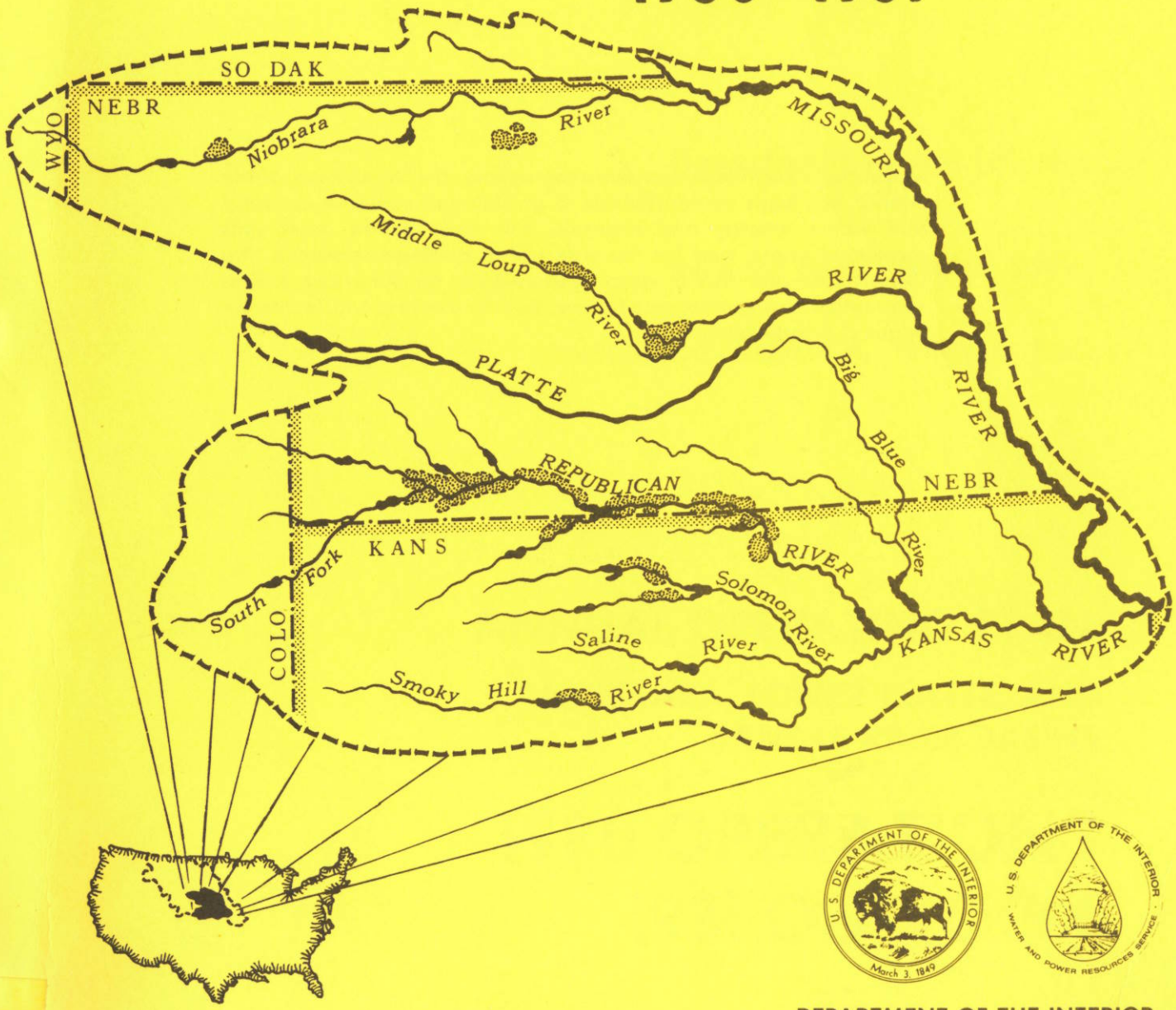
ANNUAL OPERATING PLAN

NIOBRARA, LOWER PLATTE, AND KANSAS RIVER BASINS

1980-1981



DEPARTMENT OF THE INTERIOR

Water and Power Resources Service

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Department of the Interior

Water and Power Resources Service

Lower Missouri Region • Denver, Colorado

ANNUAL OPERATING PLAN

NIOBRARA, LOWER PLATTE, AND KANSAS RIVER BASINS

1980 OPERATIONS
1981 OUTLOOK

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Sherman Reservoir	3A	3B	3C
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Swanson Lake	5A	5B	5C
Enders Reservoir	6A	6B	6C
Hugh Butler Lake	7A	7B	7C
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Lovewell Reservoir	11A	11B	11C
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Webster Reservoir	13A	13B	13C
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16 - Mirage Flats Irrigation District
17 - Ainsworth Irrigation District
18 - Sargent Irrigation District
19 - Farwell Irrigation District
20 - Frenchman Valley Irrigation District
21 - H & RW Irrigation District
22 - Frenchman-Cambridge Irrigation District
23 - Almena Irrigation District
24 - Bostwick Irrigation District in Nebraska
25 - Kansas-Bostwick Irrigation District
26 - Kirwin Irrigation District
27 - Webster Irrigation District
28 - Cedar Bluff Irrigation District

Map - Irrigation and Flood Control Facilities

SYNOPSIS

GENERAL

This is the twenty-eighth consecutive year that an Annual Operating Plan has been prepared for the federally owned dams and reservoirs serving an irrigation function in the Niobrara, Lower Platte, and Kansas River Basins. There are 15 of these dams and reservoirs in Colorado, Nebraska and Kansas. These reservoirs, together with 10 diversion dams, 10 pumping plants, and 22 canal systems, serve approximately 271,000 acres of project lands in Nebraska and Kansas. In addition to irrigation, municipal and industrial water, these features serve flood control, recreation, and fish and wildlife purposes. A map in the back of this report shows the location of these features. The reservoirs in the Niobrara and Lower Platte River Basins are operated by either irrigation or reclamation districts, and the reservoirs in the Kansas River Basin are operated by either the Water and Power Resources Service or the Corps of Engineers. The diversion dams, pumping plants, and canal systems are operated by either irrigation or reclamation districts.

A Programmable Master-Station Supervisory Control System is being used to assist in operational management of all eleven dams under Water and Power's jurisdiction that are located in the Kansas River Basin.

The "Headlines 80" following this Synopsis is indicative of the awareness of local people of natural resource development and conservation in the Niobrara, Lower Platte, and Kansas River Basins.

1980 SUMMARY

Climatic Conditions. The total precipitation over the operating area during 1980 ranged from 69 to 139 percent of normal. Only Bonny and Enders Reservoirs in the upstream portion of the basin received above-normal rainfall. The temperatures were generally above normal during the growing season.

Storage Reservoirs.

A. Conservation Operations - The 1980 inflows were below the dry-year forecast at Sherman, Enders, Norton, Kirwin, Webster and Cedar Bluff Reservoirs, and Harlan County Lake. Box Butte, Merritt and Bonny Reservoirs and Harry Strunk, Hugh Butler, Waconda and Swanson Lakes had inflows between the dry- and normal-year forecasts. Lovewell Reservoir had inflows from White Rock Creek between normal- and wet-year forecasts. The following table shows a comparison of 1979 and 1980 carryover storage for all reservoirs in the Niobrara, Lower Platte and Kansas River Basin.

Reservoir	RESERVOIR DATA SEPTEMBER 30 1979 Elevation (feet)	1979 Storage (A.F.)	1980 Elevation (feet)	1980 Storage (A.F.)	Top of Conserv. Capacity Elevation (feet)	Capacity Storage (A.F.)
Box Butte	3981.90	4,694	3981.40	4,428	4007.00	31,060
Merritt	2939.20	56,487	2934.20	45,615	2946.00	74,486
Sherman	2140.40	23,150	2154.60	49,191	2162.30	69,076
Bonny	3668.00	33,670	3670.15	37,675	3672.00	41,340
Swanson	2730.09	36,280	2735.94	53,320	2752.00	120,160
Enders	3087.57	13,764	3086.72	13,085	3112.30	44,480
Hugh Butler	2570.80	22,704	2568.33	19,988	2581.80	37,776
Harry Strunk	2365.06	35,253	2346.51	12,192	2366.10	37,141
Norton	2281.68	6,078	2276.96	3,539	2304.30	35,935
Harlan County	1938.49	228,011	1935.77	200,315	1946.00	319,787
Lovewell	1578.36	30,340	1578.89	31,630	1582.60	41,690
Kirwin	1701.77	15,558	1695.96	8,782	1729.25	99,435
Webster	1872.13	21,847	1864.44	9,998	1892.45	77,370
Waconda	1453.43	215,109	1451.83	196,973	1455.60	241,460
Cedar Bluff	2106.52	32,700	2102.63	25,374	2144.00	185,090

Cedar Bluff Reservoir again reached a new historically low level of 2101.79 feet (23,913 acre-feet of storage) on December 31, 1980. Kirwin and Norton Reservoirs also reached new lows of 1695.56 feet (8,421 acre-feet of storage) and 2276.44 feet (3,315 acre-feet of storage) respectively, in December 1980.

B. Flood Control Operations - There were no flood control benefits accrued by operation of Kansas River Projects dams during 1980. The accumulative total of flood control benefits for the years 1951 through 1980 by the facilities included in this report total $43,710,000. (See table 5.) No benefits have been accrued to date by operation of Box Butte, Merritt, or Sherman Dams.

Water Service. There were 484,925 acre-feet of water diverted to irrigate 241,656 acres of project lands in 13 irrigation districts. (See tables 3 and 7.) The project water supply was inadequate for 115,301 acres of the total project lands. This includes lands in Mirage Flats, Farwell, Frenchman Valley, H & RW, Almena, Kirwin, Webster, and Cedar Bluff Irrigation Districts. No project water was available for delivery to Cedar Bluff Irrigation District. The project water supplies for the other units mentioned in this report were adequate in 1980.

The water requirements of three municipalities, one rural water district, two industrial companies, and a federal fish hatchery were furnished from storage releases or natural flows.

Under a long-term contract with the Water and Power Resources Service for use of the Arcadia Diversion Dam, the Middle Loup Public Power and Irrigation District diverted 36,544 acre-feet to irrigate 14,326 acres of non-project lands. These diversions were made under natural flow water rights granted by the State of Nebraska.

Irrigation Production. The 1980 crop yields from lands receiving project water were lower than 1979 for all units except Mirage Flats and Frenchman Valley. Corn, the principal crop, decreased from an average of 118 bushels per acre to

about 104 bushels per acre. Unit prices for all commodities were higher than those in 1979. The average crop value per acre increased from $270.87 to $318.83 in 1980. Figure 1 is a graph which compares corn prices with the gross crop value per acre.

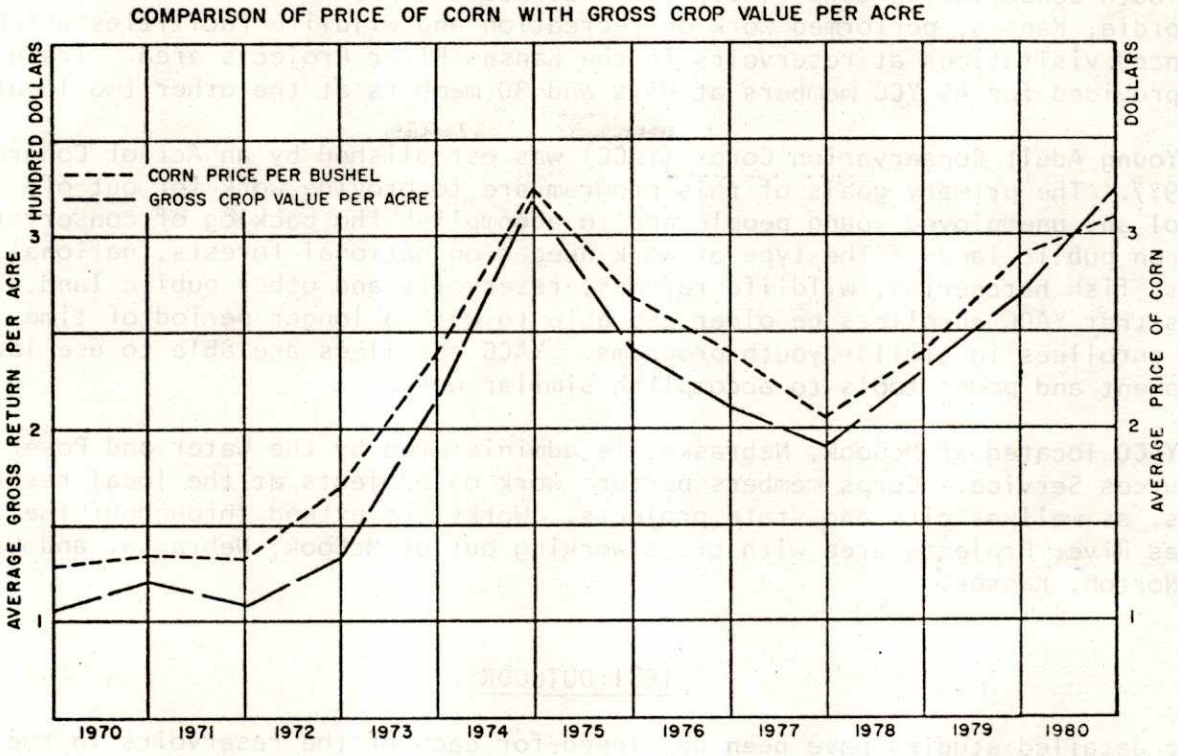


Figure 1

The following table shows a comparison of corn yields for each irrigation district.

Irrigation District	Corn Yield (bu./ac.) 1979	1980
Ainsworth	108	114
Mirage Flats	109	118
Sargent	121	80
Farwell	123	91
Frenchman Valley	117	127
H & RW	111	106
Frenchman-Cambridge	128	112
Bostwick in Nebraska	121	102
Kansas-Bostwick	123	95
Kirwin	119	92
Webster	124	100
Cedar Bluff	42*	*
Almena	153*	112
Average of Districts reporting	118	104

* No project water supplied; not included in averages.

Fish and Wildlife and Recreation Benefits. During the early part of the 1980 season, reservoir operations were favorable for recreation and fish and wildlife uses. (See table 6.) Late in the season, irrigation operations lowered reservoir levels at some reservoirs, thereby limiting the recreation benefits.

The Youth Conservation Corps (YCC) camps at McCook, Nebraska, and at Hays and Concordia, Kansas, performed work on recreation and wildlife facilities which enhanced visitations at reservoirs in the Kansas River Projects area. Training was provided for 45 YCC members at Hays and 30 members at the other two locations.

