135300	0	158579	117823	.010	1178	0	0	2370662
APR	206000	0	173185	117963	.000	0	0	0	2403477
MAY	311900	0	189878	120438	.060	7226	0	0	2518273
JUN	24700	0	189878	119433	.080	9555	0	0	2343541
JUL	12600	0	198224	112615	.410	46172	0	0	2111745
AUG	7400	0	198224	104755	.440	46092	0	0	1874829
SEP	6800	0	177358	95877	.440	42186	0	0	1662086
OCT	6300	0	173185	87744	.170	14916	0	0	1480284
NOV	13300	0	158579	80786	.130	10502	0	0	1324503
DEC	34600	0	158579	75174	-.100	-7516	0	0	1208041

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 ANN 1102700 0 2086566 1.360 138057 0 0

YEAR\*1957\*

JAN	26900	0	158579	70248	-.130	-9131	0	0	1085495
FEB	153800	0	152319	67722	.000	0	0	0	1086975
MAR	177100	0	158579	68305	-.100	-6830	0	0	1112327
APR	168700	0	173185	69307	-.400	-27722	0	0	1135564
MAY	1871600	0	189878	104189	.000	0	0	0	2817287
JUN	919300	0	189878	144996	-.200	-28998	0	0	3575709
JUL	147300	0	198224	154447	.220	33978	0	0	3490806
AUG	33700	0	198224	150294	.310	46591	0	0	3279692
SEP	15800	0	177358	144983	.040	5799	0	0	3112334
OCT	139000	0	173185	141954	-.100	-14194	0	0	3092345
NOV	714500	0	158579	150933	-.500	-75466	0	0	3723732
DEC	625600	0	158579	166346	.000	0	0	0	4190753

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 ANN 4993300 0 2086566 -.860 -75977 0 0

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YEAR\*1958\*

JAN	554900	0	158579	178838	-.150	-26825	136900	0	4477000
FEB	416600	0	152319	180933	.000	0	264281	0	4477000
MAR	331700	0	158579	180933	-.100	-18092	191215	0	4477000
APR	7700	0	173185	178611	.000	0	0	0	4311515
MAY	1460500	0	189878	180933	.110	19903	1085235	0	4477000
JUN	234400	0	189878	180933	.000	0	44523	0	4477000
JUL	142800	0	198224	179325	.330	59177	0	0	4362399
AUG	83700	0	198224	176110	.000	0	0	0	4247875
SEP	503900	0	177358	180606	-.600	-108362	205780	0	4477000
OCT	240800	0	173185	180933	.130	23521	44094	0	4477000
NOV	83000	0	158579	179873	.000	0	0	0	4401421
DEC	80300	0	158579	177539	.070	12428	0	0	4310714

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 ANN 4140300 0 2086566 -.210 -38252 1972026 0

YEAR\*1959\*

JAN	73000	0	158579	175164	-.040	-7006	0	0	4232142
FEB	298100	0	152319	176603	-.200	-35320	0	0	4413243
MAR	297800	0	158579	180933	.060	10856	64608	0	4477000
APR	433100	0	173185	180933	-.200	-36186	296102	0	4477000
MAY	441000	0	189878	180933	.030	5428	245695	0	4477000
JUN	162500	0	189878	180448	.040	7218	0	0	4442405
JUL	46700	0	198224	178086	-.100	-17808	0	0	4308689
AUG	82200	0	198224	174093	.200	34819	0	0	4157847
SEP	29400	0	177358	169519	.160	27123	0	0	3982766
OCT	45500	0	173185	165271	.000	0	0	0	3855081
NOV	76600	0	158579	162261	.030	4868	0	0	3768234
DEC	186500	0	158579	162116	-.300	-48634	0	0	3844790

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 ANN 2172400 0 2086566 -.320 -54645 606404 0

YEAR\*1960\*

JAN	640000	0	158579	170472	-.220	-37503	0	0	4363715
FEB	681800	0	152319	180933	-.200	-36186	452382	0	4477000
MAR	702500	0	158579	180933	.000	0	543921	0	4477000
APR	155300	0	173185	180379	.120	21645	0	0	4437470
MAY	109000	0	189878	178089	.240	42741	0	0	4313851
JUN	69800	0	189878	174670	.000	0	0	0	4193773
JUL	95200	0	198224	170891	.270	46141	0	0	4044609
AUG	51500	0	198224	166974	-.100	-16696	0	0	3914582
SEP	45200	0	177358	162838	.200	32568	0	0	3749856
OCT	79400	0	173185	159210	.000	0	0	0	3656071
NOV	170900	0	158579	158289	-.100	-15828	0	0	3684221
DEC	834700	0	158579	168883	-.300	-50664	0	0	4411007

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 ANN 3635300 0 2086566 -.090 -13786 996303 0

## TOLEDO BEND OPERATION

## PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EQM \*  
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## YEAR\*1961\*

JAN	1339900	0	158579	180933	-.360	-65135	1180464	0	4477000
FEB	763300	0	152319	180933	-.200	-36186	647167	0	4477000
MAR	1019200	0	158579	180933	-.200	-36186	896808	0	4477000
APR	716600	0	173185	180933	.170	30759	512657	0	4477000
MAY	99200	0	189878	179133	.210	37618	0	0	4348705
JUN	191200	0	189878	177600	-.100	-17759	0	0	4367787
JUL	278300	0	198224	178992	.000	0	0	0	4447863
AUG	78200	0	198224	177808	.250	44452	0	0	4283387
SEP	306500	0	177358	177561	-.100	-17755	0	0	4430285
OCT	57500	0	173185	177426	.230	40808	0	0	4273792
NOV	154500	0	158579	175419	-.100	-17541	0	0	4287255
DEC	1028700	0	158579	180933	-.400	-72372	752750	0	4477000

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 ANN 6033100 0 2086566 -.600 -109303 3989845 0

## YEAR\*1962\*

JAN	524800	0	158579	180933	-.260	-47042	413264	0	4477000
FEB	421200	0	152319	180933	.000	0	268881	0	4477000
MAR	417600	0	158579	180933	.060	10856	248165	0	4477000
APR	266900	0	173185	180933	-.100	-18092	111809	0	4477000
MAY	494900	0	189878	180933	.050	9047	295976	0	4477000
JUN	109800	0	189878	179810	.000	0	0	0	4396923
JUL	54100	0	198224	175702	.390	68524	0	0	4184275
AUG	34400	0	198224	170133	.120	20416	0	0	4000035
SEP	39100	0	177358	165514	.040	6621	0	0	3855156
OCT	39600	0	173185	161290	.140	22581	0	0	3698991
NOV	136800	0	158579	159016	-.100	-15901	0	0	3693113
DEC	128000	0	158579	158727	-.100	-15872	0	0	3678407

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 ANN 2667200 0 2086566 .240 41133 1338094 0

## YEAR\*1963\*

JAN	128400	0	158579	158164	-.030	-4744	0	0	3652973
FEB	118800	0	152319	157337	.000	0	0	0	3619454
MAR	121400	0	158579	156148	.090	14053	0	0	3568222
APR	88100	0	173185	154235	.000	0	0	0	3483137
MAY	232100	0	189878	153246	.180	27584	0	0	3497775
JUN	41600	0	189878	151116	.120	18134	0	0	3331363
JUL	38000	0	198224	146348	.090	13171	0	0	3157968
AUG	25900	0	198224	140061	.370	51823	0	0	2933822
SEP	15400	0	177358	133295	.130	17328	0	0	2754536
OCT	12300	0	173185	127036	.260	33029	0	0	2560621
NOV	17300	0	158579	121823	-.200	-24364	0	0	2443707
DEC	38900	0	158579	118053	-.100	-11804	0	0	2335833

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 ANN 878200 0 2086566 .910 134208 0 0

TOLEDO BEND OPERATION

PERMITTED CONDITIONS

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YEAR\*1964\*

JAN	74100	0	158579	115195	-.190	-21886	0	0	2273241
FEB	68600	0	152319	112741	.000	0	0	0	2189522
MAR	272400	0	158579	113627	-.200	-22724	0	0	2326068
APR	254800	0	173185	117879	-.300	-35363	0	0	2443047
MAY	149700	0	189878	119067	.050	5953	0	0	2396916
JUN	53900	0	189878	115413	.310	35778	0	0	2225160
JUL	22900	0	198224	109098	.270	29456	0	0	2020380
AUG	20700	0	198224	102392	.100	10239	0	0	1832617
SEP	13900	0	177358	94820	.170	16119	0	0	1653040
OCT	17300	0	173185	87347	.310	27078	0	0	1470077
NOV	13700	0	158579	80590	.000	0	0	0	1325198
DEC	45200	0	158579	75578	-.200	-15115	0	0	1226935

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 ANN 1007200 0 2086566 .320 29532 0 0

YEAR\*1965\*

JAN	61500	0	158579	71670	-.080	-5733	0	0	1135589
FEB	165400	0	152319	70347	-.200	-14068	0	0	1162739
MAR	243300	0	158579	72953	-.200	-14590	0	0	1262051
APR	340800	0	173185	78165	.180	14070	0	0	1415596
MAY	120900	0	189878	80239	-.200	-16047	0	0	1362666
JUN	398800	0	189878	83180	.160	13309	0	0	1558280
JUL	53300	0	198224	83605	.360	30098	0	0	1383259
AUG	22600	0	198224	76157	.140	10662	0	0	1196973
SEP	35600	0	177358	69395	.000	0	0	0	1055215
OCT	21900	0	173185	62463	.230	14367	0	0	889563
NOV	17900	0	158579	55163	.000	0	0	0	748884
DEC	103500	0	158579	50747	-.300	-15223	0	0	709029

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 ANN 1585500 0 2086566 .090 16839 0 0

YEAR\*1966\*

JAN	129500	0	158579	49290	-.190	-9364	0	0	689315
FEB	658400	0	152319	61790	-.500	-30894	0	0	1226291
MAR	120600	0	158579	72579	.110	7984	0	0	1180328
APR	219300	0	173185	72732	-.100	-7272	0	0	1233716
MAY	1358000	0	189878	97910	.000	0	0	0	2401839
JUN	254700	0	189878	119225	.160	19076	0	0	2447585
JUL	37600	0	198224	116965	.170	19884	0	0	2267077
AUG	34700	0	198224	111196	.000	0	0	0	2103554
SEP	33600	0	177358	105723	.180	19030	0	0	1940765
OCT	28600	0	173185	99917	.040	3997	0	0	1792184
NOV	6700	0	158579	93531	.100	9353	0	0	1630951
DEC	200	0	158579	87123	-.100	-8711	0	0	1481285

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 ANN 2881900 0 2086566 -.130 23078 0 0

TOLEDO BEND OPERATION  
PERMITTED CONDITIONS

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YEAR\*1967\*

JAN	2700	0	158579	80742	.050	4037	0	0	1321369
FEB	28800	0	152319	75054	-.100	-7504	0	0	1205355
MAR	6700	0	158579	69389	.100	6939	0	0	1046537
APR	101600	0	173185	64384	-.100	-6437	0	0	981390
MAY	151700	0	189878	62430	-.300	-18728	0	0	961941
JUN	216300	0	189878	62490	.070	4374	0	0	983990
JUL	39600	0	198224	59281	.040	2371	0	0	822994
AUG	14900	0	198224	50505	.290	14646	0	0	625024
SEP	8400	0	177358	41178	.270	11118	0	0	444948
OCT	1500	0	173185	31007	.230	7132	0	0	266131
NOV	10200	0	158579	20640	.200	4128	0	0	113624
DEC	48600	0	158579	9447	.000	0	0	0	3645

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 ANN 631000 0 2086566 .750 22073 0 0

YEAR\*1968\*

JAN	478000	0	158579	18845	-.150	-2826	0	0	325893
FEB	200500	0	152319	30674	.000	0	0	0	374074
MAR	455000	0	158579	40490	.000	0	0	0	670494
APR	1364000	0	173185	75627	-.300	-22687	0	0	1883997
MAY	794900	0	189878	111610	-.200	-22321	0	0	2511342
JUN	571000	0	189878	128523	.000	0	0	0	2892464
JUL	227200	0	198224	135242	.070	9467	0	0	2911974
AUG	48200	0	198224	132608	.200	26522	0	0	2735428
SEP	242600	0	177358	130654	.040	5226	0	0	2795444
OCT	90500	0	173185	129903	.170	22084	0	0	2690675
NOV	214400	0	158579	129083	.000	0	0	0	2746496
DEC	711800	0	158579	139297	.000	0	0	0	3299717

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 ANN 5398100 0 2086566 -.170 15462 0 0

YEAR\*1969\*

JAN	232300	0	158579	148823	.050	7441	0	0	3365997
FEB	519000	0	152319	155116	-.100	-15511	0	0	3748189
MAR	1176500	0	158579	175009	-.100	-17500	306611	0	4477000
APR	1371900	0	173185	180933	-.200	-36186	1234902	0	4477000
MAY	1026800	0	189878	180933	-.100	-18092	855016	0	4477000
JUN	352500	0	189878	180933	.280	50661	111961	0	4477000
JUL	15200	0	198224	177642	.290	51516	0	0	4242460
AUG	19500	0	198224	170932	.380	64954	0	0	3998782
SEP	12100	0	177358	164386	.350	57535	0	0	3775989
OCT	10800	0	173185	158558	.190	30126	0	0	3583478
NOV	98700	0	158579	154691	.150	23204	0	0	3500395
DEC	86900	0	158579	153164	-.300	-45948	0	0	3474666

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 ANN 4922200 0 2086566 .890 152196 2508490 0

TOLEDO BEND OPERATION

PERMITTED CONDITIONS

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YEAR\*1970\*

JAN	199500	0	158579	153313	.030	4599	0	0	3510987
FEB	157900	0	152319	153901	.000	0	0	0	3516568
MAR	544600	0	158579	159396	.000	0	0	0	3902589
APR	311800	0	173185	166641	.050	8332	0	0	4032872
MAY	288200	0	189878	169730	.050	8486	0	0	4122708
JUN	50700	0	189878	168635	.170	28668	0	0	3954862
JUL	59000	0	198224	163820	.220	36040	0	0	3779598
AUG	38300	0	198224	158184	.420	66437	0	0	3553237
SEP	0	0	177358	152135	.180	27384	0	0	3348494
OCT	37800	0	173185	147569	-.100	-14756	0	0	3227866
NOV	143300	0	158579	145438	.110	15998	0	0	3196589
DEC	89700	0	158579	143888	.030	4317	0	0	3123393

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 ANN 1920800 0 2086566 1.160 185506 0 0

YEAR\*1971\*

JAN	46900	0	158579	140528	.110	15458	0	0	2996256
FEB	98500	0	152319	137447	.020	2749	0	0	2939688
MAR	76800	0	158579	134924	.090	12143	0	0	2845766
APR	63800	0	173185	130899	.280	36652	0	0	2699729
MAY	106300	0	189878	126751	.140	17745	0	0	2598407
JUN	34500	0	189878	121691	.370	45026	0	0	2398004
JUL	69000	0	198224	115523	.330	38123	0	0	2230658
AUG	42800	0	198224	109705	.220	24135	0	0	2051099
SEP	32400	0	177358	103949	.180	18711	0	0	1887430
OCT	26400	0	173185	97414	.170	16560	0	0	1724084
NOV	70900	0	158579	92145	.050	4607	0	0	1631798
DEC	430700	0	158579	96050	-.100	-9604	0	0	1913524

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 ANN 1099000 0 2086566 1.860 222304 0 0

YEAR\*1972\*

JAN	718000	0	158579	111555	-.050	-5577	0	0	2478523
FEB	194500	0	152319	121575	.080	9726	0	0	2510978
MAR	263900	0	158579	123781	.050	6189	0	0	2610110
APR	76600	0	173185	123410	.200	24682	0	0	2488843
MAY	141100	0	189878	120196	.180	21635	0	0	2418430
JUN	56900	0	189878	116297	.250	29074	0	0	2256378
JUL	152300	0	198224	112488	.170	19123	0	0	2191331
AUG	34200	0	198224	108121	.290	31355	0	0	1995953
SEP	28700	0	177358	101813	.180	18326	0	0	1828968
OCT	94800	0	173185	96536	.110	10619	0	0	1739964
NOV	266600	0	158579	96928	.000	0	0	0	1847985
DEC	467400	0	158579	105060	.000	0	0	0	2156806

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 ANN 2495000 0 2086566 1.460 165152 0 0



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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* ECM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1973\*

JAN	710000	0	158579	119688	-.100	-11968	0	0	2720196
FEB	444900	0	152319	134043	.000	0	0	0	3012777
MAR	798900	0	158579	148825	.000	0	0	0	3653098
APR	821500	0	173185	166908	.000	0	0	0	4301413
MAY	790200	0	189878	180933	.210	37996	386739	0	4477000
JUN	720900	0	189878	180933	.080	14475	516548	0	4477000
JUL	285800	0	198224	180933	.250	45233	42343	0	4477000
AUG	65900	0	198224	178425	.260	46391	0	0	4298286
SEP	202900	0	177358	175980	.120	21118	0	0	4302710
OCT	500400	0	173185	180305	.130	23440	129486	0	4477000
NOV	331400	0	158579	180933	.030	5428	167393	0	4477000
DEC	1008700	0	158579	180933	.000	0	850121	0	4477000

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 ANN 6681500 0 2086566 .980 182111 2092629 0

YEAR\*1974\*

JAN	1658900	0	158579	180933	-.230	-41614	1541936	0	4477000
FEB	714300	0	152319	180933	.030	5428	556553	0	4477000
MAR	305400	0	158579	180933	.090	16284	130537	0	4477000
APR	406400	0	173185	180933	.210	37996	195219	0	4477000
MAY	329200	0	189878	180933	.150	27140	112183	0	4477000
JUN	294700	0	189878	180933	.380	68755	36068	0	4477000
JUL	50900	0	198224	178166	.280	49886	0	0	4279790
AUG	16500	0	198224	172365	.200	34473	0	0	4063593
SEP	283500	0	177358	170557	.110	18761	0	0	4150973
OCT	233300	0	173185	172313	.130	22401	0	0	4188687
NOV	669400	0	158579	180010	.000	0	222508	0	4477000
DEC	1031200	0	158579	180933	-.100	-18092	890715	0	4477000

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 ANN 5993700 0 2086566 1.250 221416 3685717 0

YEAR\*1975\*

JAN	682100	0	158579	180933	-.030	-5427	528949	0	4477000
FEB	1292100	0	152319	180933	.000	0	1139781	0	4477000
MAR	602500	0	158579	180933	.000	0	443921	0	4477000
APR	505300	0	173185	180933	.000	0	332115	0	4477000
MAY	1257100	0	189878	180933	.000	0	1067223	0	4477000
JUN	442600	0	189878	180933	.170	30759	221964	0	4477000
JUL	188600	0	198224	180317	.190	34260	0	0	4433116
AUG	7200	0	198224	176427	.240	42342	0	0	4199749
SEP	18000	0	177358	170247	.280	47669	0	0	3992722
OCT	75000	0	173185	165639	.140	23189	0	0	3871347
NOV	60100	0	158579	162258	.130	21094	0	0	3751775
DEC	53800	0	158579	159087	.010	1591	0	0	3645405

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 ANN 5184400 0 2086566 1.130 195476 3733952 0

TOLEDO BEND OPERATION

PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1976\*

JAN	231800	0	158579	158467	.070	11093	0	0	3707533
FEB	27000	0	152319	157491	.040	6300	0	0	3575914
MAR	423000	0	158579	159355	.000	0	0	0	3840335
APR	47400	0	173185	160871	.190	30566	0	0	3683985
MAY	573600	0	189878	163740	.140	22924	0	0	4044783
JUN	410400	0	189878	171417	.200	34283	0	0	4231022
JUL	136400	0	198224	172847	.130	22470	0	0	4146728
AUG	173900	0	198224	170319	.420	71534	0	0	4050871
SEP	39100	0	177358	166566	.200	33313	0	0	3879299
OCT	66700	0	173185	162255	.180	29206	0	0	3743608
NOV	35000	0	158579	158594	.010	1586	0	0	3618443
DEC	207200	0	158579	157520	.000	0	0	0	3667064

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 ANN 2371500 0 2086566 1.580 263274 0 0

YEAR\*1977\*

JAN	205900	0	158579	159090	-.100	-15908	0	0	3730294
FEB	395200	0	152319	163385	.000	0	0	0	3973175
MAR	793200	0	158579	175649	.020	3513	127283	0	4477000
APR	574200	0	173185	180933	.110	19903	381113	0	4477000
MAY	194600	0	189878	180241	.300	54072	0	0	4427651
JUN	52000	0	189878	176943	.270	47775	0	0	4241999
JUL	22900	0	198224	171038	.350	59863	0	0	4006812
AUG	100400	0	198224	165969	.170	28215	0	0	3880773
SEP	24000	0	177358	161437	.270	43588	0	0	3683827
OCT	33900	0	173185	155996	.330	51479	0	0	3493063
NOV	80600	0	158579	152225	.000	0	0	0	3415084
DEC	104600	0	158579	150226	.070	10516	0	0	3350589

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 ANN 2581500 0 2086566 1.790 303014 508396 0

YEAR\*1978\*

JAN	314300	0	158579	151804	-.140	-21252	0	0	3527563
FEB	292600	0	152319	156256	.000	0	0	0	3667844
MAR	266600	0	158579	159628	.050	7981	0	0	3767883
APR	107400	0	173185	159773	.150	23966	0	0	3678132
MAY	181800	0	189878	157912	.220	34741	0	0	3635314
JUN	25600	0	189878	154141	.400	61656	0	0	3409380
JUL	29200	0	198224	147790	.390	57638	0	0	3182718
AUG	44600	0	198224	141363	.300	42409	0	0	2986685
SEP	268200	0	177358	139833	-.100	-13982	0	0	3091510
OCT	10300	0	173185	138003	.370	51061	0	0	2877564
NOV	58900	0	158579	132743	.000	0	0	0	2777885
DEC	245900	0	158579	132336	.090	11910	0	0	2853296

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 ANN 1845400 0 2086566 1.730 256127 0 0

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 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1979\*

JAN	1182100	0	158579	150064	-.160	-24009	0	0	3900827
FEB	901900	0	152319	175528	-.100	-17552	190961	0	4477000
MAR	752200	0	158579	180933	.020	3619	590003	0	4477000
APR	1059900	0	173185	180933	.020	3619	883097	0	4477000
MAY	946100	0	189878	180933	.130	23521	732701	0	4477000
JUN	601200	0	189878	180933	.300	54280	357043	0	4477000
JUL	113700	0	198224	179244	.200	35849	0	0	4356627
AUG	84100	0	198224	175020	.380	66508	0	0	4175995
SEP	148000	0	177358	171664	.170	29183	0	0	4117454
OCT	57900	0	173185	168751	.200	33750	0	0	3968419
NOV	188700	0	158579	166755	.140	23346	0	0	3975194
DEC	255700	0	158579	168213	.000	0	0	0	4072315

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 ANN 6291500 0 2086566 1.300 232111 2753803 0

YEAR\*1980\*

JAN	443900	0	158579	173750	-.070	-12162	0	0	4369799
FEB	587300	0	152319	180933	.000	0	327779	0	4477000
MAR	493100	0	158579	180933	.000	0	334521	0	4477000
APR	968000	0	173185	180933	.010	1809	793006	0	4477000
MAY	790700	0	189878	180933	.080	14475	586348	0	4477000
JUN	123800	0	189878	178802	.480	85825	0	0	4325098
JUL	27100	0	198224	172910	.560	96830	0	0	4057144
AUG	19600	0	198224	165137	.650	107339	0	0	3771181
SEP	32700	0	177358	158251	.380	60135	0	0	3566388
OCT	9700	0	173185	152676	.190	29008	0	0	3373894
NOV	9900	0	158579	147889	.000	0	0	0	3225215
DEC	57200	0	158579	144086	.120	17290	0	0	3106546

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 ANN 3563000 0 2086566 2.400 400549 2041654 0

YEAR\*1981\*

JAN	21800	0	158579	139755	.020	2795	0	0	2966972
FEB	64100	0	152319	135934	.000	0	0	0	2878753
MAR	119000	0	158579	133679	.050	6684	0	0	2832490
APR	61700	0	173185	130530	.230	30022	0	0	2690983
MAY	246800	0	189878	128701	.190	24453	0	0	2723452
JUN	599100	0	189878	135790	.140	19011	0	0	3113664
JUL	108500	0	198224	140148	.290	40643	0	0	2983297
AUG	192400	0	198224	136808	.460	62932	0	0	2914542
SEP	109000	0	177358	133992	.230	30818	0	0	2815365
OCT	42300	0	173185	129872	.120	15585	0	0	2668895
NOV	123900	0	158579	126643	.090	11398	0	0	2622818
DEC	60500	0	158579	124080	.070	8686	0	0	2516054

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 ANN 1749100 0 2086566 1.890 253026 0 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1982\*

JAN	94800	0	158579	121240	-.010	-1211	0	0	2453487
FEB	199100	0	152319	120975	.000	0	0	0	2500268
MAR	189900	0	158579	122244	.020	2445	0	0	2529144
APR	605700	0	173185	129982	.000	0	0	0	2961659
MAY	166300	0	189878	136337	.220	29994	0	0	2908087
JUN	103000	0	189878	133400	.260	34684	0	0	2786526
JUL	95500	0	198224	128882	.350	45109	0	0	2638693
AUG	10200	0	198224	122530	.350	42886	0	0	2407784
SEP	9900	0	177358	115288	.290	33434	0	0	2206892
OCT	71700	0	173185	110070	.080	8806	0	0	2096601
NOV	186400	0	158579	108687	.000	0	0	0	2124422
DEC	1205000	0	158579	127343	-.300	-38202	0	0	3209046

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 ANN 2937500 0 2086566 1.260 157941 0 0

YEAR\*1983\*

JAN	362100	0	158579	148204	.000	0	0	0	3412567
FEB	1116300	0	152319	164818	-.100	-16481	0	0	4393030
MAR	634700	0	158579	180933	.060	10856	381295	0	4477000
APR	227500	0	173185	180933	.150	27140	27175	0	4477000
MAY	934400	0	189878	180933	.010	1809	742713	0	4477000
JUN	189300	0	189878	180444	.190	34284	0	0	4442138
JUL	132800	0	198224	178013	.410	72985	0	0	4303729
AUG	38300	0	198224	173219	.250	43305	0	0	4100501
SEP	23400	0	177358	167642	.240	40234	0	0	3906308
OCT	13100	0	173185	161966	.310	50209	0	0	3696014
NOV	130700	0	158579	158557	.030	4757	0	0	3663378
DEC	471200	0	158579	162714	-.100	-16270	0	0	3992271

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 ANN 4273800 0 2086566 1.450 252827 1151183 0

YEAR\*1984\*

JAN	243400	0	158579	168591	-.030	-5057	0	0	4082149
FEB	625700	0	152319	176495	.000	0	78530	0	4477000
MAR	682300	0	158579	180933	.050	9047	514675	0	4477000
APR	203800	0	173185	180855	.200	36171	0	0	4471444
MAY	159500	0	189878	179796	.220	39555	0	0	4401512
JUN	32100	0	189878	175959	.260	45749	0	0	4197985
JUL	32600	0	198224	169873	.380	64552	0	0	3967809
AUG	30400	0	198224	163485	.350	57220	0	0	3742766
SEP	12400	0	177358	157460	.250	39365	0	0	3538442
OCT	307400	0	173185	156476	.000	0	0	0	3672657
NOV	243100	0	158579	159523	.010	1595	0	0	3755583
DEC	244000	0	158579	161795	.040	6472	0	0	3834532

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 ANN 2816700 0 2086566 1.730 294668 593205 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1985\*

JAN	313700	0	158579	165056	.010	1651	0	0	3988003
FEB	629200	0	152319	173901	.000	0	0	0	4464884
MAR	544200	0	158579	180933	.060	10856	362649	0	4477000
APR	264900	0	173185	180933	.160	28949	62766	0	4477000
MAY	458400	0	189878	180933	.240	43424	225099	0	4477000
JUN	99500	0	189878	178737	.370	66133	0	0	4320490
JUL	30600	0	198224	173216	.400	69287	0	0	4083580
AUG	21300	0	198224	166220	.510	84772	0	0	3821884
SEP	30200	0	177358	159832	.290	46351	0	0	3628375
OCT	197700	0	173185	157461	.000	0	0	0	3652890
NOV	328600	0	158579	160191	.000	0	0	0	3822911
DEC	578600	0	158579	168447	.010	1684	0	0	4241247

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 ANN 3496900 0 2086566 2.050 353107 650513 0

YEAR\*1986\*

JAN	90700	0	158579	173121	.100	17312	0	0	4156056
FEB	450400	0	152319	176109	.000	0	0	0	4454137
MAR	126000	0	158579	179406	.170	30499	0	0	4391059
APR	231300	0	173185	179060	.110	19697	0	0	4429477
MAY	448100	0	189878	180933	.110	19903	190797	0	4477000
JUN	897700	0	189878	180933	.110	19903	687920	0	4477000
JUL	188600	0	198224	179614	.470	84418	0	0	4382958
AUG	83400	0	198224	175942	.300	52783	0	0	4215351
SEP	14800	0	177358	170830	.200	34166	0	0	4018627
OCT	78800	0	173185	166628	.050	8331	0	0	3915910
NOV	596300	0	158579	171569	-.100	-17156	0	0	4370788
DEC	662200	0	158579	180933	.000	0	397409	0	4477000

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 ANN 3868300 0 2086566 1.520 269855 1276126 0

YEAR\*1987\*

JAN	331900	0	158579	180933	-.070	-12664	185987	0	4477000
FEB	893500	0	152319	180933	-.100	-18092	759274	0	4477000
MAR	617000	0	158579	180933	.100	18093	440328	0	4477000
APR	212600	0	173185	180599	.350	63210	0	0	4453205
MAY	53000	0	189878	178070	.110	19588	0	0	4296740
JUN	146200	0	189878	174844	.170	29724	0	0	4223339
JUL	65400	0	198224	171325	.260	44545	0	0	4045971
AUG	45900	0	198224	165815	.380	63010	0	0	3830637
SEP	20900	0	177358	160059	.240	38414	0	0	3635765
OCT	21000	0	173185	154625	.260	40202	0	0	3443378
NOV	361600	0	158579	154774	.000	0	0	0	3646399
DEC	689500	0	158579	165305	-.100	-16529	0	0	4193850

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 ANN 3458500 0 2086566 1.600 269496 1385588 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1988\*

JAN	951300	0	158579	180933	.110	19903	489669	0	4477000
FEB	384900	0	152319	180933	.060	10856	221725	0	4477000
MAR	602700	0	158579	180933	-.240	-43423	487545	0	4477000
APR	384500	0	173185	180933	.290	52471	158845	0	4477000
MAY	64700	0	189878	177928	.500	88964	0	0	4262859
JUN	49800	0	189878	171753	.500	85876	0	0	4036905
JUL	60900	0	198224	165794	.370	61344	0	0	3838237
AUG	62700	0	198224	160317	.350	56111	0	0	3646602
SEP	57200	0	177358	154921	.470	72813	0	0	3453631
OCT	47100	0	173185	149938	.240	35985	0	0	3291561
NOV	87600	0	158579	146217	.220	32168	0	0	3188414
DEC	197800	0	158579	145996	-.330	-48178	0	0	3275814

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 ANN 2951200 0 2086566 2.540 424888 1357783 0

YEAR\*1989\*

JAN	627400	0	158579	154691	-.410	-63422	0	0	3808058
FEB	737300	0	152319	170488	-.050	-8523	0	0	4401564
MAR	689000	0	158579	180933	-.210	-37995	492981	0	4477000
APR	913200	0	173185	180933	.360	65136	674879	0	4477000
MAY	1414100	0	189878	180933	-.050	-9046	1233269	0	4477000
JUN	1754400	0	189878	180933	-.750	-135699	1700223	0	4477000
JUL	1128600	0	198224	180933	-.170	-30758	961135	0	4477000
AUG	122000	0	198224	178511	.540	96396	0	0	4304380
SEP	45800	0	177358	173149	.450	77917	0	0	4094905
OCT	55900	0	173185	167553	.430	72048	0	0	3905572
NOV	28400	0	158579	162477	.260	42244	0	0	3733149
DEC	60000	0	158579	158986	-.140	-22257	0	0	3656828

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 ANN 7576100 0 2086566 .260 46034 5062486 0

FINAL SUMMARY

	TOTAL	AVERAGE ANNUAL
NO OF MONTHS	600	
INFLOW	183630608	3672612
DEMAND	104328368	2086567
EVAP LOSS	5439690	108794
SPIILLS	74682768	1493655

**APPENDIX B**  
**NATURAL RUNOFF CALCULATIONS**



MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jan-40	217,942	277	15	120	217,770
Feb-40	740,825	3,750	412	16	736,680
Mar-40	137,409	4,326	2,724	180	130,539
Apr-40	367,522	37,135	26,347	87	304,128
May-40	330,821	27,735	42,411	167	260,842
Jun-40	424,518	34,649	19,349	101	370,619
Jul-40	214,586	22,063	17,925	380	174,979
Aug-40	193,660	3,225	3,805	282	186,912
Sep-40	107,394	7,895	2,271	459	97,687
Oct-40	25,741	912	199	287	24,917
Nov-40	550,416	44,720	28,752	(369)	476,575
Dec-40	1,902,406	84,667	63,395	(161)	1,754,183
Jan-41	1,374,080	23,293	13,902	70	1,336,954
Feb-41	555,826	24,390	25,199	21	506,259
Mar-41	923,152	47,128	45,319	59	830,764
Apr-41	391,178	20,928	28,509	33	341,774
May-41	903,379	83,506	40,668	115	779,320
Jun-41	920,244	114,853	52,157	(20)	753,213
Jul-41	691,192	13,257	11,816	293	666,413
Aug-41	93,088	8,278	3,779	420	81,451
Sep-41	101,243	3,105	1,031	243	97,351
Oct-41	187,089	3,655	271	34	183,197
Nov-41	835,421	8,372	3,352	100	823,797
Dec-41	499,195	22,812	8,414	32	468,002
Jan-42	349,393	3,109	4,224	225	342,285
Feb-42	345,854	14,934	9,134	247	322,033
Mar-42	576,306	10,789	12,955	227	552,789
Apr-42	787,071	267,288	173,885	(82)	345,816
May-42	1,161,412	93,697	61,694	247	1,006,269
Jun-42	589,147	38,782	8,749	210	541,827
Jul-42	120,714	264	191	522	120,781
Aug-42	107,591	4,180	1,592	221	102,040
Sep-42	199,259	5,538	1,726	338	192,333
Oct-42	45,040	4,003	630	301	40,708
Nov-42	68,568	8,518	1,818	296	58,527
Dec-42	93,365	17,634	16,676	48	59,103
Jan-43	307,884	13,463	7,374	177	287,223
Feb-43	124,076	2,743	3,008	358	118,682
Mar-43	157,175	29,713	15,394	186	112,253
Apr-43	225,881	14,409	5,807	332	205,996
May-43	119,087	27,529	32,590	114	59,083
Jun-43	500,867	207,862	147,404	406	146,007

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jul-43	298,249	796	519	548	297,483
Aug-43	21,953	37	1	687	22,602
Sep-43	14,948	78	28	379	15,219
Oct-43	58,181	9,185	2,237	224	46,982
Nov-43	39,639	404	32	303	39,506
Dec-43	67,538	4,519	1,911	40	61,148
Jan-44	518,368	21,324	11,254	(53)	485,737
Feb-44	513,770	40,055	28,852	(97)	444,766
Mar-44	874,489	83,936	44,154	45	746,444
Apr-44	846,787	21,668	23,271	89	801,936
May-44	2,147,948	175,827	132,572	(330)	1,839,219
Jun-44	893,632	38,795	23,196	452	832,093
Jul-44	49,312	1,699	1,659	626	46,580
Aug-44	24,605	78	215	378	24,690
Sep-44	80,988	1,281	3,176	481	77,012
Oct-44	20,973	525	60	507	20,896
Nov-44	77,483	7,663	6,738	8	63,091
Dec-44	411,222	40,364	26,632	(231)	343,995
Jan-45	1,427,029	55,857	44,137	36	1,327,071
Feb-45	690,211	81,657	74,456	4	534,102
Mar-45	1,229,489	240,198	328,328	(390)	660,573
Apr-45	2,685,246	177,289	96,119	121	2,411,960
May-45	412,027	7,667	11,062	312	393,611
Jun-45	217,890	155,746	100,644	139	136,603
Jul-45	743,966	55,814	46,962	194	466,420
Aug-45	145,278	2,210	1,559	457	141,966
Sep-45	41,466	602	157	474	41,182
Oct-45	372,276	27,245	42,906	37	302,162
Nov-45	167,436	10,488	11,162	248	146,034
Dec-45	319,170	5,882	6,360	136	307,063
Jan-46	1,238,455	55,900	84,806	(194)	1,097,555
Feb-46	1,477,782	105,350	100,895	60	1,271,596
Mar-46	1,163,451	33,734	48,956	96	1,080,857
Apr-46	641,987	20,309	14,464	163	607,377
May-46	808,768	83,162	131,315	(192)	594,099
Jun-46	1,433,467	119,798	76,241	279	1,237,707
Jul-46	216,766	1,716	1,006	576	214,620
Aug-46	65,880	3,277	2,380	291	60,514
Sep-46	72,967	3,758	511	412	69,109
Oct-46	62,950	1,595	600	334	61,089
Nov-46	656,316	171,785	111,957	(232)	372,342
Dec-46	762,976	37,793	33,193	164	692,154

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jan-47	1,245,695	29,975	33,269	(15)	1,182,436
Feb-47	466,117	3,823	5,011	171	457,454
Mar-47	784,112	16,224	19,718	(18)	748,152
Apr-47	710,702	43,645	50,154	59	616,962
May-47	428,982	14,392	23,187	98	391,500
Jun-47	132,333	13,072	6,478	387	113,170
Jul-47	71,114	1,277	123	605	70,318
Aug-47	20,164	1,372	1,115	518	18,195
Sep-47	40,276	10,023	836	397	29,813
Oct-47	21,037	379	25	392	21,024
Nov-47	102,533	22,020	13,643	81	66,951
Dec-47	429,386	85,785	74,423	(39)	269,139
Jan-48	522,506	42,880	31,333	(1,052)	447,241
Feb-48	924,196	40,545	53,431	(920)	829,300
Mar-48	755,757	62,909	59,833	(126)	632,889
Apr-48	466,981	5,001	11,489	683	451,173
May-48	419,672	72,541	82,551	(471)	264,108
Jun-48	231,205	2,068	955	1,768	229,949
Jul-48	44,221	2,640	3,629	2,271	40,223
Aug-48	20,779	1,019	180	2,790	22,369
Sep-48	13,935	148	3	2,406	16,190
Oct-48	12,217	101	0	1,260	13,376
Nov-48	85,125	826	428	(732)	83,140
Dec-48	68,271	1,324	727	212	66,432
Jan-49	483,472	31,338	47,221	(1,795)	403,118
Feb-49	639,267	73,745	47,615	(404)	517,503
Mar-49	767,849	36,907	27,771	(78)	703,093
Apr-49	544,217	13,747	32,297	(826)	497,348
May-49	313,888	24,119	18,335	913	272,346
Jun-49	171,743	15,381	3,151	1,089	154,299
Jul-49	135,071	8,475	4,726	(534)	121,336
Aug-49	135,729	4,154	276	1,252	132,551
Sep-49	51,253	869	838	1,195	50,741
Oct-49	391,205	42,497	79,828	(1,572)	267,308
Nov-49	268,907	6,321	2,589	1,327	261,323
Dec-49	361,336	1,660	6,008	(74)	353,594
Jan-50	1,268,733	53,148	56,858	(1,772)	1,156,954
Feb-50	1,274,729	172,860	151,510	(1,275)	949,084
Mar-50	1,112,181	16,379	31,123	611	1,065,290
Apr-50	230,320	19,092	14,363	(393)	196,471
May-50	1,024,730	98,470	86,817	(1,069)	838,374
Jun-50	1,232,475	23,925	27,922	1,108	1,181,736

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jul-50	149,195	8,806	33,864	817	107,341
Aug-50	126,216	18,198	6,712	1,402	102,707
Sep-50	78,597	11,055	7,140	(1,030)	59,372
Oct-50	56,374	452	1,031	1,229	56,121
Nov-50	48,829	787	469	942	48,515
Dec-50	53,189	529	716	965	52,909
Jan-51	215,116	3,522	5,464	(587)	205,544
Feb-51	311,232	32,607	50,531	(525)	227,568
Mar-51	393,376	4,485	7,022	292	382,161
Apr-51	296,742	1,625	2,372	1,209	293,954
May-51	173,842	7,658	6,134	1,302	161,351
Jun-51	119,597	57,405	9,201	906	53,897
Jul-51	77,031	5,156	1,575	2,282	72,582
Aug-51	16,634	96	4	3,908	20,442
Sep-51	27,955	46	0	(1,012)	26,897
Oct-51	14,729	321	2	1,848	16,254
Nov-51	22,380	550	306	467	21,991
Dec-51	102,622	834	1,106	(278)	100,404
Jan-52	114,696	1,711	6,059	(267)	106,659
Feb-52	480,495	2,726	6,126	(668)	470,975
Mar-52	417,900	7,899	13,785	(153)	396,062
Apr-52	625,504	86,946	111,203	(830)	426,526
May-52	526,610	49,579	46,685	(38)	430,307
Jun-52	291,911	18,034	6,025	2,407	270,258
Jul-52	63,436	338	121	2,032	65,009
Aug-52	21,801	1	1	4,325	26,125
Sep-52	9,929	0	0	3,998	13,927
Oct-52	8,135	0	0	3,417	11,553
Nov-52	16,329	13,490	4,978	(560)	7,971
Dec-52	144,034	32,093	30,310	(654)	70,307
Jan-53	204,025	11,440	14,950	233	177,868
Feb-53	398,079	837	6,754	(42)	390,446
Mar-53	975,927	13,951	14,833	(790)	946,353
Apr-53	265,774	74,533	63,386	(794)	127,061
May-53	2,808,863	123,694	131,063	(1,837)	2,552,268
Jun-53	713,630	41	277	3,306	716,618
Jul-53	118,540	3,473	7,651	171	107,587
Aug-53	84,407	292	804	2,736	86,046
Sep-53	45,490	478	9,964	2,397	37,445
Oct-53	17,531	0	53	2,594	20,072
Nov-53	29,196	3,466	880	350	25,200
Dec-53	178,388	18,070	14,657	(1,111)	144,551

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jan-54	236,640	49,135	42,378	(750)	144,377
Feb-54	221,693	6,083	20,732	1,211	196,089
Mar-54	108,062	136	2,690	1,348	106,584
Apr-54	194,329	15,124	8,204	570	171,571
May-54	525,731	22,215	14,347	(1,812)	487,357
Jun-54	79,079	4,066	1,089	3,548	77,471
Jul-54	14,767	0	0	5,262	20,029
Aug-54	9,547	0	0	5,642	15,189
Sep-54	6,210	0	0	4,852	11,062
Oct-54	8,785	29,075	20,330	(315)	4,700
Nov-54	145,021	13,780	8,355	336	77,588
Dec-54	69,353	247	1,693	452	67,865
Jan-55	123,259	1,423	4,425	79	117,490
Feb-55	328,172	18,656	10,617	(1,366)	297,532
Mar-55	277,704	6,702	17,866	109	253,245
Apr-55	616,632	18,511	24,671	(28)	573,422
May-55	261,272	2,458	1,693	(61)	257,060
Jun-55	85,194	857	559	2,714	86,492
Jul-55	62,568	2	10	2,334	64,890
Aug-55	293,127	1,087	1,391	(5)	290,643
Sep-55	52,920	679	2,573	1,203	50,871
Oct-55	29,390	28	173	3,308	32,497
Nov-55	15,303	0	0	2,504	17,806
Dec-55	32,450	0	38	1,040	33,452
Jan-56	54,351	47	291	302	54,314
Feb-56	329,418	7,078	12,964	(1,516)	307,861
Mar-56	144,156	51	913	1,210	144,402
Apr-56	218,628	94	806	1,176	218,904
May-56	361,749	26,676	11,967	116	323,222
Jun-56	25,927	91	153	2,900	28,584
Jul-56	12,648	0	0	4,914	17,561
Aug-56	6,586	0	0	4,546	11,133
Sep-56	5,493	0	0	3,986	9,479
Oct-56	5,483	0	0	2,300	7,782
Nov-56	18,895	4,382	1,316	1,234	14,431
Dec-56	36,804	594	133	1,004	37,080
Jan-57	34,346	3,677	3,327	580	27,922
Feb-57	181,897	10,808	8,824	(390)	161,875
Mar-57	271,936	53,339	31,743	(415)	186,438
Apr-57	669,305	300,043	191,986	(4,615)	172,661
May-57	2,319,716	235,922	147,907	396	1,936,283
Jun-57	1,063,633	64,503	60,445	(61)	938,624

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jul-57	156,151	784	138	3,377	158,606
Aug-57	34,434	261	218	3,070	37,025
Sep-57	25,325	6,069	5,279	2,079	16,055
Oct-57	232,527	54,387	32,288	(2,054)	143,798
Nov-57	911,304	89,822	87,403	(1,327)	732,751
Dec-57	664,020	7,480	15,989	1,115	641,666
Jan-58	638,891	26,670	48,478	(414)	563,329
Feb-58	429,718	817	6,000	954	423,855
Mar-58	420,192	43,296	40,073	932	337,755
Apr-58	316,354	133,513	174,807	(2,688)	5,346
May-58	1,536,203	151,636	121,929	666	1,263,304
Jun-58	268,997	12,686	14,464	1,167	243,014
Jul-58	163,525	10,327	4,425	4,333	153,107
Aug-58	86,388	86	28	3,512	89,787
Sep-58	522,731	2,893	6,981	(1,302)	511,555
Oct-58	250,093	95	1,684	2,627	250,941
Nov-58	92,831	484	5,925	1,750	88,173
Dec-58	87,972	340	4,031	2,490	86,092
Jan-59	78,451	592	2,011	2,373	78,221
Feb-59	370,799	23,612	40,785	(590)	305,811
Mar-59	355,943	10,748	38,716	1,586	308,065
Apr-59	521,662	27,091	51,755	(338)	442,478
May-59	464,118	5,661	4,877	(2,202)	451,378
Jun-59	173,935	3,315	2,003	878	169,496
Jul-59	73,363	17,299	7,961	293	48,396
Aug-59	90,391	4,593	1,341	3,853	88,310
Sep-59	30,163	267	1,894	2,800	30,802
Oct-59	143,492	73,742	24,185	2,658	48,223
Nov-59	101,269	14,755	6,712	2,447	82,248
Dec-59	356,417	70,447	88,493	(1,567)	195,910
Jan-60	785,168	71,304	89,917	(333)	623,614
Feb-60	720,128	28,765	32,808	48	658,603
Mar-60	747,269	13,325	24,377	1,175	710,742
Apr-60	165,038	942	2,564	2,724	164,255
May-60	134,394	16,132	4,500	3,900	117,661
Jun-60	92,770	14,050	6,712	2,443	74,450
Jul-60	109,283	6,867	4,575	4,595	102,435
Aug-60	52,895	1,120	210	4,250	55,815
Sep-60	49,434	0	4,173	1,910	47,170
Oct-60	85,066	0	3,285	2,226	84,007
Nov-60	187,533	0	7,341	1,314	181,507
Dec-60	929,091	0	91,258	(4,123)	833,709

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jan-61	1,364,587	0	48,562	(188)	1,315,836
Feb-61	773,723	0	45,931	13	727,805
Mar-61	964,661	0	50,850	(267)	913,544
Apr-61	746,642	0	22,257	3,159	727,544
May-61	106,793	0	3,536	3,367	106,624
Jun-61	225,711	0	26,481	(1,834)	197,397
Jul-61	292,524	0	6,000	1,937	288,461
Aug-61	79,984	0	558	5,657	85,083
Sep-61	318,170	0	2,078	2,645	318,737
Oct-61	58,628	0	118	3,142	61,652
Nov-61	172,213	0	9,964	20	162,269
Dec-61	1,076,684	0	28,810	(159)	1,047,714
Jan-62	549,068	0	17,564	(1,718)	529,785
Feb-62	450,063	0	22,651	541	427,953
Mar-62	449,378	0	25,048	1,946	426,276
Apr-62	301,692	0	27,671	(981)	273,040
May-62	524,977	0	23,053	3,829	505,752
Jun-62	120,858	0	6,637	1,024	115,245
Jul-62	59,221	0	6,468	6,269	59,022
Aug-62	33,372	0	2,610	8,592	39,354
Sep-62	61,496	0	24,127	2,520	39,889
Oct-62	41,017	0	1,978	2,224	41,263
Nov-62	42,842	0	16,543	568	26,867
Dec-62	150,877	0	16,771	1,910	136,016
Jan-63	148,250	0	13,613	1,651	136,289
Feb-63	126,248	0	1,865	1,943	126,326
Mar-63	132,441	0	5,485	1,839	128,795
Apr-63	108,804	0	15,430	(1,710)	91,664
May-63	244,613	0	31,332	2,990	216,270
Jun-63	44,905	0	6,966	7,752	45,691
Jul-63	33,364	0	629	9,477	42,212
Aug-63	19,201	0	386	11,656	30,471
Sep-63	12,127	0	372	5,023	16,778
Oct-63	8,214	0	351	8,356	16,218
Nov-63	16,149	0	106	3,001	19,045
Dec-63	40,350	0	2	283	40,631
Jan-64	76,374	0	238	2,891	79,027
Feb-64	72,492	0	1,077	697	72,112
Mar-64	291,291	0	3,105	120	288,307
Apr-64	284,977	0	14,874	(515)	269,589
May-64	157,836	0	985	1,778	158,628
Jun-64	50,846	0	937	9,713	59,622

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jul-64	15,297	0	0	13,021	27,941
Aug-64	14,758	0	376	8,744	23,249
Sep-64	10,565	0	252	3,458	13,799
Oct-64	14,416	0	224	6,134	20,090
Nov-64	12,791	0	461	2,280	14,520
Dec-64	47,255	0	551	142	47,290
Jan-65	65,829	0	107	(688)	63,891
Feb-65	261,438	0	1,249	(2,610)	173,062
Mar-65	302,017	43,513	42,252	(270)	257,206
Apr-65	362,492	37,297	7,243	3,733	363,275
May-65	345,253	1,255	1,695	(3,903)	82,561
Jun-65	515,291	165,126	93,664	7,166	424,764
Jul-65	47,348	80,561	17,132	13,042	59,915
Aug-65	15,001	0	475	11,745	26,446
Sep-65	34,486	0	300	3,471	36,803
Oct-65	18,942	0	1,154	5,897	24,604
Nov-65	16,506	0	236	3,307	19,532
Dec-65	108,839	0	281	165	108,970
Jan-66	138,185	0	35	(288)	136,182
Feb-66	721,927	0	1,715	1,740	694,109
Mar-66	128,525	1,025	28,534	2,952	127,858
Apr-66	178,361	1,156	2,463	2,946	122,602
May-66	1,962,724	114,791	131,221	98	1,349,139
Jun-66	258,577	306,597	119,779	10,533	267,610
Jul-66	31,340	0	1,501	11,491	41,862
Aug-66	30,438	0	969	9,975	37,722
Sep-66	42,761	0	2,691	3,799	34,313
Oct-66	31,429	0	12,247	4,157	30,771
Nov-66	5,721	0	4,814	1,796	7,104
Dec-66	3,600	0	412	1,832	170
Jan-67	4,444	0	5,262	1,112	2,336
Feb-67	31,764	0	3,220	2,115	30,496
Mar-67	7,677	0	3,383	2,960	7,202
Apr-67	129,660	0	3,435	1,317	106,633
May-67	204,925	0	24,344	964	159,956
Jun-67	315,242	0	45,933	10,543	232,298
Jul-67	35,697	69,343	24,145	11,267	43,854
Aug-67	6,062	1,725	1,385	11,825	17,641
Sep-67	6,008	0	246	2,807	7,524
Oct-67	20,959	0	1,291	3,378	1,340
Nov-67	168,543	43,503	11,212	1,872	10,777
Dec-67	140,300	85,997	41,923	2,392	51,662
		46,253	44,777		



MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
		Jan-68	559,039		
Feb-68	290,910	31,713	49,118	2,872	481,081
Mar-68	528,080	57,203	30,018	2,028	205,717
Apr-68	1,454,421	120,182	71,736	1,731	337,893
May-68	948,229	40,731	37,789	1,452	1,377,353
Jun-68	603,096	174,716	140,668	3,934	636,778
Jul-68	236,406	7,663	24,502	6,962	577,893
Aug-68	46,808	2,820	3,406	8,397	238,577
Sep-68	258,819	107	571	7,385	53,516
Oct-68	94,542	0	7,144	4,374	256,050
Nov-68	229,960	0	1,010	2,464	95,996
Dec-68	759,748	0	9,220	4,183	224,923
Jan-69	245,551	0	33,639	3,822	729,930
Feb-69	609,528	0	6,901	1,602	240,251
Mar-69	1,297,818	15,518	73,520	526	521,016
Apr-69	1,448,877	106,586	89,184	2,479	1,104,527
May-69	1,165,245	40,888	38,052	(2,570)	1,367,368
Jun-69	384,938	269,564	120,183	37	775,534
Jul-69	9,512	24,132	1,702	8,987	368,090
Aug-69	14,488	0	380	10,423	19,555
Sep-69	8,200	0	342	9,335	23,480
Oct-69	7,426	0	153	4,609	12,656
Nov-69	103,720	0	359	5,622	12,689
Dec-69	95,398	0	2,237	3,920	105,402
Jan-70	225,994	0	5,833	2,430	91,995
Feb-70	221,760	0	16,001	1,142	211,135
Mar-70	797,236	25,230	31,002	1,245	166,773
Apr-70	354,199	192,500	91,108	3,171	516,800
May-70	359,241	63,830	37,941	(3,591)	248,837
Jun-70	89,094	55,570	9,081	3,015	297,605
Jul-70	57,071	23,750	17,578	8,518	56,284
Aug-70	34,801	0	1,133	9,858	65,797
Sep-70	2,243	0	1,068	9,870	43,603
Oct-70	109,876	5,790	5,034	7,311	822
Nov-70	164,159	52,690	19,420	4,604	40,278
Dec-70	95,153	11,440	3,655	3,663	152,727
Jan-71	62,581	47	1,296	(70)	93,740
Feb-71	124,144	14,270	1,787	4,213	50,737
Mar-71	89,152	9,690	12,066	1,839	104,227
Apr-71	65,410	4,250	6,731	4,332	82,503
May-71	119,160	78	1,402	5,392	69,322
Jun-71	31,247	631	9,447	5,359	114,442
		56	471	9,536	40,255

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jan-68	559,039	31,713	49,118	2,872	481,081
Feb-68	290,910	57,203	30,018	2,028	205,717
Mar-68	528,080	120,182	71,736	1,731	337,893
Apr-68	1,454,421	40,731	37,789	1,452	1,377,353
May-68	948,229	174,716	140,668	3,934	636,778
Jun-68	603,096	7,663	24,502	6,962	577,893
Jul-68	236,406	2,820	3,406	8,397	238,577
Aug-68	46,808	107	571	7,385	53,516
Sep-68	258,819	0	7,144	4,374	256,050
Oct-68	94,542	0	1,010	2,464	95,996
Nov-68	229,960	0	9,220	4,183	224,923
Dec-68	759,748	0	33,639	3,822	729,930
Jan-69	245,551	0	6,901	1,602	240,251
Feb-69	609,528	15,518	73,520	526	521,016
Mar-69	1,297,818	106,586	89,184	2,479	1,104,527
Apr-69	1,448,877	40,888	38,052	(2,570)	1,367,368
May-69	1,165,245	269,564	120,183	37	775,534
Jun-69	384,938	24,132	1,702	8,987	368,090
Jul-69	9,512	0	380	10,423	19,555
Aug-69	14,488	0	342	9,335	23,480
Sep-69	8,200	0	153	4,609	12,656
Oct-69	7,426	0	359	5,622	12,689
Nov-69	103,720	0	2,237	3,920	105,402
Dec-69	95,398	0	5,833	2,430	91,995
Jan-70	225,994	0	16,001	1,142	211,135
Feb-70	221,760	25,230	31,002	1,245	166,773
Mar-70	797,236	192,500	91,108	3,171	516,800
Apr-70	354,199	63,830	37,941	(3,591)	248,837
May-70	359,241	55,570	9,081	3,015	297,605
Jun-70	89,094	23,750	17,578	8,518	56,284
Jul-70	57,071	0	1,133	9,858	65,797
Aug-70	34,801	0	1,068	9,870	43,603
Sep-70	2,243	5,790	5,034	7,311	822
Oct-70	109,876	52,690	19,420	4,604	40,278
Nov-70	164,159	11,440	3,655	3,663	152,727
Dec-70	95,153	47	1,296	(70)	93,740
Jan-71	62,581	14,270	1,787	4,213	50,737
Feb-71	124,144	9,690	12,066	1,839	104,227
Mar-71	89,152	4,250	6,731	4,332	82,503
Apr-71	65,410	78	1,402	5,392	69,322
May-71	119,160	631	9,447	5,359	114,442
Jun-71	31,247	56	471	9,536	40,255

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jul-71	71,535	1,290	3,249	8,320	75,316
Aug-71	42,326	55	2,896	7,301	46,676
Sep-71	31,095	82	2,107	5,797	34,703
Oct-71	54,439	55,790	29,357	3,925	27,881
Nov-71	147,215	16,390	3,846	3,081	75,396
Dec-71	622,265	179,100	174,089	950	270,026
Jan-72	837,228	31,700	44,016	288	761,799
Feb-72	216,919	4,330	8,536	3,428	207,481
Mar-72	286,058	3,770	4,542	3,196	280,942
Apr-72	82,179	1,800	1,594	3,495	82,280
May-72	148,326	995	883	5,494	151,941
Jun-72	67,475	48	10,855	5,384	61,956
Jul-72	157,057	35	453	7,116	163,685
Aug-72	30,305	52	317	8,944	38,880
Sep-72	25,556	45	197	5,146	30,460
Oct-72	101,097	38	3,682	3,249	100,626
Nov-72	301,476	207	19,426	515	282,358
Dec-72	512,114	160	21,139	957	491,771
Jan-73	755,790	952	29,661	214	725,391
Feb-73	495,217	4,620	35,623	1,598	456,572
Mar-73	981,947	69,170	96,980	2,122	817,919
Apr-73	1,063,477	103,600	120,142	933	840,667
May-73	874,557	62,880	10,045	5,367	806,999
Jun-73	833,564	110,600	50,997	4,457	676,423
Jul-73	299,723	4,750	2,100	6,370	299,243
Aug-73	63,469	387	439	10,531	73,173
Sep-73	211,767	14,040	7,714	3,282	193,295
Oct-73	419,200	106,100	26,054	2,286	289,332
Nov-73	481,173	118,700	75,665	2,176	288,984
Dec-73	1,094,600	50,410	48,883	1,710	997,017
Jan-74	1,656,755	95,960	83,342	1,247	1,478,700
Feb-74	749,496	21,200	11,800	5,861	722,357
Mar-74	333,250	12,080	13,404	7,131	314,897
Apr-74	413,445	39,940	56,409	7,399	324,495
May-74	393,563	50,050	11,067	8,877	341,323
Jun-74	337,342	76,620	40,949	9,217	228,991
Jul-74	45,626	3,330	604	15,738	57,431
Aug-74	9,231	174	932	10,043	18,169
Sep-74	274,121	51,680	37,638	5,200	190,003
Oct-74	234,943	27,330	6,552	8,100	209,162
Nov-74	791,258	151,100	160,306	4,805	484,657
Dec-74	1,102,186	66,750	66,830	4,242	972,848

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jan-75	717,436	24,440	22,169	1,760	672,588
Feb-75	1,308,974	137,800	108,896	283	1,062,561
Mar-75	649,062	34,030	47,654	2,175	569,553
Apr-75	559,600	53,850	47,373	2,849	461,227
May-75	1,259,427	56,860	62,198	4,058	1,144,427
Jun-75	498,015	65,890	40,052	6,662	398,734
Jul-75	200,222	7,310	3,996	12,442	201,358
Aug-75	1,039	196	1,698	11,038	10,183
Sep-75	11,467	171	1,042	10,376	20,629
Oct-75	74,247	135	831	7,491	80,771
Nov-75	61,143	305	535	4,076	64,379
Dec-75	55,219	101	840	2,834	57,112
Jan-76	243,319	211	547	3,839	246,400
Feb-76	26,408	108	1,019	3,796	29,078
Mar-76	453,522	174	7,236	2,681	448,794
Apr-76	178,704	56,900	75,745	4,726	50,786
May-76	754,438	86,520	77,111	4,398	595,205
Jun-76	439,633	16,870	4,692	7,567	425,638
Jul-76	169,292	11,810	19,114	6,879	145,247
Aug-76	175,702	541	561	12,780	187,380
Sep-76	36,565	288	1,082	5,321	40,515
Oct-76	69,456	1,450	1,593	3,847	70,260
Nov-76	36,142	1,450	1,565	4,417	37,544
Dec-76	236,405	8,200	10,378	1,573	219,400
Jan-77	236,837	9,780	10,610	629	217,077
Feb-77	530,608	68,730	58,283	2,305	405,900
Mar-77	775,633	108,300	72,669	4,032	598,696
Apr-77	651,099	100,100	52,165	5,046	503,880
May-77	218,679	18,040	2,724	9,564	207,479
Jun-77	55,234	1,870	5,969	10,562	57,957
Jul-77	16,900	133	3,018	14,201	27,950
Aug-77	109,329	9,010	1,546	9,321	108,094
Sep-77	20,964	2,940	512	8,452	25,963
Oct-77	29,236	1,530	258	10,518	37,966
Nov-77	84,589	996	1,728	3,501	85,365
Dec-77	110,448	2,460	600	4,053	111,440
Jan-78	336,289	2,030	3,260	1,571	332,570
Feb-78	339,111	21,120	10,937	3,030	310,084
Mar-78	346,852	44,640	28,556	6,516	280,173
Apr-78	128,704	17,840	3,559	8,349	115,654
May-78	202,817	7,630	11,066	9,444	193,565
Jun-78	19,322	2,040	968	14,267	30,581

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jul-78	18,605	42	450	17,028	35,140
Aug-78	34,469	92	382	16,890	50,886
Sep-78	276,485	75	193	9,021	285,237
Oct-78	1,232	52	273	12,259	13,166
Nov-78	60,599	45	1,545	2,525	61,535
Dec-78	258,300	319	344	3,104	260,740
Jan-79	1,236,525	1,050	18,187	878	1,218,166
Feb-79	939,770	1,330	20,340	3,331	921,431
Mar-79	813,546	12,400	35,252	4,876	770,770
Apr-79	1,187,612	68,930	52,304	5,864	1,072,241
May-79	912,002	169,600	93,154	7,350	656,597
Jun-79	673,549	73,630	23,487	11,735	588,166
Jul-79	116,268	5,030	464	12,064	122,838
Aug-79	100,081	20,390	1,432	13,429	91,688
Sep-79	156,691	1,260	7,402	9,686	157,716
Oct-79	55,512	879	2,679	11,645	63,599
Nov-79	203,063	371	7,039	5,333	200,987
Dec-79	281,291	2,000	13,313	3,433	269,412
Jan-80	503,226	16,740	32,473	832	454,844
Feb-80	677,131	36,750	42,180	3,818	602,019
Mar-80	522,443	7,650	12,378	4,024	506,438
Apr-80	1,030,424	8,450	46,029	5,085	981,031
May-80	894,393	20,630	77,957	5,733	801,539
Jun-80	132,542	2,220	8,368	12,732	134,685
Jul-80	14,430	838	124	20,758	34,226
Aug-80	7,463	1,010	25	18,852	25,281
Sep-80	24,592	865	42	12,381	36,066
Oct-80	2,934	765	0	9,240	11,409
Nov-80	6,377	608	30	4,924	10,662
Dec-80	56,177	735	0	5,788	61,230
Jan-81	19,560	744	108	4,544	23,253
Feb-81	65,726	746	318	3,192	67,853
Mar-81	123,225	511	939	4,822	126,597
Apr-81	60,700	739	17	6,800	66,745
May-81	267,387	1,200	8,364	4,925	262,749
Jun-81	734,755	125,600	37,500	7,746	579,401
Jul-81	162,107	75,550	17,579	12,738	81,716
Aug-81	196,785	1,690	1,157	13,309	207,247
Sep-81	109,676	1,340	1,582	9,841	116,595
Oct-81	78,850	44,870	15,202	4,298	23,075
Nov-81	185,088	65,020	23,449	4,328	100,947
Dec-81	66,632	7,630	305	6,742	65,439

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jan-82	102,741	4,500	1,089	2,977	100,128
Feb-82	217,542	4,220	4,335	1,817	210,804
Mar-82	232,539	12,030	23,183	4,686	202,012
Apr-82	660,680	7,700	15,236	3,650	641,395
May-82	324,838	118,200	35,400	5,573	176,811
Jun-82	151,695	40,940	7,271	7,187	110,671
Jul-82	109,680	8,730	9,651	13,023	104,323
Aug-82	1,060	796	481	14,407	14,190
Sep-82	232	325	10	12,570	12,467
Oct-82	70,871	221	0	5,571	76,221
Nov-82	196,468	266	1,005	2,110	197,308
Dec-82	1,263,584	9,180	9,604	77	1,244,877
Jan-83	379,001	9,850	22	3,705	372,834
Feb-83	1,197,030	70,570	11,122	548	1,115,886
Mar-83	751,328	105,100	35,547	4,027	614,707
Apr-83	256,087	15,960	14,429	8,057	233,755
May-83	960,884	13,410	12,180	6,113	941,408
Jun-83	218,754	14,950	16,657	7,600	194,748
Jul-83	150,130	14,090	5,910	13,935	144,065
Aug-83	32,552	1,770	496	12,496	42,781
Sep-83	15,464	1,630	295	12,942	26,482
Oct-83	8,266	1,570	333	8,449	14,812
Nov-83	136,893	1,500	357	3,602	138,639
Dec-83	500,111	1,840	554	2,257	499,975
Jan-84	249,083	814	0	3,304	251,573
Feb-84	646,270	1,710	5,977	2,279	640,863
Mar-84	746,188	46,090	4,120	3,654	699,632
Apr-84	246,387	34,790	5,192	9,023	215,428
May-84	164,167	2,050	1,235	9,856	170,738
Jun-84	25,306	487	449	12,880	37,250
Jul-84	24,584	1,180	159	14,755	38,000
Aug-84	22,652	1,160	177	13,982	35,297
Sep-84	3,696	776	0	11,627	14,547
Oct-84	324,507	848	210	2,171	325,620
Nov-84	260,780	1,750	3,862	2,682	257,850
Dec-84	265,222	4,000	5,417	2,920	258,726
Jan-85	365,884	19,350	26,203	3,999	324,330
Feb-85	667,492	11,230	15,207	3,407	644,461
Mar-85	608,958	49,570	5,335	5,159	559,211
Apr-85	292,661	75,440	12,262	7,468	212,427
May-85	482,954	118,100	1,094	9,623	373,383
Jun-85	98,141	18,520	35	11,787	91,374