The Young Adult Conservation Corps (YACC) was established by an Act of Congress in 1977. The primary goals of this program are to provide work for out-of-school and unemployed young people and to accomplish the backlog of conservation work on public lands. The type of work needed on national forests, national parks, fish hatcheries, wildlife refuges, reservoirs and other public land dictates that YACC enrollees be older and able to work a longer period of time than enrollees in similar youth programs. YACC enrollees are able to use larger equipment and power tools to accomplish similar work.

The YACC located at McCook, Nebraska, is administered by the Water and Power Resources Service. Corps members perform work on projects at the local reservoirs, as well as city and state projects. Worksites extend throughout the Kansas River Projects area with crews working out of McCook, Nebraska, and Hays, and Norton, Kansas.

1981 OUTLOOK

Three detailed studies have been developed for each of the reservoirs in the Niobrara, Lower Platte, and Kansas River Basins conforming with established operating criteria under various reservoir inflow conditions. These operation studies are included as table 4. Under reasonable minimum inflow forecast conditions, irrigation districts receiving storage water from the following reservoirs are expected to receive less than a full supply: Box Butte, Sherman, Norton, Kirwin, Webster, Cedar Bluff and Enders. The irrigation districts affected are: Mirage Flats, Farwell, Sargent, Frenchman Valley, H & RW, Almena, Kirwin, Webster and Cedar Bluff. If 1981 is a dry year, 118,563 of the total 252,263 acres estimated to be irrigated (or about 47 percent) will have an inadequate water supply.

Under most probable inflow conditions, it is also expected that Almena, Cedar Bluff, Mirage Flats and Farwell Irrigation Districts would experience some shortages to irrigation demands from Norton, Box Butte and Sherman Reservoirs, respectively. Irrigators in several districts (Mirage Flats, Kirwin, Webster, Almena, Frenchman Valley and H & RW) plan to use water from private wells to supplement the project water supply. The industrial, municipal, rural water district and fish hatchery water supply requirements will be met under all three inflow forecast conditions.

During 1981, under all inflow forecast conditions, storage water will be in excess of project needs at Bonny Reservoir and Waconda Lake.

Even under reasonable minimum inflow conditions, the conservation pools at Merritt, Sherman, and Lovewell Reservoirs will fill during 1981. With most probable

inflow conditions, Lovewell Reservoir and Harry Strunk and Harlan County Lakes will also fill.

Even with low reservoir levels and inadequate water supplies for some project lands, the recommendations of various State agencies will be considered. As in the past, irrigation and reclamation districts will advise State agencies regarding aquatic weed control and canal operations. The Water and Power Resources Service will continue to operate the reservoirs and other facilities under its jurisdiction in the best interests of all project functions and for the optimum public benefit.

HEADLINES 80

Water Bill Opposition Is Evaporating

Lower Elevations Noted At Area Reservoirs

Try Being Made Again To Divert Platte Water

McCOOK DAILY GAZETTE

$725,000 in Hitchcock County

Seed Yield Down, Too
County's Farm Losses at $16.9 Million

'Mining' High Plains Water
When More Is Taken Out Than Goes Back In, There's Trouble

Revised Ground Water Bill Gets a Warmer Reception

U.S. Water Supply Plan Suggested

Crop Reductions Possible
Farmers Face Irrigation Loss

Weekend Storm Damage in Millions

Great Plains Farmers Running Out of Water

7 Inches of Water Available to H&RW

Gazette Starts Annual Calendar

More Irrigators Use Scientific Methods

Dip in Water Supply 'Is Cause for Concern'

Dry Conditions May Lead To Shutdown of Irrigation

Irrigation Water Supplies Holding

Transbasin Water Diversion Upheld

Several Water-Related Bills Will Surface in Legislature

Emphasis on Drainage Project

Bureau Spending Exceeds $3 Million

Frenchman-Cambridge District Wins Award

Drilling Halt Unpopular
Water Control Act Revisions Debated

Bonny Dam Negotiations Scheduled in Colorado

Reservoir Levels Recover Slightly

Water Decision Sets Pattern for Nebraska

Water Supplies Tighten As Heat Wave Continues

Wasted Water, Land Will Cost Nebraska in Future

Reservoir Levels Rise Above Summer of 1979

State Orders Cuts In Irrigation Water

Enders Irrigators Set For Same Water Amount

Drought Broken With 3-Inch Rainfall

Rain Blesses Area 3rd Time in Week

Favors 960-Acre Limit
New Irrigation Law Opposed by Carter

Water Users Told Of Irrigation Woes

Irrigation Waters Flow As Rains Ease Drought

Several Variables
Platte Water Diversion May Cost $60 Acre Foot

State Down 23%
Corn Estimate Continues Fall Below '79 Mark

Water Resources Group Backs Pair of Projects

District's Buried Pipe Now Totals 40 Miles

Swanson Leads Surge
Recreation Use Increases At Area Reservoirs

Rain-Shy Lakes All at Low Levels

CHAPTER I - INTRODUCTION

PURPOSE OF THIS REPORT

In addition to describing the operational responsibilities of the Water and Power Resources Service, Corps of Engineers, and irrigation or reclamation districts in the three river basins, this Annual Operating Plan advises water users, cooperating agencies, and other interested groups or persons of the actual operations during 1980 and serves as a guideline for the 1981 operations.

OPERATIONAL RESPONSIBILITIES

The Water and Power Resources Service is responsible for irrigation operations at all Federal reservoirs in the Kansas River Projects area. At those reservoirs which were constructed by the Water and Power Resources Service, the Service is also responsible for the operation and maintenance, safety of the structure, and reservoir operations not specifically associated with regulation of the flood control storage. In addition to irrigation and flood control, these reservoirs provide recreation, fish and wildlife, municipal, and industrial benefits.

By contractual arrangements with the Water and Power Resources Service, the irrigation or reclamation districts are responsible for the operation and maintenance of the canals and irrigation distribution facilities constructed or rehabilitated by the Service in the Niobrara, Lower Platte, and Kansas River Basins. In addition, the appropriate irrigation or reclamation districts have the responsibility of operating and maintaining Box Butte, Merritt and Sherman Reservoirs. The Corps of Engineers operates and maintains Harlan County Dam and Lake. Water and Power operates and maintains eleven dams and reservoirs in the Republican, Solomon, and Smoky Hill River Basins.

The States of Nebraska, Colorado and Kansas are responsible for the administration and enforcement of the laws of their respective States pertaining to the water rights and priorities of all parties concerned with the use of water.

The Service will cooperate with all State agencies and Compact Commissions to ensure that all operations are in compliance with State laws and Compact requirements.

TABLES AND EXHIBITS

Records for the facilities reported are included as tables and exhibits.

WATER SUPPLY

For forecasting purposes, values of annual inflows that will be statistically equalled or exceeded 10, 50 and 90 percent of the time were selected from the probability curve to be "reasonable maximum" (wet year), "most probable" (normal year), and "reasonable minimum" (dry year) inflow conditions respectively.

In this report inflow records from 1956 through 1980 were used to update the analysis.

RESERVOIR OPERATIONS

All operations are scheduled for optimum benefits of the various authorized project functions. Monthly or as often as runoff and weather conditions dictate, the Service evaluates the carryover storage and estimated inflow at each reservoir to determine whether excess water is anticipated. If excess inflow is apparent, controlled releases will be made to maximize the downstream benefits, including flood control.

MAJOR FEATURES

The Mirage Flats Project was constructed under the Water Conservation and Utilization Act and includes an irrigation storage reservoir, diversion dam, and canal system. The other features discussed in this report are a part of the Pick-Sloan Missouri Basin Program and include multipurpose reservoirs, diversion dams, pump stations, and canal systems. The 15 storage facilities now in operation are as follows:

Constructed by the Water and Power Resources Service:

1. Operated by irrigation or reclamation districts--Box Butte and Merritt Dams in the Niobrara River Basin and Sherman Dam in the Lower Platte River Basin.

2. Operated by the Water and Power Resources Service--Bonny, Trenton, Enders, Red Willow, Medicine Creek, Norton, Lovewell, Kirwin, Webster, Glen Elder and Cedar Bluff Dams in the Kansas River Basin.

Constructed and operated by the Corps of Engineers:

1. Harlan County Dam in the Kansas River Basin.

IRRIGATION DISTRICTS

Thirteen irrigation districts and one reclamation district in the Niobrara, Lower Platte, and Kansas River Basins have contracted with the Water and Power Resources Service for water supply and irrigation facilities. The Sargent and Farwell Irrigation Districts have contracted their operation and maintenance responsibilities to the Loup Basin Reclamation District.

The contracted irrigation season for the Mirage Flats Irrigation District is April through September. The contracted irrigation season for Frenchman Valley, H & RW, Frenchman-Cambridge and Cedar Bluff Irrigation Districts is from May 1 through October 15; and for all other districts the contracted irrigation season is from May 1 through September 30th.

MUNICIPAL AND INDUSTRIAL WATER

Three municipalities, two oil companies and one rural water district have executed water service contracts for full or supplemental water supplies.

FISH HATCHERY

The Fish and Wildlife Service operates a warm-water fish hatchery below Cedar Bluff Reservoir.

ENVIRONMENTAL CONSIDERATIONS

A "Statement of Operational Objectives" for Harlan County Lake sets forth the general operational objectives and the specific reservoir uses that are considered desirable. It indicates that fish and wildlife interests will be best served by high reservoir levels with minimum fluctuations and regulation of the outflow in excess of the minimum desired flows. Although the statement recognizes flood control and irrigation as the primary purposes, it indicates that comprehensive operational plans should be developed to permit the maximum integration of the secondary uses.

The above-mentioned objectives are also considered in the operation of all reservoirs in the Kansas River Basin, Merritt and Box Butte Reservoirs in the Niobrara River Basin, and Sherman Reservoir in the Lower Platte River Basin. The regulated outflow will also benefit farmers, ranchers, industries, cities, and other interests below the reservoirs.

CHAPTER II - NIOBRARA AND LOWER PLATTE RIVER BASINS

MIRAGE FLATS PROJECT IN NEBRASKA

GENERAL

The flow of the Niobrara River and Box Butte Reservoir storage provide a water supply for the 11,662-acre Mirage Flats Project. During the 10-year period from 1971 to 1980 the project water supply averaged 16,653 acre-feet, which is about 1.43 acre-feet per acre. This is 0.89 acre-foot per acre short of the average diversion requirement of 2.32 acre-feet per acre that was estimated to be necessary for a full water supply in the March 1965 report on the Mirage Flats Project, Nebraska. Records of farm deliveries for several previous years indicate a gradual decline in project water supply. Many irrigators supplement the water supply by private wells.

The Mirage Flats Irrigation District cooperates with the Nebraska Game and Parks Commission by operating the Box Butte Dam outlet works gates and the Dunlap Diversion Dam gates in a manner that avoids sudden large changes in the flows of the Niobrara River.

1980 SUMMARY

The flows of the Niobrara River plus the carryover storage in Box Butte Reservoir were not adequate to provide a full water supply for the project lands. A timely rain in August which allowed irrigation releases to be discontinued for 9 days improved the water supply situation. There were 2,153 acre-feet of active storage on September 30th. The total precipitation in the Mirage Flats area was 11.60 inches, which is 76 percent of normal. The total inflow (20,618 acre-feet) was between the dry- and normal-year forecasts.

From June through September 17,023 acre-feet were diverted to the Mirage Flats Canal for irrigation of 11,093 acres, 95 percent of the service available acreage. The farm deliveries from the project water supply were 8,355 acre-feet (0.75 acre-foot per acre), giving the district a delivery efficiency of 49 percent. Project deliveries were supplemented by privately owned irrigation wells. The gross crop value was $4,211,601, which is $1,364,570 more than the 1979 value.

1981 OUTLOOK

The project water supply is expected to be inadequate in 1981 as it has been for the last several years since the 2,153 acre-feet of active carryover storage on September 30 was small. The Mirage Flats Irrigation District will announce to their water users in the spring the amount of water that will be available from storage in Box Butte Reservoir. However, the district plans for the irrigators to continue the use of water from privately owned irrigation wells as a supplemental supply. There are 11,000 acres expected to be irrigated in 1981.

AINSWORTH UNIT, SANDHILLS DIVISION IN NEBRASKA

GENERAL

Within the Ainsworth Irrigation District there are 34,539 acres with service available. The project water supply is provided by storage of Snake River flows in Merritt Reservoir. The reservoir is filled after the irrigation season each fall to a level varying from 2 to 6 feet below the top of conservation capacity in order to avoid ice damage to the soil cement at the same elevation. The reservoir is regulated to maintain this level until the ice clears each spring and then slowly filled. This operation greatly enhances the spring fish spawn. Although not required, releases up to 15 ft^3/s are made into the Snake River below Merritt Dam for fish, wildlife and recreational purposes.

The basic water supply for the Ainsworth Irrigation District is 63,712 acre-feet. Additional water, if available, can be purchased by the district as a supplemental supply.

1980 SUMMARY

Precipitation, as recorded near Merritt Dam, totaled 14.34 inches of rainfall, which was 82 percent of normal. The water supply was more than adequate to meet the project's irrigation requirement. There were 75,948 acre-feet diverted from Merritt Reservoir into the Ainsworth Canal with 53,531 acre-feet being delivered to the farm headgates (delivery efficiency of 71 percent). There were 33,412 acres of land irrigated in 1980 and the gross crop value was $12,371,287, which is $4,370,610 more than the previous year.

The District executed several temporary water service contracts which provided a total of 241 acre-feet of irrigation water from holding ponds located within the district's service area.

1981 OUTLOOK

Merritt Reservoir will be regulated to maintain an elevation 2.0 feet below the top of conservation capacity during the 1980-81 winter months to prevent erosion from occurring on the face of the dam at the same elevation year after year.

Releases from Merritt Reservoir will be regulated to slowly fill the conservation capacity during the spring months. The water supply is expected to be adequate in 1981 for the irrigation of an estimated 34,000 acres.

SARGENT UNIT, MIDDLE LOUP DIVISION IN NEBRASKA

GENERAL

The Sargent Irrigation District has contracted with the Loup Basin Reclamation District for the operation and maintenance of the Milburn Diversion Dam and the Sargent Canal system which serves 13,363 acres. The water supply is diverted from the Middle Loup River into the Sargent Canal under an appropriated natural flow right from the State of Nebraska. These diversions may exceed the natural

flow appropriation of 198 ft^3/s by an exchange of storage from Sherman Reservoir, provided that water is available after all senior appropriations are satisfied and the excess is not greater than the storage releases from Sherman Reservoir.

1980 SUMMARY

The precipitation over the Sargent Unit (14.45 inches at district headquarters) was 62 percent of normal. The diversions into the Sargent Canal totaled 32,076 acre-feet (19,149 acre-feet were delivered to the farm headgates--delivery efficiency 60 percent). The diversions exceeded the direct flow right for 43 days during 1980. There were 13,048 acres irrigated with a gross crop value of $2,972,710, which is $24,014 less than in 1979. The irrigators grow corn as the principal crop (approximately 86 percent of the acreage) creating very high water demands in July and August. The demands cannot be met within canal capacity so the district has instituted a rationing process through the peak period.

1981 OUTLOOK

The Loup Basin Reclamation District estimates that 13,000 acres in the Sargent Unit will be irrigated in 1981. Under dry-year conditions some shortages could occur. Farwell and Sargent Irrigation Districts are preparing a share-shortage policy to be implemented in 1981.

FARWELL UNIT, MIDDLE LOUP DIVISION IN NEBRASKA

GENERAL

The Loup Basin Reclamation District operates and maintains the Arcadia Diversion Dam, Sherman Feeder Canal, Sherman Dam and Reservoir, and the Farwell Canal system, which serves 50,051 acres of land. Diversions are also made through the Arcadia Diversion Dam to 15,000 acres of non-project lands in the Middle Loup Public Power and Irrigation District under appropriated natural flow water rights.

During the winter months, Sherman Reservoir is normally regulated to five feet or more below the top of the conservation capacity to minimize seepage from the reservoir into the groundwater table. Maintenance of the pool below the top of conservation provides time for seeding of drawdown areas. This seeding area prevents wind erosion and provides winter food and cover for wildlife and fish with spawning habitat in the spring when these areas are inundated. Each spring, diversions into Sherman Feeder Canal from the Middle Loup River are regulated to fill the conservation capacity of Sherman Reservoir by mid-June. The gradually rising water surface in the spring is desirable for fish spawning.

Whenever the flows in the Middle Loup River at Arcadia, Nebraska, exceed 6,000 ft^3/s, flows will be diverted through Sherman Feeder Canal into Sherman Reservoir. Flood Control benefits can be accrued to Sherman Reservoir by such operations.

1980 SUMMARY

The diversions from the Middle Loup River at Arcadia Diversion Dam were 36,544 acre-feet to the Middle Loup Public Power and Irrigation District and 120,050 acre-feet into the Sherman Feeder Canal.

Sherman Feeder Canal diversions into Sherman Reservoir were started on April 9, and the conservation capacity was filled on June 2, 1980. The precipitation at Sherman Dam was 16.44 inches, which is 79 percent of normal. Releases into the Farwell Canals totaled 82,681 acre-feet (47,943 acre-feet were delivered to the farm headgates--delivery efficiency 58 percent). The Farwell Irrigation District reported that 47,523 acres of land were irrigated in 1980. The gross crop value was $13,411,345, which is $861,638 more than in 1979. Sherman Feeder Canal was shut off October 10, 1980.

The toe drains at the base of Sherman Dam were completely replaced during 1980. The new drains were constructed with manholes for inspection and cleaning and seepage flow measurement devices at the outlets.

1981 OUTLOOK

Diversions from the Middle Loup River into the Sherman Feeder Canal are expected to start in early spring for the normal filling of the conservation capacity of Sherman Reservoir prior to the irrigation season.

Under normal- and dry-year inflow conditions, irrigation shortages are expected in 1981. These shortages are attributable to large irrigation requirements for corn production during the months of July and August. Farwell and Sargent Irrigation Districts are preparing a share-shortage policy to be implemented in 1981.

CHAPTER III - REPUBLICAN RIVER BASIN

ARMEL UNIT, UPPER REPUBLICAN DIVISION IN COLORADO

GENERAL

Bonny Reservoir storage is transferred as required to Swanson Lake where releases into the Republican River are regulated to meet the industrial needs of the AMOCO Production Company and Rex Monahan for their waterflood operations in the Sleepy Hollow Oil Field south of Bartley, Nebraska.

Bonny Reservoir inflows from the South Fork of the Republican River and Landsman Creek are released into Hale Ditch as requested by the Colorado State Engineer. Bonny storage water will be available to Hale Ditch and other natural flow appropriators under short-term water service letter agreements. Most of the 700 acres served by Hale Ditch are now owned and operated by the Colorado Department of Natural Resources, Division of Wildlife.

The normal operation pattern of Bonny Reservoir, with a slowly rising or stable pool, enhances fish spawning in the spring and affords excellent hunting conditions each fall.

1980 SUMMARY

The 22.68 inches of precipitation during 1980 was 139 percent of normal, while the inflow (21,184 acre-feet) to Bonny Reservoir was between the dry-year and normal-year forecasts. The water supply was adequate to furnish 410 acre-feet to AMOCO Production Company and 1 acre-foot to Rex Monahan. As directed by the Colorado Water Commissioner, 1,429 acre-feet of reservoir inflows from the South Fork of the Republican River and Landsman Creek were passed through Bonny Reservoir into Hale Ditch.

Short-term water service letter agreements for sale of storage water were made to three users. The State of Colorado Department of Natural Resources purchased 546 acre-feet for industrial or irrigation purposes and B.A.L. Enterprises purchased 45 acre-feet for irrigation use, while Western Well Drilling purchased 50,000 gallons (.15 acre-foot) for industrial use.

1981 OUTLOOK

AMOCO Production Company and Rex Monahan will have an adequate water supply in 1981. Water stored in Bonny Reservoir will also be available for sale to Hale Ditch and other private irrigators under short-term water service letter agreements.

Each winter releases will be made to maintain a constant elevation during the period when the reservoir is ice-covered.

GENERAL

The transportation of water from Enders Reservoir through 52 miles of Frenchman River channel to the Culbertson Diversion Dam created an erosion problem that made it necessary to initiate a control and stabilization program in 1964. All contract work has been completed and the remaining work consists of a small maintenance program.

The Culbertson Canal and the Culbertson Extension Canal systems serve 9,600 acres in the Frenchman Valley Irrigation District and 11,490 acres in the H & RW Irrigation District. The water supply for these lands is furnished by flows from Frenchman Creek and Stinking Water Creek and off-season storage in Enders Reservoir.

The normal operation of Enders Reservoir, with the gradual rise in water surface during the spring months, provides desirable fish spawning conditions. Irrigation releases will normally deplete the conservation storage by late summer, thereby limiting the fishing and recreational usage.

1980 SUMMARY

The 19.82 inches of precipitation at Enders Dam was 106 percent of normal, while the 1980 inflow into Enders Reservoir (26,567 acre-feet) was below the dry-year forecast. Due to extensive groundwater pumping above the reservoir the inflow was only 44 percent of the average historical pre-construction runoff at the Enders damsite (60,700 acre-feet, 1929-1947). This was the thirteenth consecutive year with below-normal inflows. The conservation pool was not filled during 1980. A total of 2,379 acre-feet of water was conserved between the 1979 and 1980 irrigation seasons by pumping seepage back into the reservoir. Irrigation releases were stopped on August 17th.

The farm delivery averaged about 0.69 acre-foot per acre for the two districts. A few farmers were able to supplement their project water supply from private irrigation wells. The Frenchman Valley Irrigation District reports that 8,953 acres received water in 1980, and the H & RW Irrigation District reports 10,978 acres, which are 93 and 96 percent, respectively, of the lands with service available. The gross crop value for Frenchman Valley Irrigation District was $3,344,738, which is an increase of $1,122,839 from the previous year; and the gross crop value for the H & RW Irrigation District was $3,646,693, which is an increase of $1,050,464 from the previous year.

1981 OUTLOOK

The fall and early winter inflows into Enders Reservoir were a little below the dry-year forecast. If reasonable minimum runoff conditions prevail, the project water supply is expected to be inadequate to irrigate 8,000 acres in the Frenchman Valley Irrigation District and 10,000 acres in the H & RW Irrigation District. As much as 2,400 acre-feet are expected to be conserved by pumping seepage water back into the Enders Reservoir.

MEEKER-DRIFTWOOD, RED WILLOW, AND CAMBRIDGE UNITS, FRENCHMAN-CAMBRIDGE DIVISION IN NEBRASKA

GENERAL

During the spring months, Swanson, Hugh Butler and Harry Strunk Lakes normally have a rising or stable pool which enhances the spawning of northern pike and walleye. These lakes provide excellent opportunities for fishing, water sports and recreation.

Service is provided for Frenchman-Cambridge Irrigation District by Meeker-Driftwood Canal to 16,476 acres; Red Willow Canal to 4,932 acres; Bartley Canal to 6,539 acres; and Cambridge Canal to 17,053 acres. The water supply for these lands is provided by storage in Swanson, Hugh Butler and Harry Strunk Lakes, and flows of the Republican River and Red Willow and Medicine Creeks.

A re-survey of the reservoir sediment ranges for Harry Strunk Lake is scheduled for the spring of 1981. Revised area-capacity data will be published.

1980 SUMMARY

The precipitation of 18.53 inches at Trenton Dam was 96 percent of normal and the inflow to Swanson Lake was between the dry-year and normal-year forecasts. At the beginning of the 1980 irrigation season (June 23), there was 96,272 acre-feet of water stored in Swanson Lake, which is 23,888 acre-feet below the top of conservation capacity. This carryover storage, storage releases from Hugh Butler Lake and the inflows furnished full water supplies to project lands served by the Meeker-Driftwood and Bartley Canal systems. The Frenchman-Cambridge Irrigation District diverted 30,854 acre-feet into Meeker-Driftwood Canal to irrigate 16,160 acres, and 9,840 acre-feet into Bartley Canal for 6,390 acres.

The precipitation of 17.07 inches at Red Willow Dam was 86 percent of normal while the inflow into Hugh Butler Lake was between the dry-year and normal-year forecasts. The water supply was adequate to meet the diversion requirements for Red Willow Canal. The district diverted 7,473 acre-feet of water to irrigate 4,790 acres of land served by Red Willow Canal. During the latter part of the irrigation season, in order to conserve water in Swanson Lake, demands for the Bartley Canal were satisfied by supplementing natural flows with storage water from Hugh Butler Lake.

The precipitation of 18.18 inches was 95 percent of normal at Medicine Creek Dam while the inflow was a little more than the dry-year forecast. The water supply was adequate and 32,577 acre-feet of water was diverted to irrigate 16,720 acres of land served by the Cambridge Canal.

The Frenchman-Cambridge Rehabilitation and Betterment Program for placing laterals in pipe was continued during 1980. Pipe lateral installations on the Bartley and Red Willow Canal systems have been completed and work has started on the Cambridge and Meeker-Driftwood Canal systems--41.7 miles of pipe has been placed to date. The pipe lateral installations reduce system losses and also reduce the time required for operation and maintenance activities.

The 1980 gross crop value from the lands served by Meeker-Driftwood, Bartley, Red Willow and Cambridge Canals was $15,743,524, which is $2,713,538 more than in 1979.

1981 OUTLOOK

Forecasts show that almost all the conservation storage of the three lakes supplying the Frenchman-Cambridge Irrigation District would be used to meet the full dry-year irrigation requirement.

It is estimated that 16,200 acres will be served from the Meeker-Driftwood Canal; 16,700 acres will be served from the Cambridge Canal; 4,800 acres will be served from the Red Willow Canal; and 6,300 acres will be served from the Bartley Canal.

No surplus storage is expected to be available for sale as a supplemental supply to non-project lands in 1981.

ALMENA UNIT, KANASKA DIVISION IN KANSAS

GENERAL

There are 5,763 acres with service available in the Almena Irrigation District. The project water supply is provided by Prairie Dog Creek flows and Norton Reservoir storage.

The water service contract for the City of Norton, Kansas, provides for a maximum annual use of 1,600 acre-feet from Norton Reservoir.

1980 SUMMARY

The precipitation at Norton Dam was 17.84 inches, which is 88 percent of normal. The total inflow was 2,535 acre-feet, which is about 4,700 acre-feet less than the dry-year forecast. Of the 2.68 acre-feet per acre farm delivery (13,635 acre-feet), 0.08 acre-foot per acre was available from the project water supply (387 acre-feet) and the balance was supplied from 126 private irrigation wells. This is the tenth consecutive year that the district has had to use water from privately owned irrigation wells. The 5,094 acres irrigated in 1980 produced a gross crop value of $1,854,411. This is $43,168 more than the crop value in 1979.

The City of Norton used 825 acre-feet of municipal water during 1980.

1981 OUTLOOK

The Almena Irrigation District expects to deliver water to 5,763 acres if an adequate water supply is available. If 1981 is a dry year without significant run-off producing storms above Norton Reservoir, a shortage of the entire irrigation requirement may be experienced. If normal inflow into the reservoir and normal rainfall over the irrigated area occur in 1981, a shortage of 5,800 acre-feet, or about one-half the irrigation requirement, may be experienced.

Requirements for the City of Norton are expected to be met in full in 1981.

FRANKLIN, SUPERIOR-COURTLAND, AND COURTLAND UNITS, BOSTWICK DIVISION IN NEBRASKA AND KANSAS

GENERAL

Harlan County Lake storage and Republican River flows provide a project water supply for 22,787 acres in the Bostwick Irrigation District in Nebraska, and 12,771 acres in the Kansas-Bostwick Irrigation District No. 2 above Lovewell Reservoir; and, together with White Rock Creek flows and Lovewell Reservoir storage, furnish a water supply for 27,329 acres below Lovewell Reservoir in the Kansas-Bostwick Irrigation District.

The lands in the Franklin and Superior-Courtland Units are in the Bostwick Irrigation District in Nebraska. The lands in the Courtland Unit are in the Kansas-Bostwick Irrigation District.

The following Harlan County Lake minimum flow operational procedures will be used to conserve water, to aid the Nebraska Department of Water Resources in storage water right administration and to provide sharing of water supply shortages between users. This was presented for review in the 1979-1980 Annual Operating Plan and is revised as described below.

At the end of each month during nonirrigation season, an evaluation will be made to determine the release for the upcoming month. The total accumulated computed inflow since the end of irrigation season (September 30) will be used to determine which conditions will be used for projections to calculate October through April outflow. Accumulated computed inflows for May through September will be used to determine which conditions will be used for projections to calculate October outflow. Reasonable minimum, most probable and reasonable maximum inflow conditions are shown in this report as the Harlan County Lake operation estimates. The minimum releases will be as follows:

1. No releases will be made if the projected content for the end of April is less than 220,000 acre-feet.

No releases will be made whenever the Service anticipates requesting administration of storage water rights above Harlan County Lake.

If necessary, small short duration releases will be made to prevent the stilling basin from becoming stagnant.

2. Releases of 5 ft^3/s will be made if the projected end of April content is between 220,000 and 250,000 acre-feet.

3. Releases of 10 ft^3/s will be made if the projected end of April content is more than 250,000 acre-feet. If the State is not administering upstream storage reservoirs, the minimum release for May through September will be 10 ft^3/s.