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jul-85	21,335	727	0	14,991	35,599
Aug-85	9,714	1,280	89	18,742	27,087
Sep-85	22,566	505	375	11,323	33,010
Oct-85	206,190	1,710	635	6,139	209,984
Nov-85	345,166	1,820	229	6,529	349,646
Dec-85	669,777	38,440	34,256	5,744	602,825
Jan-86	96,770	5,940	729	7,124	97,224
Feb-86	615,509	42,110	113,923	3,459	462,935
Mar-86	131,778	3,240	3,351	10,216	135,403
Apr-86	311,720	124,400	55,533	5,045	136,833
May-86	499,143	77,830	30,044	5,811	397,081
Jun-86	992,541	118,100	58,441	4,594	820,595
Jul-86	200,018	11,080	2,163	17,617	204,392
Aug-86	77,682	7	719	14,307	91,263
Sep-86	7,707	43	538	8,487	15,613
Oct-86	79,311	132	744	4,596	83,031
Nov-86	626,907	6,900	951	1,284	620,341
Dec-86	715,923	26,000	12,990	492	677,425
Jan-87	375,914	24,010	13,202	2,634	341,336
Feb-87	931,127	13,210	5,846	(186)	911,885
Mar-87	777,929	75,680	74,218	5,888	633,920
Apr-87	223,369	8,610	0	11,681	226,440
May-87	51,086	420	935	7,444	57,175
Jun-87	168,399	19,840	0	7,873	156,433
Jul-87	62,989	1,550	1,762	11,804	71,481
Aug-87	38,197	36	2,355	16,353	52,159
Sep-87	13,333	15	867	10,080	22,530
Oct-87	15,271	164	1,053	9,155	23,210
Nov-87	400,129	248	18,388	1,562	383,055
Dec-87	808,790	17,690	75,002	(1,768)	714,329
Jan-88	1,035,703	29,710	38,259	6,685	974,419
Feb-88	438,887	11,100	37,314	5,546	396,019
Mar-88	638,717	6,280	16,998	(1,621)	613,817
Apr-88	402,787	716	13,557	11,084	399,598
May-88	55,552	115	625	16,382	71,194
Jun-88	39,149	247	666	17,222	55,457
Jul-88	53,963	409	1,644	13,741	65,651
Aug-88	54,555	19	654	13,291	67,174
Sep-88	47,432	0	1,721	15,669	61,381
Oct-88	39,943	0	0	10,064	50,007
Nov-88	84,237	0	0	9,336	93,572
Dec-88	211,106	0	0	(3,786)	207,320

MONTH	GAGED INFLOW AT TOLEDO BEND (AC-FT)	OPERATED AT ACTUAL CONDITIONS			NATURAL INFLOW AT TOLEDO BEND (AC-FT)
		LAKE TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET UPSTREAM DEPLETIONS (AC-FT)	
Jan-89	668,025	0	0	(5,532)	662,493
Feb-89	750,747	0	0	2,918	753,664
Mar-89	703,055	0	0	(794)	702,261
Apr-89	925,801	0	0	12,898	938,699
May-89	1,333,260	0	0	3,456	1,336,716
Jun-89	1,666,472	0	0	(12,601)	1,653,871
Jul-89	1,034,619	0	0	802	1,035,421
Aug-89	113,633	0	0	17,785	131,418
Sep-89	33,906	0	0	15,188	49,093
Oct-89	46,064	0	0	14,546	60,610
Nov-89	20,634	0	0	10,256	30,890
Dec-89	61,287	0	0	922	62,209



**APPENDIX C**  
**PERMIT CONDITION RUNOFF CALCULATIONS**

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						NET DEPLETIONS (AC-FT)	INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE	MARTIN	MURVAL	TAWAKONI	LAKE PORK			
			SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)			
Jan-40	217,770	12,827	0	2,475	2,554	0	0	(287)	210,259	
Feb-40	736,680	43,390	10,673	14,479	13,163	0	0	(984)	732,589	
Mar-40	130,339	7,689	0	0	413	0	0	168	123,096	
Apr-40	304,128	17,913	0	4,775	4,268	0	0	(276)	295,534	
May-40	260,842	15,364	0	2,873	2,681	0	0	253	250,779	
Jun-40	370,619	21,829	690	6,152	5,500	11,556	0	(187)	372,874	
Jul-40	174,979	10,306	0	772	270	0	0	1,462	164,252	
Aug-40	186,912	11,009	0	2,277	1,239	0	0	606	178,813	
Sep-40	97,687	5,754	0	0	0	0	0	1,193	90,740	
Oct-40	24,917	1,468	0	0	0	0	0	444	23,005	
Nov-40	476,575	28,070	0	7,314	6,468	0	0	(4,272)	466,559	
Dec-40	1,754,183	103,321	19,439	36,583	33,182	35,013	0	(2,449)	1,777,527	
Jan-41	1,336,954	78,747	21,257	25,775	23,754	9,987	0	(784)	1,339,764	
Feb-41	506,259	29,819	5,918	9,177	8,481	17,419	357	(1,087)	518,879	
Mar-41	830,764	48,932	11,719	15,275	14,110	42,246	31,821	(867)	897,869	
Apr-41	341,774	20,131	1,326	4,899	4,571	11,005	16,990	(975)	361,410	
May-41	779,320	45,902	10,979	15,681	14,009	81,317	20,244	53	875,595	
Jun-41	753,213	44,364	9,956	14,654	13,082	132,230	40,043	(1,344)	920,159	
Jul-41	666,413	39,252	6,297	12,277	10,563	0	0	817	655,481	
Aug-41	81,451	4,797	0	0	0	0	0	1,483	75,171	
Sep-41	97,351	5,734	0	0	0	0	0	(673)	92,290	
Oct-41	183,197	10,790	0	1,008	0	0	0	(1,535)	174,950	
Nov-41	823,797	48,522	0	15,150	13,983	0	0	(507)	804,916	
Dec-41	468,002	27,565	3,750	7,675	7,254	0	0	(1,043)	460,159	
Jan-42	342,285	20,161	2,177	4,975	4,878	0	0	(32)	334,187	
Feb-42	322,033	18,968	2,418	5,277	4,981	0	0	345	315,396	
Mar-42	552,789	32,559	6,419	9,475	8,810	0	0	66	544,868	
Apr-42	345,816	20,369	1,944	5,652	5,068	126,905	4,934	(2,547)	472,497	
May-42	1,006,269	59,269	14,083	18,875	17,163	183,400	86,515	430	1,266,606	
Jun-42	541,827	31,914	5,058	9,250	8,318	23,068	0	74	555,533	
Jul-42	120,781	7,114	0	0	0	0	0	2,072	111,595	
Aug-42	102,040	6,010	0	0	0	0	0	(740)	96,770	
Sep-42	192,333	11,328	0	0	0	0	0	(518)	181,523	
Oct-42	40,708	2,398	0	0	0	0	0	(58)	38,369	
Nov-42	58,527	3,447	0	0	0	0	0	519	54,561	
Dec-42	59,103	3,481	0	0	0	0	0	(1,447)	57,069	
Jan-43	287,223	16,917	0	0	0	0	0	(380)	270,686	
Feb-43	118,682	6,990	0	0	0	0	0	1,222	110,470	
Mar-43	112,253	6,612	0	0	0	0	0	(353)	105,995	
Apr-43	205,996	12,133	0	500	1,417	0	0	1,077	194,704	
May-43	59,083	3,480	0	0	0	0	0	(922)	56,524	
Jun-43	146,007	8,600	0	0	0	0	0	1,713	135,694	

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						NET DEPLETIONS (AC-FT)	INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE	MARTIN	MURVAL	TAWAKONI	LAKE FORK			
			SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)			
Jul-43	297,483	17,522	0	2,300	1,915	45,251	0	2,326	327,101	
Aug-43	22,602	1,331	0	0	0	0	0	3,279	17,991	
Sep-43	15,219	896	0	0	0	0	0	(109)	14,432	
Oct-43	46,982	2,767	0	0	0	0	0	(792)	45,006	
Nov-43	39,506	2,327	0	0	0	0	0	664	36,515	
Dec-43	61,148	3,602	0	0	0	0	0	(1,465)	59,011	
Jan-44	485,737	28,610	0	0	190	0	0	(2,345)	439,662	
Feb-44	444,766	26,197	0	7,845	7,281	0	0	(2,794)	436,489	
Mar-44	746,444	43,966	0	13,475	12,510	8,523	0	(1,688)	738,675	
Apr-44	801,936	47,234	0	15,252	13,768	5,291	0	(993)	790,006	
May-44	1,839,219	108,330	15,988	39,287	35,255	216,621	42,305	(4,459)	2,084,804	
Jun-44	832,093	49,010	9,781	14,246	12,978	13,011	0	1,962	831,137	
Jul-44	46,580	2,744	0	0	0	0	0	2,718	41,118	
Aug-44	24,690	1,454	0	0	0	0	0	548	22,688	
Sep-44	77,012	4,536	0	0	0	0	0	615	71,861	
Oct-44	20,896	1,231	0	0	0	0	0	1,590	18,075	
Nov-44	63,091	3,716	0	0	0	0	0	(1,934)	61,309	
Dec-44	343,995	20,261	0	0	0	0	0	(3,809)	327,543	
Jan-45	1,327,071	78,164	0	24,168	21,717	0	0	(1,290)	1,296,081	
Feb-45	534,102	31,459	3,256	9,777	8,981	0	0	(1,499)	526,157	
Mar-45	660,573	38,908	8,818	12,177	11,292	143,976	136,375	(5,193)	939,495	
Apr-45	2,411,960	142,064	41,843	49,354	44,550	409,545	281,788	(314)	3,097,289	
May-45	393,611	23,184	2,383	6,075	5,563	0	0	1,295	383,153	
Jun-45	136,603	8,046	0	549	489	21,226	4,504	(325)	155,650	
Jul-45	466,420	27,472	0	7,575	6,381	178,038	93,345	(526)	724,813	
Aug-45	141,966	8,362	0	0	0	0	0	1,499	132,105	
Sep-45	41,182	2,426	0	0	0	0	0	922	37,834	
Oct-45	302,162	17,797	0	2,758	1,614	0	0	(1,855)	290,592	
Nov-45	146,034	8,601	0	749	1,025	0	0	452	138,755	
Dec-45	307,063	18,086	0	4,275	4,254	0	0	(362)	297,868	
Jan-46	1,097,555	64,646	7,250	23,285	21,064	0	34,208	(3,285)	1,122,002	
Feb-46	1,271,596	74,897	21,315	26,181	23,645	96,292	90,967	(1,070)	1,456,169	
Mar-46	1,080,857	63,662	16,818	20,977	19,192	25,059	36,964	(979)	1,137,184	
Apr-46	607,377	35,775	6,227	10,248	9,380	5,131	0	(285)	602,873	
May-46	594,099	34,992	7,379	11,781	10,509	51,503	70,661	(3,210)	714,149	
Jun-46	1,237,707	72,901	18,358	23,850	21,518	166,639	107,586	830	1,501,927	
Jul-46	214,620	12,641	0	1,471	993	0	0	2,647	201,796	
Aug-46	60,514	3,564	0	0	0	0	0	(161)	57,111	
Sep-46	69,109	4,071	0	0	0	0	0	289	64,750	
Oct-46	61,089	3,598	0	0	0	0	0	463	57,028	
Nov-46	372,342	21,931	0	3,319	2,232	83,240	6,543	(3,773)	449,519	
Dec-46	692,154	40,768	0	12,877	11,936	30,222	18,993	(275)	725,688	

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						NET DEPLETIONS (AC-FT)	INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE	MARTIN	MURVAL	TAWAKONI	LAKE FORK			
			SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)			
Jan-47	1,182,436	69,645	13,081	24,583	22,282	22,254	21,694	(1,537)	1,218,242	
Feb-47	457,454	26,944	4,519	7,675	7,099	0	0	(70)	449,873	
Mar-47	748,152	44,066	10,518	13,977	12,892	0	0	(1,779)	743,252	
Apr-47	616,962	36,339	6,746	10,850	9,886	26,551	36,996	(1,011)	672,662	
May-47	391,500	23,059	2,383	6,075	5,563	0	5,071	(565)	388,098	
Jun-47	113,170	6,666	0	0	0	0	0	1,822	104,682	
Jul-47	70,318	4,142	0	0	0	0	0	2,991	63,186	
Aug-47	18,195	1,072	0	0	0	0	0	1,938	15,166	
Sep-47	29,813	1,756	0	0	0	0	0	222	27,835	
Oct-47	21,024	1,238	0	0	0	0	0	1,052	18,734	
Nov-47	66,951	3,943	0	0	0	0	0	(838)	63,846	
Dec-47	269,139	15,852	0	0	0	0	0	(1,866)	255,153	
Jan-48	447,241	26,343	0	935	995	0	0	(2,151)	424,980	
Feb-48	829,300	48,846	0	16,379	14,963	25,887	1,620	(1,893)	841,196	
Mar-48	632,889	37,277	0	11,025	10,371	62,537	46,555	(779)	726,878	
Apr-48	451,173	26,574	0	7,099	6,495	0	0	539	437,654	
May-48	264,108	15,556	0	3,375	3,163	55,217	63,463	(1,151)	374,921	
Jun-48	229,949	13,544	0	1,395	1,387	0	0	2,657	216,530	
Jul-48	40,223	2,369	0	0	0	0	0	2,888	34,966	
Aug-48	22,369	1,318	0	0	0	0	0	3,323	17,729	
Sep-48	16,190	954	0	0	0	0	0	2,151	13,085	
Oct-48	13,376	788	0	0	0	0	0	886	11,703	
Nov-48	83,140	4,897	0	0	0	0	0	(1,191)	79,433	
Dec-48	66,432	3,913	0	0	0	0	0	(499)	63,017	
Jan-49	403,118	23,744	0	0	0	0	0	(3,803)	383,177	
Feb-49	517,503	30,481	0	5,927	5,600	0	0	(1,447)	499,996	
Mar-49	703,093	41,412	0	13,579	12,474	0	0	(795)	688,530	
Apr-49	497,348	29,294	0	8,852	7,968	0	0	(1,766)	486,640	
May-49	272,346	16,041	0	2,471	2,423	0	0	882	260,317	
Jun-49	154,299	9,088	0	1,150	1,018	0	0	1,527	145,852	
Jul-49	121,336	7,147	0	275	0	0	0	(934)	115,398	
Aug-49	132,551	7,807	0	0	0	0	0	783	123,960	
Sep-49	50,741	2,989	0	0	0	0	0	28	47,724	
Oct-49	267,308	15,744	0	3,261	1,730	0	0	(4,238)	260,793	
Nov-49	261,323	15,392	0	2,346	2,514	0	0	1,411	249,381	
Dec-49	353,594	20,827	0	6,781	6,300	0	0	(1,010)	346,838	
Jan-50	1,156,954	68,145	0	23,581	21,500	0	0	(2,738)	1,136,629	
Feb-50	949,084	55,901	5,405	19,381	17,545	90,349	90,600	(2,601)	1,119,064	
Mar-50	1,065,290	62,746	16,079	20,125	18,471	0	13,629	280	1,070,568	
Apr-50	196,471	11,572	0	2,552	2,268	3,752	2,795	(1,224)	197,489	
May-50	838,374	49,380	10,823	16,379	14,727	111,592	77,635	(1,935)	1,022,085	
Jun-50	1,181,736	69,604	18,156	23,654	21,182	0	3,317	1,299	1,177,141	

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE	MARTIN	MURVAL	TAWAKONI	LAKE FORK	NET	
			SPELLS (AC-FT)	SPELLS (AC-FT)	SPELLS (AC-FT)	SPELLS (AC-FT)	SPELLS (AC-FT)	DEPLETIONS (AC-FT)	
Jul-50	107,341	6,322	0	0	0	0	0	115	100,904
Aug-50	102,707	6,049	0	0	0	0	0	1,111	95,546
Sep-50	59,372	3,497	0	0	0	0	0	(2,906)	58,780
Oct-50	56,121	3,306	0	0	0	0	0	545	52,271
Nov-50	48,515	2,858	0	0	0	0	0	843	44,814
Dec-50	52,909	3,116	0	0	0	0	0	831	48,962
Jan-51	205,544	12,107	0	0	0	0	0	(1,231)	194,668
Feb-51	227,568	13,404	0	636	466	0	0	(1,537)	216,803
Mar-51	382,161	22,509	0	6,377	5,992	0	0	(193)	372,214
Apr-51	293,954	17,314	0	3,648	3,480	0	0	949	282,819
May-51	161,351	9,504	0	723	743	0	0	1,188	152,125
Jun-51	53,897	3,175	0	0	0	0	0	572	50,150
Jul-51	72,582	4,275	0	0	0	0	0	1,804	66,502
Aug-51	20,442	1,204	0	0	0	0	0	3,931	15,306
Sep-51	26,897	1,584	0	0	0	0	0	(3,261)	28,574
Oct-51	16,254	957	0	0	0	0	0	834	14,463
Nov-51	21,991	1,295	0	0	0	0	0	(46)	20,741
Dec-51	100,404	5,914	0	0	0	0	0	(1,175)	95,665
Jan-52	106,659	6,282	0	0	0	0	0	(886)	101,263
Feb-52	470,975	27,740	0	0	0	0	0	(1,513)	444,748
Mar-52	396,062	23,328	0	3,316	3,537	0	0	(986)	380,574
Apr-52	426,526	25,122	0	8,858	7,814	0	0	(1,864)	419,939
May-52	430,307	25,345	0	7,879	7,027	0	0	(639)	420,508
Jun-52	270,258	15,918	0	2,094	2,111	0	0	2,389	256,156
Jul-52	65,009	3,829	0	0	0	0	0	1,539	59,641
Aug-52	26,125	1,539	0	0	0	0	0	4,283	20,303
Sep-52	13,927	820	0	0	0	0	0	2,949	10,158
Oct-52	11,553	680	0	0	0	0	0	2,983	7,889
Nov-52	7,971	469	0	0	0	0	0	(1,830)	9,331
Dec-52	70,307	4,141	0	0	0	0	0	(1,877)	68,043
Jan-53	177,868	10,476	0	0	0	0	0	(462)	167,854
Feb-53	390,446	22,997	0	0	0	0	0	(746)	368,195
Mar-53	946,353	55,740	0	12,270	11,939	0	0	(1,736)	916,557
Apr-53	127,061	7,484	0	2,658	2,114	0	0	(1,518)	125,867
May-53	2,552,268	150,329	15,518	55,191	49,419	0	0	(2,436)	2,524,503
Jun-53	716,618	42,209	7,741	12,046	10,931	0	0	2,991	702,136
Jul-53	107,587	6,337	0	0	0	0	0	(1,003)	102,254
Aug-53	86,046	5,068	0	0	0	0	0	1,330	79,648
Sep-53	37,445	2,206	0	0	0	0	0	388	34,852
Oct-53	20,072	1,182	0	0	0	0	0	1,243	17,647
Nov-53	25,200	1,484	0	0	0	0	0	(520)	24,236
Dec-53	144,551	8,514	0	0	0	0	0	(1,948)	137,985

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						NET DEPLETIONS (AC-FT)	INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE	MARTIN	MURVAL	TAWAKONI	LAKE FORK			
			SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)			
Jan-54	144,377	8,504	0	0	0	0	0	(1,761)	137,634	
Feb-54	196,089	11,550	0	0	0	0	0	491	184,049	
Mar-54	106,584	6,278	0	0	0	0	0	544	99,763	
Apr-54	171,571	10,106	0	0	0	0	0	(201)	161,666	
May-54	487,357	28,705	0	4,043	4,538	0	0	(2,418)	469,651	
Jun-54	77,471	4,563	0	0	0	0	0	3,210	69,698	
Jul-54	20,029	1,180	0	0	0	0	0	4,622	14,227	
Aug-54	15,189	895	0	0	0	0	0	4,872	9,422	
Sep-54	11,062	652	0	0	0	0	0	3,049	7,362	
Oct-54	4,700	277	0	0	0	0	0	(2,180)	6,603	
Nov-54	77,588	4,570	0	0	0	0	0	(446)	73,464	
Dec-54	67,865	3,997	0	0	0	0	0	(265)	64,133	
Jan-55	117,490	6,920	0	0	0	0	0	(870)	111,439	
Feb-55	297,532	17,525	0	0	0	0	0	(2,223)	282,230	
Mar-55	253,245	14,916	0	0	0	0	0	(952)	239,281	
Apr-55	573,422	33,775	0	0	1,427	0	0	(718)	541,793	
May-55	257,060	15,141	0	3,208	3,063	0	0	(705)	248,896	
Jun-55	86,492	5,094	0	0	0	0	0	2,194	79,204	
Jul-55	64,890	3,822	0	0	0	0	0	1,208	59,860	
Aug-55	290,643	17,119	0	1,357	104	0	0	(1,754)	276,739	
Sep-55	50,871	2,996	0	0	0	0	0	(1,127)	49,001	
Oct-55	32,497	1,914	0	0	0	0	0	2,129	28,455	
Nov-55	17,806	1,049	0	0	0	0	0	1,849	14,908	
Dec-55	33,452	1,970	0	0	0	0	0	309	31,173	
Jan-56	54,314	3,199	0	0	0	0	0	(694)	51,809	
Feb-56	307,861	18,133	0	0	0	0	0	(2,267)	291,995	
Mar-56	144,402	8,505	0	0	0	0	0	593	135,303	
Apr-56	218,904	12,893	0	0	536	0	0	523	206,023	
May-56	323,222	19,038	0	3,237	4,034	0	0	(466)	311,922	
Jun-56	28,584	1,684	0	0	0	0	0	2,158	24,742	
Jul-56	17,561	1,034	0	0	0	0	0	3,909	12,618	
Aug-56	11,133	656	0	0	0	0	0	3,116	7,361	
Sep-56	9,479	558	0	0	0	0	0	2,120	6,801	
Oct-56	7,782	458	0	0	0	0	0	994	6,330	
Nov-56	14,431	850	0	0	0	0	0	309	13,273	
Dec-56	37,080	2,184	0	0	0	0	0	290	34,606	
Jan-57	27,922	1,645	0	0	0	0	0	(621)	26,899	
Feb-57	161,875	9,534	0	0	0	0	0	(1,463)	153,804	
Mar-57	186,438	10,981	0	0	0	0	0	(1,649)	177,106	
Apr-57	172,661	10,170	0	0	0	0	0	(6,232)	168,723	
May-57	1,936,283	114,047	0	24,959	23,323	0	0	(1,071)	1,871,589	
Jun-57	938,624	55,285	0	18,554	16,582	0	0	(869)	919,344	

MONTH	NATURAL	NATURAL RUNOFF	OPERATED AT PERMITTED CONDITIONS						INFLOW TO
	INFLOW AT	AT CHEROKEE,	CHEROKEE	MARTIN	MURVAL	TAWAKONI	LAKE PORK	NET	TOLEDO BEND
	TOLEDO BEND	MARTIN AND MURVAL.	SPILLS	SPILLS	SPILLS	SPILLS	SPILLS	DEPLETIONS	TOLEDO BEND
(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	
Jul-57	158,606	9,342	0	71	0	0	0	2,064	147,271
Aug-57	37,025	2,181	0	0	0	0	0	1,174	33,671
Sep-57	16,055	946	0	0	0	0	0	(650)	15,759
Oct-57	143,798	8,470	0	0	0	0	0	(3,704)	139,032
Nov-57	732,751	43,159	0	12,313	9,939	0	0	(2,663)	714,507
Dec-57	641,666	37,794	0	11,275	10,554	0	0	95	625,606
Jan-58	563,329	33,180	3,923	10,177	9,436	0	0	(1,206)	554,891
Feb-58	423,855	24,965	3,919	6,975	6,499	0	0	(271)	416,554
Mar-58	337,755	19,894	2,718	5,477	5,192	0	0	(458)	331,706
Apr-58	5,346	315	0	0	0	0	0	(2,706)	7,737
May-58	1,263,304	74,409	13,590	21,773	19,929	151,074	64,955	(247)	1,460,464
Jun-58	243,014	14,314	0	3,050	2,718	0	0	103	234,365
Jul-58	153,107	9,018	0	0	0	0	0	1,299	142,791
Aug-58	89,787	5,288	0	0	0	0	0	760	83,739
Sep-58	511,555	30,131	0	10,859	8,056	0	0	(3,537)	503,876
Oct-58	250,941	14,780	0	2,422	2,344	0	0	116	240,811
Nov-58	88,173	5,193	0	0	154	0	0	164	82,969
Dec-58	86,092	5,071	0	0	0	0	0	728	80,292
Jan-59	78,221	4,607	0	0	0	0	0	648	72,966
Feb-59	305,811	18,012	0	4,029	4,805	0	0	(1,429)	298,062
Mar-59	308,065	18,145	0	3,974	3,980	0	0	49	297,825
Apr-59	442,478	26,062	0	8,154	7,350	0	0	(1,163)	433,084
May-59	451,378	26,586	0	7,124	6,549	0	0	(2,561)	441,026
Jun-59	169,496	9,983	0	1,249	1,166	0	0	(550)	162,478
Jul-59	48,396	2,851	0	0	0	0	0	(1,145)	46,690
Aug-59	88,310	5,201	0	0	0	0	0	949	82,160
Sep-59	30,802	1,814	0	0	0	0	0	(411)	29,399
Oct-59	48,223	2,840	0	0	0	0	0	(167)	45,550
Nov-59	82,248	4,844	0	0	0	0	0	848	76,556
Dec-59	195,910	11,539	0	0	0	0	0	(2,128)	186,499
Jan-60	623,614	36,731	0	9,515	8,220	0	33,962	(1,436)	640,017
Feb-60	658,603	38,792	0	12,879	11,663	15,952	20,513	(943)	681,761
Mar-60	710,742	41,863	0	12,775	11,810	0	8,766	(281)	702,511
Apr-60	164,255	9,675	0	748	827	0	0	881	155,275
May-60	117,661	6,930	0	0	0	0	0	1,745	108,986
Jun-60	74,450	4,385	0	0	0	0	0	281	69,784
Jul-60	102,435	6,033	0	0	0	0	0	1,228	95,174
Aug-60	55,815	3,287	0	0	0	0	0	1,043	51,484
Sep-60	47,170	2,778	0	0	0	0	0	(831)	45,223
Oct-60	84,007	4,948	0	0	0	0	0	(337)	79,396
Nov-60	181,507	10,691	0	0	0	0	0	(98)	170,914
Dec-60	833,709	49,105	0	13,601	11,572	20,846	0	(4,079)	834,702

MONTH	NATURAL	NATURAL RUNOFF	OPERATED AT PERMITTED CONDITIONS						INFLOW TO TOLEDO BEND (AC-FT)
	INFLOW AT TOLEDO BEND (AC-FT)	AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	CHEROKEE SPILLS (AC-FT)	MARTIN SPILLS (AC-FT)	MURVAL SPILLS (AC-FT)	TAWAKONI SPILLS (AC-FT)	LAKE PORK SPILLS (AC-FT)	NET DEPLETIONS (AC-FT)	
Jan-61	1,315,836	77,503	0	26,881	24,500	48,576	0	(1,639)	1,339,929
Feb-61	727,805	42,868	8,124	14,279	13,063	22,461	19,252	(1,179)	763,297
Mar-61	913,544	53,808	14,017	17,979	16,474	69,871	39,730	(1,408)	1,019,215
Apr-61	727,544	42,852	8,168	12,297	11,336	0	1,444	1,319	716,618
May-61	106,624	6,280	0	0	0	0	0	1,177	99,167
Jun-61	197,397	11,627	0	1,577	1,564	0	0	(2,262)	191,173
Jul-61	288,461	16,990	0	3,875	3,081	0	0	80	278,346
Aug-61	85,083	5,011	0	0	0	0	0	1,871	78,201
Sep-61	318,737	18,774	0	3,580	2,174	0	0	(754)	306,471
Oct-61	61,652	3,631	0	0	0	0	0	559	57,462
Nov-61	162,269	9,558	0	0	403	0	0	(1,385)	154,500
Dec-61	1,047,714	61,710	0	21,661	19,782	0	0	(1,277)	1,028,724
Jan-62	529,785	31,204	5,187	9,979	9,218	0	0	(1,877)	524,842
Feb-62	427,953	25,206	4,019	6,975	6,599	0	0	(896)	421,236
Mar-62	426,276	25,108	3,680	6,474	6,280	0	0	(28)	417,631
Apr-62	273,040	16,082	544	4,152	3,768	0	0	(1,447)	266,870
May-62	505,752	29,789	4,384	8,224	7,572	0	0	1,225	494,918
Jun-62	115,245	6,788	0	350	318	0	0	(669)	109,794
Jul-62	59,022	3,476	0	0	0	0	0	1,454	54,091
Aug-62	39,354	2,318	0	0	0	0	0	2,676	34,360
Sep-62	39,889	2,349	0	0	0	0	0	(1,555)	39,095
Oct-62	41,263	2,430	0	0	0	0	0	(758)	39,590
Nov-62	26,867	1,582	0	0	0	110,644	0	(896)	136,824
Dec-62	136,016	8,011	0	0	0	0	0	13	127,991
Jan-63	136,289	8,027	0	0	0	0	0	(166)	128,427
Feb-63	126,326	7,441	0	0	0	0	0	130	118,756
Mar-63	128,795	7,586	0	0	0	0	0	(145)	121,354
Apr-63	91,664	5,399	0	0	0	0	0	(1,878)	88,143
May-63	216,270	12,738	0	0	0	29,142	0	526	232,148
Jun-63	45,691	2,691	0	0	0	0	0	1,425	41,575
Jul-63	42,212	2,486	0	0	0	0	0	1,699	38,026
Aug-63	30,471	1,795	0	0	0	0	0	2,822	25,854
Sep-63	16,778	988	0	0	0	0	0	435	15,355
Oct-63	16,218	955	0	0	0	0	0	3,009	12,254
Nov-63	19,045	1,122	0	0	0	0	0	627	17,295
Dec-63	40,631	2,393	0	0	0	0	0	(707)	38,945
Jan-64	79,027	4,655	0	0	0	0	0	285	74,087
Feb-64	72,112	4,247	0	0	0	0	0	(747)	68,612
Mar-64	288,307	16,981	0	0	0	0	0	(1,080)	272,406
Apr-64	269,589	15,879	0	0	0	0	0	(1,070)	254,780
May-64	158,628	9,343	0	0	0	0	0	(404)	149,689
Jun-64	59,622	3,512	0	0	0	0	0	2,164	53,947