As recommended by the Kansas State Board of Health, the Nebraska State Department of Health, and the U. S. Public Health Service, it is desirable for the sanitary quality of the stream, to maintain daily flows of 40 ft^3/s in the Republican River below Superior, Nebraska, from June through September. During

normal years when the Superior Canal and Courtland Canal (in Nebraska) are in operation, the return flows, seepage and surface irrigation runoff, plus the natural flow gain in the Republican River below the Superior-Courtland Diversion Dam, will meet this recommended flow. If through normal reservoir operations it is possible to comply with the above recommendations, the Service will do so as it has done in the past. However, during dry years when the forecasted reasonable minimum inflows will not fill Harlan County Lake before the start of the next irrigation season, the available flows in the Republican River below Harlan County Dam, plus the minimum releases from Harlan County Lake, are diverted into the Courtland Canal to be stored in Lovewell Reservoir. When this condition exists, the flow in the Republican River below Superior, Nebraska, will be less than the 40 ft^3/s that was recommended.

The Kansas Fish and Game Commission has requested that the Kansas-Bostwick Irrigation District and the Water and Power Resources Service maintain, when it is possible, a flow of 20 ft^3/s into Lovewell Reservoir when the Courtland Canal is in operation and the conservation pool is below capacity. This recommended inflow provides excellent fishing around the canal inlet to the reservoir. The seepage below Lovewell Dam into White Rock Creek maintains a small live stream throughout the year.

Plans are being formulated to add riprap along the upstream face of Lovewell Dam. Prolonged reservoir operation at elevations near the top of conservation pool is causing riprap damage and bank erosion. To facilitate placement of the riprap (scheduled for fall of 1982 and spring 1983) the reservoir water level will be five to seven feet below the top of conservation pool. In the interim, damage and erosion will be minimized by maintaining the fall and winter reservoir water levels below elevation 1581.0.

1980 SUMMARY - BOSTWICK DIVISION HARLAN COUNTY LAKE OPERATIONS

The precipitation at Harlan County Dam totaled 17.88 inches of rainfall which was 85 percent of normal, while the inflow (138,109 acre-feet) was below the dry-year forecast. The conservation capacity of Harlan County Lake was filled at the beginning of the 1980 irrigation season.

The 32,487 irrigated acres in the Bostwick Division in Nebraska and Kansas above Lovewell Dam were furnished a full water supply. In addition, 41,818 acre-feet were delivered to Lovewell Reservoir through the Courtland Canal.

1980 SUMMARY - BOSTWICK DIVISION - NEBRASKA

The Bostwick Irrigation District in Nebraska diverted 55,360 acre-feet for the irrigation of 20,492 acres. The gross crop value was $6,228,524, which is $721,392 more than in 1979.

1980 SUMMARY - BOSTWICK DIVISION - KANSAS

The 1980 precipitation at Lovewell Dam totaled 22.59 inches of rainfall which was 91 percent of normal.

The Kansas-Bostwick Irrigation District diverted a total of 83,490 acre-feet to serve 11,995 acres above Lovewell Dam and 21,237 acres below Lovewell Dam. The gross crop value was $9,597,228, which is $94,868 less than the previous year. Prior to the start of the irrigation season, Lovewell Reservoir's conservation storage pool was filled.

1981 OUTLOOK - BOSTWICK DIVISION

The Bostwick Irrigation District in Nebraska and the Kansas-Bostwick Irrigation District No. 2 expect to deliver water to 20,600 and 35,100 acres, respectively. The storage in Harlan County Lake and Lovewell Reservoir and the return flows of the Republican River and White Rock Creek flows are expected to furnish an adequate water supply for the Bostwick lands.

Inflow to Lovewell Reservoir from the Courtland Canal will be started in the spring to allow for filling the reservoir from natural flow in the Republican River without storage releases from Harlan County Lake.

In order to minimize riprap damage and bank erosion, the Lovewell Reservoir water level will be maintained below elevation 1581.0 next fall and winter.

KIRWIN UNIT, SOLOMON DIVISION IN KANSAS

GENERAL

The water supply for the 11,435 acres of land in the Kirwin Irrigation District is furnished by storage from Kirwin Reservoir and inflows from the North Fork of the Solomon River and Bow Creek.

The operation of Kirwin Dam and Reservoir affords many opportunities for recreation, fishing, hunting, water sports, fish spawning and for preservation of waterfowl species.

1980 SUMMARY

The precipitation totaled 19.76 inches which was 88 percent of normal. The inflow (9,950 acre-feet) was less than the dry-year forecast. On September 30, 8,782 acre-feet of storage remained.

The Kirwin Irrigation District diverted 12,405 acre-feet for irrigation of 7,121 acres. Irrigators in the Kirwin Irrigation District continued to pump water from private wells to supplement the storage supply. The gross crop value was $1,895,603, which is $27,120 less than in 1979.

1981 OUTLOOK

The Kirwin Irrigation District estimates that 9,000 acres may be irrigated in 1981. Normal precipitation and normal forecasted inflows from the North Fork of the Solomon River would be adequate to irrigate these lands; however, under dry-year forecasts, a shortage of about 17,600 acre-feet may be experienced.

WEBSTER UNIT, SOLOMON DIVISION IN KANSAS

GENERAL

The Webster Irrigation District has service available to 8,500 acres. The project water supply is provided by Webster Reservoir storage and flows of the South Fork of the Solomon River.

1980 SUMMARY

In 1980, the precipitation at Webster Dam was 70 percent of normal (16.71 inches). The inflow of 11,315 acre-feet was a little less than the dry-year forecast.

On September 30, there were 4,698 acre-feet of active conservation storage remaining in the reservoir. The Webster Irrigation District diverted 12,613 acre-feet for irrigation of 6,650 acres. The Webster Irrigation District reported

a gross crop value of $1,737,103, which is $344,832 more than the previous year.

Irrigators in the Webster Irrigation District continued to pump water from private wells to supplement the storage supply.

1981 OUTLOOK

The carryover storage and the flows in the South Fork of the Solomon River are expected to be adequate under normal- or wet-year forecasts to irrigate 7,000 acres in the Webster Irrigation District in 1981. Under dry-year forecasts, a severe shortage of 20,000 acre-feet may be experienced.

GLEN ELDER UNIT, SOLOMON DIVISION IN KANSAS

GENERAL

Releases from Waconda Lake will be regulated as outlined in two Memorandums of Understanding between the State of Kansas and the Water and Power Resources Service. Releases are made for the City of Beloit, temporary short-term water service letter agreements, and water right administration. The water service contract with Beloit, Kansas, provides for annual use of up to 2,000 acre-feet of Waconda Lake storage, and is measured at the Glen Elder Dam river outlet works. In any water year that the City's water supply is insufficient and there is surplus water in Waconda Lake, such additional water may be delivered to the City at a rate of $15.00 per acre-foot.

The water service contract with the WCH&T Rural Water District No. 2 provides for use of storage water, as available from Waconda Lake, not to exceed 1,009 acre-feet per calendar year.

To lessen ice damage to the upstream face of Glen Elder Dam during winter months, releases from Waconda Lake will be regulated each year to maintain a constant water surface level while the lake is ice-covered from zero to five feet below the top of conservation capacity.

The available facilities along the shores of Waconda Lake and the large water surface area afford opportunities to many thousands of people for picnics, sightseeing, recreation, water sports, hunting and fishing.

When compatible with flood control operations, the operating criteria for Waconda Lake provide for a stable or rising pool level during the fish spawning period each spring.

Whenever possible drawdowns will be scheduled for late summer and early fall so that seeding of drawdown areas can be accomplished. This seeding prevents wind erosion and provides winter food and cover for wildlife and fish with spawning habitat in the spring when these areas are inundated.

1980 SUMMARY

The precipitation at Glen Elder Dam was 69 percent of normal (17.72 inches) and the inflow (97,540 acre-feet) was between dry- and normal-year forecasts. A total of 1,639 acre-feet was released for use by the City of Beloit, Kansas; 639 acre-feet was released for use by the WCH&T Rural Water District No. 2; and 5,455 acre-feet of storage water was sold to private irrigators in the Solomon Valley under short-term water service letter agreements.

1981 OUTLOOK

The municipal requirements of Beloit and the requirements of the WCH&T Rural Water District No. 2 will be met in full with releases as required from Waconda Lake. It is expected that the Water Commissioner of the State of Kansas will request that inflows be passed through the lake for water right administration. Waconda Lake storage water will be available to natural flow appropriators under short-term water service letter agreements. To aid in the administration of storage water releases, all water purchasers must install meters on their pumps. To minimize ice damage the reservoir will be regulated to maintain a constant level during the months the reservoir is ice-covered. During 1981 Waconda Lake will be operated with a stable or slowly rising pool early in the year. Under dry-year conditions, Waconda Lake will be maintained at about 4.5 feet below the top of the conservation pool for next winter. Under normal-year conditions, the lake will be maintained at about 2.5 feet below the top of the conservation pool.

CEDAR BLUFF UNIT, SMOKY HILL DIVISION IN KANSAS

GENERAL

Cedar Bluff Reservoir storage and Smoky Hill River flows provide a water supply for the 6,800 acres in the Cedar Bluff Irrigation District and up to 4,000 acre-feet for the Cedar Bluff National Fish Hatchery. Cedar Bluff storage also furnishes a maximum of 2,000 acre-feet per annum, if required, for the City of Russell, Kansas.

The return flows from the Cedar Bluff National Fish Hatchery and seepage from Cedar Bluff Reservoir maintain the fisheries and enhance fishing in the Smoky Hill River below Cedar Bluff Dam.

1980 SUMMARY

The precipitation was 79 percent of normal (17.49 inches). The inflow (7,395 acre-feet) was below the dry-year forecast. The year's high content of 32,950 acre-feet, reached on April 21, was 2,370 acre-feet below the bottom of active storage. Due to the anticipated severe shortages, the Cedar Bluff Irrigation District No. 6 elected to forgo irrigation releases in 1980 for the second consecutive year. The Cedar Bluff National Fish Hatchery diverted 2,721 acre-feet,

most of which were passed through the facilities and returned to the Smoky Hill River below Cedar Bluff Dam.

An emergency letter agreement was executed to provide the City of Russell with an additional 500 acre-feet of storage water. Releases of 2,132 acre-feet were made for the City of Russell, Kansas, in 1980.

1981 OUTLOOK

The reservoir elevation of 2101.79 on December 31, 1980, is in the inactive pool and the current inflow below dry-year conditions. With dry-year inflows, a severe shortage of over 20,000 acre-feet is expected. However, with normal-year conditions, moderate shortages of 6,000 acre-feet may be experienced.

The requirements of the Cedar Bluff National Fish Hatchery and the City of Russell, Kansas, will be satisfied in 1981.

TABLES AND EXHIBITS

TABLE 1

RESERVOIR DATA - NIOBRARA, LOWER PLATTE AND KANSAS RIVER BASINS

RESERVOIR		CAPACITY ALLOCATIONS 1/ DEAD	LIVE CONSERVATION Inactive	LIVE CONSERVATION Active	FLOOD CONTROL
Box Butte	- Elevation Ft.	3969.0	3976.5	4007.0	---
	Total Acre-feet	640	2,275	31,060	---
	Net Acre-feet	640	1,635	28,785	---
Merritt	- Elevation Ft.	2875.0	2896.0	2946.0	---
	Total Acre-feet	1,614	6,800	74,486	---
	Net Acre-feet	1,614	5,186	67,686	---
Sherman	- Elevation Ft.	2118.5	2129.0	2162.3	---
	Total Acre-feet	3,839	10,496	69,076	---
	Net Acre-feet	3,839	6,657	58,580	---
Bonny	- Elevation Ft.	3635.5	3638.0	3672.0	3710.0
	Total Acre-feet	1,418	2,134	41,340	170,160
	Net Acre-feet	1,418	716	39,206	128,820
Swanson Lake	- Elevation Ft.	2710.0	2720.0	2752.0	2773.0
	Total Acre-feet	4,101	15,510	120,160	253,950
	Net Acre-feet	4,101	11,409	104,650	133,790
Enders	- Elevation Ft.	3080.0	3082.4	3112.3	3127.0
	Total Acre-feet	8,467	9,968	44,480	74,520
	Net Acre-feet	8,467	1,501	34,512	30,040
Hugh Butler Lake	- Elevation Ft.	2552.0	2558.0	2581.8	2604.9
	Total Acre-feet	6,313	10,450	37,776	86,630
	Net Acre-feet	6,313	4,137	27,326	48,854
Harry Strunk Lake	- Elevation Ft.	2335.0	2343.0	2366.1	2386.2
	Total Acre-feet	4,911	9,548	37,141	89,313
	Net Acre-feet	4,911	4,637	27,593	52,172
Norton	- Elevation Ft.	2275.0	2280.4	2304.3	2331.4
	Total Acre-feet	2,718	5,284	35,935	134,740
	Net Acre-feet	2,718	2,566	30,651	98,805
Harlan County Lake	- Elevation Ft.	1885.0	1927.0	1946.0	1973.5
	Total Acre-feet	0	126,727	319,787	828,776
	Net Acre-feet	0	126,727	193,060	508,989
Lovewell	- Elevation Ft.	1562.0	1571.7	1582.6	1595.3
	Total Acre-feet	5,054	16,760	41,690	92,150
	Net Acre-feet	5,054	11,706	24,930	50,460
Kirwin	- Elevation Ft.	1693.0	1697.0	1729.25	1757.3
	Total Acre-feet	6,385	9,785	99,435	314,550
	Net Acre-feet	6,385	3,400	89,650	215,115
Webster	- Elevation Ft.	1855.5	1860.0	1892.45	1923.7
	Total Acre-feet	2,184	5,300	77,370	260,740
	Net Acre-feet	2,184	3,116	72,070	183,370
Waconda Lake	- Elevation Ft.	1407.8	1428.0	1455.6	1488.3
	Total Acre-feet	1,236	36,671	241,460	963,775
	Net Acre-feet	1,236	35,435	204,789	722,315
Cedar Bluff	- Elevation Ft.	2090.0	2107.8	2144.0	2166.0
	Total Acre-feet	8,261	35,320	185,090	376,950
	Net Acre-feet	8,261	27,059	149,770	191,860
Total Storage (A.F.)		57,141	303,028	1,456,286	3,646,254
Total Net Acre-feet		57,141	245,887	1,153,258	2,364,590

1/ Includes space for sediment storage.

TABLE 2
SUMMARY OF 1980 OPERATIONS

MIRAGE FLATS PROJECT

BOX BUTTE RESERVOIR

MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End of Month Content (AF)	MIRAGE FLATS CANAL Diversions To Canal (AF)	MIRAGE FLATS CANAL Delivered To Farms (AF)
Jan.	1,655	35	68	0.20	10,358	0	0
Feb.	1,971	35	79	0.76	12,215	0	0
Mar.	3,716	61	162	0.85	15,708	0	0
Apr.	2,902	46	326	0.40	18,238	0	0
May	1,818	54	461	3.15	19,541	0	0
June	108	444	656	1.52	18,549	330	16
July	129	10,500	611	1.22	7,567	10,742	5,045
Aug.	1,442	4,979	266	2.64	3,764	5,392	3,009
Sep.	1,369	508	197	0.21	4,428	559	285
Oct.	1,582	61	196	0.40	5,753	0	0
Nov.	1,950	60	147	0.12	7,496	0	0
Dec.	1,976	60	80	0.13	9,332	0	0
TOTAL	20,618	16,843	3,249	11.60	---	17,023	8,355

NOTE.--Mirage Flats Canal:
Acres irrigated 1980 -- 11,093

SANDHILLS DIVISION
AINSWORTH UNIT

MERRITT RESERVOIR

MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	AINSWORTH CANAL Diversions To Canal (AF)	AINSWORTH CANAL Delivered To Farms (AF)
Jan.	13,795	13,559	236	0.31	64,797	0	0
Feb.	14,989	13,373	296	0.55	66,117	0	0
Mar.	16,422	13,006	423	1.25	69,110	0	0
Apr.	16,192	10,084	732	0.61	74,486	0	0
May	13,392	11,773	1,030	3.15	75,075	3,966	666
June	13,035	12,932	1,265	2.96	73,913	5,824	1,693
July	14,028	39,134	1,391	0.38	47,416	37,358	29,724
Aug.	25,631	36,617	873	3.22	35,557	25,596	19,926
Sep.	14,539	3,919	562	0.44	45,615	3,204	1,522
Oct.	14,659	1,450	648	1.12	58,176	0	0
Nov.	13,612	2,519	438	0.12	68,831	0	0
Dec.	13,313	12,990	323	0.23	68,831	0	0
TOTAL	183,607	171,356	8,217	14.34	---	75,948	53,531

NOTE.--Ainsworth Canal:
Acres irrigated 1980 -- 33,412

MIDDLE LOUP DIVISION

MONTH	SARGENT UNIT SARGENT CANAL Diversions To Canal (AF)	SARGENT UNIT SARGENT CANAL Delivered To Farms (AF)	MIDDLE LOUP UNIT 1/ MIDDLE LOUP PUBLIC POWER CANALS Diversions To Canals (AF)	Diversion To Sherman Feeder Canal (AF)	FARWELL UNIT SHERMAN RESERVOIR Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	FARWELL CANALS Release To Canals (AF)	FARWELL CANALS Delivered To Farms (AF)
Jan.	0	0	0	0	338	1,309	75	0	42,377	0	0
Feb.	0	0	0	0	767	1,291	104	0.77	41,749	0	0
Mar.	0	0	0	0	691	1,309	205	1.74	40,926	0	0
Apr.	0	0	0	12,127	10,405	1,303	378	1.56	49,650	0	0
May	1,170	0	2,814	24,867	21,011	1,533	917	1.20	68,211	0	0
June	5,367	1,597	6,130	13,361	12,208	11,941	1,109	2.94	67,369	10,663	665
July	16,465	11,986	16,954	1,912	3,386	56,588	1,240	1.95	12,927	55,109	37,028
Aug.	7,513	5,275	8,589	26,783	24,970	15,842	684	4.54	21,371	14,860	8,710
Sep.	1,561	291	2,057	34,022	31,323	2,828	675	0.41	49,191	2,049	1,540
Oct.	0	0	0	6,978	6,343	1,083	753	1.03	53,698	0	0
Nov.	0	0	0	0	0	1,577	353	0	51,768	0	0
Dec.	0	0	0	0	0	1,309	349	0.30	50,110	0	0
TOTAL	32,076	19,149	36,544	120,050	111,442	97,913	6,842	16.44	---	82,681	47,943

1/ Non-Project.

NOTE.--Sargent Canal:
Acres irrigated 1980 -- 13,048

Middle Loup P. P. Canals:
Acres irrigated 1980 -- 14,326

Farwell Canals:
Acres irrigated 1980 -- 47,523

UPPER REPUBLICAN DIVISION
ARMEL UNIT

BONNY RESERVOIR

MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Outflow To Hale Ditch (AF)	Industrial Uses (AF)
Jan.	1,414	1,502	173	0.69	34,761	0	33
Feb.	2,247	1,783	185	0.36	35,040	0	26
Mar.	2,481	1,054	292	2.58	36,175	0	42
Apr.	3,462	338	558	2.51	38,741	0	42
May	2,747	458	750	2.77	40,280	53	41
June	2,611	761	1,199	2.63	40,931	355	35
July	1,202	1,093	1,320	4.81	39,720	626	33
Aug.	326	977	1,165	3.24	37,904	537	31
Sep.	1,095	510	814	2.94	37,675	179	33
Oct.	549	560	564	0	37,100	206	34
Nov.	1,534	373	357	0.15	37,904	64	31
Dec.	1,516	335	230	0	38,855	0	30
TOTAL	21,184	9,744 2/	7,607	22.68	---	2,020 2/	411

2/ Includes 591 A.F. under short-term water service letter agreements.

FRENCHMAN-CAMBRIDGE DIVISION
FRENCHMAN UNIT

	ENDERS RESERVOIR					CULBERTSON CANAL		CULBERTSON EXT. CANAL	
MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Diversions To Canal (AF)	Delivered To Farms (AF)	Diversions To Canal (AF)	Delivered To Farms (AF)
Jan.	2,050	0	85	0.79	22,125	0	0	0	0
Feb.	2,119	0	87	0.53	24,157	0	0	0	0
Mar.	2,192	0	166	3.17	26,183	0	0	0	0
Apr.	2,917	58	399	1.51	28,643	1,010	34	0	0
May	2,191	69	530	1.96	30,235	1,675	504	1,716	0
June	1,918	1,416	711	3.18	30,026	229	114	3,449	26
July	2,348	14,761	743	1.89	16,870	5,371	3,651	8,652	4,160
Aug.	2,028	7,460	486	2.58	10,952	4,451	2,852	4,757	2,334
Sep.	2,462	18	311	4.01	13,085	149	52	0	0
Oct.	2,096	0	226	0.13	14,955	0	0	0	0
Nov.	2,178	0	147	0.07	16,986	0	0	0	0
Dec.	2,068	0	94	0	18,960	0	0	0	0
TOTAL	26,567	23,782	3,985	19.82	---	12,885	7,207	18,574	6,520

NOTE.--Culbertson Canal: Acres irrigated 1980 -- 8,953
Culbertson Extension Canal: Acres irrigated 1980 -- 10,978

FRENCHMAN-CAMBRIDGE DIVISION (Continued)
MEEKER-DRIFTWOOD UNIT

	SWANSON LAKE					MEEKER-DRIFTWOOD		BARTLEY CANAL	
MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Diversions To Canal (AF)	Delivered To Farms (AF)	Diversions To Canal (AF)	Delivered To Farms (AF)
Jan.	5,686	61	225	0.60	48,520	0	0	0	0
Feb.	9,575	58	257	0.79	57,780	0	0	0	0
Mar.	9,569	61	508	2.89	66,780	0	0	0	0
Apr.	19,403	60	1,373	1.55	84,750	0	0	0	0
May	11,169	246	1,793	1.73	93,880	0	0	0	0
June	5,518	2,694	2,294	2.94	94,410	1,609	20	631	0
July	2,672	23,375	2,827	1.95	70,880	17,852	12,215	5,293	4,114
Aug.	0	12,607	3,083	4.51	55,190	10,090	6,100	3,384	2,798
Sep.	978	1,358	1,490	1.32	53,320	1,303	531	532	224
Oct.	0	61	1,369	0.16	51,890	0	0	0	0
Nov.	3,749	337	552	0.09	54,750	0	0	0	0
Dec.	4,751	169	332	0	59,000	0	0	0	0
TOTAL	73,070	41,087	16,103	18.53	---	30,854	18,866	9,840	7,136

NOTE.--Meeker-Driftwood Canal: Acres irrigated 1980 -- 16,160
Bartley Canal: Acres irrigated 1980 -- 6,390

FRENCHMAN-CAMBRIDGE DIVISION (Continued)
RED WILLOW UNIT

	HUGH BUTLER LAKE					RED WILLOW CANAL	
MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Diversions To Canal (AF)	Delivered To Farms (AF)
Jan.	1,312	245	82	0.78	26,158	0	0
Feb.	2,682	212	90	0.55	28,538	0	0
Mar.	1,799	238	175	1.81	29,924	0	0
Apr.	2,450	253	571	1.35	31,550	0	0
May	1,319	213	648	1.79	32,008	0	0
June	2,097	1,015	802	4.40	32,288	569	0
July	1,011	6,904	1,016	1.08	25,379	4,069	3,109
Aug.	1,223	5,310	761	3.91	20,531	2,282	1,944
Sep.	1,058	1,081	520	1.12	19,988	553	349
Oct.	869	167	351	0.14	20,339	0	0
Nov.	1,169	227	174	0.04	21,107	0	0
Dec.	1,220	224	100	0.10	22,003	0	0
TOTAL	18,209	16,089	5,290	17.07	---	7,473	5,402

NOTE.--Red Willow Canal: Acres irrigated 1980 -- 4,790

FRENCHMAN-CAMBRIDGE DIVISION (Continued)
CAMBRIDGE UNIT

	HARRY STRUNK LAKE					CAMBRIDGE CANAL	
MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Diversions To Canal (AF)	Delivered To Farms (AF)
Jan.	2,974	2,460	134	0.56	36,899	0	0
Feb.	6,675	5,292	127	0.60	38,155	0	0
Mar.	3,774	4,142	233	3.17	37,554	0	0
Apr.	4,200	1,953	697	1.84	39,104	0	0
May	3,215	2,559	773	2.47	38,987	0	0
June	3,081	2,759	985	2.92	38,324	1,517	0
July	3,033	19,049	1,099	2.53	21,209	17,755	12,099
Aug.	3,173	11,491	666	2.54	12,225	11,965	8,892
Sep.	1,800	1,464	369	0.93	12,192	1,340	561
Oct.	2,074	61	260	0.42	13,945	0	0
Nov.	2,514	60	148	0.05	16,251	0	0
Dec.	2,642	60	90	0.15	18,743	0	0
TOTAL	39,155	51,350	5,581	18.18	---	32,577	21,552

NOTE.--Cambridge Canal: Acres irrigated 1980 -- 16,720

TABLE 2
SUMMARY OF 1980 OPERATIONS

KANASKA DIVISION
ALMENA UNIT

NORTON RESERVOIR

MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Release To City Of Norton (AF)	ALMENA CANAL Diversions To Canal (AF)	ALMENA CANAL Delivered To Farms (AF)
Jan.	160	46	43	0.39	5,794	47	0	0
Feb.	267	44	49	0.74	5,968	45	0	0
Mar.	435	47	91	2.48	6,265	44	0	0
Apr.	571	60	256	2.43	6,520	60	0	0
May	344	88	277	2.45	6,499	88	0	0
June	165	88	369	2.49	6,207	89	0	0
July	291	1,839	449	1.20	4,210	100	1,126	387
Aug.	42	95	345	1.52	3,812	97	0	0
Sep.	47	92	228	2.06	3,539	92	0	0
Oct.	77	79	153	1.89	3,384	78	0	0
Nov.	55	41	70	0.01	3,328	42	0	0
Dec.	81	44	37	0.18	3,328	43	0	0
TOTAL	2,535	2,563	2,367	17.84	---	825	1,126	387

NOTE.--Almena Canal:
Acres irrigated in 1980 -- 5,094

BOSTWICK DIVISION
FRANKLIN UNIT

HARLAN COUNTY LAKE

MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	FRANKLIN CANAL Release To Canal (AF)	FRANKLIN CANAL Delivered To Farms (AF)	NAPONEE CANAL Release To Canal (AF)	NAPONEE CANAL Delivered To Farms (AF)
Jan.	10,433	615	915	0.60	250,667	0	0	0	0
Feb.	20,668	575	575	0.57	270,185	0	0	0	0
Mar.	26,360	615	1,154	2.86	294,776	0	0	0	0
Apr.	27,868	590	3,790	2.09	318,264	0	0	0	0
May	14,618	615	3,820	1.65	328,447	0	0	0	0
June	12,833	8,594	5,453	2.15	327,233	1,701	498	349	189
July	2,916	66,713	8,458	1.01	254,978	15,432	9,440	2,406	1,601
Aug.	7,279	50,425	7,404	3.85	204,428	12,258	5,668	1,232	798
Sep.	3,550	1,713	5,990	1.36	200,275	339	11	12	0
Oct.	1,815	615	4,544	1.29	196,931	0	0	0	0
Nov.	4,324	595	2,259	0	198,401	0	0	0	0
Dec.	5,445	615	1,164	0.45	202,067	0	0	0	0
TOTAL	138,109	132,280 1/	45,526	17.88	---	29,730	15,617	3,999	2,588

1/ Includes 24 A.F. sold under temporary water service letter agreements.