MONTH	NATURAL	NATURAL RUNOFF	OPERATED AT PERMITTED CONDITIONS						INFLOW TO TOLEDO BEND (AC-FT)
	INFLOW AT TOLEDO BEND (AC-FT)	AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	CHEROKEE SPILLS (AC-FT)	MARTIN SPILLS (AC-FT)	MURVAL SPILLS (AC-FT)	TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)	NET DEPLETIONS (AC-FT)	
Jul-64	27,941	1,646	0	0	0	0	0	3,397	22,899
Aug-64	23,249	1,369	0	0	0	0	0	1,158	20,722
Sep-64	13,799	813	0	0	0	0	0	(907)	13,893
Oct-64	20,090	1,183	0	0	0	0	0	1,638	17,268
Nov-64	14,520	855	0	0	0	0	0	(68)	13,733
Dec-64	47,290	2,785	0	0	0	0	0	(720)	45,225
Jan-65	63,891	3,763	0	0	0	0	0	(1,328)	61,456
Feb-65	173,062	10,193	0	0	0	0	0	(2,527)	165,396
Mar-65	257,206	15,149	0	0	0	0	0	(1,213)	243,270
Apr-65	363,275	21,397	0	0	0	0	0	1,045	340,833
May-65	82,561	4,863	0	0	0	39,511	0	(3,682)	120,891
Jun-65	424,764	25,019	0	0	0	0	0	941	398,805
Jul-65	59,915	3,529	0	0	0	0	0	3,102	53,284
Aug-65	26,446	1,558	0	0	0	0	0	2,297	22,591
Sep-65	36,803	2,168	0	0	0	0	0	(998)	35,634
Oct-65	24,604	1,449	0	0	0	0	0	1,244	21,911
Nov-65	19,532	1,150	0	0	0	0	0	474	17,908
Dec-65	108,970	6,418	0	0	0	0	0	(987)	103,539
Jan-66	136,182	8,021	0	0	0	0	0	(1,365)	129,526
Feb-66	694,109	40,883	0	1,475	3,215	0	0	(525)	658,440
Mar-66	127,858	7,531	0	23	389	0	0	122	120,617
Apr-66	122,602	7,221	0	1,052	868	101,526	0	(442)	219,268
May-66	1,349,139	79,464	0	26,075	23,663	37,519	0	(1,059)	1,357,990
Jun-66	267,610	15,762	0	2,747	2,607	0	0	2,482	254,719
Jul-66	41,862	2,466	0	0	0	0	0	1,805	37,591
Aug-66	37,722	2,222	0	0	0	0	0	846	34,654
Sep-66	34,313	2,021	0	0	0	0	0	(1,331)	33,622
Oct-66	30,771	1,812	0	0	0	0	0	351	28,608
Nov-66	7,104	418	0	0	0	0	0	(11)	6,697
Dec-66	170	10	0	0	0	0	0	(38)	198
Jan-67	2,336	138	0	0	0	0	0	(500)	2,699
Feb-67	30,496	1,796	0	0	0	0	0	(144)	28,844
Mar-67	7,202	424	0	0	0	0	0	113	6,665
Apr-67	106,633	6,281	0	0	0	0	0	(1,240)	101,592
May-67	159,956	9,421	0	0	0	0	0	(1,164)	151,699
Jun-67	232,298	13,682	0	0	0	0	0	2,337	216,279
Jul-67	43,854	2,583	0	0	0	0	0	1,672	39,599
Aug-67	17,641	1,039	0	0	0	0	0	1,668	14,934
Sep-67	7,524	443	0	0	0	0	0	(1,352)	8,432
Oct-67	1,340	79	0	0	0	0	0	(269)	1,530
Nov-67	10,777	635	0	0	0	0	0	(40)	10,182
Dec-67	51,662	3,043	0	0	0	0	0	23	48,596

MONTH	NATURAL	NATURAL RUNOFF	OPERATED AT PERMITTED CONDITIONS						INFLOW TO TOLEDO BEND (AC-FT)
	INFLOW AT TOLEDO BEND (AC-FT)	AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	CHEROKEE SPILLS (AC-FT)	MARTIN SPILLS (AC-FT)	MURVAL SPILLS (AC-FT)	TAWAKONI SPILLS (AC-FT)	LAKE PORK SPILLS (AC-FT)	NET DEPLETIONS (AC-FT)	
Jan-68	481,081	28,336	0	0	0	25,411	0	118	478,038
Feb-68	205,717	12,117	0	0	0	6,825	0	(108)	200,533
Mar-68	337,893	19,902	0	0	0	136,465	0	(561)	455,017
Apr-68	1,377,353	81,126	0	18,407	17,248	31,578	0	(585)	1,364,046
May-68	636,778	37,306	0	12,179	10,927	172,803	0	246	794,935
Jun-68	577,893	34,038	0	10,050	9,018	10,226	0	2,108	571,041
Jul-68	238,577	14,052	0	2,524	1,813	0	0	1,632	227,230
Aug-68	53,516	3,152	0	0	0	0	0	2,128	48,236
Sep-68	256,050	15,081	0	1,129	32	0	0	(457)	242,587
Oct-68	95,996	5,654	0	0	0	0	0	(184)	90,525
Nov-68	224,923	13,248	0	1,675	2,048	0	0	1,001	214,396
Dec-68	729,930	42,993	0	13,175	12,254	0	0	525	711,842
Jan-69	240,251	14,151	0	2,624	2,763	0	0	(827)	232,314
Feb-69	521,016	30,688	0	9,477	8,681	9,420	0	(1,094)	519,000
Mar-69	1,104,527	65,057	13,974	21,477	19,692	81,527	0	(364)	1,176,505
Apr-69	1,367,368	80,538	21,843	27,554	24,750	8,311	0	(2,563)	1,371,850
May-69	775,534	45,679	10,082	14,577	13,245	215,521	41,328	(2,171)	1,026,779
Jun-69	368,090	21,681	642	4,244	4,049	0	0	2,876	352,468
Jul-69	19,555	1,152	0	0	0	0	0	3,198	15,206
Aug-69	23,480	1,383	0	0	0	0	0	2,583	19,515
Sep-69	12,656	745	0	0	0	0	0	(173)	12,083
Oct-69	12,689	747	0	0	0	0	0	1,147	10,795
Nov-69	105,402	6,208	0	0	0	0	0	516	98,678
Dec-69	91,995	5,419	0	0	0	0	0	(317)	86,894
Jan-70	211,135	12,436	0	0	0	0	0	(781)	199,481
Feb-70	166,773	9,823	0	0	0	0	0	(946)	157,896
Mar-70	516,800	30,439	0	300	1,066	56,490	0	(357)	544,573
Apr-70	248,837	14,657	0	2,899	2,695	69,159	0	(2,889)	311,823
May-70	297,605	17,529	0	3,824	3,572	741	0	(14)	288,227
Jun-70	56,284	3,315	0	0	0	0	0	2,231	50,739
Jul-70	65,797	3,875	0	0	0	0	0	2,895	59,026
Aug-70	43,603	2,568	0	0	0	0	0	2,784	38,251
Sep-70	822	48	0	0	0	0	0	795	(21)
Oct-70	40,278	2,372	0	0	0	0	0	137	37,768
Nov-70	152,727	8,996	0	0	0	0	0	427	143,305
Dec-70	93,740	5,521	0	0	0	0	0	(1,444)	89,663
Jan-71	50,737	2,988	0	0	0	0	0	825	46,923
Feb-71	104,227	6,139	0	0	0	0	0	(421)	98,509
Mar-71	82,503	4,859	0	0	0	0	0	828	76,815
Apr-71	69,322	4,083	0	0	0	0	0	1,462	63,777
May-71	114,442	6,741	0	0	0	0	0	1,444	106,257
Jun-71	40,255	2,371	0	0	0	0	0	3,366	34,518

MONTH	NATURAL	NATURAL RUNOFF	OPERATED AT PERMITTED CONDITIONS						INFLOW TO TOLEDO BEND (AC-FT)
	INFLOW AT TOLEDO BEND (AC-FT)	AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	CHEROKEE SPILLS (AC-FT)	MARTIN SPILLS (AC-FT)	MURVAL SPILLS (AC-FT)	TAWAKONI SPILLS (AC-FT)	LAKE PORK SPILLS (AC-FT)	NET DEPLETIONS (AC-FT)	
Jul-71	75,316	4,436	0	0	0	0	0	1,895	68,985
Aug-71	46,676	2,749	0	0	0	0	0	1,092	42,835
Sep-71	34,703	2,044	0	0	0	0	0	238	32,421
Oct-71	27,881	1,642	0	0	0	0	0	(159)	26,398
Nov-71	75,396	4,441	0	0	0	0	0	95	70,860
Dec-71	270,026	15,905	0	0	0	175,497	0	(1,075)	430,694
Jan-72	761,799	44,870	0	0	0	0	0	(1,059)	717,988
Feb-72	207,481	12,221	0	0	0	0	0	764	194,496
Mar-72	280,942	16,547	0	0	0	0	0	498	263,897
Apr-72	82,280	4,846	0	0	0	0	0	833	76,600
May-72	151,941	8,949	0	0	0	0	0	1,924	141,068
Jun-72	61,956	3,649	0	0	0	0	0	1,447	56,861
Jul-72	163,685	9,641	0	0	0	0	0	1,750	152,293
Aug-72	38,880	2,290	0	0	0	0	0	2,428	34,163
Sep-72	30,460	1,794	0	0	0	0	0	(28)	28,693
Oct-72	100,626	5,927	0	0	0	0	0	(62)	94,761
Nov-72	282,358	16,631	0	0	0	0	0	(898)	266,624
Dec-72	491,771	28,965	0	804	3,211	0	0	(558)	467,379
Jan-73	725,391	42,726	0	13,577	12,536	0	0	(1,266)	710,044
Feb-73	456,572	26,892	0	7,575	7,099	0	0	(501)	444,855
Mar-73	817,919	48,175	0	14,975	13,910	0	0	(318)	798,946
Apr-73	840,667	49,515	0	15,550	14,086	0	0	(729)	821,517
May-73	806,999	47,532	5,832	13,721	12,661	0	0	1,502	790,198
Jun-73	676,423	39,841	7,339	11,648	10,613	55,366	0	662	720,885
Jul-73	299,243	17,625	0	2,920	2,326	0	0	1,064	285,800
Aug-73	73,173	4,310	0	0	0	0	0	2,952	65,911
Sep-73	193,295	11,385	0	0	0	19,854	0	(1,135)	202,899
Oct-73	289,332	17,042	0	2,657	1,948	222,717	0	(784)	500,397
Nov-73	288,984	17,021	0	3,799	3,840	51,506	0	(271)	331,379
Dec-73	997,017	58,724	3,537	18,675	17,254	30,794	0	(195)	1,008,748
Jan-74	1,478,700	87,095	24,754	29,779	27,118	110,830	72,935	(1,896)	1,638,915
Feb-74	722,357	42,547	9,500	13,024	12,085	0	0	99	714,321
Mar-74	314,897	18,547	1,460	4,023	4,066	0	0	455	305,443
Apr-74	324,495	19,113	308	3,696	3,483	65,676	28,632	748	406,429
May-74	341,323	20,104	785	4,222	4,090	0	0	1,085	329,231
Jun-74	228,991	13,488	0	842	967	71,564	7,206	1,370	294,713
Jul-74	57,431	3,383	0	0	0	0	0	3,141	50,907
Aug-74	18,169	1,070	0	0	0	0	0	589	16,510
Sep-74	190,003	11,191	0	0	0	102,784	0	(1,942)	283,538
Oct-74	209,162	12,320	0	0	0	36,440	0	0	233,282
Nov-74	484,657	28,546	0	6,090	4,835	108,819	92,924	(641)	669,419
Dec-74	972,848	57,301	0	18,677	17,236	24,982	54,064	(719)	1,031,226

MONTH	NATURAL	NATURAL RUNOFF	OPERATED AT PERMITTED CONDITIONS						INFLOW TO
	INFLOW AT	AT CHEROKEE,	CHEROKEE	MARTIN	MURVAL	TAWAKONI	LAKE FORK	NET	TOLEDO BEND
	TOLEDO BEND	MARTIN AND MURVAL	SPILLS	SPILLS	SPILLS	SPILLS	SPILLS	DEPLETIONS	TOLEDO BEND
(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)
Jan-75	672,588	39,615	6,705	11,975	11,154	10,330	8,360	(569)	682,065
Feb-75	1,062,561	62,585	16,119	20,275	18,599	138,198	97,874	(1,041)	1,292,081
Mar-75	569,553	33,547	6,719	9,775	9,210	6,981	33,365	(442)	602,499
Apr-75	461,227	27,166	3,746	7,550	6,886	22,084	30,934	3	505,257
May-75	1,144,427	67,407	16,783	21,775	19,763	78,934	43,202	405	1,237,072
Jun-75	398,734	23,485	1,681	5,397	4,969	39,693	16,974	1,361	442,601
Jul-75	201,358	11,860	0	1,121	655	0	0	2,708	188,566
Aug-75	10,183	600	0	0	0	0	0	2,359	7,224
Sep-75	20,629	1,215	0	0	0	0	0	1,393	18,021
Oct-75	80,771	4,757	0	0	0	0	0	1,043	74,971
Nov-75	64,379	3,792	0	0	0	0	0	528	60,060
Dec-75	57,112	3,364	0	0	0	0	0	(96)	53,844
Jan-76	246,400	14,513	0	0	0	0	0	93	231,794
Feb-76	29,078	1,713	0	0	0	0	0	340	27,025
Mar-76	448,794	26,434	0	0	322	0	0	(366)	423,048
Apr-76	50,786	2,991	0	0	0	0	0	403	47,391
May-76	595,205	35,058	0	6,560	7,293	0	0	385	573,615
Jun-76	425,638	25,070	0	5,846	5,354	0	0	1,407	410,360
Jul-76	145,247	8,555	0	222	0	0	0	490	136,424
Aug-76	187,380	11,037	0	0	0	0	0	2,441	173,902
Sep-76	40,515	2,386	0	0	0	0	0	(956)	39,084
Oct-76	70,260	4,138	0	0	0	0	0	(573)	66,695
Nov-76	37,544	2,211	0	0	0	0	0	365	34,967
Dec-76	219,400	12,923	0	0	0	0	0	(677)	207,154
Jan-77	217,077	12,786	0	0	257	0	0	(1,304)	205,852
Feb-77	405,900	23,908	0	6,547	6,199	0	0	(504)	395,243
Mar-77	598,696	35,263	0	10,275	9,633	209,827	0	(28)	793,196
Apr-77	503,880	29,679	0	7,898	7,265	85,324	0	511	574,178
May-77	207,479	12,221	0	669	917	0	0	2,236	194,609
Jun-77	37,937	3,414	0	0	0	0	0	2,554	51,989
Jul-77	27,950	1,646	0	0	0	0	0	3,431	22,872
Aug-77	108,094	6,367	0	0	0	0	0	1,344	100,383
Sep-77	25,963	1,529	0	0	0	0	0	449	23,985
Oct-77	37,966	2,236	0	0	0	0	0	1,807	33,922
Nov-77	85,365	5,028	0	0	0	0	0	(270)	80,607
Dec-77	111,440	6,564	0	0	0	0	0	266	104,610
Jan-78	332,570	19,588	0	0	0	0	0	(1,308)	314,290
Feb-78	310,084	18,264	0	0	0	0	0	(774)	292,595
Mar-78	280,173	16,502	0	1,331	2,120	0	0	472	266,650
Apr-78	115,654	6,812	0	0	0	0	0	1,484	107,358
May-78	193,565	11,401	0	369	836	0	0	1,593	181,776
Jun-78	30,581	1,801	0	0	0	0	0	3,227	25,553

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						INFLOW TO TOLEDO BEND (AC-FT)	
			CHEROKEE SPILLS (AC-FT)	MARTIN SPILLS (AC-FT)	MURVAL SPILLS (AC-FT)	TAWAKONI SPILLS (AC-FT)	LAKE PORK SPILLS (AC-FT)	NET DEPLETIONS (AC-FT)		
Jul-78	35,140	2,070	0	0	0	0	0	0	3,842	29,228
Aug-78	50,886	2,997	0	0	0	0	0	0	3,256	44,633
Sep-78	285,237	16,800	0	0	0	0	0	0	202	268,234
Oct-78	13,166	775	0	0	0	0	0	0	2,090	10,300
Nov-78	61,535	3,624	0	0	0	0	0	0	(972)	58,882
Dec-78	260,740	15,358	0	0	0	0	0	0	(542)	245,925
Jan-79	1,218,166	71,750	0	17,662	16,410	0	0	0	(1,597)	1,182,085
Feb-79	921,431	54,272	0	17,877	16,281	0	0	0	(587)	901,904
Mar-79	770,770	45,398	0	13,875	12,933	0	0	0	(28)	752,207
Apr-79	1,072,241	63,155	12,773	20,250	18,409	0	0	0	652	1,059,866
May-79	656,597	38,674	6,865	10,922	10,067	301,580	0	0	1,242	946,116
Jun-79	588,166	34,643	4,762	8,744	8,072	28,712	0	0	2,592	601,222
Jul-79	122,838	7,235	0	0	0	0	0	0	1,929	113,674
Aug-79	91,688	5,400	0	0	0	0	0	0	2,235	84,052
Sep-79	157,716	9,289	0	0	0	0	0	0	413	148,013
Oct-79	63,599	3,746	0	0	0	0	0	0	1,953	57,900
Nov-79	200,987	11,838	0	0	0	0	0	0	413	188,736
Dec-79	269,412	15,868	0	919	794	0	0	0	(462)	255,718
Jan-80	454,844	26,790	0	7,375	7,054	0	0	0	(1,426)	443,909
Feb-80	602,019	35,459	0	10,675	9,899	0	0	0	(179)	587,313
Mar-80	506,438	29,829	0	8,475	8,010	0	0	0	(51)	493,145
Apr-80	981,031	57,783	10,078	18,400	16,647	0	0	0	407	967,966
May-80	801,539	47,211	9,864	14,273	12,958	0	0	0	697	790,726
Jun-80	134,685	7,933	0	0	0	0	0	0	2,944	123,808
Jul-80	34,226	2,016	0	0	0	0	0	0	5,067	27,142
Aug-80	25,281	1,489	0	0	0	0	0	0	4,221	19,571
Sep-80	36,066	2,124	0	0	0	0	0	0	1,265	32,676
Oct-80	11,409	672	0	0	0	0	0	0	1,060	9,676
Nov-80	10,662	628	0	0	0	0	0	0	129	9,905
Dec-80	61,230	3,606	0	0	0	0	0	0	455	57,169
Jan-81	23,253	1,370	0	0	0	0	0	0	53	21,830
Feb-81	67,853	3,997	0	0	0	0	0	0	(266)	64,123
Mar-81	126,597	7,457	0	0	0	0	0	0	176	118,964
Apr-81	66,745	3,931	0	0	0	0	0	0	1,162	61,652
May-81	262,749	15,476	0	0	0	0	0	0	468	246,805
Jun-81	579,401	34,127	0	0	0	55,000	0	0	1,200	599,074
Jul-81	81,716	4,813	0	0	0	34,000	0	0	2,418	108,485
Aug-81	207,247	12,207	0	0	0	0	0	0	2,664	192,377
Sep-81	116,595	6,867	0	0	0	0	0	0	740	108,987
Oct-81	23,075	1,359	0	0	0	20,000	0	0	(545)	42,261
Nov-81	100,947	5,946	0	0	0	29,000	0	0	91	123,911
Dec-81	65,439	3,854	0	0	0	0	0	1,046	60,539	

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						NET DEPLETIONS (AC-FT)	INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE	MARTIN	MURVAL	TAWAKONI	LAKE PORK			
			SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)	SPILLS (AC-FT)			
Jan-82	100,128	5,898	0	0	0	0	0	(524)	94,755	
Feb-82	210,804	12,416	0	0	0	0	0	(762)	199,149	
Mar-82	202,012	11,898	0	0	0	0	0	173	189,940	
Apr-82	641,395	37,778	0	0	2,131	0	0	74	605,673	
May-82	176,811	10,414	0	0	623	0	0	681	166,339	
Jun-82	110,671	6,519	0	0	0	0	0	1,177	102,975	
Jul-82	104,323	6,145	0	0	0	0	0	2,681	95,497	
Aug-82	14,190	836	0	0	0	0	0	3,120	10,235	
Sep-82	12,467	734	0	0	0	0	0	1,796	9,937	
Oct-82	76,221	4,489	0	0	0	0	0	17	71,715	
Nov-82	197,308	11,621	0	0	0	0	0	(741)	186,427	
Dec-82	1,244,877	73,323	0	16,770	15,324	0	0	(1,358)	1,205,006	
Jan-83	372,834	21,960	0	5,675	5,454	0	0	(128)	362,131	
Feb-83	1,115,886	65,726	0	21,877	19,981	23,000	0	(1,254)	1,116,272	
Mar-83	614,707	36,206	853	10,374	9,780	35,000	0	(191)	634,699	
Apr-83	233,755	13,768	0	2,097	2,013	5,000	0	1,552	227,545	
May-83	941,408	55,449	11,696	17,525	15,925	4,000	0	694	934,411	
Jun-83	194,748	11,471	0	1,096	1,093	5,000	0	1,166	189,300	
Jul-83	144,065	8,485	0	0	0	0	0	2,764	132,816	
Aug-83	42,781	2,320	0	0	0	0	0	1,944	38,318	
Sep-83	26,482	1,560	0	0	0	0	0	1,556	23,366	
Oct-83	14,812	872	0	0	0	0	0	820	13,120	
Nov-83	138,639	8,166	0	0	0	0	0	(241)	130,714	
Dec-83	499,975	29,449	0	0	0	0	0	(688)	471,214	
Jan-84	251,573	14,818	0	3,133	3,118	0	0	(363)	243,370	
Feb-84	640,863	37,747	0	11,473	10,599	0	0	(515)	625,705	
Mar-84	699,632	41,208	0	12,224	11,419	0	0	(274)	682,340	
Apr-84	215,428	12,689	0	1,446	1,522	0	0	1,892	203,816	
May-84	170,738	10,056	0	371	523	0	0	2,095	159,480	
Jun-84	37,250	2,194	0	0	0	0	0	3,003	32,052	
Jul-84	38,000	2,238	0	0	0	0	0	3,190	32,572	
Aug-84	35,297	2,079	0	0	0	0	0	2,820	30,398	
Sep-84	14,547	857	0	0	0	0	0	1,338	12,352	
Oct-84	325,620	19,179	0	0	0	0	0	(928)	307,368	
Nov-84	257,850	15,187	0	0	0	0	0	(419)	243,081	
Dec-84	258,726	15,239	0	0	0	0	0	(539)	244,025	
Jan-85	324,330	19,103	0	3,999	4,097	0	0	(393)	313,717	
Feb-85	644,461	37,959	0	11,575	10,699	0	0	(426)	629,202	
Mar-85	559,211	32,938	0	9,274	8,780	0	0	135	544,193	
Apr-85	212,427	12,512	0	1,547	1,574	63,000	0	1,116	264,920	
May-85	373,383	21,992	0	4,470	4,346	100,000	0	1,853	458,354	
Jun-85	91,374	5,382	0	0	0	16,000	0	2,483	99,509	

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						NET DEPLECTIONS (AC-FT)	INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE SPILLS (AC-FT)	MARTIN SPILLS (AC-FT)	MURVAL SPILLS (AC-FT)	TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)			
Jul-85	35,599	2,097	0	0	0	0	0	2,922	30,581	
Aug-85	27,087	1,595	0	0	0	0	0	4,143	21,349	
Sep-85	33,010	1,944	0	0	0	0	0	866	30,199	
Oct-85	209,984	12,368	0	0	0	0	0	(120)	197,736	
Nov-85	349,646	20,594	0	0	0	0	0	467	328,585	
Dec-85	602,825	35,506	0	5,983	5,614	0	0	358	578,557	
Jan-86	97,224	5,727	0	0	0	0	0	786	90,712	
Feb-86	462,935	27,267	0	7,149	7,072	0	0	(500)	450,390	
Mar-86	135,403	7,975	0	0	360	0	0	1,778	126,009	
Apr-86	136,833	8,059	0	120	365	102,000	0	(85)	231,343	
May-86	397,081	23,388	0	5,623	5,243	64,000	0	498	448,061	
Jun-86	820,595	48,333	0	14,598	13,198	98,000	0	314	897,743	
Jul-86	204,392	12,039	0	0	0	0	0	3,734	188,619	
Aug-86	91,263	5,375	0	0	0	0	0	2,455	83,433	
Sep-86	15,613	920	0	0	0	0	0	(120)	14,813	
Oct-86	83,031	4,891	0	0	0	0	0	(681)	78,821	
Nov-86	620,341	36,538	0	6,159	5,049	0	0	(1,279)	596,290	
Dec-86	677,425	39,900	0	12,075	11,254	0	0	(1,378)	662,231	
Jan-87	341,336	20,105	0	4,975	4,954	0	0	(710)	331,870	
Feb-87	911,885	53,710	0	17,677	16,081	0	0	(1,594)	893,527	
Mar-87	633,920	37,338	0	10,573	10,028	0	0	147	617,036	
Apr-87	226,440	13,337	0	893	1,149	0	0	2,554	212,591	
May-87	57,175	3,368	0	0	0	0	0	837	52,971	
Jun-87	156,433	9,214	0	0	0	0	0	1,040	146,179	
Jul-87	71,481	4,210	0	0	0	0	0	1,918	65,353	
Aug-87	52,159	3,072	0	0	0	0	0	3,221	45,866	
Sep-87	22,530	1,327	0	0	0	0	0	296	20,908	
Oct-87	23,210	1,367	0	0	0	0	0	888	20,955	
Nov-87	383,055	22,562	0	0	0	0	0	(1,079)	361,572	
Dec-87	714,329	42,074	0	7,885	7,221	0	0	(2,125)	689,487	
Jan-88	974,419	57,393	0	17,723	16,434	0	0	(163)	951,345	
Feb-88	396,019	23,325	0	6,074	5,770	0	0	(343)	384,880	
Mar-88	613,817	36,154	0	11,880	10,926	0	0	(2,216)	602,685	
Apr-88	399,598	23,536	0	4,894	4,678	0	0	1,100	384,534	
May-88	71,194	4,193	0	0	0	0	0	2,328	64,672	
Jun-88	55,457	3,266	0	0	0	0	0	2,353	49,838	
Jul-88	65,651	3,867	0	0	0	0	0	895	60,889	
Aug-88	67,174	3,957	0	0	0	0	0	563	62,654	
Sep-88	61,381	3,615	0	0	0	0	0	539	57,227	
Oct-88	50,007	2,945	0	0	0	0	0	12	47,050	
Nov-88	93,572	5,511	0	0	0	0	0	488	87,573	
Dec-88	207,320	12,211	0	0	0	0	0	(2,643)	197,752	

MONTH	NATURAL INFLOW AT TOLEDO BEND (AC-FT)	NATURAL RUNOFF AT CHEROKEE, MARTIN AND MURVAL (AC-FT)	OPERATED AT PERMITTED CONDITIONS						NET DEPLETIONS (AC-FT)	INFLOW TO TOLEDO BEND (AC-FT)
			CHEROKEE SPILLS (AC-FT)	MARTIN SPILLS (AC-FT)	MURVAL SPILLS (AC-FT)	TAWAKONI SPILLS (AC-FT)	LAKE FORK SPILLS (AC-FT)			
Jan-89	662,493	39,021	0	35	751	0	0	(3,180)	627,439	
Feb-89	753,664	44,391	0	14,126	12,890	0	0	(995)	737,284	
Mar-89	702,261	41,363	0	13,629	12,512	0	0	(2,010)	689,048	
Apr-89	938,699	55,289	1,050	15,743	14,510	0	0	1,537	913,175	
May-89	1,336,716	78,733	20,583	26,026	23,654	85,000	0	(862)	1,414,108	
Jun-89	1,653,871	97,413	29,349	36,315	32,283	95,000	0	(5,000)	1,754,405	
Jul-89	1,035,421	60,986	13,676	20,328	17,830	100,000	0	(2,303)	1,128,572	
Aug-89	131,418	7,740	0	0	0	0	0	1,667	122,010	
Sep-89	49,093	2,892	0	0	0	0	0	415	45,786	
Oct-89	60,610	3,370	0	0	0	0	0	1,108	55,932	
Nov-89	30,890	1,819	0	0	0	0	0	711	28,360	
Dec-89	62,209	3,664	0	0	0	0	0	(1,481)	60,026	



**APPENDIX D**  
**RESERVOIR OPERATIONS**  
**LAKE CHEROKEE**  
**MARTIN LAKE**  
**LAKE MURVAUL**

**LAKE CHEROKEE OPERATION  
PERMITTED CONDITIONS**

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 \* N \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1940\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	4200	0	4243	3986	.000	0	0	0	46657
FEB	14100	0	4181	3987	-.200	-796	10673	0	46700
MAR	2500	0	4181	3927	.130	511	0	0	44509
APR	5800	0	5054	3899	-.100	-389	0	0	45644
MAY	5000	0	5117	3916	.100	392	0	0	45136
JUN	7100	0	5242	3963	-.100	-395	690	0	46700
JUL	3300	0	6802	3875	.160	620	0	0	42578
AUG	3600	0	7488	3667	-.100	-366	0	0	39057
SEP	1900	0	6365	3426	.260	891	0	0	33702
OCT	500	0	5242	3131	.240	751	0	0	28209
NOV	9100	0	4243	3174	-.700	-2221	0	0	35287
DEC	33500	0	4243	3987	-.400	-1594	19439	0	46700
ANN	90600	0	62400		-.710	-2602	30803	0	

YEAR\*1941\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	25500	0	4243	3987	.000	0	21257	0	46700
FEB	9700	0	4181	3987	-.100	-398	5918	0	46700
MAR	15900	0	4181	3987	.000	0	11719	0	46700
APR	6500	0	5054	3987	.030	120	1326	0	46700
MAY	14900	0	5117	3987	-.300	-1195	10979	0	46700
JUN	14400	0	5242	3987	-.200	-796	9956	0	46700
JUL	12700	0	6802	3987	-.100	-398	6297	0	46700
AUG	1600	0	7488	3799	.270	1026	0	0	39786
SEP	1900	0	6365	3483	.070	244	0	0	35078
OCT	3500	0	5242	3335	-.300	-999	0	0	34336
NOV	15700	0	4243	3626	.000	0	0	0	45793
DEC	8900	0	4243	3987	.000	0	3750	0	46700
ANN	131200	0	62400		-.630	-2401	71202	0	

YEAR\*1942\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	6500	0	4243	3987	.020	80	2177	0	46700
FEB	6200	0	4181	3987	-.100	-398	2418	0	46700
MAR	10600	0	4181	3987	.000	0	6419	0	46700
APR	6600	0	5054	3987	-.100	-398	1944	0	46700
MAY	19200	0	5117	3987	.000	0	14083	0	46700
JUN	10300	0	5242	3987	.000	0	5058	0	46700
JUL	2300	0	6802	3842	.220	845	0	0	41353
AUG	1900	0	7488	3530	.150	529	0	0	35236
SEP	3700	0	6365	3273	.200	655	0	0	31916
OCT	800	0	5242	3040	.270	821	0	0	26654
NOV	1100	0	4243	2801	.130	364	0	0	23147
DEC	1100	0	4243	2628	-.100	-262	0	0	20266
ANN	70300	0	62400		.690	2234	32100	0	

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1943\*

JAN	5500	0	4243	2584	.000	0	0	0	21523
FEB	2300	0	4181	2558	.120	307	0	0	19335
MAR	2100	0	4181	2324	.000	0	0	0	17254
APR	3900	0	5054	2103	.150	315	0	0	15784
MAY	1100	0	5117	1788	.060	107	0	0	11660
JUN	2800	0	5242	1422	.130	185	0	0	9034
JUL	5700	0	6802	1210	.190	230	0	0	7702
AUG	400	0	7488	715	.360	257	0	0	357
SEP	300	0	6365	32	.140	4	0	5712	0
OCT	900	0	5242	0	.230	0	0	4342	0
NOV	800	0	4243	0	.080	0	0	3443	0
DEC	1200	0	4243	0	-.100	0	0	3043	0

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 ANN 27000 0 62400 1.360 1406 0 16540

YEAR\*1944\*

JAN	9300	0	4243	465	-.400	-185	0	0	5243
FEB	8500	0	4181	1113	-.100	-110	0	0	9673
MAR	14300	0	4181	1898	.000	0	0	0	19792
APR	15300	0	5054	2810	-.100	-280	0	0	30319
MAY	35100	0	5117	3976	-.600	-2385	15988	0	46700
JUN	15900	0	5242	3987	.220	877	9781	0	46700
JUL	900	0	6802	3791	.340	1289	0	0	39509
AUG	500	0	7488	3406	.000	0	0	0	32521
SEP	1500	0	6365	3065	.220	674	0	0	26982
OCT	400	0	5242	2761	.300	828	0	0	21312
NOV	1200	0	4243	2537	-.200	-506	0	0	18777
DEC	6600	0	4243	2560	-.400	-1023	0	0	22158

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 ANN 109500 0 62400 -.720 -826 25769 0

YEAR\*1945\*

JAN	25300	0	4243	3234	-.100	-322	0	0	43538
FEB	10200	0	4181	3987	-.100	-398	3256	0	46700
MAR	12600	0	4181	3987	-.100	-398	8818	0	46700
APR	46100	0	5054	3987	-.200	-796	41843	0	46700
MAY	7500	0	5117	3987	.000	0	2383	0	46700
JUN	2600	0	5242	3909	.060	235	0	0	43824
JUL	8900	0	6802	3888	.000	0	0	0	45922
AUG	2700	0	7488	3796	.180	683	0	0	40451
SEP	800	0	6365	3472	.250	868	0	0	34018
OCT	5800	0	5242	3331	-.200	-665	0	0	35243
NOV	2800	0	4243	3319	.060	199	0	0	33600
DEC	5900	0	4243	3320	.000	0	0	0	35257

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 ANN 131200 0 62400 -.150 -598 56300 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SMTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1946\*

JAN	21000	0	4243	3873	-.500	-1935	7250	0	46700
FEB	24300	0	4181	3987	-.300	-1195	21315	0	46700
MAR	20600	0	4181	3987	-.100	-398	16818	0	46700
APR	11600	0	5054	3987	.080	319	6227	0	46700
MAY	11300	0	5117	3987	-.300	-1195	7379	0	46700
JUN	23600	0	5242	3987	.000	0	18358	0	46700
JUL	4100	0	6802	3894	.180	701	0	0	43297
AUG	1200	0	7488	3615	.160	578	0	0	36431
SEP	1300	0	6365	3279	.130	426	0	0	30940
OCT	1200	0	5242	3017	.040	121	0	0	26778
NOV	7100	0	4243	3006	-.300	-901	0	0	30536
DEC	13200	0	4243	3361	-.100	-335	0	0	39829