NOTE.--Franklin Canal:
Acres irrigated 1980 -- 10,099

Naponee Canal:
Acres irrigated 1980 -- 1,613

BOSTWICK DIVISION (Continued)
SUPERIOR-COURTLAND UNIT

MONTH	FRANKLIN PUMP CANAL Diversions To Canal (AF)	FRANKLIN PUMP CANAL Delivered To Farms (AF)	SUPERIOR CANAL Diversions To Canal (AF)	SUPERIOR CANAL Delivered To Farms (AF)	COURTLAND CANAL - ABOVE LOVEWELL Total Diversion (AF)	NEBRASKA USE Total (AF)	NEBRASKA USE Delivered To Farms (AF)	KANSAS USE Diversions To Canal (AF)	KANSAS USE Delivered To Farms (AF)
Jan.	0	0	0	0	0	0	0	0	0
Feb.	0	0	0	0	0	0	0	0	0
Mar.	0	0	0	0	0	0	0	0	0
Apr.	0	0	0	0	0	0	0	0	0
May	0	0	0	0	3,756	0	0	0	0
June	137	97	1,831	326	8,023	71	62	4,081	506
July	2,033	1,470	8,717	5,341	33,696	1,682	1,586	17,428	12,153
Aug.	1,483	1,059	4,892	2,242	33,039	771	734	5,847	3,457
Sep.	14	11	0	0	4,219	0	0	111	44
Oct.	0	0	0	0	0	0	0	0	0
Nov.	0	0	0	0	0	0	0	0	0
Dec.	0	0	0	0	0	0	0	0	0
TOTAL	3,667	2,637	15,440	7,909	82,733	2,524	2,382	27,467	16,160

NOTE.--Franklin Pump Canal:
Acres irrigated 1980 -- 2,021

Superior Canal:
Acres irrigated 1980 -- 5,334

NOTE.--Courtland Canal--Nebraska Use:
Acres irrigated 1980 -- 1,425

Courtland Canal--Kansas Use:
Acres irrigated 1980 -- 11,995

BOSTWICK DIVISION (Continued)
COURTLAND UNIT

LOVEWELL RESERVOIR

MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	COURTLAND (Below) Release To Canal (AF)	COURTLAND (Below) Delivered To Farms (AF)
Jan.	1,261	1,276	155	1.58	35,880	0	0
Feb.	1,995	12	183	1.32	37,680	0	0
Mar.	4,568	21	357	3.19	41,870	0	0
Apr.	8,140	6,974	956	1.85	42,080	0	0
May	3,895	1,191	1,214	1.79	43,570	1,384	0
June	5,979	3,504	1,605	3.02	44,440	4,138	375
July	13,437	34,101	1,766	1.19	22,010	34,707	24,014
Aug.	23,205	13,546	1,249	4.90	30,420	14,479	7,885
Sep.	3,175	1,016	949	1.00	31,630	1,315	423
Oct.	1,104	7	677	2.05	32,050	0	0
Nov.	32	6	376	0.02	31,700	0	0
Dec.	366	9	177	0.68	31,880	0	0
TOTAL	67,157	61,663	9,664	22.59	---	56,023	32,697

NOTE.--Courtland Canal below Lovewell:
Acres irrigated 1980 -- 21,237

SOLOMON DIVISION
KIRWIN UNIT

	KIRWIN RESERVOIR					KIRWIN CANAL	
MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Release To Canal (AF)	Delivered To Farms (AF)
Jan.	734	0	91	1.14	16,915	0	0
Feb.	876	0	116	0.90	17,675	0	0
Mar.	2,070	0	207	3.07	19,538	0	0
Apr.	3,361	0	525	1.94	22,374	0	0
May	1,932	0	694	2.07	23,612	0	0
June	653	119	905	1.32	23,241	99	0
July	183	10,308	1,016	1.59	12,100	9,870	5,576
Aug.	10	2,495	553	2.57	9,062	2,436	1,658
Sep.	45	0	325	2.12	8,782	0	0
Oct.	42	0	216	2.29	8,608	0	0
Nov.	0	0	153	0.03	8,455	0	0
Dec.	44	0	70	0.72	8,429	0	0
TOTAL	9,950	12,922	4,871	19.76	---	12,405	7,234

NOTE.--Kirwin Canal:
Acres irrigated 1980 -- 7,121

SOLOMON DIVISION (Continued)
WEBSTER UNIT

	WEBSTER RESERVOIR					OSBORNE CANAL	
MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Diversions To Canal (AF)	Delivered To Farms (AF)
Jan.	130	0	130	0.75	21,268	0	0
Feb.	835	0	142	0.67	21,961	0	0
Mar.	1,752	0	270	2.47	23,443	0	0
Apr.	3,549	0	691	1.39	26,301	0	0
May	2,144	0	836	3.16	27,609	0	0
June	731	1,509	1,183	0.32	25,648	581	52
July	1	8,965	1,874	0.22	14,810	7,315	3,968
Aug.	1,865	5,268	862	4.97	10,545	4,717	3,073
Sep.	5	0	552	0.58	9,998	0	0
Oct.	139	0	439	1.61	9,698	0	0
Nov.	5	0	193	0	9,510	0	0
Dec.	159	0	171	0.57	9,498	0	0
TOTAL	11,315	15,742	7,343	16.71	---	12,613	7,093

NOTE.--Osborne Canal:
Acres irrigated 1980 -- 6,650

SOLOMON DIVISION (Continued)
GLEN ELDER UNIT

	WACONDA LAKE					OUTFLOW TO RIVER		Release
MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	City of Beloit (AF)	Controlled Releases 2/ (AF)	To W.C.H.&T. R.W.D. No. 2 (AF)
Jan.	5,150	4,779	709	1.18	206,811	0	4,734	45
Feb.	7,756	4,473	805	1.08	209,289	0	4,429	44
Mar.	20,894	4,781	1,559	3.09	223,843	0	4,734	47
Apr.	35,872	15,833	4,181	1.52	239,701	0	15,788	45
May	10,810	7,331	4,735	1.98	238,445	0	7,277	54
June	6,377	4,802	7,069	1.07	232,951	0	4,744	58
July	2,022	6,570	11,422	0.58	216,981	0	6,491	79
Aug.	2,970	6,117	8,825	2.72	205,009	0	6,046	71
Sep.	133	2,327	5,842	1.20	196,973	0	2,279	48
Oct.	2,779	818	4,561	2.18	194,373	20	746	52
Nov.	1,099	909	1,707	0.02	192,856	843	21	45
Dec.	1,678	833	845	1.10	192,856	776	6	51
TOTAL	97,540	59,573	52,260	17.72	---	1,639	57,295	639

2/ Flood control and water right administration. Includes 5,455 A.F. sold under temporary contracts.

SMOKY HILL DIVISION
ELLIS UNIT

	CEDAR BLUFF RESERVOIR					CEDAR BLUFF CANAL		Release	
MONTH	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Release To Canal (AF)	Delivered To Farms (AF)	To Fish Hatchery (AF)	City of Russell (AF)
Jan.	234	218	170	0.64	30,850	0	0	220	0
Feb.	400	224	156	1.15	30,870	0	0	226	0
Mar.	1,049	236	308	3.45	31,375	0	0	230	0
Apr.	2,607	279	903	1.03	32,800	0	0	251	0
May	1,057	370	847	1.59	32,640	Due to a severe water		362	0
June	435	395	1,190	1.18	31,490	shortage no irrigation		369	0
July	0	1,689	2,041	0.19	27,760	releases were made		273	1,339
Aug.	1,188	1,022	1,518	5.93	26,408	into Cedar Bluff Canal		209	793
Sep.	134	161	1,007	1.01	25,374	in 1980.		127	0
Oct.	199	118	801	1.11	24,654	0	0	94	0
Nov.	63	165	299	0	24,253	0	0	157	0
Dec.	29	201	168	0.21	23,913	0	0	203	0
TOTAL	7,395	5,078	9,408	17.49	---	0	0	2,721	2,132 3/

3/ Includes 70 acre-feet of Cedar Bluff Reservoir inflow bypass.

NOTE.--Cedar Bluff Canal:
Acres irrigated 1980 -- None

TABLE 3
ACRES IRRIGATED IN 1980 AND ESTIMATES FOR 1981

Irrigation District and Canal	Acres With Service Available	Acres Irrigated in 1980	Estimated Acres to be Irrigated in 1981
Mirage Flats Irrigation District			
Mirage Flats Canal	11,662	11,093	11,000
Ainsworth Irrigation District			
Ainsworth Canal	34,539	33,412	34,000
Sargent Irrigation District			
Sargent Canal	13,363	13,048	13,000
Farwell Irrigation District			
Farwell Canal	50,051	47,523	48,000
Frenchman Valley Irrigation District			
Culbertson Canal	9,600	8,953	8,000
H & RW Irrigation District			
Culbertson Extension Canal	11,490	10,978	10,000
Frenchman-Cambridge Irrigation District			
Meeker-Driftwood Canal	16,476	16,160	16,200
Bartley Canal	6,539	6,390	6,300
Red Willow Canal	4,932	4,790	4,800
Cambridge Canal	17,053	16,720	16,700
Total Frenchman-Cambridge Irrigation Dist.	45,000	44,060	44,000
Almena Irrigation District			
Almena Canal	5,763	5,094	5,763
Bostwick Irrigation District in Nebraska			
Franklin Canal	11,116	10,099	10,100
Naponee Canal	1,737	1,613	1,700
Franklin Pump Canal	2,091	2,021	2,050
Superior Canal	5,863	5,334	5,150
Courtland Canal (Nebr.)	1,980	1,425	1,600
Total Bostwick Irrigation Dist. in Nebr.	22,787	20,492	20,600
Kansas-Bostwick Irrigation District			
Courtland Canal above Lovewell	12,771	11,995	11,600
Courtland Canal below Lovewell	27,329	21,237	23,500
Total Kansas-Bostwick Irrigation Dist.	40,100	33,232	35,100
Kirwin Irrigation District			
Kirwin Canal	11,435	7,121	9,000
Webster Irrigation District			
Osborne Canal	8,500	6,650	7,000
Cedar Bluff Irrigation District			
Cedar Bluff Canal	6,800	0	6,800
TOTAL PROJECT USES	271,090	241,656	252,263
Non-Project Uses			
Middle Loup Public Power & I.D. Canals	15,000	14,326	14,800
Hale Ditch	700	700	700
TOTAL NON-PROJECT USES	15,700	15,026	15,500
TOTAL PROJECT AND NON-PROJECT	286,790	256,682	267,763

BOX BUTTE RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
REASONABLE MINIMUM INFLOW CONDITIONS											
JAN	24.	1.5	1.09	.1	2.	.1	0.0	0.0	3990.4	10.6	1.3
FEB	34.	1.9	1.15	.1	2.	.1	0.0	0.0	3992.2	12.3	1.7
MAR	41.	2.5	2.07	.2	2.	.1	0.0	0.0	3994.4	14.5	2.2
APR	34.	2.0	3.76	.3	29.	1.7	0.0	0.0	3994.4	14.5	0.0
MAY	23.	1.4	6.32	.5	55.	3.4	0.0	0.0	3991.9	12.0	-2.5
JUN	17.	1.0	7.22	.5	57.	3.4	0.0	0.0	3988.6	9.1	-2.9
JUL	13.	.8	8.60	.4	166.	10.2	0.0	3.0	3976.5	2.3	-6.8
AUG	15.	.9	7.98	.2	166.	10.2	0.0	9.5	3976.5	2.3	0.0
SEP	13.	.8	5.81	.2	86.	5.1	0.0	4.5	3976.5	2.3	0.0
OCT	16.	1.0	4.64	.1	2.	.1	0.0	0.0	3978.6	3.1	.8
NOV	27.	1.6	2.97	.1	2.	.1	0.0	0.0	3981.5	4.5	1.4
DEC	28.	1.7	1.39	.1	2.	.1	0.0	0.0	3984.2	6.0	1.5
TOTAL		17.1	53.00	2.8		34.6	0.0	17.0			-3.3
MOST PROBABLE INFLOW CONDITIONS											
JAN	29.	1.8	.99	.1	2.	.1	0.0	0.0	3990.7	10.9	1.6
FEB	40.	2.2	1.04	.1	2.	.1	0.0	0.0	3992.8	12.9	2.0
MAR	49.	3.0	1.89	.2	2.	.1	0.0	0.0	3995.4	15.6	2.7
APR	40.	2.4	3.41	.3	20.	1.2	0.0	0.0	3996.2	16.5	.9
MAY	26.	1.6	5.71	.5	18.	1.1	0.0	0.0	3996.2	16.5	0.0
JUN	20.	1.2	6.54	.6	42.	2.5	0.0	0.0	3994.5	14.6	-1.9
JUL	16.	1.0	7.80	.6	141.	8.7	0.0	0.0	3984.7	6.3	-8.3
AUG	16.	1.0	7.23	.3	143.	8.8	0.0	4.1	3976.5	2.3	-4.0
SEP	17.	1.0	5.24	.1	40.	2.4	0.0	1.5	3976.5	2.3	0.0
OCT	18.	1.1	4.19	.1	2.	.1	0.0	0.0	3978.9	3.2	.9
NOV	32.	1.9	2.70	.1	2.	.1	0.0	0.0	3982.3	4.9	1.7
DEC	33.	2.0	1.26	.1	2.	.1	0.0	0.0	3985.3	6.7	1.8
TOTAL		20.2	48.00	3.1		25.3	0.0	5.6			-2.6
REASONABLE MAXIMUM INFLOW CONDITIONS											
JAN	36.	2.2	.91	.1	2.	.1	0.0	0.0	3991.1	11.3	2.0
FEB	50.	2.8	.95	.1	2.	.1	0.0	0.0	3993.8	13.9	2.6
MAR	62.	3.8	1.72	.2	2.	.1	0.0	0.0	3997.1	17.4	3.5
APR	50.	3.0	3.12	.3	10.	.6	0.0	0.0	3998.8	19.5	2.1
MAY	34.	2.1	5.25	.5	13.	.8	0.0	0.0	3999.4	20.3	.8
JUN	25.	1.5	6.00	.6	27.	1.6	0.0	0.0	3998.9	19.6	-.7
JUL	20.	1.2	7.14	.7	107.	6.6	0.0	0.0	3993.4	13.5	-6.1
AUG	21.	1.3	6.63	.5	106.	6.5	0.0	0.0	3988.9	7.8	-5.7
SEP	20.	1.2	4.82	.3	29.	1.7	0.0	0.0	3985.7	7.0	-.8
OCT	23.	1.4	3.85	.2	2.	.1	0.0	0.0	3987.3	8.1	1.1
NOV	40.	2.4	2.46	.2	2.	.1	0.0	0.0	3989.9	10.2	2.1
DEC	41.	2.5	1.15	.1	2.	.1	0.0	0.0	3992.4	12.5	2.3
TOTAL		25.4	44.00	3.8		18.4	0.0	0.0			3.2

MERRITT RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS						
JAN	190.	11.7	1.13	.3	16.	1.0	10.4	0.0	2944.0	68.8	0.0
FEB	211.	11.7	1.43	.3	18.	1.0	10.4	0.0	2944.0	68.8	0.0
MAR	233.	14.3	1.99	.5	16.	1.0	7.1	0.0	2946.0	74.5	5.7
APR	234.	13.9	3.31	.8	17.	1.0	12.1	0.0	2946.0	74.5	0.0
MAY	216.	13.3	4.79	1.2	104.	6.4	5.7	0.0	2946.0	74.5	0.0
JUN	207.	12.3	6.20	1.5	165.	9.8	1.0	0.0	2946.0	74.5	0.0
JUL	208.	12.8	8.03	1.6	719.	44.2	0.0	0.0	2932.0	41.5	-33.0
AUG	208.	12.8	7.33	.7	719.	44.2	0.0	0.0	2901.5	9.4	-32.1
SEP	207.	12.3	5.39	.3	143.	8.5	0.0	0.0	2907.4	12.9	3.5
OCT	207.	12.7	3.76	.3	16.	1.0	0.0	0.0	2920.1	24.3	11.4
NOV	205.	12.2	2.15	.2	17.	1.0	0.0	0.0	2928.3	35.3	11.0
DEC	202.	12.4	1.49	.2	16.	1.0	0.0	0.0	2934.6	46.5	11.2
TOTAL		152.4	47.00	7.9		120.1	46.7	0.0			-22.3
					MOST PROBABLE INFLOW CONDITIONS						
JAN	213.	13.1	1.07	.2	16.	1.0	11.9	0.0	2944.0	68.8	0.0
FEB	236.	13.1	1.34	.3	18.	1.0	11.8	0.0	2944.0	68.8	0.0
MAR	262.	16.1	1.87	.4	16.	1.0	9.0	0.0	2946.0	74.5	5.7
APR	260.	15.5	3.10	.8	17.	1.0	13.7	0.0	2946.0	74.5	0.0
MAY	242.	14.9	4.48	1.1	83.	5.1	8.7	0.0	2946.0	74.5	0.0
JUN	232.	13.8	5.80	1.4	131.	7.8	4.6	0.0	2946.0	74.5	0.0
JUL	233.	14.3	7.50	1.6	530.	32.6	0.0	0.0	2938.4	54.6	-19.9
AUG	233.	14.3	6.85	1.1	530.	32.6	0.0	0.0	2928.3	35.2	-19.4
SEP	232.	13.8	5.04	.7	109.	6.5	0.0	0.0	2932.2	41.8	6.6
OCT	231.	14.2	3.52	.6	16.	1.0	0.0	0.0	2938.3	54.4	12.6
NOV	230.	13.7	2.02	.4	17.	1.0	3.2	0.0	2942.0	63.5	9.1
DEC	224.	13.8	1.41	.3	16.	1.0	12.5	0.0	2942.0	63.5	0.0
TOTAL		170.6	44.00	8.9		91.6 0	75.4	0.0			-5.3
					REASONABLE MAXIMUM INFLOW CONDITIONS						
JAN	236.	14.5	.94	.2	16.	1.0	13.3	0.0	2944.0	68.8	0.0
FEB	261.	14.5	1.19	.3	18.	1.0	13.2	0.0	2944.0	68.8	0.0
MAR	288.	17.7	1.65	.4	16.	1.0	10.6	0.0	2946.0	74.5	5.7
APR	287.	17.1	2.75	.7	17.	1.0	15.4	0.0	2946.0	74.5	0.0
MAY	267.	16.4	3.97	1.0	55.	3.4	12.0	0.0	2946.0	74.5	0.0
JUN	257.	15.3	5.15	1.2	86.	5.1	9.0	0.0	2946.0	74.5	0.0
JUL	257.	15.8	6.66	1.6	348.	21.4	0.0	0.0	2943.4	67.3	-7.2
AUG	257.	15.8	6.08	1.3	348.	21.4	0.0	0.0	2940.8	60.4	-6.9
SEP	255.	15.2	4.47	1.0	74.	4.4	6.7	0.0	2942.0	63.5	3.1
OCT	254.	15.6	3.12	.7	16.	1.0	13.9	0.0	2942.0	63.5	0.0
NOV	254.	15.1	1.78	.4	17.	1.0	13.7	0.0	2942.0	63.5	0.0
DEC	247.	15.2	1.24	.3	16.	1.0	13.9	0.0	2942.0	63.5	0.0
TOTAL		188.2	39.00	9.1		62.7	121.7	0.0			-5.3

SHERMAN RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS						
JAN	0.	0.0	.65	.1	21.	1.3	0.0	0.0	2154.4	48.7	-1.4
FEB	0.	0.0	.71	.1	23.	1.3	0.0	0.0	2153.8	47.3	-1.4
MAR	0.	0.0	1.59	.3	21.	1.3	0.0	0.0	2153.0	45.7	-1.6
APR	301.	17.9	3.85	.8	22.	1.3	0.0	0.0	2159.6	61.5	15.8
MAY	163.	10.0	3.74	.9	24.	1.5	0.0	0.0	2162.3	69.1	7.6
JUN	200.	11.9	4.67	1.1	252.	15.0	0.0	0.0	2160.8	64.9	-4.2
JUL	179.	11.0	7.91	1.3	1187.	73.0	0.0	8.9	2129.0	10.5	-54.4
AUG	120.	7.4	7.12	.5	1182.	72.7	0.0	65.8	2129.0	10.5	0.0
SEP	424.	25.2	4.27	.4	237.	14.1	0.0	0.0	2139.0	21.2	10.7
OCT	546.	33.6	4.16	.7	18.	1.1	0.0	0.0	2156.2	53.0	31.8
NOV	0.	0.0	2.26	.5	22.	1.3	0.0	0.0	2155.5	51.2	-1.8
DEC	0.	0.0	.79	.2	21.	1.3	0.0	0.0	2154.8	49.7	-1.5
TOTAL		117.0	41.72	6.9		185.2	0.0	74.7			-.4
					MOST PROBABLE INFLOW CONDITIONS						
JAN	0.	0.0	.43	.1	21.	1.3	0.0	0.0	2154.4	48.7	-1.4
FEB	0.	0.0	.60	.1	23.	1.3	0.0	0.0	2153.8	47.3	-1.4
MAR	0.	0.0	1.19	.2	21.	1.3	0.0	0.0	2153.1	45.8	-1.5
APR	252.	15.0	2.08	.4	22.	1.3	0.0	0.0	2158.6	59.1	13.3
MAY	195.	12.0	2.22	.5	24.	1.5	0.0	0.0	2162.3	69.1	10.0
JUN	139.	8.3	3.32	.8	126.	7.5	0.0	0.0	2162.3	69.1	0.0
JUL	296.	18.2	5.59	1.1	865.	53.2	0.0	0.0	2146.6	33.0	-36.1
AUG	207.	12.7	5.12	.6	846.	52.0	0.0	17.4	2129.0	10.5	-22.5
SEP	541.	32.2	3.23	.4	126.	7.5	0.0	0.0	2147.6	34.8	24.3
OCT	369.	22.7	3.81	.7	18.	1.1	0.0	0.0	2157.3	55.7	20.9
NOV	0.	0.0	1.76	.4	22.	1.3	0.0	0.0	2156.6	54.0	-1.7
DEC	0.	0.0	.58	.1	21.	1.3	0.0	0.0	2156.0	52.6	-1.4
TOTAL		121.1	29.93	5.4		130.6	0.0	17.4			2.5
					REASONABLE MAXIMUM INFLOW CONDITIONS						
JAN	0.	0.0	.21	0.0	21.	1.3	0.0	0.0	2154.4	48.8	-1.3
FEB	0.	0.0	.32	.1	23.	1.3	0.0	0.0	2153.8	47.4	-1.4
MAR	0.	0.0	.42	.1	21.	1.3	0.0	0.0	2153.2	46.0	-1.4
APR	277.	16.5	.59	.1	22.	1.3	0.0	0.0	2159.4	61.1	15.1
MAY	156.	9.6	.39	.1	24.	1.5	0.0	0.0	2162.3	69.1	8.0
JUN	97.	5.8	.91	.2	94.	5.6	0.0	0.0	2162.3	69.1	0.0
JUL	384.	23.6	4.82	1.1	592.	36.4	0.0	0.0	2157.1	55.2	-13.9
AUG	181.	11.1	4.02	.7	572.	35.2	0.0	0.0	2145.1	30.4	-24.8
SEP	541.	32.2	2.14	.4	94.	5.6	0.0	0.0	2157.7	56.6	26.2
OCT	0.	0.0	3.37	.7	18.	1.1	0.0	0.0	2156.9	54.8	-1.8
NOV	0.	0.0	.40	.1	22.	1.3	0.0	0.0	2156.4	53.4	-1.4
DEC	0.	0.0	.24	0.0	21.	1.3	0.0	0.0	2155.8	52.1	-1.3
TOTAL		98.8	17.83	3.6		93.2	0.0	0.0			2.0

BONNY RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT HALE 1000 AF	RELEASE REQUIREMENT RIVER 1000 AF	TOTAL MEAN CFS	TOTAL 1000 AF	RES SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
REASONABLE MINIMUM INFLOW CONDITIONS													
JAN	21.	1.3	1.45	.2	0.0	1.1	18.	1.1	0.0	0.0	3670.8	38.9	0.0
FEB	22.	1.2	1.55	.3	0.0	.9	16.	.9	0.0	0.0	3670.8	38.9	0.0
MAR	26.	1.6	2.45	.4	0.0	.3	5.	.3	0.0	0.0	3671.2	39.8	.9
APR	27.	1.6	4.30	.7	.3	.3	10.	.6	0.0	0.0	3671.4	40.1	.3
MAY	41.	2.5	5.35	.9	.9	.3	20.	1.2	0.0	0.0	3671.6	40.5	.4
JUN	34.	2.0	6.95	1.2	.9	.3	20.	1.2	0.0	0.0	3671.4	40.1	-.4
JUL	24.	1.5	8.30	1.4	.9	.3	20.	1.2	0.0	0.0	3670.8	39.0	-1.1
AUG	16.	1.0	7.00	1.1	.8	.3	18.	1.1	0.0	0.0	3670.2	37.8	-1.2
SEP	12.	.7	5.20	.8	.6	.3	15.	.9	0.0	0.0	3669.7	36.8	-1.0
OCT	16.	1.0	5.05	.8	.5	.3	13.	.8	0.0	0.0	3669.4	36.2	-.6
NOV	22.	1.3	3.05	.5	.3	.3	10.	.6	0.0	0.0	3669.5	36.4	.2
DEC	21.	1.3	1.85	.3	0.0	1.0	16.	1.0	0.0	0.0	3669.5	36.4	0.0
TOTAL		17.0	52.50	8.6	5.2	5.7		10.9	0.0	0.0			-2.5
MOST PROBABLE INFLOW CONDITIONS													
JAN	28.	1.7	1.20	.2	0.0	1.5	24.	1.5	0.0	0.0	3670.8	38.9	0.0
FEB	29.	1.6	1.40	.2	0.0	1.4	25.	1.4	0.0	0.0	3670.8	38.9	0.0
MAR	34.	2.1	1.85	.3	0.0	.3	5.	.3	0.0	0.0	3671.5	40.4	1.5
APR	35.	2.1	2.80	.5	.4	.3	12.	.7	0.0	0.0	3672.0	41.3	.9
MAY	54.	3.3	3.00	.5	.6	.3	15.	.9	1.9	0.0	3672.0	41.3	0.0
JUN	44.	2.6	4.60	.8	.6	.3	15.	.9	.9	0.0	3672.0	41.3	0.0
JUL	31.	1.9	6.25	1.1	.4	.3	11.	.7	.1	0.0	3672.0	41.3	0.0
AUG	23.	1.4	6.10	1.0	.4	.3	11.	.7	0.0	0.0	3671.8	41.0	-.3
SEP	15.	.9	4.30	.7	.6	.3	15.	.9	0.0	0.0	3671.5	40.3	-.7
OCT	21.	1.3	4.55	.8	.6	.3	15.	.9	0.0	0.0	3671.3	39.9	-.4
NOV	29.	1.7	2.80	.5	.2	.3	8.	.5	0.0	0.0	3671.6	40.6	.7
DEC	28.	1.7	1.55	.3	0.0	1.4	23.	1.4	0.0	0.0	3671.6	40.6	0.0
TOTAL		22.3	40.40	6.9	3.8	7.0		10.8	2.9	0.0			1.7
REASONABLE MAXIMUM INFLOW CONDITIONS													
JAN	46.	2.8	.90	.1	0.0	2.7	44.	2.7	0.0	0.0	3670.8	38.9	0.0
FEB	49.	2.7	1.25	.2	0.0	2.5	45.	2.5	0.0	0.0	3670.8	38.9	0.0
MAR	55.	3.4	1.35	.2	0.0	.3	5.	.3	.5	0.0	3672.0	41.3	2.4
APR	59.	3.5	2.40	.4	.3	.3	10.	.6	2.5	0.0	3672.0	41.3	0.0
MAY	91.	5.6	2.05	.3	.5	.3	13.	.8	4.5	0.0	3672.0	41.3	0.0
JUN	72.	4.3	2.50	.4	.2	.3	8.	.5	3.4	0.0	3672.0	41.3	0.0
JUL	54.	3.3	5.05	.9	.2	.3	8.	.5	1.9	0.0	3672.0	41.3	0.0
AUG	37.	2.3	4.00	.7	.4	.3	11.	.7	.9	0.0	3672.0	41.3	0.0
SEP	25.	1.5	3.20	.5	.4	.3	12.	.7	.3	0.0	3672.0	41.3	0.0
OCT	34.	2.1	3.40	.6	.3	.3	10.	.6	.9	0.0	3672.0	41.3	0.0
NOV	49.	2.9	2.60	.4	.3	.3	10.	.6	1.9	0.0	3672.0	41.3	0.0
DEC	46.	2.8	1.30	.2	0.0	.3	5.	.3	2.3	0.0	3672.0	41.3	0.0
TOTAL		37.2	30.00	4.9	2.6	8.2		10.8	19.1	0.0			2.4