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 ANN 140500 0 62400 -1.010 -3819 77348 0

YEAR\*1947\*

JAN	22600	0	4243	3987	-.400	-1594	13081	0	46700
FEB	8700	0	4181	3987	.000	0	4519	0	46700
MAR	14300	0	4181	3987	-.100	-398	10518	0	46700
APR	11800	0	5054	3987	.000	0	6746	0	46700
MAY	7500	0	5117	3987	.000	0	2383	0	46700
JUN	2200	0	5242	3893	.110	428	0	0	43230
JUL	1300	0	6802	3617	.320	1158	0	0	36571
AUG	300	0	7488	3210	.350	1124	0	0	28260
SEP	600	0	6365	2803	.320	897	0	0	21598
OCT	400	0	5242	2405	.190	457	0	0	16299
NOV	1300	0	4243	1929	-.200	-385	0	0	13742
DEC	5100	0	4243	1857	-.200	-370	0	0	14970

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 ANN 76100 0 62400 .390 1313 37246 0

YEAR\*1948\*

JAN	8500	0	4243	2189	-.100	-218	0	0	19446
FEB	15800	0	4181	2836	-.200	-566	0	0	31632
MAR	12100	0	4181	3382	.010	34	0	0	39517
APR	8600	0	5054	3688	.050	184	0	0	42879
MAY	5000	0	5117	3776	.000	0	0	0	42762
JUN	4400	0	5242	3723	.270	1005	0	0	40915
JUL	800	0	6802	3483	.280	975	0	0	33938
AUG	400	0	7488	3069	.370	1136	0	0	25715
SEP	300	0	6365	2664	.230	613	0	0	19037
OCT	300	0	5242	2078	.240	499	0	0	13597
NOV	1600	0	4243	1667	-.400	-666	0	0	11620
DEC	1300	0	4243	1400	.000	0	0	0	8677

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 ANN 59100 0 62400 .750 2993 0 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1949\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
JAN	7700	0	4243	1452	-.300	-435	0	0	12570
FEB	9900	0	4181	1984	-.100	-197	0	0	18487
MAR	13400	0	4181	2718	-.200	-543	0	0	28250
APR	9500	0	5054	3113	-.100	-310	0	0	33007
MAY	5200	0	5117	3225	.220	710	0	0	32381
JUN	2900	0	5242	3145	.000	0	0	0	30039
JUL	2300	0	6802	2957	.020	59	0	0	25478
AUG	2500	0	7488	2678	.260	696	0	0	19794
SEP	1000	0	6365	2159	.130	281	0	0	14148
OCT	5100	0	5242	1867	-.400	-746	0	0	14753
NOV	5000	0	4243	1918	.220	422	0	0	15088
DEC	6800	0	4243	2124	-.300	-636	0	0	18282

ANN 71300 0 62400 -.550 -704 0 0

YEAR\*1950\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
JAN	22100	0	4243	2951	-.300	-884	0	0	37024
FEB	18100	0	4181	3871	-.300	-1160	5405	0	46700
MAR	20300	0	4181	3987	.010	40	16079	0	46700
APR	3800	0	5054	3964	-.100	-395	0	0	45842
MAY	16000	0	5117	3987	-.200	-796	10823	0	46700
JUN	22600	0	5242	3987	-.200	-796	18156	0	46700
JUL	2100	0	6802	3843	.150	577	0	0	41422
AUG	2000	0	7488	3532	.190	671	0	0	35263
SEP	1100	0	6365	3222	.000	0	0	0	29998
OCT	1100	0	5242	2956	.130	384	0	0	25472
NOV	900	0	4243	2739	.030	82	0	0	22047
DEC	1000	0	4243	2557	.020	51	0	0	18752

ANN 111100 0 62400 -.570 -2232 50463 0

YEAR\*1951\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
JAN	3900	0	4243	2389	-.200	-477	0	0	18887
FEB	4300	0	4181	2435	-.200	-486	0	0	19493
MAR	7300	0	4181	2599	-.100	-259	0	0	22872
APR	5600	0	5054	2700	.080	216	0	0	23202
MAY	3100	0	5117	2646	.110	291	0	0	20894
JUN	1000	0	5242	2383	.000	0	0	0	16652
JUL	1400	0	6802	1789	.240	429	0	0	10821
AUG	400	0	7488	1071	.410	439	0	0	3294
SEP	500	0	6365	295	-.100	-28	0	0	29
OCT	300	0	5242	3	.280	1	0	4913	0
NOV	400	0	4243	0	.010	0	0	3843	0
DEC	1900	0	4243	0	-.200	0	0	2343	0

ANN 30100 0 62400 .330 122 0 11099

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1952\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	2000	0	4243	0	.000	0	0	2243	0
FEB	9000	0	4181	431	-.100	-42	0	0	4862
MAR	7600	0	4181	1019	.000	0	0	0	8282
APR	8100	0	5054	1393	-.400	-556	0	0	11884
MAY	8200	0	5117	1775	-.200	-354	0	0	15323
JUN	5200	0	5242	1929	.290	559	0	0	14722
JUL	1200	0	6802	1601	-.100	-159	0	0	9280
AUG	500	0	7488	916	.410	375	0	0	1917
SEP	300	0	6365	170	.420	71	0	4219	0
OCT	200	0	5242	0	.470	0	0	5042	0
NOV	200	0	4243	0	.220	0	0	4043	0
DEC	1300	0	4243	0	.000	0	0	2943	0

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 ANN 43800 0 62400 1.010 -108 0 18491

YEAR\*1953\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	3400	0	4243	0	.000	0	0	843	0
FEB	7500	0	4181	300	-.200	-59	0	0	3379
MAR	18100	0	4181	1437	-.200	-286	0	0	17586
APR	2400	0	5054	2124	-.400	-848	0	0	15781
MAY	48700	0	5117	3568	-.800	-2854	15518	0	46700
JUN	13700	0	5242	3987	.180	718	7741	0	46700
JUL	2100	0	6802	3857	.020	77	0	0	41921
AUG	1600	0	7488	3548	.200	710	0	0	35324
SEP	700	0	6365	3187	.310	988	0	0	28671
OCT	400	0	5242	2852	.300	855	0	0	22974
NOV	500	0	4243	2593	.030	78	0	0	19153
DEC	2800	0	4243	2341	.000	0	0	0	17710

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 ANN 101900 0 62400 -.560 -625 23259 843

YEAR\*1954\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	2800	0	4243	2161	.000	0	0	0	16266
FEB	3700	0	4181	2014	.220	443	0	0	15342
MAR	2000	0	4181	1833	.120	220	0	0	12942
APR	3300	0	5054	1608	.000	0	0	0	11187
MAY	9300	0	5117	1759	-.200	-351	0	0	15722
JUN	1500	0	5242	1767	.360	636	0	0	11344
JUL	400	0	6802	1157	.470	544	0	0	4399
AUG	300	0	7488	390	.520	203	0	2992	0
SEP	200	0	6365	0	.470	0	0	6165	0
OCT	100	0	5242	0	.230	0	0	5142	0
NOV	1500	0	4243	0	.120	0	0	2743	0
DEC	1300	0	4243	0	.080	0	0	2943	0

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 ANN 26400 0 62400 2.390 1694 0 19985

1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE CHEROKEE OPERATION  
 PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1955\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	2200	0	4243	0	-.100	0	0	2043	0
FEB	5700	0	4181	138	-.300	-41	0	0	1561
MAR	4800	0	4181	328	.120	39	0	0	2141
APR	11000	0	5054	869	-.100	-86	0	0	8173
MAY	4900	0	5117	1178	.000	0	0	0	7956
JUN	1700	0	5242	962	.310	298	0	0	4116
JUL	1200	0	6802	365	.020	7	0	1493	0
AUG	5600	0	7488	0	.000	0	0	1888	0
SEP	1000	0	6365	0	-.160	0	0	5365	0
OCT	600	0	5242	0	.370	0	0	4642	0
NOV	300	0	4243	0	-.150	0	0	3943	0
DEC	600	0	4243	0	.030	0	0	3643	0

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 ANN 39600 0 62400 .660 217 0 23017

YEAR\*1956\*

JAN	1000	0	4243	0	.000	0	0	3243	0
FEB	5900	0	4181	155	-.200	-30	0	0	1750
MAR	2800	0	4181	188	.010	2	0	0	368
APR	4200	0	5054	33	.000	0	0	487	0
MAY	6200	0	5117	96	.060	6	0	0	1077
JUN	500	0	5242	96	.080	8	0	3672	0
JUL	300	0	6802	0	-.410	0	0	6502	0
AUG	200	0	7488	0	-.440	0	0	7288	0
SEP	200	0	6365	0	-.440	0	0	6165	0
OCT	100	0	5242	0	.170	0	0	5142	0
NOV	300	0	4243	0	.130	0	0	3943	0
DEC	700	0	4243	0	-.100	0	0	3543	0

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 ANN 22400 0 62400 1.440 -15 0 39984

YEAR\*1957\*

JAN	500	0	4243	0	-.100	0	0	3743	0
FEB	3100	0	4181	0	.000	0	0	1081	0
MAR	3600	0	4181	0	-.100	0	0	581	0
APR	3300	0	5054	0	-.400	0	0	1754	0
MAY	37000	0	5117	2031	.000	0	0	0	31883
JUN	17900	0	5242	3545	-.200	-708	0	0	45251
JUL	3000	0	6802	3782	.220	832	0	0	40617
AUG	700	0	7488	3443	.310	1067	0	0	32762
SEP	300	0	6365	3061	.040	122	0	0	26574
OCT	2700	0	5242	2831	-.100	-282	0	0	24316
NOV	14000	0	4243	3077	-.500	-1537	0	0	35611
DEC	12300	0	4243	3603	.000	0	0	0	43668

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 ANN 98400 0 62400 -.830 -508 0 7159



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*****
* M * TOTAL* UPSTRM* MONTHLY* RES.* EVAP* EVAP* DWNSTRM* DEMAND* EOM *
* O * INFLOW* SPILLS* DEMAND* AREA* DEPTH* LOSS* SPILLS* SHTGE.* CONTENT*
* N * AC-FT* AC-FT* AC-FT* ACRES* FEET* AC-FT* AC-FT* AC-FT* AC-FT.*
*****
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	* M *	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	* O *	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	* N *	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
*****										
YEAR*1958*										
JAN	10800	0	4243	3987	-.100	-398	3923	0	46700	
FEB	8100	0	4181	3987	.000	0	3919	0	46700	
MAR	6500	0	4181	3987	-.100	-398	2718	0	46700	
APR	100	0	5054	3852	.000	0	0	0	41746	
MAY	24100	0	5117	3987	.110	439	13590	0	46700	
JUN	4600	0	5242	3970	.000	0	0	0	46058	
JUL	2900	0	6802	3812	.330	1258	0	0	40899	
AUG	1700	0	7488	3514	.000	0	0	0	35111	
SEP	9800	0	6365	3507	-.600	-2103	0	0	40651	
OCT	4800	0	5242	3633	.130	472	0	0	39737	
NOV	1700	0	4243	3539	.000	0	0	0	37193	
DEC	1600	0	4243	3392	.070	237	0	0	34313	
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ANN	76700	0	62400		-.160	-495	24151	0		
YEAR*1959*										
JAN	1500	0	4243	3239	.000	0	0	0	31570	
FEB	5800	0	4181	3226	-.200	-644	0	0	33834	
MAR	5900	0	4181	3329	.060	200	0	0	35353	
APR	8500	0	5054	3483	-.200	-696	0	0	39496	
MAY	8600	0	5117	3687	.030	111	0	0	42868	
JUN	3200	0	5242	3719	.040	149	0	0	40678	
JUL	900	0	6802	3509	-.100	-350	0	0	35127	
AUG	1700	0	7488	3183	.200	637	0	0	28702	
SEP	600	0	6365	2839	.160	454	0	0	22483	
OCT	900	0	5242	2552	.000	0	0	0	18142	
NOV	1600	0	4243	2137	.030	64	0	0	15434	
DEC	3700	0	4243	1976	-.300	-592	0	0	15484	
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ANN	42900	0	62400		-.280	-670	0	0		
YEAR*1960*										
JAN	11900	0	4243	2481	-.200	-495	0	0	23637	
FEB	12600	0	4181	2978	-.200	-595	0	0	32652	
MAR	13600	0	4181	3479	.000	0	0	0	42071	
APR	3100	0	5054	3670	.120	440	0	0	39676	
MAY	2200	0	5117	3503	.240	841	0	0	35919	
JUN	1400	0	5242	3296	.000	0	0	0	32077	
JUL	2000	0	6802	3039	.270	821	0	0	26455	
AUG	1100	0	7488	2720	-.100	-271	0	0	20339	
SEP	900	0	6365	2211	.200	442	0	0	14432	
OCT	1600	0	5242	1667	.000	0	0	0	10790	
NOV	3500	0	4243	1437	-.100	-143	0	0	10191	
DEC	15900	0	4243	2080	-.300	-623	0	0	22472	
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ANN	69800	0	62400		-.070	412	0	0		

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1961\*

JAN	25100	0	4243	3263	-.300	-978	0	0	44307
FEB	13900	0	4181	3987	-.200	-796	8124	0	46700
MAR	17400	0	4181	3987	-.200	-796	14017	0	46700
APR	13900	0	5054	3987	.170	678	8168	0	46700
MAY	2000	0	5117	3880	.210	815	0	0	42768
JUN	3800	0	5242	3744	-.100	-373	0	0	41701
JUL	5500	0	6802	3680	.000	0	0	0	40400
AUG	1600	0	7488	3461	.250	865	0	0	33646
SEP	6100	0	6365	3279	-.100	-327	0	0	33709
OCT	1200	0	5242	3151	.230	725	0	0	28943
NOV	3100	0	4243	2998	-.100	-299	0	0	28100
DEC	20000	0	4243	3441	-.400	-1376	0	0	45233

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 ANN 113600 0 62400 -.540 -1869 30308 0

YEAR\*1962\*

JAN	10100	0	4243	3987	-.200	-796	5187	0	46700
FEB	8200	0	4181	3987	.000	0	4019	0	46700
MAR	8100	0	4181	3987	.060	239	3680	0	46700
APR	5200	0	5054	3987	-.100	-398	544	0	46700
MAY	9700	0	5117	3987	.050	199	4384	0	46700
JUN	2200	0	5242	3904	.000	0	0	0	43658
JUL	1100	0	6802	3628	.390	1415	0	0	36542
AUG	800	0	7488	3242	.120	389	0	0	29465
SEP	800	0	6365	2895	.040	116	0	0	23784
OCT	800	0	5242	2610	.140	365	0	0	18977
NOV	500	0	4243	2190	-.100	-218	0	0	15453
DEC	2600	0	4243	1897	-.100	-189	0	0	13999

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 ANN 50100 0 62400 .300 1119 17815 0

YEAR\*1963\*

JAN	2600	0	4243	1729	.000	0	0	0	12356
FEB	2400	0	4181	1543	.000	0	0	0	10575
MAR	2500	0	4181	1349	.090	121	0	0	8773
APR	1800	0	5054	1080	.000	0	0	0	5519
MAY	4100	0	5117	845	.180	152	0	0	4350
JUN	900	0	5242	386	.120	46	0	38	0
JUL	800	0	6802	0	.090	0	0	6002	0
AUG	600	0	7488	0	.370	0	0	6888	0
SEP	300	0	6365	0	.130	0	0	6065	0
OCT	300	0	5242	0	.260	0	0	4942	0
NOV	400	0	4243	0	-.200	0	0	3843	0
DEC	800	0	4243	0	-.100	0	0	3443	0

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 ANN 17500 0 62400 .940 320 0 31220

## LAKE CHEROKEE OPERATION

## PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
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## YEAR\*1964\*

JAN	1500	0	4243	0	-.100	0	0	2743	0
FEB	1400	0	4181	0	.000	0	0	2781	0
MAR	5500	0	4181	119	-.200	-23	0	0	1343
APR	5100	0	5054	249	-.300	-74	0	0	1463
MAY	3000	0	5117	130	.050	6	0	660	0
JUN	1100	0	5242	0	.310	0	0	4142	0
JUL	500	0	6802	0	.270	0	0	6302	0
AUG	400	0	7488	0	.100	0	0	7088	0
SEP	300	0	6365	0	.170	0	0	6065	0
OCT	400	0	5242	0	.310	0	0	4842	0
NOV	300	0	4243	0	.000	0	0	3943	0
DEC	900	0	4243	0	-.200	0	0	3343	0

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 ANN 20400 0 62400 .410 -91 0 41908

## YEAR\*1965\*

JAN	1200	0	4243	0	.000	0	0	3043	0
FEB	3300	0	4181	0	-.200	0	0	881	0
MAR	4900	0	4181	65	-.200	-12	0	0	732
APR	6900	0	5054	289	.180	52	0	0	2526
MAY	1600	0	5117	228	-.200	-45	0	0	46
JUN	8100	0	5242	258	.160	41	0	0	2863
JUL	1100	0	6802	254	.360	91	0	2930	0
AUG	500	0	7488	0	.140	0	0	6988	0
SEP	700	0	6365	0	.000	0	0	5665	0
OCT	500	0	5242	0	.230	0	0	4742	0
NOV	400	0	4243	0	.000	0	0	3843	0
DEC	2100	0	4243	0	-.300	0	0	2143	0

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 ANN 31300 0 62400 .170 126 0 30235

## YEAR\*1966\*

JAN	2600	0	4243	0	-.100	0	0	1643	0
FEB	13300	0	4181	827	-.500	-413	0	0	9533
MAR	2400	0	4181	1232	.110	135	0	0	7617
APR	2300	0	5054	989	-.100	-98	0	0	4961
MAY	25800	0	5117	1959	.000	0	0	0	25644
JUN	5100	0	5242	2826	.160	452	0	0	25050
JUL	800	0	6802	2634	.170	448	0	0	18601
AUG	700	0	7488	1949	.000	0	0	0	11813
SEP	700	0	6365	1263	.180	227	0	0	5921
OCT	600	0	5242	636	.040	25	0	0	1254
NOV	100	0	4243	111	.100	11	0	2900	0
DEC	0	0	4243	0	-.100	0	0	4243	0

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 ANN 54400 0 62400 -.040 787 0 8787

1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE CHEROKEE OPERATION  
 PERMITTED CONDITIONS

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\* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
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YEAR\*1967\*

JAN	0	0	4243	0	.050	0	0	4243	0
FEB	600	0	4181	0	-.100	0	0	3581	0
MAR	100	0	4181	0	.100	0	0	4081	0
APR	2000	0	5054	0	-.100	0	0	3054	0
MAY	3100	0	5117	0	-.300	0	0	2017	0
JUN	4400	0	5242	0	.070	0	0	842	0
JUL	800	0	6802	0	.040	0	0	6002	0
AUG	300	0	7488	0	.290	0	0	7188	0
SEP	100	0	6365	0	.270	0	0	6265	0
OCT	0	0	5242	0	.230	0	0	5242	0
NOV	200	0	4243	0	.200	0	0	4043	0
DEC	1000	0	4243	0	.000	0	0	3243	0

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 ANN 12600 0 62400 .750 0 0 49800

YEAR\*1968\*

JAN	9200	0	4243	444	-.100	-43	0	0	5001
FEB	3900	0	4181	837	.000	0	0	0	4720
MAR	6500	0	4181	946	.000	0	0	0	7040
APR	26300	0	5054	2288	-.300	-685	0	0	28972
MAY	12200	0	5117	3233	-.200	-646	0	0	36701
JUN	11000	0	5242	3600	.000	0	0	0	42460
JUL	4600	0	6802	3690	.070	258	0	0	40000
AUG	1000	0	7488	3428	.200	686	0	0	32826
SEP	4900	0	6365	3189	.040	128	0	0	31234
OCT	1800	0	5242	3038	.170	517	0	0	27276
NOV	4300	0	4243	2932	.000	0	0	0	27333
DEC	13900	0	4243	3196	.000	0	0	0	36989

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 ANN 99600 0 62400 -.120 211 0 0

YEAR\*1969\*

JAN	4600	0	4243	3464	.050	173	0	0	37173
FEB	10000	0	4181	3637	-.100	-363	0	0	43356
MAR	21100	0	4181	3987	-.100	-398	13974	0	46700
APR	26100	0	5054	3987	-.200	-796	21843	0	46700
MAY	14800	0	5117	3987	-.100	-398	10082	0	46700
JUN	7000	0	5242	3987	.280	1116	642	0	46700
JUL	400	0	6802	3783	.290	1097	0	0	39201
AUG	400	0	7488	3352	.380	1274	0	0	30840
SEP	200	0	6365	2929	.350	1025	0	0	23650
OCT	200	0	5242	2583	.190	491	0	0	18117
NOV	2000	0	4243	2142	.150	321	0	0	15553
DEC	1800	0	4243	1885	-.300	-564	0	0	13675

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 ANN 88600 0 62400 .890 2974 46541 0

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\* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
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YEAR\*1970\*

JAN	4000	0	4243	1767	.030	53	0	0	13379
FEB	3200	0	4181	1697	.000	0	0	0	12398
MAR	9900	0	4181	1954	.000	0	0	0	18117
APR	4800	0	5054	2279	.050	114	0	0	17749
MAY	5700	0	5117	2285	.050	114	0	0	18218
JUN	1100	0	5242	2035	.170	346	0	0	13730
JUL	1300	0	6802	1473	.220	324	0	0	7904
AUG	800	0	7488	780	.420	328	0	0	889
SEP	0	0	6365	79	.180	14	0	5490	0
OCT	800	0	5242	0	-.100	0	0	4442	0
NOV	2900	0	4243	0	.110	0	0	1343	0
DEC	1800	0	4243	0	.030	0	0	2443	0

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 ANN 36300 0 62400 1.160 1293 0 13718

YEAR\*1971\*

JAN	1000	0	4243	0	.110	0	0	3243	0
FEB	2000	0	4181	0	.020	0	0	2181	0
MAR	1600	0	4181	0	.090	0	0	2581	0
APR	1300	0	5054	0	.280	0	0	3754	0
MAY	2200	0	5117	0	.140	0	0	2917	0
JUN	800	0	5242	0	.370	0	0	4442	0
JUL	1400	0	6802	0	.330	0	0	5402	0
AUG	900	0	7488	0	.220	0	0	6588	0
SEP	700	0	6365	0	.180	0	0	5665	0
OCT	500	0	5242	0	.170	0	0	4742	0
NOV	1400	0	4243	0	.050	0	0	2843	0
DEC	5200	0	4243	86	-.100	-8	0	0	965

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 ANN 19000 0 62400 1.860 -8 0 44357

YEAR\*1972\*

JAN	14600	0	4243	974	.000	0	0	0	11322
FEB	4000	0	4181	1511	.080	121	0	0	11020
MAR	5400	0	4181	1557	.050	78	0	0	12162
APR	1600	0	5054	1416	.200	283	0	0	8424
MAY	2900	0	5117	1088	.180	196	0	0	6012
JUN	1200	0	5242	693	.250	173	0	0	1797
JUL	3100	0	6802	159	.170	27	0	1932	0
AUG	700	0	7488	0	.290	0	0	6788	0
SEP	600	0	6365	0	.180	0	0	5765	0
OCT	1900	0	5242	0	.110	0	0	3342	0
NOV	5400	0	4243	103	.000	0	0	0	1157
DEC	9400	0	4243	663	.000	0	0	0	6314

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 ANN 50800 0 62400 1.510 878 0 17826

LAKE CHEROKEE OPERATION  
PERMITTED CONDITIONS

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## YEAR\*1973\*

JAN	13900	0	4243	1516	-.100	-151	0	0	16122
FEB	8700	0	4181	2335	.000	0	0	0	20641
MAR	15600	0	4181	2880	.000	0	0	0	32060
APR	16100	0	5054	3491	.000	0	0	0	43106
MAY	15400	0	5117	3987	.210	837	5852	0	46700
JUN	12900	0	5242	3987	.080	319	7339	0	46700
JUL	5700	0	6802	3930	.250	983	0	0	44616
AUG	1400	0	7488	3682	.260	957	0	0	37570
SEP	3700	0	6365	3407	.120	409	0	0	34497
OCT	5500	0	5242	3319	.130	431	0	0	34324
NOV	5500	0	4243	3345	.030	100	0	0	35480
DEC	19000	0	4243	3778	.000	0	3537	0	46700

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 ANN 123400 0 62400 .980 3885 16728 0

## YEAR\*1974\*

JAN	28200	0	4243	3987	-.200	-796	24754	0	46700
FEB	13800	0	4181	3987	.030	120	9500	0	46700
MAR	6000	0	4181	3987	.090	359	1460	0	46700
APR	6200	0	5054	3987	.210	837	308	0	46700
MAY	6500	0	5117	3987	.150	598	785	0	46700
JUN	4400	0	5242	3924	.380	1491	0	0	44367
JUL	1100	0	6802	3677	.280	1030	0	0	37636
AUG	300	0	7488	3281	.200	656	0	0	29792
SEP	3600	0	6365	2983	.110	328	0	0	26699
OCT	4000	0	5242	2855	.130	371	0	0	25086
NOV	9300	0	4243	2949	.000	0	0	0	30143
DEC	18600	0	4243	3486	-.100	-348	0	0	44849

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 ANN 102000 0 62400 1.280 4644 36808 0

## YEAR\*1975\*

JAN	12800	0	4243	3987	.000	0	6705	0	46700
FEB	20300	0	4181	3987	.000	0	16119	0	46700
MAR	10900	0	4181	3987	.000	0	6719	0	46700
APR	8800	0	5054	3987	.000	0	3746	0	46700
MAY	21900	0	5117	3987	.000	0	16783	0	46700
JUN	7600	0	5242	3987	.170	678	1681	0	46700
JUL	3800	0	6802	3885	.190	738	0	0	42960
AUG	200	0	7488	3562	.240	855	0	0	34817
SEP	400	0	6365	3155	.280	883	0	0	27969
OCT	1500	0	5242	2856	.140	400	0	0	23828
NOV	1200	0	4243	2651	.130	345	0	0	20440
DEC	1100	0	4243	2393	.010	24	0	0	17273

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 ANN 90500 0 62400 1.160 3923 51753 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
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YEAR\*1976\*

JAN	4700	0	4243	2216	.070	155	0	0	17575
FEB	600	0	4181	2007	.040	80	0	0	13913
MAR	8600	0	4181	2054	.000	0	0	0	18333
APR	1000	0	5054	2052	.190	390	0	0	13888
MAY	11400	0	5117	2148	.140	301	0	0	19871
JUN	8100	0	5242	2592	.200	518	0	0	22211
JUL	2800	0	6802	2537	.130	330	0	0	17879
AUG	3600	0	7488	1983	.420	833	0	0	13159
SEP	800	0	6365	1410	.200	282	0	0	7312
OCT	1300	0	5242	880	.180	158	0	0	3212
NOV	700	0	4243	285	.010	3	0	334	0
DEC	4200	0	4243	0	.000	0	0	43	0

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 ANN 47800 0 62400 1.580 3050 0 377

YEAR\*1977\*

JAN	4100	0	4243	0	-.100	0	0	143	0
FEB	7800	0	4181	321	.000	0	0	0	3619
MAR	11400	0	4181	1088	.020	22	0	0	10817
APR	9600	0	5054	1709	.110	188	0	0	15174
MAY	4000	0	5117	1855	.300	556	0	0	13501
JUN	1100	0	5242	1517	.270	410	0	0	8950
JUL	500	0	6802	920	.350	322	0	0	2326
AUG	2100	0	7488	206	.170	35	0	3097	0
SEP	500	0	6365	0	.270	0	0	5865	0
OCT	700	0	5242	0	.330	0	0	4542	0
NOV	1600	0	4243	0	.000	0	0	2643	0
DEC	2100	0	4243	0	.070	0	0	2143	0

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 ANN 45500 0 62400 1.790 1533 0 18433

YEAR\*1978\*

JAN	6400	0	4243	193	-.100	-18	0	0	2176
FEB	5900	0	4181	538	.000	0	0	0	3895
MAR	5400	0	4181	796	.050	40	0	0	5075
APR	2200	0	5054	638	.150	96	0	0	2125
MAY	3700	0	5117	246	.220	54	0	0	654
JUN	600	0	5242	58	.400	23	0	4011	0
JUL	700	0	6802	0	.390	0	0	6102	0
AUG	1000	0	7488	0	.300	0	0	6488	0
SEP	5400	0	6365	0	-.100	0	0	965	0
OCT	300	0	5242	0	.370	0	0	4942	0
NOV	1200	0	4243	0	.000	0	0	3043	0
DEC	5000	0	4243	67	.090	6	0	0	751

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 ANN 37800 0 62400 1.770 200 0 25550

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
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YEAR\*1979\*

JAN	23300	0	4243	1422	-.100	-141	0	0	19950
FEB	17600	0	4181	2905	-.100	-290	0	0	33660
MAR	14700	0	4181	3562	.020	71	0	0	44107
APR	20500	0	5054	3987	.020	80	12773	0	46700
MAY	12500	0	5117	3987	.130	518	6865	0	46700
JUN	11200	0	5242	3987	.300	1196	4762	0	46700
JUL	2300	0	6802	3844	.200	769	0	0	41430
AUG	1800	0	7488	3509	.380	1334	0	0	34408
SEP	3000	0	6365	3212	.170	546	0	0	30497
OCT	1200	0	5242	2980	.200	596	0	0	25860
NOV	3800	0	4243	2831	.140	396	0	0	25020
DEC	5100	0	4243	2831	.000	0	0	0	25877

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 ANN 117000 0 62400 1.360 5073 24401 0

YEAR\*1980\*

JAN	8700	0	4243	2976	.000	0	0	0	30334
FEB	11500	0	4181	3296	.000	0	0	0	37653
MAR	9700	0	4181	3645	.000	0	0	0	43172
APR	18700	0	5054	3987	.010	40	10078	0	46700
MAY	15300	0	5117	3987	.080	319	9864	0	46700
JUN	2600	0	5242	3865	.480	1855	0	0	42203
JUL	700	0	6802	3523	.560	1973	0	0	34129
AUG	500	0	7488	3059	.650	1989	0	0	25152
SEP	700	0	6365	2634	.380	1001	0	0	18487
OCT	200	0	5242	2011	.190	382	0	0	13063
NOV	200	0	4243	1497	.000	0	0	0	9020
DEC	1200	0	4243	1110	.120	133	0	0	5843

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 ANN 70000 0 62400 2.470 7691 19942 0

YEAR\*1981\*

JAN	400	0	4243	694	.020	14	0	0	1986
FEB	1300	0	4181	176	.000	0	0	894	0
MAR	2400	0	4181	0	.050	0	0	1781	0
APR	1300	0	5054	0	.230	0	0	3754	0
MAY	5000	0	5117	0	.190	0	0	117	0
JUN	11100	0	5242	513	.140	72	0	0	5787
JUL	1600	0	6802	551	.290	160	0	0	425
AUG	4000	0	7488	38	.460	17	0	3080	0
SEP	2200	0	6365	0	.230	0	0	4165	0
OCT	400	0	5242	0	.120	0	0	4842	0
NOV	1900	0	4243	0	.090	0	0	2343	0
DEC	1200	0	4243	0	.070	0	0	3043	0

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 ANN 32800 0 62400 1.890 263 0 24019



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YEAR\*1982\*

JAN	1900	0	4243	0	.000	0	0	2343	0
FEB	4000	0	4181	0	.000	0	0	181	0
MAR	3900	0	4181	0	.020	0	0	281	0
APR	12300	0	5054	643	.000	0	0	0	7246
MAY	3400	0	5117	988	.220	217	0	0	5311
JUN	2100	0	5242	649	.260	169	0	0	2001
JUL	2000	0	6802	177	.350	62	0	2862	0
AUG	300	0	7488	0	.350	0	0	7188	0
SEP	200	0	6365	0	.290	0	0	6165	0
OCT	1500	0	5242	0	.080	0	0	3742	0
NOV	3800	0	4243	0	.000	0	0	443	0
DEC	23800	0	4243	1383	-.300	-414	0	0	19972

ANN 59200 0 62400 1.270 33 0 23205

YEAR\*1983\*

JAN	7100	0	4243	2611	.000	0	0	0	22828
FEB	21300	0	4181	3163	-.100	-315	0	0	40264
MAR	11700	0	4181	3835	.060	230	853	0	46700
APR	4500	0	5054	3956	.150	593	0	0	45552
MAY	18000	0	5117	3987	.010	40	11696	0	46700
JUN	3700	0	5242	3925	.190	746	0	0	44413
JUL	2800	0	6802	3712	.410	1522	0	0	38889
AUG	800	0	7488	3358	.250	839	0	0	31362
SEP	500	0	6365	2974	.240	714	0	0	24783
OCT	300	0	5242	2639	.310	818	0	0	19024
NOV	2600	0	4243	2308	.030	69	0	0	17311
DEC	9500	0	4243	2539	-.100	-253	0	0	22822

ANN 82800 0 62400 1.450 5001 12549 0

YEAR\*1984\*

JAN	4800	0	4243	2704	.000	0	0	0	23379
FEB	12200	0	4181	2937	.000	0	0	0	31398
MAR	13400	0	4181	3401	.050	170	0	0	40447
APR	4100	0	5054	3601	.200	720	0	0	38772
MAY	3300	0	5117	3486	.220	767	0	0	36189
JUN	700	0	5242	3269	.260	850	0	0	30797
JUL	700	0	6802	2926	.380	1112	0	0	23584
AUG	700	0	7488	2504	.350	876	0	0	15919
SEP	300	0	6365	1675	.250	419	0	0	9436
OCT	6200	0	5242	1375	.000	0	0	0	10394
NOV	4900	0	4243	1462	.010	15	0	0	11036
DEC	4900	0	4243	1529	.040	61	0	0	11632

ANN 56200 0 62400 1.760 4990 0 0

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YEAR\*1985\*

JAN	6200	0	4243	1666	.010	17	0	0	13572
FEB	12300	0	4181	2241	.000	0	0	0	21691
MAR	10700	0	4181	2800	.060	168	0	0	28042
APR	4100	0	5054	2934	.160	469	0	0	26619
MAY	7100	0	5117	2930	.240	703	0	0	27899
JUN	1700	0	5242	2840	.370	1051	0	0	23306
JUL	700	0	6802	2505	.400	1002	0	0	16203
AUG	500	0	7488	1633	.510	833	0	0	8382
SEP	600	0	6365	891	.290	259	0	0	2359
OCT	4000	0	5242	308	.000	0	0	0	1117
NOV	6700	0	4243	416	.000	0	0	0	3574
DEC	11500	0	4243	1085	.010	11	0	0	10820

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 ANN 66100 0 62400 2.050 4512 0 0

YEAR\*1986\*

JAN	1900	0	4243	1339	.100	134	0	0	8343
FEB	8800	0	4181	1455	.000	0	0	0	12962
MAR	2600	0	4181	1605	.170	273	0	0	11109
APR	2600	0	5054	1363	.110	150	0	0	8504
MAY	7600	0	5117	1349	.110	148	0	0	10839
JUN	15700	0	5242	2033	.110	224	0	0	21074
JUL	3900	0	6802	2418	.470	1136	0	0	17036
AUG	1700	0	7488	1804	.300	541	0	0	10707
SEP	300	0	6365	1124	.200	225	0	0	4417
OCT	1600	0	5242	458	.050	23	0	0	752
NOV	11800	0	4243	806	-.100	-80	0	0	8390
DEC	12900	0	4243	1679	.000	0	0	0	17047

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 ANN 71400 0 62400 1.520 2773 0 0

YEAR\*1987\*

JAN	6500	0	4243	2309	.000	0	0	0	19303
FEB	17400	0	4181	2864	-.100	-285	0	0	32809
MAR	12100	0	4181	3438	.100	344	0	0	40384
APR	4300	0	5054	3589	.350	1256	0	0	38374
MAY	1100	0	5117	3415	.110	376	0	0	33982
JUN	3000	0	5242	3220	.170	547	0	0	31193
JUL	1400	0	6802	2976	.260	774	0	0	25017
AUG	1000	0	7488	2605	.380	990	0	0	17540
SEP	400	0	6365	1854	.240	445	0	0	11130
OCT	400	0	5242	1229	.260	320	0	0	5969
NOV	7300	0	4243	1117	.000	0	0	0	9025
DEC	13600	0	4243	1796	-.100	-179	0	0	18562

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 ANN 68500 0 62400 1.670 4585 0 0

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YEAR\*1988\*

JAN	18600	0	4243	2839	.110	312	0	0	32606
FEB	7600	0	4181	3308	.060	198	0	0	35827
MAR	11700	0	4181	3624	-.240	-869	0	0	44216
APR	7600	0	5054	3890	.290	1128	0	0	45633
MAY	1400	0	5117	3777	.500	1888	0	0	40028
JUN	1100	0	5242	3464	.500	1732	0	0	34154
JUL	1300	0	6802	3124	.370	1156	0	0	27497
AUG	1300	0	7488	2748	.350	962	0	0	20347
SEP	1200	0	6365	2194	.470	1031	0	0	14151
OCT	1000	0	5242	1584	.240	380	0	0	9529
NOV	1800	0	4243	1189	.220	262	0	0	6825
DEC	4000	0	4243	1051	-.330	-346	0	0	6928

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 ANN 58600 0 62400 2.540 7834 0 0

YEAR\*1989\*

JAN	12700	0	4243	1544	-.410	-632	0	0	16018
FEB	14400	0	4181	2600	-.050	-129	0	0	26367
MAR	13400	0	4181	3150	-.210	-660	0	0	36248
APR	17900	0	5054	3731	.360	1343	1050	0	46700
MAY	25500	0	5117	3987	-.050	-198	20583	0	46700
JUN	31600	0	5242	3987	-.750	-2989	29349	0	46700
JUL	19800	0	6802	3987	-.170	-677	13676	0	46700
AUG	2500	0	7488	3796	.540	2050	0	0	39662
SEP	900	0	6365	3414	.450	1536	0	0	32661
OCT	1200	0	5242	3078	.430	1323	0	0	27296
NOV	600	0	4243	2813	.260	731	0	0	22922
DEC	1200	0	4243	2621	-.140	-366	0	0	20246

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 ANN 141700 0 62400 .260 1325 64658 0

**LAKE MARTIN OPERATION  
PERMITTED CONDITIONS**

1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
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YEAR\*1940\*

JAN	4600	0	2125	5020	.000	0	2475	0	77619
FEB	15400	0	1925	5020	-.200	-1003	14479	0	77619
MAR	2700	0	2125	5018	.130	652	0	0	77542
APR	6400	0	2050	5020	-.100	-501	4775	0	77619
MAY	5500	0	2125	5020	.100	502	2873	0	77619
JUN	7700	0	2050	5020	-.100	-501	6152	0	77619
JUL	3700	0	2125	5020	.160	803	772	0	77619
AUG	3900	0	2125	5020	-.100	-501	2277	0	77619
SEP	2000	0	2050	4992	.260	1298	0	0	76271
OCT	500	0	2125	4904	.240	1177	0	0	73469
NOV	10000	0	2050	5020	-.700	-3513	7314	0	77619
DEC	36700	0	2125	5020	-.400	-2007	36583	0	77619

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 ANN 99100 0 25000 -.710 -3599 77700 0

YEAR\*1941\*

JAN	27900	0	2125	5020	.000	0	25775	0	77619
FEB	10600	0	1925	5020	-.100	-501	9177	0	77619
MAR	17400	0	2125	5020	.000	0	15275	0	77619
APR	7100	0	2050	5020	.030	151	4899	0	77619
MAY	16300	0	2125	5020	-.300	-1505	15681	0	77619
JUN	15700	0	2050	5020	-.200	-1003	14654	0	77619
JUL	13900	0	2125	5020	-.100	-501	12277	0	77619
AUG	1700	0	2125	4983	.270	1345	0	0	75849
SEP	2000	0	2050	4937	.070	346	0	0	75453
OCT	3800	0	2125	4996	-.300	-1498	1008	0	77619
NOV	17200	0	2050	5020	.000	0	15150	0	77619
DEC	9800	0	2125	5020	.000	0	7675	0	77619

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 ANN 143400 0 25000 -.630 -3170 121571 0

YEAR\*1942\*

JAN	7200	0	2125	5020	.020	100	4975	0	77619
FEB	6700	0	1925	5020	-.100	-501	5277	0	77619
MAR	11600	0	2125	5020	.000	0	9475	0	77619
APR	7200	0	2050	5020	-.100	-501	5652	0	77619
MAY	21000	0	2125	5020	.000	0	18875	0	77619
JUN	11300	0	2050	5020	.000	0	9250	0	77619
JUL	2500	0	2125	5005	.220	1101	0	0	76893
AUG	2100	0	2125	4973	.150	746	0	0	76122
SEP	4000	0	2050	4977	.200	995	0	0	77077
OCT	900	0	2125	4943	.270	1335	0	0	74517
NOV	1200	0	2050	4858	.130	632	0	0	73035
DEC	1200	0	2125	4818	-.100	-481	0	0	72592

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 ANN 76900 0 25000 .690 3423 53504 0

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YEAR\*1943\*

JAN	6000	0	2125	4890	.000	0	0	0	76467
FEB	2500	0	1925	4971	.120	597	0	0	76446
MAR	2300	0	2125	4974	.000	0	0	0	76621
APR	4300	0	2050	5010	.150	751	500	0	77619
MAY	1200	0	2125	4994	.060	300	0	0	76394
JUN	3100	0	2050	4977	.130	647	0	0	76797
JUL	6200	0	2125	5020	.190	954	2300	0	77619
AUG	500	0	2125	4948	.360	1781	0	0	74213
SEP	300	0	2050	4826	.140	676	0	0	71787
OCT	1000	0	2125	4728	.230	1087	0	0	69575
NOV	800	0	2050	4647	.080	372	0	0	67953
DEC	1300	0	2125	4606	-.100	-460	0	0	67588

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 ANN 29500 0 25000 1.360 6704 2800 0

YEAR\*1944\*

JAN	10200	0	2125	4808	-.400	-1922	0	0	77587
FEB	9300	0	1925	5020	-.100	-501	7845	0	77619
MAR	15600	0	2125	5020	.000	0	13475	0	77619
APR	16800	0	2050	5020	-.100	-501	15252	0	77619
MAY	38400	0	2125	5020	-.600	-3011	39287	0	77619
JUN	17400	0	2050	5020	.220	1104	14246	0	77619
JUL	1000	0	2125	4961	.340	1687	0	0	74807
AUG	500	0	2125	4868	.000	0	0	0	73182
SEP	1600	0	2050	4802	.220	1056	0	0	71676
OCT	400	0	2125	4704	.300	1411	0	0	68540
NOV	1300	0	2050	4642	-.200	-927	0	0	68718
DEC	7200	0	2125	4793	-.400	-1916	0	0	75710

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 ANN 119700 0 25000 -.720 -3525 90104 0

YEAR\*1945\*

JAN	27700	0	2125	5020	-.100	-501	24168	0	77619
FEB	11200	0	1925	5020	-.100	-501	9777	0	77619
MAR	13800	0	2125	5020	-.100	-501	12177	0	77619
APR	50400	0	2050	5020	-.200	-1003	49354	0	77619
MAY	8200	0	2125	5020	.000	0	6075	0	77619
JUN	2900	0	2050	5020	.060	301	549	0	77619
JUL	9700	0	2125	5020	.000	0	7575	0	77619
AUG	3000	0	2125	5019	.180	903	0	0	77591
SEP	900	0	2050	4968	.250	1242	0	0	75198
OCT	6300	0	2125	5020	-.200	-1003	2758	0	77619
NOV	3100	0	2050	5020	.060	301	749	0	77619
DEC	6400	0	2125	5020	.000	0	4275	0	77619

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 ANN 143600 0 25000 -.150 -765 117457 0

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YEAR\*1946\*

JAN	22900	0	2125	5020	-.500	-2509	23285	0	77619
FEB	26600	0	1925	5020	-.300	-1505	26181	0	77619
MAR	22600	0	2125	5020	-.100	-501	20977	0	77619
APR	12700	0	2050	5020	.080	402	10248	0	77619
MAY	12400	0	2125	5020	-.300	-1505	11781	0	77619
JUN	25900	0	2050	5020	.000	0	23850	0	77619
JUL	4500	0	2125	5020	.180	904	1471	0	77619
AUG	1300	0	2125	4986	.160	798	0	0	75996
SEP	1400	0	2050	4925	.130	640	0	0	74706
OCT	1300	0	2125	4876	.040	195	0	0	73686
NOV	7800	0	2050	5007	-.300	-1501	3319	0	77619
DEC	14500	0	2125	5020	-.100	-501	12877	0	77619

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 ANN 153900 0 25000 -1.010 -5089 133990 0

YEAR\*1947\*

JAN	24700	0	2125	5020	-.400	-2007	24583	0	77619
FEB	9600	0	1925	5020	.000	0	7675	0	77619
MAR	15600	0	2125	5020	-.100	-501	13977	0	77619
APR	12900	0	2050	5020	.000	0	10850	0	77619
MAY	8200	0	2125	5020	.000	0	6075	0	77619
JUN	2400	0	2050	5016	.110	552	0	0	77417
JUL	1500	0	2125	4965	.320	1589	0	0	75203
AUG	400	0	2125	4846	.350	1696	0	0	71782
SEP	600	0	2050	4712	.320	1508	0	0	68824
OCT	400	0	2125	4595	.190	873	0	0	66226
NOV	1400	0	2050	4546	-.200	-908	0	0	66485
DEC	5600	0	2125	4644	-.200	-928	0	0	70889

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 ANN 83300 0 25000 .390 1870 63160 0

YEAR\*1948\*

JAN	9300	0	2125	4898	-.100	-489	935	0	77619
FEB	17300	0	1925	5020	-.200	-1003	16379	0	77619
MAR	13200	0	2125	5020	.010	50	11025	0	77619
APR	9400	0	2050	5020	.050	251	7099	0	77619
MAY	5500	0	2125	5020	.000	0	3375	0	77619
JUN	4800	0	2050	5020	.270	1355	1395	0	77619
JUL	800	0	2125	4963	.280	1390	0	0	74904
AUG	500	0	2125	4834	.370	1789	0	0	71491
SEP	300	0	2050	4703	.230	1082	0	0	68659
OCT	300	0	2125	4581	.240	1100	0	0	65735
NOV	1700	0	2050	4551	-.400	-1819	0	0	67205
DEC	1400	0	2125	4567	.000	0	0	0	66480

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 ANN 64500 0 25000 .750 3702 40208 0

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YEAR\*1949\*

JAN	8400	0	2125	4713	-.300	-1413	0	0	74169
FEB	10800	0	1925	5020	-.100	-501	5927	0	77619
MAR	14700	0	2125	5020	-.200	-1003	13579	0	77619
APR	10400	0	2050	5020	-.100	-501	8852	0	77619
MAY	5700	0	2125	5020	.220	1104	2471	0	77619
JUN	3200	0	2050	5020	.000	0	1150	0	77619
JUL	2500	0	2125	5020	.020	100	275	0	77619
AUG	2800	0	2125	5007	.260	1302	0	0	76992
SEP	1100	0	2050	4960	.130	645	0	0	75397
OCT	5600	0	2125	5020	-.400	-2007	3261	0	77619
NOV	5500	0	2050	5020	.220	1104	2346	0	77619
DEC	7400	0	2125	5020	-.300	-1505	6781	0	77619

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 ANN 78100 0 25000 -.550 -2679 44641 0

YEAR\*1950\*

JAN	24200	0	2125	5020	-.300	-1505	23581	0	77619
FEB	19800	0	1925	5020	-.300	-1505	19381	0	77619
MAR	22300	0	2125	5020	.010	50	20125	0	77619
APR	4100	0	2050	5020	-.100	-501	2552	0	77619
MAY	17500	0	2125	5020	-.200	-1003	16379	0	77619
JUN	24700	0	2050	5020	-.200	-1003	23654	0	77619
JUL	2200	0	2125	5006	.150	751	0	0	76943
AUG	2100	0	2125	4971	.190	945	0	0	75974
SEP	1200	0	2050	4933	.000	0	0	0	75124
OCT	1200	0	2125	4882	.130	635	0	0	73564
NOV	1000	0	2050	4824	.030	145	0	0	72369
DEC	1100	0	2125	4776	.020	96	0	0	71249

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 ANN 121400 0 25000 -.570 -2900 105672 0

YEAR\*1951\*

JAN	4300	0	2125	4818	-.200	-963	0	0	74387
FEB	4800	0	1925	4965	-.200	-992	636	0	77619
MAR	8000	0	2125	5020	-.100	-501	6377	0	77619
APR	6100	0	2050	5020	.080	402	3648	0	77619
MAY	3400	0	2125	5020	.110	552	723	0	77619
JUN	1100	0	2050	5000	.000	0	0	0	76669
JUL	1500	0	2125	4942	.240	1186	0	0	74858
AUG	400	0	2125	4826	.410	1979	0	0	71154
SEP	600	0	2050	4727	-.100	-472	0	0	70177
OCT	300	0	2125	4641	.280	1300	0	0	67053
NOV	500	0	2050	4542	.010	45	0	0	65457
DEC	2100	0	2125	4527	-.200	-904	0	0	66337

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 ANN 33100 0 25000 .330 1627 11385 0



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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SNTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1952\*

JAN	2200	0	2125	4547	.000	0	0	0	66412
FEB	9800	0	1925	4724	-.100	-471	0	0	74760
MAR	8300	0	2125	5020	.000	0	3316	0	77619
APR	8900	0	2050	5020	-.400	-2007	8858	0	77619
MAY	9000	0	2125	5020	-.200	-1003	7879	0	77619
JUN	5600	0	2050	5020	.290	1456	2094	0	77619
JUL	1400	0	2125	5015	-.100	-501	0	0	77396
AUG	500	0	2125	4934	.410	2023	0	0	73748
SEP	300	0	2050	4778	.420	2007	0	0	69991
OCT	200	0	2125	4613	.470	2168	0	0	65898
NOV	200	0	2050	4467	.220	983	0	0	63065
DEC	1500	0	2125	4394	.000	0	0	0	62440

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 ANN 47900 0 25000 1.010 4650 22147 0

YEAR\*1953\*

JAN	3700	0	2125	4414	.000	0	0	0	64015
FEB	8200	0	1925	4599	-.200	-919	0	0	71210
MAR	19800	0	2125	5020	-.200	-1003	12270	0	77619
APR	2700	0	2050	5020	-.400	-2007	2658	0	77619
MAY	53300	0	2125	5020	-.800	-4015	55191	0	77619
JUN	15000	0	2050	5020	.180	904	12046	0	77619
JUL	2200	0	2125	5019	.020	100	0	0	77594
AUG	1800	0	2125	4991	.200	998	0	0	76270
SEP	800	0	2050	4905	.310	1521	0	0	73500
OCT	400	0	2125	4780	.300	1434	0	0	70341
NOV	500	0	2050	4678	.030	140	0	0	68650
DEC	3000	0	2125	4661	.000	0	0	0	69525

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 ANN 111400 0 25000 -.560 -2850 82165 0

YEAR\*1954\*

JAN	3000	0	2125	4698	.000	0	0	0	70400
FEB	4100	0	1925	4740	.220	1043	0	0	71533
MAR	2200	0	2125	4753	.120	570	0	0	71037
APR	3600	0	2050	4776	.000	0	0	0	72587
MAY	10200	0	2125	4999	-.200	-999	4043	0	77619
JUN	1600	0	2050	4973	.360	1790	0	0	75379
JUL	400	0	2125	4842	.470	2276	0	0	71378
AUG	300	0	2125	4668	.520	2427	0	0	67126
SEP	200	0	2050	4495	.470	2113	0	0	63163
OCT	100	0	2125	4348	.230	1000	0	0	60138
NOV	1600	0	2050	4264	.120	512	0	0	59176
DEC	1400	0	2125	4222	.080	338	0	0	58114

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 ANN 28700 0 25000 2.390 11069 4043 0

1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE MARTIN OPERATION  
 PERMITTED CONDITIONS

\*\*\*\*\*  
 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1955\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	2500	0	2125	4216	-.100	-421	0	0	58910
FEB	6200	0	1925	4350	-.300	-1304	0	0	64490
MAR	5300	0	2125	4523	.120	543	0	0	67123
APR	12000	0	2050	4798	-.100	-479	0	0	77552
MAY	5400	0	2125	5020	.000	0	3208	0	77619
JUN	1800	0	2050	4982	.310	1544	0	0	75825
JUL	1400	0	2125	4927	.020	99	0	0	75001
AUG	6100	0	2125	4993	.000	0	1357	0	77619
SEP	1100	0	2050	4983	.160	797	0	0	75872
OCT	700	0	2125	4879	.370	1805	0	0	72642
NOV	400	0	2050	4761	.150	714	0	0	70278
DEC	700	0	2125	4678	.030	140	0	0	68712

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 ANN 43600 0 25000 .660 3436 4565 0

YEAR\*1956\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	1100	0	2125	4624	.000	0	0	0	67687
FEB	6400	0	1925	4716	-.200	-942	0	0	73105
MAR	3000	0	2125	4847	.010	48	0	0	73932
APR	4600	0	2050	4919	.000	0	0	0	76482
MAY	6800	0	2125	5020	.060	301	3237	0	77619
JUN	600	0	2050	4981	.080	398	0	0	75771
JUL	400	0	2125	4864	.410	1994	0	0	72051
AUG	200	0	2125	4702	.440	2069	0	0	68058
SEP	200	0	2050	4537	.440	1996	0	0	64211
OCT	200	0	2125	4400	.170	748	0	0	61538
NOV	300	0	2050	4295	.130	558	0	0	59230
DEC	800	0	2125	4227	-.100	-422	0	0	58328

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 ANN 24600 0 25000 1.440 6748 3237 0

YEAR\*1957\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	600	0	2125	4185	-.100	-418	0	0	57221
FEB	3400	0	1925	4193	.000	0	0	0	58696
MAR	3900	0	2125	4270	-.100	-426	0	0	60898
APR	3600	0	2050	4386	-.400	-1753	0	0	64203
MAY	40500	0	2125	5020	.000	0	24959	0	77619
JUN	19600	0	2050	5020	-.200	-1003	18554	0	77619
JUL	3300	0	2125	5020	.220	1104	71	0	77619
AUG	800	0	2125	4960	.310	1538	0	0	74756
SEP	300	0	2050	4859	.040	194	0	0	72812
OCT	3000	0	2125	4846	-.100	-484	0	0	74172
NOV	15300	0	2050	5020	-.500	-2509	12313	0	77619
DEC	13400	0	2125	5020	.000	0	11275	0	77619

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 ANN 107700 0 25000 -.830 -3761 67171 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1958\*

JAN	11800	0	2125	5020	-.100	-501	10177	0	77619
FEB	8900	0	1925	5020	.000	0	6975	0	77619
MAR	7100	0	2125	5020	-.100	-501	5477	0	77619
APR	100	0	2050	4979	.000	0	0	0	75669
MAY	26400	0	2125	5020	.110	552	21773	0	77619
JUN	5100	0	2050	5020	.000	0	3050	0	77619
JUL	3200	0	2125	5008	.330	1653	0	0	77041
AUG	1900	0	2125	4991	.000	0	0	0	76816
SEP	10700	0	2050	5020	-.600	-3011	10859	0	77619
OCT	5200	0	2125	5020	.130	653	2422	0	77619
NOV	1800	0	2050	5015	.000	0	0	0	77369
DEC	1800	0	2125	4995	.070	350	0	0	76694

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 ANN 84000 0 25000 -.160 -808 60734 0

YEAR\*1959\*

JAN	1600	0	2125	4970	.000	0	0	0	76169
FEB	6400	0	1925	5020	-.200	-1003	4029	0	77619
MAR	6400	0	2125	5020	.060	301	3974	0	77619
APR	9200	0	2050	5020	-.200	-1003	8154	0	77619
MAY	9400	0	2125	5020	.030	151	7124	0	77619
JUN	3500	0	2050	5020	.040	201	1249	0	77619
JUL	1000	0	2125	5007	-.100	-500	0	0	76995
AUG	1800	0	2125	4966	.200	993	0	0	75676
SEP	600	0	2050	4891	.160	783	0	0	73444
OCT	1000	0	2125	4821	.000	0	0	0	72319
NOV	1700	0	2050	4787	.030	144	0	0	71825
DEC	4100	0	2125	4848	-.300	-1454	0	0	75255

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 ANN 46700 0 25000 -.280 -1390 24531 0

YEAR\*1960\*

JAN	13000	0	2125	5020	-.200	-1003	9515	0	77619
FEB	13800	0	1925	5020	-.200	-1003	12879	0	77619
MAR	14900	0	2125	5020	.000	0	12775	0	77619
APR	3400	0	2050	5020	.120	602	748	0	77619
MAY	2500	0	2125	5003	.240	1201	0	0	76793
JUN	1600	0	2050	4976	.000	0	0	0	76343
JUL	2100	0	2125	4938	.270	1333	0	0	74985
AUG	1200	0	2125	4900	-.100	-489	0	0	74550
SEP	1000	0	2050	4848	.200	970	0	0	72530
OCT	1800	0	2125	4799	.000	0	0	0	72205
NOV	3800	0	2050	4839	-.100	-483	0	0	74439
DEC	17400	0	2125	5020	-.300	-1505	13601	0	77619

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 ANN 76500 0 25000 -.070 -381 49518 0

## LAKE MARTIN OPERATION

## PERMITTED CONDITIONS

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* M *	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
* O *	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
* N *	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*

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## YEAR\*1961\*

JAN	27500	0	2125	5020	-.300	-1505	26881	0	77619
FEB	15200	0	1925	5020	-.200	-1003	14279	0	77619
MAR	19100	0	2125	5020	-.200	-1003	17979	0	77619
APR	15200	0	2050	5020	.170	853	12297	0	77619
MAY	2200	0	2125	4999	.210	1050	0	0	76644
JUN	4100	0	2050	5020	-.100	-501	1577	0	77619
JUL	6000	0	2125	5020	.000	0	3875	0	77619
AUG	1800	0	2125	4987	.250	1247	0	0	76047
SEP	6700	0	2050	5020	-.100	-501	3580	0	77619
OCT	1300	0	2125	4979	.230	1145	0	0	75649
NOV	3400	0	2050	4976	-.100	-497	0	0	77497
DEC	21900	0	2125	5020	-.400	-2007	21661	0	77619

ANN	124400	0	25000		-.540	-2728	102129	0	
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## YEAR\*1962\*

JAN	11100	0	2125	5020	-.200	-1003	9979	0	77619
FEB	8900	0	1925	5020	.000	0	6975	0	77619
MAR	8900	0	2125	5020	.060	301	6474	0	77619
APR	5700	0	2050	5020	-.100	-501	4152	0	77619
MAY	10600	0	2125	5020	.050	251	8224	0	77619
JUN	2400	0	2050	5020	.000	0	350	0	77619
JUL	1200	0	2125	4960	.390	1934	0	0	74760
AUG	800	0	2125	4860	.120	583	0	0	72852
SEP	800	0	2050	4789	.040	192	0	0	71410
OCT	900	0	2125	4719	.140	661	0	0	69524
NOV	600	0	2050	4659	-.100	-465	0	0	68540
DEC	2800	0	2125	4662	-.100	-465	0	0	69681

ANN	54700	0	25000		.300	1484	36154	0	
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## YEAR\*1963\*

JAN	2800	0	2125	4700	.000	0	0	0	70356
FEB	2600	0	1925	4729	.000	0	0	0	71031
MAR	2700	0	2125	4746	.090	427	0	0	71179
APR	1900	0	2050	4746	.000	0	0	0	71029
MAY	4500	0	2125	4775	.180	859	0	0	72545
JUN	1000	0	2050	4772	.120	573	0	0	70922
JUL	900	0	2125	4704	.090	423	0	0	69274
AUG	600	0	2125	4601	.370	1702	0	0	66046
SEP	400	0	2050	4486	.130	583	0	0	63813
OCT	300	0	2125	4377	.260	1138	0	0	60850
NOV	400	0	2050	4298	-.200	-859	0	0	60060
DEC	800	0	2125	4262	-.100	-425	0	0	59161

ANN	18900	0	25000		.940	4420	0	0	
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1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE MARTIN OPERATION  
 PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1964\*

JAN	1700	0	2125	4243	-.100	-423	0	0	59160
FEB	1500	0	1925	4234	.000	0	0	0	58735
MAR	6000	0	2125	4325	-.200	-864	0	0	63475
APR	5600	0	2050	4528	-.300	-1357	0	0	68384
MAY	3300	0	2125	4651	.050	233	0	0	69326
JUN	1200	0	2050	4623	.310	1433	0	0	67043
JUL	600	0	2125	4517	.270	1220	0	0	64298
AUG	500	0	2125	4416	.100	442	0	0	62232
SEP	300	0	2050	4320	.170	734	0	0	59747
OCT	400	0	2125	4204	.310	1303	0	0	56719
NOV	300	0	2050	4104	.000	0	0	0	54969
DEC	1000	0	2125	4060	-.200	-811	0	0	54656

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 ANN 22400 0 25000 .410 1905 0 0

YEAR\*1965\*

JAN	1300	0	2125	4036	.000	0	0	0	53831
FEB	3600	0	1925	4071	-.200	-813	0	0	56320
MAR	5400	0	2125	4210	-.200	-841	0	0	60438
APR	7600	0	2050	4397	.180	791	0	0	65196
MAY	1700	0	2125	4507	-.200	-900	0	0	65673
JUN	8900	0	2050	4646	.160	743	0	0	71779
JUL	1300	0	2125	4721	.360	1700	0	0	69255
AUG	600	0	2125	4622	.140	647	0	0	67082
SEP	800	0	2050	4550	.000	0	0	0	65832
OCT	500	0	2125	4468	.230	1028	0	0	63180
NOV	400	0	2050	4378	.000	0	0	0	61530
DEC	2300	0	2125	4374	-.300	-1311	0	0	63017

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 ANN 34400 0 25000 .170 1039 0 0

YEAR\*1966\*

JAN	2800	0	2125	4429	-.100	-442	0	0	64135
FEB	14500	0	1925	4767	-.500	-2383	1475	0	77619
MAR	2700	0	2125	5020	.110	552	23	0	77619
APR	2600	0	2050	5020	-.100	-501	1052	0	77619
MAY	28200	0	2125	5020	.000	0	26075	0	77619
JUN	5600	0	2050	5020	.160	803	2747	0	77619
JUL	900	0	2125	4976	.170	846	0	0	75548
AUG	800	0	2125	4905	.000	0	0	0	74223
SEP	700	0	2050	4830	.180	869	0	0	72004
OCT	600	0	2125	4748	.040	190	0	0	70289
NOV	100	0	2050	4661	.100	466	0	0	67873
DEC	0	0	2125	4575	-.100	-456	0	0	66205

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 ANN 59500 0 25000 -.040 -58 31371 0

LAKE MARTIN OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1967\*

JAN	0	0	2125	4490	.050	225	0	0	63856
FEB	600	0	1925	4422	-.100	-441	0	0	62973
MAR	200	0	2125	4354	.100	435	0	0	60612
APR	2200	0	2050	4317	-.100	-431	0	0	61194
MAY	3300	0	2125	4381	-.300	-1313	0	0	63683
JUN	4900	0	2050	4487	.070	314	0	0	66219
JUL	900	0	2125	4511	.040	180	0	0	64814
AUG	600	0	2125	4418	.290	1281	0	0	61808
SEP	200	0	2050	4291	.270	1159	0	0	58799
OCT	0	0	2125	4163	.230	958	0	0	55716
NOV	200	0	2050	4043	.200	809	0	0	53058
DEC	1100	0	2125	3965	.000	0	0	0	52033

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 ANN 14000 0 25000 .750 3172 0 0

YEAR\*1968\*

JAN	10100	0	2125	4120	-.100	-411	0	0	60420
FEB	4300	0	1925	4346	.000	0	0	0	62795
MAR	7100	0	2125	4501	.000	0	0	0	67770
APR	28800	0	2050	5020	-.300	-1505	18407	0	77619
MAY	13300	0	2125	5020	-.200	-1003	12179	0	77619
JUN	12100	0	2050	5020	.000	0	10050	0	77619
JUL	5000	0	2125	5020	.070	351	2524	0	77619
AUG	1100	0	2125	4977	.200	995	0	0	75599
SEP	5400	0	2050	5001	.040	200	1129	0	77619
OCT	2000	0	2125	4999	.170	850	0	0	76644
NOV	4700	0	2050	5020	.000	0	1675	0	77619
DEC	15300	0	2125	5020	.000	0	13175	0	77619

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 ANN 109200 0 25000 -.120 -524 59139 0

YEAR\*1969\*

JAN	5000	0	2125	5020	.050	251	2624	0	77619
FEB	10900	0	1925	5020	-.100	-501	9477	0	77619
MAR	23100	0	2125	5020	-.100	-501	21477	0	77619
APR	28600	0	2050	5020	-.200	-1003	27554	0	77619
MAY	16200	0	2125	5020	-.100	-501	14577	0	77619
JUN	7700	0	2050	5020	.280	1406	4244	0	77619
JUL	400	0	2125	4953	.290	1437	0	0	74457
AUG	500	0	2125	4814	.380	1829	0	0	71003
SEP	300	0	2050	4670	.350	1635	0	0	67618
OCT	300	0	2125	4543	.190	863	0	0	64930
NOV	2200	0	2050	4475	.150	671	0	0	64409
DEC	1900	0	2125	4488	-.300	-1345	0	0	65530

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 ANN 97100 0 25000 .890 4235 79953 0

LAKE MARTIN OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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## YEAR\*1967\*

JAN	0	0	2125	4490	.050	225	0	0	63856
FEB	600	0	1925	4422	-.100	-441	0	0	62973
MAR	200	0	2125	4354	.100	435	0	0	60612
APR	2200	0	2050	4317	-.100	-431	0	0	61194
MAY	3300	0	2125	4381	-.300	-1313	0	0	63683
JUN	4900	0	2050	4487	.070	314	0	0	66219
JUL	900	0	2125	4511	.040	180	0	0	64814
AUG	400	0	2125	4418	.290	1281	0	0	61808
SEP	200	0	2050	4291	.270	1159	0	0	58799
OCT	0	0	2125	4163	.230	958	0	0	55716
NOV	200	0	2050	4043	.200	809	0	0	53058
DEC	1100	0	2125	3965	.000	0	0	0	52033

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 ANN 14000 0 25000 .750 3172 0 0

## YEAR\*1968\*

JAN	10100	0	2125	4120	-.100	-411	0	0	60420
FEB	4300	0	1925	4346	.000	0	0	0	62795
MAR	7100	0	2125	4501	.000	0	0	0	67770
APR	28800	0	2050	5020	-.300	-1505	18407	0	77619
MAY	13300	0	2125	5020	-.200	-1003	12179	0	77619
JUN	12100	0	2050	5020	.000	0	10050	0	77619
JUL	5000	0	2125	5020	.070	351	2524	0	77619
AUG	1100	0	2125	4977	.200	995	0	0	75599
SEP	5400	0	2050	5001	.040	200	1129	0	77619
OCT	2000	0	2125	4999	.170	850	0	0	76644
NOV	4700	0	2050	5020	.000	0	1675	0	77619
DEC	15300	0	2125	5020	.000	0	13175	0	77619

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 ANN 109200 0 25000 -.120 -524 59139 0

## YEAR\*1969\*

JAN	5000	0	2125	5020	.050	251	2624	0	77619
FEB	10900	0	1925	5020	-.100	-501	9477	0	77619
MAR	23100	0	2125	5020	-.100	-501	21477	0	77619
APR	28600	0	2050	5020	-.200	-1003	27554	0	77619
MAY	16200	0	2125	5020	-.100	-501	14577	0	77619
JUN	7700	0	2050	5020	.280	1406	4244	0	77619
JUL	400	0	2125	4953	.290	1437	0	0	74457
AUG	500	0	2125	4814	.380	1829	0	0	71003
SEP	300	0	2050	4670	.350	1635	0	0	67618
OCT	300	0	2125	4543	.190	863	0	0	64930
NOV	2200	0	2050	4475	.150	671	0	0	64409
DEC	1900	0	2125	4488	-.300	-1345	0	0	65530

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 ANN 97100 0 25000 .890 4235 79953 0

LAKE MARTIN OPERATION  
PERMITTED CONDITIONS

\*\*\*\*\*  
 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1970\*

JAN	4400	0	2125	4556	.030	137	0	0	67669
FEB	3500	0	1925	4634	.000	0	0	0	69244
MAR	10800	0	2125	4850	.000	0	300	0	77619
APR	5200	0	2050	5020	.050	251	2899	0	77619
MAY	6200	0	2125	5020	.050	251	3824	0	77619
JUN	1200	0	2050	4984	.170	847	0	0	75922
JUL	1400	0	2125	4911	.220	1080	0	0	74116
AUG	900	0	2125	4804	.420	2018	0	0	70873
SEP	0	0	2050	4675	.180	842	0	0	67982
OCT	800	0	2125	4596	-.100	-459	0	0	67117
NOV	3200	0	2050	4592	.110	505	0	0	67761
DEC	2000	0	2125	4600	.030	138	0	0	67498

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 ANN 39600 0 25000 1.160 5609 7023 0

YEAR\*1971\*

JAN	1100	0	2125	4562	.110	502	0	0	65972
FEB	2200	0	1925	4534	.020	91	0	0	66156
MAR	1700	0	2125	4520	.090	407	0	0	65324
APR	1400	0	2050	4463	.280	1250	0	0	63425
MAY	2400	0	2125	4416	.140	618	0	0	63081
JUN	800	0	2050	4348	.370	1609	0	0	60223
JUL	1600	0	2125	4248	.330	1402	0	0	58296
AUG	1000	0	2125	4164	.220	916	0	0	56255
SEP	700	0	2050	4077	.180	734	0	0	54171
OCT	600	0	2125	3987	.170	678	0	0	51968
NOV	1600	0	2050	3927	.050	196	0	0	51322
DEC	5600	0	2125	3995	-.100	-399	0	0	55196

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 ANN 20700 0 25000 1.860 8002 0 0

YEAR\*1972\*

JAN	15900	0	2125	4366	.000	0	0	0	68971
FEB	4300	0	1925	4698	.080	376	0	0	70970
MAR	5900	0	2125	4815	.050	241	0	0	74505
APR	1700	0	2050	4861	.200	972	0	0	73182
MAY	3200	0	2125	4838	.180	871	0	0	73387
JUN	1300	0	2050	4801	.250	1200	0	0	71436
JUL	3400	0	2125	4770	.170	811	0	0	71901
AUG	800	0	2125	4723	.290	1370	0	0	69206
SEP	600	0	2050	4618	.180	831	0	0	66925
OCT	2100	0	2125	4559	.110	501	0	0	66398
NOV	5900	0	2050	4629	.000	0	0	0	70248
DEC	10300	0	2125	4882	.000	0	804	0	77619

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 ANN 55400 0 25000 1.510 7173 804 0



LAKE MARTIN OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1973\*

JAN	15200	0	2125	5020	-.100	-501	13577	0	77619
FEB	9500	0	1925	5020	.000	0	7575	0	77619
MAR	17100	0	2125	5020	.000	0	14975	0	77619
APR	17600	0	2050	5020	.000	0	15550	0	77619
MAY	16900	0	2125	5020	.210	1054	13721	0	77619
JUN	14100	0	2050	5020	.080	402	11648	0	77619
JUL	6300	0	2125	5020	.250	1255	2920	0	77619
AUG	1500	0	2125	4980	.260	1295	0	0	75699
SEP	4000	0	2050	4968	.120	596	0	0	77053
OCT	6000	0	2125	5020	.130	653	2657	0	77619
NOV	6000	0	2050	5020	.030	151	3799	0	77619
DEC	20800	0	2125	5020	.000	0	18675	0	77619

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 ANN 135000 0 25000 .980 4903 105097 0

YEAR\*1974\*

JAN	30900	0	2125	5020	-.200	-1003	29779	0	77619
FEB	15100	0	1925	5020	.030	151	13024	0	77619
MAR	6600	0	2125	5020	.090	452	4023	0	77619
APR	6800	0	2050	5020	.210	1054	3696	0	77619
MAY	7100	0	2125	5020	.150	753	4222	0	77619
JUN	4800	0	2050	5020	.380	1908	842	0	77619
JUL	1200	0	2125	4971	.280	1392	0	0	75302
AUG	400	0	2125	4866	.200	973	0	0	72604
SEP	4000	0	2050	4839	.110	532	0	0	74022
OCT	4400	0	2125	4903	.130	637	0	0	75659
NOV	10100	0	2050	5020	.000	0	6090	0	77619
DEC	20300	0	2125	5020	-.100	-501	18677	0	77619

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 ANN 111700 0 25000 1.280 6346 80354 0

YEAR\*1975\*

JAN	14100	0	2125	5020	.000	0	11975	0	77619
FEB	22200	0	1925	5020	.000	0	20275	0	77619
MAR	11900	0	2125	5020	.000	0	9775	0	77619
APR	9600	0	2050	5020	.000	0	7550	0	77619
MAY	23900	0	2125	5020	.000	0	21775	0	77619
JUN	8300	0	2050	5020	.170	853	5397	0	77619
JUL	4200	0	2125	5020	.190	954	1121	0	77619
AUG	200	0	2125	4954	.240	1189	0	0	74505
SEP	400	0	2050	4826	.280	1351	0	0	71504
OCT	1700	0	2125	4740	.140	664	0	0	70415
NOV	1300	0	2050	4688	.130	609	0	0	69056
DEC	1200	0	2125	4639	.010	46	0	0	68084

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 ANN 99000 0 25000 1.160 5667 77868 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EQM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1976\*

JAN	5100	0	2125	4675	.070	327	0	0	70732
FEB	600	0	1925	4698	.040	188	0	0	69219
MAR	9400	0	2125	4820	.000	0	0	0	76494
APR	1100	0	2050	4933	.190	937	0	0	74607
MAY	12400	0	2125	5020	.140	703	6560	0	77619
JUN	8900	0	2050	5020	.200	1004	5846	0	77619
JUL	3000	0	2125	5020	.130	653	222	0	77619
AUG	3900	0	2125	5013	.420	2105	0	0	77289
SEP	800	0	2050	4959	.200	992	0	0	75047
OCT	1500	0	2125	4880	.180	878	0	0	73543
NOV	800	0	2050	4821	.010	48	0	0	72245
DEC	4600	0	2125	4846	.000	0	0	0	74720

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 ANN 52100 0 25000 1.580 7836 12628 0

YEAR\*1977\*

JAN	4500	0	2125	4958	-.100	-495	0	0	77591
FEB	8500	0	1925	5020	.000	0	6547	0	77619
MAR	12500	0	2125	5020	.020	100	10275	0	77619
APR	10500	0	2050	5020	.110	552	7898	0	77619
MAY	4300	0	2125	5020	.300	1506	669	0	77619
JUN	1200	0	2050	4974	.270	1343	0	0	75426
JUL	600	0	2125	4860	.350	1701	0	0	72200
AUG	2300	0	2125	4779	.170	812	0	0	71563
SEP	500	0	2050	4706	.270	1271	0	0	68742
OCT	800	0	2125	4587	.330	1514	0	0	65904
NOV	1800	0	2050	4522	.000	0	0	0	65654
DEC	2300	0	2125	4514	.070	316	0	0	65513

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 ANN 49800 0 25000 1.790 8619 25388 0

YEAR\*1978\*

JAN	7000	0	2125	4623	-.100	-461	0	0	70850
FEB	6500	0	1925	4831	.000	0	0	0	75425
MAR	5900	0	2125	5002	.050	250	1331	0	77619
APR	2400	0	2050	5012	.150	752	0	0	77217
MAY	4000	0	2125	5019	.220	1104	369	0	77619
JUN	600	0	2050	4948	.400	1979	0	0	74190
JUL	700	0	2125	4806	.390	1874	0	0	70890
AUG	1100	0	2125	4686	.300	1406	0	0	68460
SEP	6000	0	2050	4728	-.100	-472	0	0	72882
OCT	300	0	2125	4745	.370	1756	0	0	69302
NOV	1300	0	2050	4654	.000	0	0	0	68552
DEC	5400	0	2125	4698	.090	423	0	0	71404

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 ANN 41200 0 25000 1.770 8609 1700 0

LAKE MARTIN OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1979\*

JAN	25500	0	2125	5020	-.100	-501	17662	0	77619
FEB	19300	0	1925	5020	-.100	-501	17877	0	77619
MAR	16100	0	2125	5020	.020	100	13875	0	77619
APR	22400	0	2050	5020	.020	100	20250	0	77619
MAY	13700	0	2125	5020	.130	653	10922	0	77619
JUN	12300	0	2050	5020	.300	1506	8744	0	77619
JUL	2600	0	2125	5009	.200	1002	0	0	77092
AUG	1900	0	2125	4954	.380	1882	0	0	74985
SEP	3300	0	2050	4918	.170	836	0	0	75399
OCT	1300	0	2125	4889	.200	978	0	0	73596
NOV	4200	0	2050	4882	.140	683	0	0	75063
DEC	5600	0	2125	4986	.000	0	919	0	77619

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 ANN 128200 0 25000 1.360 6737 90248 0

YEAR\*1980\*

JAN	9500	0	2125	5020	.000	0	7375	0	77619
FEB	12600	0	1925	5020	.000	0	10675	0	77619
MAR	10600	0	2125	5020	.000	0	8475	0	77619
APR	20500	0	2050	5020	.010	50	18400	0	77619
MAY	16800	0	2125	5020	.080	402	14273	0	77619
JUN	2800	0	2050	4985	.480	2393	0	0	75976
JUL	700	0	2125	4864	.560	2724	0	0	71827
AUG	500	0	2125	4678	.650	3041	0	0	67162
SEP	800	0	2050	4518	.380	1717	0	0	64195
OCT	200	0	2125	4397	.190	835	0	0	61434
NOV	200	0	2050	4300	.000	0	0	0	59584
DEC	1300	0	2125	4233	.120	508	0	0	58251

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 ANN 76500 0 25000 2.470 11669 59198 0

YEAR\*1981\*

JAN	500	0	2125	4169	.020	83	0	0	56543
FEB	1400	0	1925	4122	.000	0	0	0	56018
MAR	2600	0	2125	4117	.050	206	0	0	56287
APR	1400	0	2050	4089	.230	940	0	0	54697
MAY	5500	0	2125	4110	.190	781	0	0	57291
JUN	12100	0	2050	4363	.140	611	0	0	66730
JUL	1700	0	2125	4525	.290	1312	0	0	64993
AUG	4300	0	2125	4491	.460	2066	0	0	65102
SEP	2400	0	2050	4479	.230	1030	0	0	64422
OCT	500	0	2125	4419	.120	530	0	0	62266
NOV	2100	0	2050	4367	.090	393	0	0	61923
DEC	1400	0	2125	4338	.070	304	0	0	60895

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 ANN 35900 0 25000 1.890 8257 0 0

LAKE MARTIN OPERATION

PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1982\*

JAN	2100	0	2125	4316	.000	0	0	0	60870
FEB	4400	0	1925	4367	.000	0	0	0	63345
MAR	4200	0	2125	4461	.020	89	0	0	65330
APR	13400	0	2050	4742	.000	0	0	0	76680
MAY	3700	0	2125	4991	.220	1098	0	0	77157
JUN	2300	0	2050	4979	.260	1294	0	0	76113
JUL	2200	0	2125	4922	.350	1723	0	0	74465
AUG	300	0	2125	4813	.350	1685	0	0	70956
SEP	300	0	2050	4674	.290	1356	0	0	67850
OCT	1600	0	2125	4590	.080	367	0	0	66958
NOV	4100	0	2050	4615	.000	0	0	0	69008
DEC	26000	0	2125	5020	-.300	-1505	16770	0	77619

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 ANN 64600 0 25000 1.270 6106 16770 0

YEAR\*1983\*

JAN	7800	0	2125	5020	.000	0	5675	0	77619
FEB	23300	0	1925	5020	-.100	-501	21877	0	77619
MAR	12800	0	2125	5020	.060	301	10374	0	77619
APR	4900	0	2050	5020	.150	753	2097	0	77619
MAY	19700	0	2125	5020	.010	50	17525	0	77619
JUN	4100	0	2050	5020	.190	954	1096	0	77619
JUL	3000	0	2125	4995	.410	2048	0	0	76446
AUG	900	0	2125	4919	.250	1230	0	0	73991
SEP	600	0	2050	4813	.240	1155	0	0	71386
OCT	300	0	2125	4689	.310	1454	0	0	68108
NOV	2900	0	2050	4635	.030	139	0	0	68819
DEC	10400	0	2125	4834	-.100	-482	0	0	77577

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 ANN 90700 0 25000 1.450 7098 58644 0

YEAR\*1984\*

JAN	5300	0	2125	5020	.000	0	3133	0	77619
FEB	13400	0	1925	5020	.000	0	11475	0	77619
MAR	14600	0	2125	5020	.050	251	12224	0	77619
APR	4500	0	2050	5020	.200	1004	1446	0	77619
MAY	3600	0	2125	5020	.220	1104	371	0	77619
JUN	800	0	2050	4967	.260	1291	0	0	75078
JUL	800	0	2125	4846	.380	1842	0	0	71911
AUG	700	0	2125	4715	.350	1650	0	0	68836
SEP	300	0	2050	4589	.250	1147	0	0	65938
OCT	6800	0	2125	4627	.000	0	0	0	70613
NOV	5400	0	2050	4795	.010	48	0	0	73915
DEC	5400	0	2125	4929	.040	197	0	0	76993

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 ANN 61600 0 25000 1.760 8535 28649 0

LAKE MARTIN OPERATION

PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1985\*

JAN	6800	0	2125	5020	.010	50	3999	0	77619
FEB	13500	0	1925	5020	.000	0	11575	0	77619
MAR	11700	0	2125	5020	.060	301	9274	0	77619
APR	4400	0	2050	5020	.160	803	1547	0	77619
MAY	7800	0	2125	5020	.240	1205	4470	0	77619
JUN	1900	0	2050	4978	.370	1842	0	0	75627
JUL	700	0	2125	4865	.400	1946	0	0	72256
AUG	600	0	2125	4712	.510	2403	0	0	68328
SEP	700	0	2050	4573	.290	1326	0	0	65652
OCT	4400	0	2125	4564	.000	0	0	0	67927
NOV	7300	0	2050	4723	.000	0	0	0	73177
DEC	12600	0	2125	5020	.010	50	5983	0	77619

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 ANN 72400 0 25000 2.050 9927 36848 0

YEAR\*1986\*

JAN	2000	0	2125	5007	.100	501	0	0	76993
FEB	9700	0	1925	5020	.000	0	7149	0	77619
MAR	2800	0	2125	5016	.170	853	0	0	77441
APR	2900	0	2050	5019	.110	552	120	0	77619
MAY	8300	0	2125	5020	.110	552	5623	0	77619
JUN	17200	0	2050	5020	.110	552	14598	0	77619
JUL	4300	0	2125	5016	.470	2358	0	0	77436
AUG	1900	0	2125	4976	.300	1493	0	0	75719
SEP	300	0	2050	4883	.200	977	0	0	72992
OCT	1700	0	2125	4811	.050	241	0	0	72326
NOV	13000	0	2050	5020	-.100	-501	6159	0	77619
DEC	14200	0	2125	5020	.000	0	12075	0	77619

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 ANN 78300 0 25000 1.520 7575 45725 0

YEAR\*1987\*

JAN	7100	0	2125	5020	.000	0	4975	0	77619
FEB	19100	0	1925	5020	-.100	-501	17677	0	77619
MAR	13200	0	2125	5020	.100	502	10573	0	77619
APR	4700	0	2050	5020	.350	1757	893	0	77619
MAY	1200	0	2125	4989	.110	549	0	0	76145
JUN	3300	0	2050	4967	.170	844	0	0	76551
JUL	1500	0	2125	4935	.260	1283	0	0	74643
AUG	1100	0	2125	4835	.380	1837	0	0	71781
SEP	500	0	2050	4718	.240	1132	0	0	69098
OCT	500	0	2125	4602	.260	1197	0	0	66277
NOV	8000	0	2050	4668	.000	0	0	0	72227
DEC	14900	0	2125	5020	-.100	-501	7885	0	77619

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 ANN 75100 0 25000 1.670 8097 42003 0

LAKE MARTIN OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1988\*

JAN	20400	0	2125	5020	.110	552	17723	0	77619
FEB	8300	0	1925	5020	.060	301	6074	0	77619
MAR	12800	0	2125	5020	-.240	-1204	11880	0	77619
APR	8400	0	2050	5020	.290	1456	4894	0	77619
MAY	1500	0	2125	4955	.500	2477	0	0	74517
JUN	1200	0	2050	4821	.500	2410	0	0	71256
JUL	1400	0	2125	4700	.370	1739	0	0	68792
AUG	1400	0	2125	4599	.350	1610	0	0	66457
SEP	1300	0	2050	4490	.470	2110	0	0	63597
OCT	1000	0	2125	4384	.240	1052	0	0	61420
NOV	2000	0	2050	4317	.220	950	0	0	60420
DEC	4300	0	2125	4372	-.330	-1442	0	0	64038

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 ANN 64000 0 25000 2.540 12011 40571 0

YEAR\*1989\*

JAN	13800	0	2125	4735	-.410	-1940	35	0	77619
FEB	15800	0	1925	5020	-.050	-250	14126	0	77619
MAR	14700	0	2125	5020	-.210	-1053	13629	0	77619
APR	19600	0	2050	5020	.360	1807	15743	0	77619
MAY	27900	0	2125	5020	-.050	-250	26026	0	77619
JUN	34600	0	2050	5020	-.750	-3764	36315	0	77619
JUL	21600	0	2125	5020	-.170	-852	20328	0	77619
AUG	2700	0	2125	4976	.540	2687	0	0	75507
SEP	1000	0	2050	4863	.450	2188	0	0	72269
OCT	1300	0	2125	4735	.430	2036	0	0	69408
NOV	600	0	2050	4619	.260	1201	0	0	66757
DEC	1300	0	2125	4559	-.140	-637	0	0	66570

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 ANN 154900 0 25000 .260 1165 126202 0

**LAKE MURVAL OPERATION  
PERMITTED CONDITIONS**

1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE MURVAL OPERATION  
 PERMITTED CONDITIONS

\*\*\*\*\*  
 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EQM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1940\*

	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EQM *
	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
JAN	4100	0	1546	3820	.000	0	2554	0	45840
FEB	13900	0	1501	3820	-.200	-763	13163	0	45840
MAR	2500	0	1590	3820	.130	497	413	0	45840
APR	5700	0	1814	3820	-.100	-381	4268	0	45840
MAY	4900	0	1837	3820	.100	382	2681	0	45840
JUN	7000	0	1882	3820	-.100	-381	5500	0	45840
JUL	3300	0	2419	3820	.160	611	270	0	45840
AUG	3500	0	2643	3820	-.100	-381	1239	0	45840
SEP	1800	0	2218	3797	.260	987	0	0	44435
OCT	500	0	1859	3737	.240	897	0	0	42179
NOV	9000	0	1546	3820	-.700	-2673	6468	0	45840
DEC	33200	0	1546	3820	-.400	-1527	33182	0	45840

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 ANN 89400 0 22400 -.710 -2737 69738 0

YEAR\*1941\*

JAN	25300	0	1546	3820	.000	0	23754	0	45840
FEB	9600	0	1501	3820	-.100	-381	8481	0	45840
MAR	15700	0	1590	3820	.000	0	14110	0	45840
APR	6500	0	1814	3820	.030	115	4571	0	45840
MAY	14700	0	1837	3820	-.300	-1145	14009	0	45840
JUN	14200	0	1882	3820	-.200	-763	13082	0	45840
JUL	12600	0	2419	3820	-.100	-381	10563	0	45840
AUG	1500	0	2643	3784	.270	1022	0	0	43675
SEP	1800	0	2218	3738	.070	262	0	0	42996
OCT	3500	0	1859	3772	-.300	-1131	0	0	45768
NOV	15600	0	1546	3820	.000	0	13983	0	45840
DEC	8800	0	1546	3820	.000	0	7254	0	45840

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 ANN 129800 0 22400 -.630 -2407 109808 0

YEAR\*1942\*

JAN	6500	0	1546	3820	.020	76	4878	0	45840
FEB	6100	0	1501	3820	-.100	-381	4981	0	45840
MAR	10400	0	1590	3820	.000	0	8810	0	45840
APR	6500	0	1814	3820	-.100	-381	5068	0	45840
MAY	19000	0	1837	3820	.000	0	17163	0	45840
JUN	10200	0	1882	3820	.000	0	8318	0	45840
JUL	2300	0	2419	3804	.220	837	0	0	44884
AUG	1900	0	2643	3767	.150	565	0	0	43576
SEP	3600	0	2218	3756	.200	751	0	0	44207
OCT	800	0	1859	3732	.270	1008	0	0	42140
NOV	1100	0	1546	3683	.130	479	0	0	41216
DEC	1100	0	1546	3666	-.100	-366	0	0	41137

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 ANN 69500 0 22400 .690 2585 49218 0



1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE MURVAL OPERATION  
 PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1943\*

JAN	5400	0	1546	3729	.000	0	0	0	44991
FEB	2200	0	1501	3796	.120	456	0	0	45235
MAR	2100	0	1590	3808	.000	0	0	0	45744
APR	3900	0	1814	3820	.150	573	1417	0	45840
MAY	1100	0	1837	3804	.060	228	0	0	44875
JUN	2800	0	1882	3795	.130	493	0	0	45300
JUL	5600	0	2419	3820	.190	726	1915	0	45840
AUG	400	0	2643	3761	.360	1354	0	0	42243
SEP	300	0	2218	3662	.140	513	0	0	39813
OCT	900	0	1859	3592	.230	826	0	0	38027
NOV	700	0	1546	3544	.080	284	0	0	36898
DEC	1200	0	1546	3526	-.100	-352	0	0	36905

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 ANN 26600 0 22400 1.360 5100 3332 0

YEAR\*1944\*

JAN	9200	0	1546	3676	-.400	-1469	190	0	45840
FEB	8400	0	1501	3820	-.100	-381	7281	0	45840
MAR	14100	0	1590	3820	.000	0	12510	0	45840
APR	15200	0	1814	3820	-.100	-381	13768	0	45840
MAY	34800	0	1837	3820	-.600	-2291	35255	0	45840
JUN	15700	0	1882	3820	.220	840	12978	0	45840
JUL	900	0	2419	3774	.340	1283	0	0	43038
AUG	500	0	2643	3693	.000	0	0	0	40894
SEP	1500	0	2218	3632	.220	799	0	0	39378
OCT	400	0	1859	3566	.300	1070	0	0	36849
NOV	1200	0	1546	3530	-.200	-705	0	0	37209
DEC	6500	0	1546	3641	-.400	-1456	0	0	43620

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 ANN 108400 0 22400 -.720 -2696 81982 0

YEAR\*1945\*

JAN	25100	0	1546	3820	-.100	-381	21717	0	45840
FEB	10100	0	1501	3820	-.100	-381	8981	0	45840
MAR	12500	0	1590	3820	-.100	-381	11292	0	45840
APR	45600	0	1814	3820	-.200	-763	44550	0	45840
MAY	7400	0	1837	3820	.000	0	5563	0	45840
JUN	2600	0	1882	3820	.060	229	489	0	45840
JUL	8800	0	2419	3820	.000	0	6381	0	45840
AUG	2700	0	2643	3810	.180	686	0	0	45211
SEP	800	0	2218	3761	.250	940	0	0	42853
OCT	5700	0	1859	3797	-.200	-758	1614	0	45840
NOV	2800	0	1546	3820	.060	229	1025	0	45840
DEC	5800	0	1546	3820	.000	0	4254	0	45840

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 ANN 129900 0 22400 -.150 -584 105865 0

LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1946\*

JAN	20700	0	1546	3820	-.500	-1909	21064	0	45840
FEB	24000	0	1501	3820	-.300	-1145	23645	0	45840
MAR	20400	0	1590	3820	-.100	-381	19192	0	45840
APR	11500	0	1814	3820	.080	306	9380	0	45840
MAY	11200	0	1837	3820	-.300	-1145	10509	0	45840
JUN	23400	0	1882	3820	.000	0	21518	0	45840
JUL	4100	0	2419	3820	.180	688	993	0	45840
AUG	1100	0	2643	3785	.160	606	0	0	43691
SEP	1300	0	2218	3726	.130	484	0	0	42289
OCT	1200	0	1859	3690	.040	148	0	0	41482
NOV	7000	0	1546	3785	-.300	-1135	2232	0	45840
DEC	13100	0	1546	3820	-.100	-381	11936	0	45840

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 ANN 139000 0 22400 -1.010 -3870 120471 0

YEAR\*1947\*

JAN	22300	0	1546	3820	-.400	-1527	22282	0	45840
FEB	8600	0	1501	3820	.000	0	7099	0	45840
MAR	14100	0	1590	3820	-.100	-381	12892	0	45840
APR	11700	0	1814	3820	.000	0	9886	0	45840
MAY	7400	0	1837	3820	.000	0	5563	0	45840
JUN	2100	0	1882	3817	.110	420	0	0	45639
JUL	1300	0	2419	3775	.320	1208	0	0	43311
AUG	300	0	2643	3677	.350	1287	0	0	39681
SEP	600	0	2218	3572	.320	1143	0	0	36921
OCT	400	0	1859	3492	.190	663	0	0	34798
NOV	1300	0	1546	3464	-.200	-692	0	0	35245
DEC	5100	0	1546	3541	-.200	-707	0	0	39508

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 ANN 75200 0 22400 .390 1410 57722 0

YEAR\*1948\*

JAN	8500	0	1546	3732	-.100	-372	995	0	45840
FEB	15700	0	1501	3820	-.200	-763	14963	0	45840
MAR	12000	0	1590	3820	.010	38	10371	0	45840
APR	8500	0	1814	3820	.050	191	6495	0	45840
MAY	5000	0	1837	3820	.000	0	3163	0	45840
JUN	4300	0	1882	3820	.270	1031	1387	0	45840
JUL	800	0	2419	3776	.280	1057	0	0	43164
AUG	400	0	2643	3673	.370	1359	0	0	39561
SEP	300	0	2218	3568	.230	821	0	0	36823
OCT	300	0	1859	3484	.240	836	0	0	34428
NOV	1600	0	1546	3468	-.400	-1386	0	0	35869
DEC	1300	0	1546	3488	.000	0	0	0	35624

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 ANN 58700 0 22400 .750 2809 37375 0

LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

\*\*\*\*\*  
 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1949\*

JAN	7600	0	1546	3601	-.300	-1079	0	0	42759
FEB	9800	0	1501	3820	-.100	-381	5600	0	45840
MAR	13300	0	1590	3820	-.200	-763	12474	0	45840
APR	9400	0	1814	3820	-.100	-381	7968	0	45840
MAY	5100	0	1837	3820	.220	840	2423	0	45840
JUN	2900	0	1882	3820	.000	0	1018	0	45840
JUL	2300	0	2419	3817	.020	76	0	0	45644
AUG	2500	0	2643	3795	.260	987	0	0	44515
SEP	1000	0	2218	3748	.130	487	0	0	42810
OCT	5100	0	1859	3799	-.400	-1518	1730	0	45840
NOV	4900	0	1546	3820	.220	840	2514	0	45840
DEC	6700	0	1546	3820	-.300	-1145	6300	0	45840

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 ANN 70600 0 22400 -.550 -2042 40027 0

YEAR\*1950\*

JAN	21900	0	1546	3820	-.300	-1145	21500	0	45840
FEB	17900	0	1501	3820	-.300	-1145	17545	0	45840
MAR	20100	0	1590	3820	.010	38	18471	0	45840
APR	3700	0	1814	3820	-.100	-381	2268	0	45840
MAY	15800	0	1837	3820	-.200	-763	14727	0	45840
JUN	22300	0	1882	3820	-.200	-763	21182	0	45840
JUL	2000	0	2419	3804	.150	571	0	0	44850
AUG	1900	0	2643	3763	.190	715	0	0	43392
SEP	1100	0	2218	3721	.000	0	0	0	42274
OCT	1100	0	1859	3682	.130	479	0	0	41036
NOV	900	0	1546	3649	.030	109	0	0	40281
DEC	1000	0	1546	3627	.020	73	0	0	39663

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 ANN 109700 0 22400 -.570 -2216 95694 0

YEAR\*1951\*

JAN	3900	0	1546	3668	-.200	-733	0	0	42751
FEB	4300	0	1501	3777	-.200	-754	466	0	45840
MAR	7200	0	1590	3820	-.100	-381	5992	0	45840
APR	5600	0	1814	3820	.080	306	3480	0	45840
MAY	3000	0	1837	3820	.110	420	743	0	45840
JUN	1000	0	1882	3805	.000	0	0	0	44958
JUL	1400	0	2419	3759	.240	902	0	0	43037
AUG	400	0	2643	3666	.410	1503	0	0	39291
SEP	500	0	2218	3582	-.100	-357	0	0	37931
OCT	300	0	1859	3518	.280	985	0	0	35387
NOV	400	0	1546	3457	.010	35	0	0	34207
DEC	1900	0	1546	3454	-.200	-690	0	0	35252

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 ANN 29900 0 22400 .330 1231 10680 0

LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1952\*

JAN	2000	0	1546	3479	.000	0	0	0	35707
FEB	8900	0	1501	3614	-.100	-360	0	0	43467
MAR	7500	0	1590	3820	.000	0	3537	0	45840
APR	8100	0	1814	3820	-.400	-1527	7814	0	45840
MAY	8100	0	1837	3820	-.200	-763	7027	0	45840
JUN	5100	0	1882	3820	.290	1108	2111	0	45840
JUL	1200	0	2419	3806	-.100	-380	0	0	45001
AUG	500	0	2643	3732	.410	1530	0	0	41328
SEP	300	0	2218	3615	.420	1518	0	0	37892
OCT	200	0	1859	3504	.470	1647	0	0	34586
NOV	200	0	1546	3415	.220	751	0	0	32489
DEC	1300	0	1546	3377	.000	0	0	0	32244

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 ANN 43400 0 22400 1.010 3520 20488 0

YEAR\*1953\*

JAN	3400	0	1546	3403	.000	0	0	0	34098
FEB	7400	0	1501	3542	-.200	-707	0	0	40706
MAR	17900	0	1590	3820	-.200	-763	11939	0	45840
APR	2400	0	1814	3820	-.400	-1527	2114	0	45840
MAY	48200	0	1837	3820	-.800	-3055	49419	0	45840
JUN	13500	0	1882	3820	.180	688	10931	0	45840
JUL	2000	0	2419	3812	.020	76	0	0	45345
AUG	1600	0	2643	3774	.200	755	0	0	43547
SEP	700	0	2218	3701	.310	1147	0	0	40882
OCT	400	0	1859	3615	.300	1084	0	0	38338
NOV	500	0	1546	3554	.030	107	0	0	37186
DEC	2700	0	1546	3554	.000	0	0	0	38340

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 ANN 100700 0 22400 -.560 -2198 74403 0

YEAR\*1954\*

JAN	2700	0	1546	3592	.000	0	0	0	39495
FEB	3700	0	1501	3634	.220	800	0	0	40894
MAR	2000	0	1590	3657	.120	439	0	0	40865
APR	3200	0	1814	3679	.000	0	0	0	42251
MAY	9200	0	1837	3820	-.200	-763	4538	0	45840
JUN	1500	0	1882	3791	.360	1365	0	0	44094
JUL	400	0	2419	3701	.470	1739	0	0	40335
AUG	300	0	2643	3570	.520	1856	0	0	36136
SEP	200	0	2218	3441	.470	1617	0	0	32501
OCT	100	0	1859	3339	.230	768	0	0	29973
NOV	1500	0	1546	3291	.120	395	0	0	29533
DEC	1300	0	1546	3275	.080	262	0	0	29025

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 ANN 26100 0 22400 2.390 8477 4538 0

LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1955\*

JAN	2200	0	1546	3283	-.100	-327	0	0	30008
FEB	5600	0	1501	3383	-.300	-1014	0	0	35122
MAR	4800	0	1590	3513	.120	422	0	0	37910
APR	10800	0	1814	3713	-.100	-370	1427	0	45840
MAY	4900	0	1837	3820	.000	0	3063	0	45840
JUN	1600	0	1882	3796	.310	1177	0	0	44382
JUL	1200	0	2419	3751	.020	75	0	0	43087
AUG	5500	0	2643	3776	.000	0	104	0	45840
SEP	1000	0	2218	3790	.160	606	0	0	44016
OCT	600	0	1859	3717	.370	1375	0	0	41382
NOV	300	0	1546	3644	.150	547	0	0	39589
DEC	600	0	1546	3597	.030	108	0	0	38536

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 ANN 39100 0 22400 .660 2595 4595 0

YEAR\*1956\*

JAN	1000	0	1546	3571	.000	0	0	0	37990
FEB	5800	0	1501	3644	-.200	-728	0	0	43018
MAR	2700	0	1590	3745	.010	37	0	0	44091
APR	4100	0	1814	3800	.000	0	536	0	45840
MAY	6100	0	1837	3820	.060	229	4034	0	45840
JUN	500	0	1882	3792	.080	303	0	0	44155
JUL	300	0	2419	3705	.410	1519	0	0	40517
AUG	200	0	2643	3579	.440	1575	0	0	36499
SEP	200	0	2218	3454	.440	1520	0	0	32962
OCT	100	0	1859	3358	.170	571	0	0	30631
NOV	300	0	1546	3292	.130	428	0	0	28958
DEC	700	0	1546	3256	-.100	-325	0	0	28438

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 ANN 22000 0 22400 1.440 5128 4570 0

YEAR\*1957\*

JAN	500	0	1546	3235	-.100	-323	0	0	27716
FEB	3100	0	1501	3250	.000	0	0	0	29315
MAR	3500	0	1590	3313	-.100	-330	0	0	31556
APR	3300	0	1814	3397	-.400	-1358	0	0	34400
MAY	36600	0	1837	3820	.000	0	23323	0	45840
JUN	17700	0	1882	3820	-.200	-763	16582	0	45840
JUL	3000	0	2419	3816	.220	839	0	0	45581
AUG	700	0	2643	3760	.310	1166	0	0	42472
SEP	300	0	2218	3675	.040	147	0	0	40408
OCT	2700	0	1859	3661	-.100	-365	0	0	41615
NOV	13800	0	1546	3820	-.500	-1909	9939	0	45840
DEC	12100	0	1546	3820	.000	0	10554	0	45840

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 ANN 97300 0 22400 -.830 -2900 60399 0

1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE MURVAL OPERATION  
 PERMITTED CONDITIONS

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* M *	TOTAL*	UPSTRM*	MONTHLY*	RES.*	EVAP*	EVAP*	DWNSTRM*	DEMAND*	EOM *
* O *	INFLOW*	SPILLS*	DEMAND*	AREA*	DEPTH*	LOSS*	SPILLS*	SHTGE.*	CONTENT*
* N *	AC-FT*	AC-FT*	AC-FT*	ACRES*	FEET*	AC-FT*	AC-FT*	AC-FT*	AC-FT.*
*****									
YEAR*1958*									
JAN	10600	0	1546	3820	-.100	-381	9436	0	45840
FEB	8000	0	1501	3820	.000	0	6499	0	45840
MAR	6400	0	1590	3820	-.100	-381	5192	0	45840
APR	100	0	1814	3792	.000	0	0	0	44126
MAY	23900	0	1837	3820	.110	420	19929	0	45840
JUN	4600	0	1882	3820	.000	0	2718	0	45840
JUL	2900	0	2419	3807	.330	1256	0	0	45064
AUG	1700	0	2643	3779	.000	0	0	0	44121
SEP	9700	0	2218	3820	-.600	-2291	8056	0	45840
OCT	4700	0	1859	3820	.130	497	2344	0	45840
NOV	1700	0	1546	3820	.000	0	154	0	45840
DEC	1600	0	1546	3816	.070	267	0	0	45627
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ANN	75900	0	22400		-.160	-615	54328	0	
YEAR*1959*									
JAN	1500	0	1546	3812	.000	0	0	0	45582
FEB	5800	0	1501	3820	-.200	-763	4805	0	45840
MAR	5800	0	1590	3820	.060	229	3980	0	45840
APR	8400	0	1814	3820	-.200	-763	7350	0	45840
MAY	8500	0	1837	3820	.030	115	6549	0	45840
JUN	3200	0	1882	3820	.040	153	1166	0	45840
JUL	900	0	2419	3801	-.100	-379	0	0	44701
AUG	1700	0	2643	3755	.200	751	0	0	43007
SEP	600	0	2218	3690	.160	590	0	0	40799
OCT	900	0	1859	3638	.000	0	0	0	39840
NOV	1600	0	1546	3622	.030	109	0	0	39785
DEC	3700	0	1546	3674	-.300	-1101	0	0	43042
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ANN	42600	0	22400		-.280	-1063	23849	0	
YEAR*1960*									
JAN	11800	0	1546	3820	-.200	-763	8220	0	45840
FEB	12400	0	1501	3820	-.200	-763	11663	0	45840
MAR	13400	0	1590	3820	.000	0	11810	0	45840
APR	3100	0	1814	3820	.120	458	827	0	45840
MAY	2200	0	1837	3811	.240	915	0	0	45289
JUN	1400	0	1882	3794	.000	0	0	0	44807
JUL	1900	0	2419	3761	.270	1015	0	0	43272
AUG	1100	0	2643	3716	-.100	-371	0	0	42101
SEP	900	0	2218	3663	.200	733	0	0	40051
OCT	1600	0	1859	3625	.000	0	0	0	39791
NOV	3400	0	1546	3657	-.100	-365	0	0	42012
DEC	15800	0	1546	3820	-.300	-1145	11572	0	45840
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ANN	69000	0	22400		-.070	-289	44092	0	

1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE MURVAL OPERATION  
 PERMITTED CONDITIONS

\*\*\*\*\*  
 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1961\*

JAN	24900	0	1546	3820	-.300	-1145	24500	0	45840
FEB	13800	0	1501	3820	-.200	-763	13063	0	45840
MAR	17300	0	1590	3820	-.200	-763	16474	0	45840
APR	13800	0	1814	3820	.170	649	11336	0	45840
MAY	2000	0	1837	3810	.210	800	0	0	45203
JUN	3700	0	1882	3820	-.100	-381	1564	0	45840
JUL	5500	0	2419	3820	.000	0	3081	0	45840
AUG	1600	0	2643	3787	.250	947	0	0	43850
SEP	6000	0	2218	3820	-.100	-381	2174	0	45840
OCT	1200	0	1859	3795	.230	873	0	0	44308
NOV	3100	0	1546	3801	-.100	-379	403	0	45840
DEC	19800	0	1546	3820	-.400	-1527	19782	0	45840

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 ANN 112700 0 22400 -.540 -2076 92377 0

YEAR\*1962\*

JAN	10000	0	1546	3820	-.200	-763	9218	0	45840
FEB	8100	0	1501	3820	.000	0	6599	0	45840
MAR	8100	0	1590	3820	.060	229	6280	0	45840
APR	5200	0	1814	3820	-.100	-381	3768	0	45840
MAY	9600	0	1837	3820	.050	191	7572	0	45840
JUN	2200	0	1882	3820	.000	0	318	0	45840
JUL	1100	0	2419	3774	.390	1472	0	0	43049
AUG	700	0	2643	3689	.120	443	0	0	40663
SEP	800	0	2218	3624	.040	145	0	0	39100
OCT	800	0	1859	3573	.140	500	0	0	37541
NOV	500	0	1546	3535	-.100	-353	0	0	36849
DEC	2600	0	1546	3547	-.100	-354	0	0	38258

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 ANN 49700 0 22400 .300 1126 33756 0

YEAR\*1963\*

JAN	2600	0	1546	3588	.000	0	0	0	39313
FEB	2400	0	1501	3620	.000	0	0	0	40212
MAR	2400	0	1590	3643	.090	328	0	0	40694
APR	1700	0	1814	3649	.000	0	0	0	40579
MAY	4100	0	1837	3673	.180	661	0	0	42181
JUN	900	0	1882	3676	.120	441	0	0	40758
JUL	800	0	2419	3621	.090	326	0	0	38813
AUG	600	0	2643	3534	.370	1307	0	0	35463
SEP	300	0	2218	3440	.130	447	0	0	33098
OCT	300	0	1859	3361	.260	874	0	0	30665
NOV	400	0	1546	3313	-.200	-662	0	0	30182
DEC	800	0	1546	3298	-.100	-329	0	0	29766

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 ANN 17300 0 22400 .940 3392 0 0

LAKE MURVAL OPERATION

PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1964\*

JAN	1500	0	1546	3296	-.100	-329	0	0	30050
FEB	1400	0	1501	3299	.000	0	0	0	29949
MAR	5400	0	1590	3371	-.200	-673	0	0	34433
APR	5100	0	1814	3516	-.300	-1054	0	0	38773
MAY	3000	0	1837	3604	.050	180	0	0	39757
JUN	1100	0	1882	3589	.310	1112	0	0	37862
JUL	500	0	2419	3510	.270	948	0	0	34995
AUG	400	0	2643	3421	.100	342	0	0	32410
SEP	300	0	2218	3337	.170	567	0	0	29925
OCT	400	0	1859	3256	.310	1009	0	0	27457
NOV	300	0	1546	3187	.000	0	0	0	26211
DEC	900	0	1546	3137	-.200	-626	0	0	26193

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 ANN 20300 0 22400 .410 1473 0 0

YEAR\*1965\*

JAN	1200	0	1546	3122	.000	0	0	0	25847
FEB	3300	0	1501	3202	-.200	-639	0	0	28287
MAR	4900	0	1590	3308	-.200	-661	0	0	32258
APR	6900	0	1814	3447	.180	620	0	0	36723
MAY	1600	0	1837	3528	-.200	-705	0	0	37192
JUN	8000	0	1882	3627	.160	580	0	0	42730
JUL	1100	0	2419	3674	.360	1323	0	0	40088
AUG	500	0	2643	3587	.140	502	0	0	37443
SEP	700	0	2218	3519	.000	0	0	0	35925
OCT	500	0	1859	3458	.230	795	0	0	33771
NOV	400	0	1546	3404	.000	0	0	0	32625
DEC	2100	0	1546	3411	-.300	-1022	0	0	34203

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 ANN 31200 0 22400 .170 790 0 0

YEAR\*1966\*

JAN	2600	0	1546	3460	-.100	-345	0	0	35603
FEB	13100	0	1501	3704	-.500	-1851	3215	0	45840
MAR	2400	0	1590	3820	.110	420	389	0	45840
APR	2300	0	1814	3820	-.100	-381	868	0	45840
MAY	25500	0	1837	3820	.000	0	23663	0	45840
JUN	5100	0	1882	3820	.160	611	2607	0	45840
JUL	800	0	2419	3783	.170	643	0	0	43578
AUG	700	0	2643	3714	.000	0	0	0	41635
SEP	600	0	2218	3644	.180	656	0	0	39361
OCT	600	0	1859	3584	.040	143	0	0	37958
NOV	100	0	1546	3531	.100	353	0	0	36160
DEC	0	0	1546	3482	-.100	-347	0	0	34962

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 ANN 53800 0 22400 -.040 -101 30742 0



LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1967\*

JAN	0	0	1546	3434	.050	172	0	0	33245
FEB	600	0	1501	3396	-.100	-339	0	0	32684
MAR	100	0	1590	3357	.100	336	0	0	30858
APR	2000	0	1814	3335	-.100	-333	0	0	31377
MAY	3000	0	1837	3380	-.300	-1013	0	0	33554
JUN	4400	0	1882	3453	.070	242	0	0	35831
JUL	800	0	2419	3462	.040	138	0	0	34073
AUG	300	0	2643	3378	.290	980	0	0	30750
SEP	100	0	2218	3274	.270	884	0	0	27749
OCT	0	0	1859	3157	.230	726	0	0	25163
NOV	200	0	1546	2978	.200	596	0	0	23222
DEC	1000	0	1546	2880	.000	0	0	0	22677

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 ANN 12500 0 22400 .750 2386 0 0

YEAR\*1968\*

JAN	9100	0	1546	3169	-.100	-316	0	0	30548
FEB	3900	0	1501	3356	.000	0	0	0	32947
MAR	6400	0	1590	3475	.000	0	0	0	37757
APR	26000	0	1814	3820	-.300	-1145	17248	0	45840
MAY	12000	0	1837	3820	-.200	-763	10927	0	45840
JUN	10900	0	1882	3820	.000	0	9018	0	45840
JUL	4500	0	2419	3820	.070	267	1813	0	45840
AUG	1000	0	2643	3781	.200	756	0	0	43441
SEP	4800	0	2218	3781	.040	151	32	0	45840
OCT	1800	0	1859	3808	.170	647	0	0	45133
NOV	4300	0	1546	3820	.000	0	2048	0	45840
DEC	13800	0	1546	3820	.000	0	12254	0	45840

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 ANN 98500 0 22400 -.120 -404 53341 0

YEAR\*1969\*

JAN	4500	0	1546	3820	.050	191	2763	0	45840
FEB	9800	0	1501	3820	-.100	-381	8681	0	45840
MAR	20900	0	1590	3820	-.100	-381	19692	0	45840
APR	25800	0	1814	3820	-.200	-763	24750	0	45840
MAY	14700	0	1837	3820	-.100	-381	13245	0	45840
JUN	7000	0	1882	3820	.280	1070	4049	0	45840
JUL	400	0	2419	3769	.290	1093	0	0	42728
AUG	400	0	2643	3658	.380	1390	0	0	39095
SEP	200	0	2218	3544	.350	1241	0	0	35837
OCT	200	0	1859	3453	.190	656	0	0	33521
NOV	2000	0	1546	3414	.150	512	0	0	33464
DEC	1700	0	1546	3432	-.300	-1029	0	0	34648

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 ANN 87600 0 22400 .890 3212 73180 0

LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1970\*

JAN	4000	0	1546	3490	.030	105	0	0	36997
FEB	3200	0	1501	3557	.000	0	0	0	38697
MAR	9800	0	1590	3720	.000	0	1066	0	45840
APR	4700	0	1814	3820	.050	191	2695	0	45840
MAY	5600	0	1837	3820	.050	191	3572	0	45840
JUN	1100	0	1882	3797	.170	645	0	0	44413
JUL	1200	0	2419	3739	.220	823	0	0	42371
AUG	800	0	2643	3650	.420	1533	0	0	38995
SEP	0	0	2218	3548	.180	639	0	0	36139
OCT	800	0	1859	3489	-.100	-348	0	0	35428
NOV	2900	0	1546	3493	.110	384	0	0	36398
DEC	1800	0	1546	3512	.030	105	0	0	36547

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 ANN 35900 0 22400 1.160 4267 7333 0

YEAR\*1971\*

JAN	1000	0	1546	3499	.110	385	0	0	35617
FEB	2000	0	1501	3491	.020	70	0	0	36046
MAR	1600	0	1590	3493	.090	314	0	0	35742
APR	1300	0	1814	3463	.280	970	0	0	34258
MAY	2200	0	1837	3437	.140	481	0	0	34140
JUN	800	0	1882	3396	.370	1257	0	0	31801
JUL	1400	0	2419	3323	.330	1097	0	0	29685
AUG	900	0	2643	3248	.220	715	0	0	27228
SEP	700	0	2218	3136	.180	564	0	0	25146
OCT	500	0	1859	2980	.170	507	0	0	23280
NOV	1400	0	1546	2894	.050	145	0	0	22990
DEC	5100	0	1546	3035	-.100	-303	0	0	26848

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 ANN 18900 0 22400 1.860 6200 0 0

YEAR\*1972\*

JAN	14400	0	1546	3406	.000	0	0	0	39702
FEB	3900	0	1501	3653	.080	292	0	0	41809
MAR	5300	0	1590	3745	.050	187	0	0	45331
APR	1600	0	1814	3787	.200	757	0	0	44359
MAY	2900	0	1837	3778	.180	680	0	0	44743
JUN	1200	0	1882	3757	.250	939	0	0	43122
JUL	3100	0	2419	3731	.170	634	0	0	43168
AUG	700	0	2643	3683	.290	1068	0	0	40157
SEP	600	0	2218	3596	.180	647	0	0	37892
OCT	1900	0	1859	3553	.110	391	0	0	37542
NOV	5300	0	1546	3609	.000	0	0	0	41297
DEC	9300	0	1546	3798	.000	0	3211	0	45840

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 ANN 50200 0 22400 1.510 5596 3211 0

LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EQM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* H \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1973\*

JAN	13700	0	1546	3820	-.100	-381	12536	0	45840
FEB	8600	0	1501	3820	.000	0	7099	0	45840
MAR	15500	0	1590	3820	.000	0	13910	0	45840
APR	15900	0	1814	3820	.000	0	14086	0	45840
MAY	15300	0	1837	3820	.210	802	12661	0	45840
JUN	12800	0	1882	3820	.080	306	10613	0	45840
JUL	5700	0	2419	3820	.250	955	2326	0	45840
AUG	1400	0	2643	3783	.260	984	0	0	43613
SEP	3700	0	2218	3764	.120	452	0	0	44644
OCT	5500	0	1859	3820	.130	497	1948	0	45840
NOV	5500	0	1546	3820	.030	115	3840	0	45840
DEC	18800	0	1546	3820	.000	0	17254	0	45840

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 ANN 122400 0 22400 .980 3727 96273 0

YEAR\*1974\*

JAN	27900	0	1546	3820	-.200	-763	27118	0	45840
FEB	13700	0	1501	3820	.030	115	12085	0	45840
MAR	6000	0	1590	3820	.090	344	4066	0	45840
APR	6100	0	1814	3820	.210	802	3483	0	45840
MAY	6500	0	1837	3820	.150	573	4090	0	45840
JUN	4300	0	1882	3820	.380	1452	967	0	45840
JUL	1100	0	2419	3781	.280	1059	0	0	43462
AUG	300	0	2643	3691	.200	738	0	0	40381
SEP	3600	0	2218	3656	.110	402	0	0	41361
OCT	4000	0	1859	3700	.130	481	0	0	43021
NOV	9200	0	1546	3820	.000	0	4835	0	45840
DEC	18400	0	1546	3820	-.100	-381	17236	0	45840

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 ANN 101100 0 22400 1.280 4819 73881 0

YEAR\*1975\*

JAN	12700	0	1546	3820	.000	0	11154	0	45840
FEB	20100	0	1501	3820	.000	0	18599	0	45840
MAR	10800	0	1590	3820	.000	0	9210	0	45840
APR	8700	0	1814	3820	.000	0	6886	0	45840
MAY	21600	0	1837	3820	.000	0	19763	0	45840
JUN	7500	0	1882	3820	.170	649	4969	0	45840
JUL	3800	0	2419	3820	.190	726	655	0	45840
AUG	200	0	2643	3765	.240	904	0	0	42493
SEP	400	0	2218	3663	.280	1026	0	0	39650
OCT	1500	0	1859	3602	.140	504	0	0	38786
NOV	1200	0	1546	3575	.130	465	0	0	37976
DEC	1100	0	1546	3553	.010	36	0	0	37495

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 ANN 89600 0 22400 1.160 4309 71236 0

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1976\*

JAN	4700	0	1546	3593	.070	252	0	0	40398
FEB	500	0	1501	3622	.040	145	0	0	39252
MAR	8500	0	1590	3717	.000	0	322	0	45840
APR	1000	0	1814	3795	.190	721	0	0	44305
MAY	11200	0	1837	3820	.140	535	7293	0	45840
JUN	8000	0	1882	3820	.200	764	5354	0	45840
JUL	2700	0	2419	3816	.130	496	0	0	45625
AUG	3500	0	2643	3801	.420	1596	0	0	44885
SEP	800	0	2218	3753	.200	751	0	0	42717
OCT	1300	0	1859	3697	.180	665	0	0	41492
NOV	700	0	1546	3662	.010	37	0	0	40610
DEC	4100	0	1546	3690	.000	0	0	0	43164

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 ANN 47000 0 22400 1.580 5961 12969 0

YEAR\*1977\*

JAN	4100	0	1546	3780	-.100	-377	257	0	45840
FEB	7700	0	1501	3820	.000	0	6199	0	45840
MAR	11300	0	1590	3820	.020	76	9633	0	45840
APR	9500	0	1814	3820	.110	420	7265	0	45840
MAY	3900	0	1837	3820	.300	1146	917	0	45840
JUN	1100	0	1882	3790	.270	1023	0	0	44035
JUL	500	0	2419	3708	.350	1298	0	0	40818
AUG	2000	0	2643	3634	.170	618	0	0	39557
SEP	500	0	2218	3569	.270	964	0	0	36876
OCT	700	0	1859	3487	.330	1151	0	0	34566
NOV	1600	0	1546	3450	.000	0	0	0	34620
DEC	2100	0	1546	3456	.070	242	0	0	34933

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 ANN 45000 0 22400 1.790 6560 24272 0

YEAR\*1978\*

JAN	6300	0	1546	3545	-.100	-354	0	0	40042
FEB	5900	0	1501	3702	.000	0	0	0	44441
MAR	5300	0	1590	3820	.050	191	2120	0	45840
APR	2200	0	1814	3817	.150	573	0	0	45653
MAY	3700	0	1837	3820	.220	840	836	0	45840
JUN	600	0	1882	3774	.400	1510	0	0	43049
JUL	700	0	2419	3676	.390	1434	0	0	39896
AUG	1000	0	2643	3580	.300	1074	0	0	37179
SEP	5400	0	2218	3593	-.100	-358	0	0	40720
OCT	200	0	1859	3602	.370	1333	0	0	37728
NOV	1200	0	1546	3547	.000	0	0	0	37383
DEC	4900	0	1546	3592	.090	323	0	0	40414

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 ANN 37400 0 22400 1.770 6563 2955 0

LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1979\*

JAN	23000	0	1546	3820	-.100	-381	16410	0	45840
FEB	17400	0	1501	3820	-.100	-381	16281	0	45840
MAR	14600	0	1590	3820	.020	76	12933	0	45840
APR	20300	0	1814	3820	.020	76	18409	0	45840
MAY	12400	0	1837	3820	.130	497	10067	0	45840
JUN	11100	0	1882	3820	.300	1146	8072	0	45840
JUL	2300	0	2419	3806	.200	761	0	0	44960
AUG	1700	0	2643	3752	.380	1426	0	0	42591
SEP	3000	0	2218	3716	.170	632	0	0	42741
OCT	1200	0	1859	3695	.200	739	0	0	41343
NOV	3800	0	1546	3701	.140	518	0	0	43080
DEC	5100	0	1546	3788	.000	0	794	0	45840

ANN 115900 0 22400 1.360 5107 82967 0

YEAR\*1980\*

JAN	8600	0	1546	3820	.000	0	7054	0	45840
FEB	11400	0	1501	3820	.000	0	9899	0	45840
MAR	9600	0	1590	3820	.000	0	8010	0	45840
APR	18500	0	1814	3820	.010	38	16647	0	45840
MAY	15100	0	1837	3820	.080	306	12958	0	45840
JUN	2500	0	1882	3800	.480	1824	0	0	44634
JUL	600	0	2419	3716	.560	2081	0	0	40734
AUG	500	0	2643	3578	.650	2326	0	0	36265
SEP	700	0	2218	3458	.380	1314	0	0	33433
OCT	200	0	1859	3374	.190	641	0	0	31133
NOV	200	0	1546	3314	.000	0	0	0	29787
DEC	1200	0	1546	3280	.120	394	0	0	29048

ANN 69100 0 22400 2.470 8924 54568 0

YEAR\*1981\*

JAN	400	0	1546	3247	.020	65	0	0	27838
FEB	1300	0	1501	3224	.000	0	0	0	27637
MAR	2400	0	1590	3232	.050	162	0	0	28285
APR	1300	0	1814	3222	.230	741	0	0	27029
MAY	5000	0	1837	3243	.190	616	0	0	29577
JUN	11000	0	1882	3427	.140	480	0	0	38215
JUL	1500	0	2419	3537	.290	1026	0	0	36270
AUG	3900	0	2643	3499	.460	1610	0	0	35917
SEP	2200	0	2218	3480	.230	800	0	0	35099
OCT	400	0	1859	3436	.120	412	0	0	33228
NOV	1900	0	1546	3406	.090	307	0	0	33276
DEC	1200	0	1546	3397	.070	238	0	0	32692

ANN 32500 0 22400 1.890 6456 0 0

1 TDWR-RESOP-VERSION III-RESERVOIR OPERATION PROGRAM  
 LAKE MURVAL OPERATION  
 PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1982\*

JAN	1900	0	1546	3393	.000	0	0	0	33047
FEB	4000	0	1501	3440	.000	0	0	0	35546
MAR	3800	0	1590	3516	.020	70	0	0	37685
APR	12100	0	1814	3721	.000	0	2131	0	45840
MAY	3300	0	1837	3820	.220	840	623	0	45840
JUN	2100	0	1882	3807	.260	990	0	0	45069
JUL	2000	0	2419	3766	.350	1318	0	0	43331
AUG	300	0	2643	3678	.350	1287	0	0	39701
SEP	200	0	2218	3568	.290	1035	0	0	36649
OCT	1400	0	1859	3505	.080	280	0	0	35909
NOV	3700	0	1546	3529	.000	0	0	0	38063
DEC	23500	0	1546	3820	-.300	-1145	15324	0	45840

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 ANN 58300 0 22400 1.270 4675 18077 0

YEAR\*1983\*

JAN	7000	0	1546	3820	.000	0	5454	0	45840
FEB	21100	0	1501	3820	-.100	-381	19981	0	45840
MAR	11600	0	1590	3820	.060	229	9780	0	45840
APR	4400	0	1814	3820	.150	573	2013	0	45840
MAY	17800	0	1837	3820	.010	38	15925	0	45840
JUN	3700	0	1882	3820	.190	726	1093	0	45840
JUL	2700	0	2419	3799	.410	1558	0	0	44563
AUG	800	0	2643	3732	.250	933	0	0	41787
SEP	500	0	2218	3644	.240	875	0	0	39195
OCT	300	0	1859	3558	.310	1103	0	0	36533
NOV	2600	0	1546	3529	.030	106	0	0	37481
DEC	9400	0	1546	3680	-.100	-367	0	0	45704

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 ANN 81900 0 22400 1.450 5390 54246 0

YEAR\*1984\*

JAN	4800	0	1546	3820	.000	0	3118	0	45840
FEB	12100	0	1501	3820	.000	0	10599	0	45840
MAR	13200	0	1590	3820	.050	191	11419	0	45840
APR	4100	0	1814	3820	.200	764	1522	0	45840
MAY	3200	0	1837	3820	.220	840	523	0	45840
JUN	700	0	1882	3784	.260	984	0	0	43674
JUL	700	0	2419	3697	.380	1405	0	0	40550
AUG	700	0	2643	3593	.350	1258	0	0	37349
SEP	300	0	2218	3495	.250	874	0	0	34558
OCT	6200	0	1859	3520	.000	0	0	0	38899
NOV	4900	0	1546	3646	.010	36	0	0	42217
DEC	4900	0	1546	3753	.040	150	0	0	45421

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 ANN 55800 0 22400 1.760 6502 27180 0

LAKE MURVAL OPERATION

PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* DWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1985\*

JAN	6100	0	1546	3820	.010	38	4097	0	45840
FEB	12200	0	1501	3820	.000	0	10699	0	45840
MAR	10600	0	1590	3820	.060	229	8780	0	45840
APR	4000	0	1814	3820	.160	611	1574	0	45840
MAY	7100	0	1837	3820	.240	917	4346	0	45840
JUN	1700	0	1882	3794	.370	1404	0	0	44255
JUL	700	0	2419	3715	.400	1486	0	0	41049
AUG	500	0	2643	3597	.510	1834	0	0	37072
SEP	600	0	2218	3488	.290	1012	0	0	34443
OCT	4000	0	1859	3480	.000	0	0	0	36583
NOV	6600	0	1546	3599	.000	0	0	0	41638
DEC	11400	0	1546	3820	.010	38	5614	0	45840

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 ANN 65500 0 22400 2.050 7569 35112 0

YEAR\*1986\*

JAN	1800	0	1546	3818	.100	382	0	0	45713
FEB	8700	0	1501	3820	.000	0	7072	0	45840
MAR	2600	0	1590	3820	.170	649	360	0	45840
APR	2600	0	1814	3820	.110	420	365	0	45840
MAY	7500	0	1837	3820	.110	420	5243	0	45840
JUN	15500	0	1882	3820	.110	420	13198	0	45840
JUL	3900	0	2419	3815	.470	1793	0	0	45528
AUG	1700	0	2643	3776	.300	1133	0	0	43452
SEP	300	0	2218	3698	.200	740	0	0	40795
OCT	1600	0	1859	3647	.050	182	0	0	40353
NOV	11700	0	1546	3813	-.100	-380	5049	0	45840
DEC	12800	0	1546	3820	.000	0	11254	0	45840

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 ANN 70700 0 22400 1.520 5758 42542 0

YEAR\*1987\*

JAN	6500	0	1546	3820	.000	0	4954	0	45840
FEB	17200	0	1501	3820	-.100	-381	16081	0	45840
MAR	12000	0	1590	3820	.100	382	10028	0	45840
APR	4300	0	1814	3820	.350	1337	1149	0	45840
MAY	1100	0	1837	3801	.110	418	0	0	44685
JUN	3000	0	1882	3790	.170	644	0	0	45159
JUL	1400	0	2419	3765	.260	979	0	0	43161
AUG	1000	0	2643	3682	.380	1399	0	0	40119
SEP	400	0	2218	3588	.240	861	0	0	37440
OCT	400	0	1859	3505	.260	911	0	0	35070
NOV	7200	0	1546	3559	.000	0	0	0	40724
DEC	13500	0	1546	3820	-.100	-381	7221	0	45840

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 ANN 68000 0 22400 1.670 6167 39432 0

LAKE MURVAL OPERATION  
PERMITTED CONDITIONS

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 \* M \* TOTAL\* UPSTRM\* MONTHLY\* RES.\* EVAP\* EVAP\* OWNSTRM\* DEMAND\* EOM \*  
 \* O \* INFLOW\* SPILLS\* DEMAND\* AREA\* DEPTH\* LOSS\* SPILLS\* SHTGE.\* CONTENT\*  
 \* N \* AC-FT\* AC-FT\* AC-FT\* ACRES\* FEET\* AC-FT\* AC-FT\* AC-FT\* AC-FT.\*  
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YEAR\*1988\*

JAN	18400	0	1546	3820	.110	420	16434	0	45840
FEB	7500	0	1501	3820	.060	229	5770	0	45840
MAR	11600	0	1590	3820	-.240	-916	10926	0	45840
APR	7600	0	1814	3820	.290	1108	4678	0	45840
MAY	1300	0	1837	3780	.500	1890	0	0	43413
JUN	1000	0	1882	3695	.500	1848	0	0	40684
JUL	1200	0	2419	3608	.370	1335	0	0	38130
AUG	1300	0	2643	3524	.350	1233	0	0	35553
SEP	1200	0	2218	3438	.470	1616	0	0	32920
OCT	900	0	1859	3366	.240	808	0	0	31153
NOV	1800	0	1546	3329	.220	732	0	0	30675
DEC	3900	0	1546	3378	-.330	-1114	0	0	34144

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 ANN 57700 0 22400 2.540 9188 37808 0

YEAR\*1989\*

JAN	12500	0	1546	3640	-.410	-1491	751	0	45840
FEB	14200	0	1501	3820	-.050	-190	12890	0	45840
MAR	13300	0	1590	3820	-.210	-801	12512	0	45840
APR	17700	0	1814	3820	.360	1375	14510	0	45840
MAY	25300	0	1837	3820	-.050	-190	23654	0	45840
JUN	31300	0	1882	3820	-.750	-2864	32283	0	45840
JUL	19600	0	2419	3820	-.170	-648	17830	0	45840
AUG	2500	0	2643	3784	.540	2043	0	0	43653
SEP	900	0	2218	3699	.450	1665	0	0	40671
OCT	1100	0	1859	3612	.430	1553	0	0	38359
NOV	600	0	1546	3543	.260	921	0	0	36492
DEC	1200	0	1546	3515	-.140	-491	0	0	36639

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 ANN 140200 0 22400 .260 874 114431 0