SWANSON LAKE OPERATION ESTIMATES - 1981

MONTH	UNDEPLETED INFLOW 1000 AF	UPSTREAM DEPLETIONS 1000 AF	DEPLETED INFLOW MEAN CFS	DEPLETED INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RES SPILL 1000 AF	REQ SHORT 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RES CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS								
JAN	3.3	0.0	54.	3.3	1.05	.3	2.	.1	0.0	0.0	2738.4	61.9	2.9
FEB	4.8	0.0	86.	4.8	1.20	.4	2.	.1	0.0	0.0	2739.6	66.2	4.3
MAR	7.2	0.0	117.	7.2	1.95	.6	2.	.1	0.0	0.0	2741.3	72.7	6.5
APR	6.6	0.0	111.	6.6	3.85	1.3	2.	.1	0.0	0.0	2742.6	77.9	5.2
MAY	7.0	0.0	114.	7.0	4.10	1.4	102.	6.3	0.0	0.0	2742.4	77.2	-.7
JUN	6.2	0.0	104.	6.2	5.20	1.7	119.	7.1	0.0	0.0	2741.8	74.6	-2.6
JUL	4.9	0.0	80.	4.9	7.70	2.4	353.	21.7	0.0	0.0	2736.5	55.4	-19.2
AUG	3.3	0.0	54.	3.3	6.90	1.7	346.	21.3	0.0	0.0	2729.9	35.7	-19.7
SEP	1.6	0.0	27.	1.6	5.25	1.0	200.	11.9	0.0	0.0	2724.9	24.4	-11.3
OCT	1.9	0.0	31.	1.9	4.60	.8	65.	4.0	0.0	0.0	2723.4	21.5	-2.9
NOV	3.1	0.0	52.	3.1	2.70	.4	2.	.1	0.0	0.0	2724.7	24.1	2.6
DEC	3.1	0.0	50.	3.1	1.30	.2	2.	.1	0.0	0.0	2726.1	26.9	2.8
TOTAL	53.0	0.0		53.0	45.80	12.2		72.9	0.0	0.0			-32.1
					MOST PROBABLE INFLOW CONDITIONS								
JAN	5.1	0.0	83.	5.1	.75	.2	2.	.1	0.0	0.0	2738.9	63.8	4.8
FEB	7.5	0.0	135.	7.5	1.00	.3	2.	.1	0.0	0.0	2740.8	70.9	7.1
MAR	11.3	0.0	184.	11.3	1.40	.5	2.	.1	0.0	0.0	2743.5	81.6	10.7
APR	10.3	0.0	173.	10.3	2.40	.8	2.	.1	0.0	0.0	2745.7	91.0	9.4
MAY	10.9	0.0	177.	10.9	2.10	.8	24.	1.5	0.0	0.0	2747.6	99.6	8.6
JUN	9.6	0.0	161.	9.6	3.70	1.4	27.	1.6	0.0	0.0	2749.1	106.2	6.6
JUL	7.7	0.0	125.	7.7	6.10	2.3	268.	16.5	0.0	0.0	2746.6	95.1	-11.1
AUG	5.1	0.0	83.	5.1	5.70	2.0	301.	18.5	0.0	0.0	2743.0	79.7	-15.4
SEP	2.5	0.0	42.	2.5	3.40	1.1	89.	5.3	0.0	0.0	2742.1	75.8	-3.9
OCT	3.0	0.0	49.	3.0	4.30	1.4	26.	1.6	0.0	0.0	2742.1	75.8	0.0
NOV	4.9	0.0	82.	4.9	2.10	.7	2.	.1	0.0	0.0	2743.1	79.9	4.1
DEC	4.8	0.0	78.	4.8	1.10	.4	2.	.1	0.0	0.0	2744.1	84.2	4.3
TOTAL	82.7	0.0		82.7	34.05	11.9		45.6	0.0	0.0			25.2
					REASONABLE MAXIMUM INFLOW CONDITIONS								
JAN	9.0	0.0	146.	9.0	.55	.2	2.	.1	0.0	0.0	2740.0	67.7	6.7
FEB	13.2	0.0	238.	13.2	.60	.2	2.	.1	0.0	0.0	2743.2	80.6	12.9
MAR	19.7	0.0	320.	19.7	.60	.2	2.	.1	0.0	0.0	2747.7	100.0	19.4
APR	18.1	0.0	304.	18.1	.60	.2	2.	.1	0.0	0.0	2751.5	117.8	17.8
MAY	19.1	0.0	311.	19.1	.80	.3	13.	.8	15.6	0.0	2752.0	120.2	2.4
JUN	16.8	0.0	282.	16.8	1.90	.8	17.	1.0	15.0	0.0	2752.0	120.2	0.0
JUL	13.5	0.0	220.	13.5	4.00	1.7	146.	9.0	2.8	0.0	2752.0	120.2	0.0
AUG	9.0	0.0	146.	9.0	5.00	2.1	168.	10.3	0.0	0.0	2751.3	116.8	-3.4
SEP	4.3	0.0	72.	4.3	2.40	1.0	30.	1.8	0.0	0.0	2751.6	118.3	1.5
OCT	5.3	0.0	86.	5.3	3.80	1.6	16.	1.0	.8	0.0	2752.0	120.2	1.9
NOV	8.5	0.0	143.	8.5	1.60	.7	2.	.1	7.7	0.0	2752.0	120.2	0.0
DEC	8.5	0.0	138.	8.5	.65	.3	2.	.1	8.1	0.0	2752.0	120.2	0.0
TOTAL	145.0	0.0		145.0	22.50	9.3		24.5	50.0	0.0			61.2

ENDERS RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS						
JAN	44.	2.7	1.05	.1	0.	0.0	0.0	0.0	3095.8	21.6	2.6
FEB	47.	2.6	1.20	.1	0.	0.0	0.0	0.0	3098.0	24.1	2.5
MAR	44.	2.7	1.95	.2	3.	.2	0.0	0.0	3099.9	26.4	2.3
APR	40.	2.4	4.10	.4	3.	.2	0.0	0.0	3101.3	28.2	1.8
MAY	42.	2.6	4.65	.5	47.	2.9	0.0	0.0	3100.7	27.4	-.8
JUN	47.	2.8	5.25	.5	55.	3.3	0.0	0.0	3099.9	26.4	-1.0
JUL	42.	2.6	8.60	.7	309.	19.0	0.0	.7	3082.4	10.0	-16.4
AUG	39.	2.4	6.85	.4	289.	17.8	0.0	15.8	3082.4	10.0	0.0
SEP	44.	2.6	5.50	.3	111.	6.6	0.0	4.3	3082.4	10.0	0.0
OCT	39.	2.4	4.60	.3	0.	0.0	0.0	0.0	3085.4	12.1	2.1
NOV	44.	2.6	2.65	.2	0.	0.0	0.0	0.0	3088.5	14.5	2.4
DEC	42.	2.6	1.20	.1	0.	0.0	0.0	0.0	3091.3	17.0	2.5
TOTAL		31.0	47.60	3.8		50.0	0.0	20.8			-2.0
					MOST PROBABLE INFLOW CONDITIONS						
JAN	52.	3.2	.75	.1	0.	0.0	0.0	0.0	3096.2	22.1	3.1
FEB	54.	3.0	.95	.1	0.	0.0	0.0	0.0	3098.7	25.0	2.9
MAR	54.	3.3	1.35	.1	3.	.2	0.0	0.0	3101.1	28.0	3.0
APR	49.	2.9	2.60	.3	3.	.2	0.0	0.0	3103.0	30.4	2.4
MAY	52.	3.2	3.00	.3	10.	.6	0.0	0.0	3104.7	32.7	2.3
JUN	57.	3.4	3.55	.4	12.	.7	0.0	0.0	3106.3	35.0	2.3
JUL	52.	3.2	5.90	.6	220.	13.5	0.0	0.0	3098.0	24.1	-10.9
AUG	47.	2.9	6.50	.5	233.	14.3	0.0	0.0	3085.6	12.2	-11.9
SEP	50.	3.0	3.45	.2	47.	2.8	0.0	0.0	3085.6	12.2	0.0
OCT	49.	3.0	4.30	.3	0.	0.0	0.0	0.0	3088.9	14.9	2.7
NOV	52.	3.1	2.30	.2	0.	0.0	0.0	0.0	3092.1	17.8	2.9
DEC	52.	3.2	.90	.1	0.	0.0	0.0	0.0	3095.1	20.9	3.1
TOTAL		37.4	35.55	3.2		32.3	0.0	0.0			1.9
					REASONABLE MAXIMUM INFLOW CONDITIONS						
JAN	63.	3.9	.55	0.0	0.	0.0	0.0	0.0	3096.9	22.9	3.9
FEB	63.	3.5	.30	0.0	0.	0.0	0.0	0.0	3099.9	26.4	3.5
MAR	63.	3.9	.95	.1	3.	.2	0.0	0.0	3102.7	30.0	3.6
APR	59.	3.5	.80	.1	3.	.2	0.0	0.0	3105.0	33.2	3.2
MAY	60.	3.7	1.25	.2	3.	.2	0.0	0.0	3107.3	36.5	3.3
JUN	67.	4.0	2.40	.3	3.	.2	0.0	0.0	3109.6	40.0	3.5
JUL	59.	3.6	4.35	.6	124.	7.6	0.0	0.0	3106.6	35.4	-4.6
AUG	54.	3.3	4.50	.5	138.	8.5	0.0	0.0	3102.5	29.7	-5.7
SEP	57.	3.4	2.30	.3	20.	1.2	0.0	0.0	3103.9	31.6	1.9
OCT	55.	3.4	3.35	.4	0.	0.0	0.0	0.0	3106.0	34.6	3.0
NOV	61.	3.6	1.90	.2	0.	0.0	0.0	0.0	3108.3	38.0	3.4
DEC	60.	3.7	.65	.1	0.	0.0	0.0	0.0	3110.6	41.6	3.6
TOTAL		43.5	23.30	2.8		18.1	0.0	0.0			22.6

HUGH BUTLER LAKE OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS						
JAN	18.	1.1	.92	.1	5.	.3	0.0	0.0	2570.8	22.7	.7
FEB	23.	1.3	1.11	.1	5.	.3	0.0	0.0	2571.6	23.6	.9
MAR	31.	1.9	2.01	.2	5.	.3	0.0	0.0	2572.7	25.0	1.4
APR	29.	1.7	4.39	.4	5.	.3	0.0	0.0	2573.6	26.0	1.0
MAY	29.	1.8	4.45	.5	29.	1.8	0.0	0.0	2573.2	25.5	-.5
JUN	35.	2.1	7.01	.7	30.	1.8	0.0	0.0	2572.8	25.1	-.4
JUL	28.	1.7	8.45	.8	80.	4.9	0.0	0.0	2569.4	21.1	-4.0
AUG	18.	1.1	6.73	.6	85.	5.2	0.0	0.0	2564.8	16.4	-4.7
SEP	18.	1.1	6.08	.5	103.	6.1	0.0	0.0	2558.5	10.9	-5.5
OCT	16.	1.0	4.72	.3	15.	.9	0.0	0.0	2558.3	10.7	-.2
NOV	18.	1.1	2.63	.2	5.	.3	0.0	0.0	2559.0	11.3	.6
DEC	18.	1.1	1.20	.1	5.	.3	0.0	0.0	2559.9	12.0	.7
TOTAL		17.0	49.70	4.5		22.5	0.0	0.0			-10.0
					MOST PROBABLE INFLOW CONDITIONS						
JAN	23.	1.4	.70	.1	5.	.3	0.0	0.0	2571.0	23.0	1.0
FEB	31.	1.7	.75	.1	5.	.3	0.0	0.0	2572.2	24.3	1.3
MAR	39.	2.4	1.35	.1	5.	.3	0.0	0.0	2573.8	26.3	2.0
APR	35.	2.1	2.70	.3	5.	.3	0.0	0.0	2575.0	27.8	1.5
MAY	36.	2.2	2.80	.3	16.	1.0	0.0	0.0	2575.7	28.7	.9
JUN	45.	2.7	2.99	.3	15.	.9	0.0	0.0	2576.8	30.2	1.5
JUL	36.	2.2	6.09	.7	68.	4.2	0.0	0.0	2574.8	27.5	-2.7
AUG	23.	1.4	5.52	.6	73.	4.5	0.0	0.0	2571.7	23.8	-3.7
SEP	24.	1.4	3.81	.4	22.	1.3	0.0	0.0	2571.5	23.5	-.3
OCT	20.	1.2	3.88	.4	11.	.7	0.0	0.0	2571.6	23.6	.1
NOV	24.	1.4	1.84	.2	5.	.3	0.0	0.0	2572.3	24.5	.9
DEC	23.	1.4	.87	.1	5.	.3	0.0	0.0	2573.2	25.5	1.0
TOTAL		21.5	33.30	3.6		14.4	0.0	0.0			3.5
					REASONABLE MAXIMUM INFLOW CONDITIONS						
JAN	29.	1.8	.40	0.0	5.	.3	0.0	0.0	2571.5	23.5	1.5
FEB	40.	2.2	.47	0.0	5.	.3	0.0	0.0	2573.1	25.4	1.9
MAR	52.	3.2	.85	.1	5.	.3	0.0	0.0	2575.3	28.2	2.8
APR	47.	2.8	1.52	.2	5.	.3	0.0	0.0	2577.0	30.5	2.3
MAY	49.	3.0	1.78	.2	13.	.8	0.0	0.0	2578.4	32.5	2.0
JUN	59.	3.5	1.82	.2	12.	.7	0.0	0.0	2580.1	35.1	2.6
JUL	47.	2.9	3.42	.4	47.	2.9	0.0	0.0	2579.9	34.7	-.4
AUG	31.	1.9	4.12	.5	47.	2.9	0.0	0.0	2578.9	33.2	-1.5
SEP	32.	1.9	3.09	.4	17.	1.0	0.0	0.0	2579.2	33.7	.5
OCT	28.	1.7	3.21	.4	8.	.5	0.0	0.0	2579.7	34.5	.8
NOV	30.	1.8	1.15	.1	5.	.3	0.0	0.0	2580.6	35.9	1.4
DEC	29.	1.8	.77	.1	5.	.3	0.0	0.0	2581.5	37.3	1.4
TOTAL		28.5	22.60	2.6		10.6	0.0	0.0			15.3

HARRY STRUNK LAKE OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS						
JAN	39.	2.4	.76	.1	2.	.1	0.0	0.0	2355.3	20.9	2.2
FEB	54.	3.0	.89	.1	2.	.1	0.0	0.0	2357.5	23.7	2.8
MAR	65.	4.0	1.87	.2	2.	.1	0.0	0.0	2360.2	27.4	3.7
APR	57.	3.4	4.23	.5	2.	.1	0.0	0.0	2362.0	30.2	2.8
MAY	67.	4.1	4.07	.5	60.	3.7	0.0	0.0	2362.0	30.1	-.1
JUN	91.	5.4	5.02	.7	62.	3.7	0.0	0.0	2362.6	31.1	1.0
JUL	75.	4.6	8.41	1.0	228.	14.0	0.0	0.0	2355.1	20.7	-10.4
AUG	44.	2.7	7.42	.6	216.	13.3	0.0	.0	2343.0	9.5	-11.2
SEP	34.	2.0	4.64	.3	29.	1.7	0.0	0.0	2343.0	9.5	0.0
OCT	36.	2.2	4.52	.3	23.	1.4	0.0	0.0	2343.7	10.0	.5
NOV	40.	2.4	2.57	.2	2.	.1	0.0	0.0	2346.4	12.1	2.1
DEC	39.	2.4	1.10	.1	2.	.1	0.0	0.0	2349.0	14.3	2.2
TOTAL		38.6	45.50	4.6		38.4	0.0	.0			-4.4
					MOST PROBABLE INFLOW CONDITIONS						
JAN	49.	3.0	.50	0.0	2.	.1	0.0	0.0	2355.9	21.6	2.9
FEB	70.	3.9	.75	.1	2.	.1	0.0	0.0	2358.7	25.3	3.7
MAR	81.	5.0	1.40	.2	2.	.1	0.0	0.0	2361.9	30.0	4.7
APR	72.	4.3	2.29	.3	2.	.1	0.0	0.0	2364.3	33.9	3.9
MAY	85.	5.2	2.41	.4	5.	.3	1.3	0.0	2366.1	37.1	3.2
JUN	114.	6.8	3.57	.6	8.	.5	5.7	0.0	2366.1	37.1	0.0
JUL	94.	5.8	5.95	.9	177.	10.9	0.0	0.0	2362.6	31.1	-6.0
AUG	57.	3.5	5.33	.6	205.	12.6	0.0	0.0	2355.7	21.4	-9.7
SEP	44.	2.6	3.51	.4	37.	2.2	0.0	0.0	2355.7	21.4	0.0
OCT	46.	2.8	4.14	.4	5.	.3	0.0	0.0	2357.4	23.5	2.1
NOV	52.	3.1	2.00	.2	2.	.1	0.0	0.0	2359.4	26.3	2.8
DEC	49.	3.0	.81	.1	2.	.1	0.0	0.0	2361.3	29.1	2.8
TOTAL		49.0	32.66	4.2		27.4	7.0	0.0			10.4
					REASONABLE MAXIMUM INFLOW CONDITIONS						
JAN	73.	4.5	.25	0.0	2.	.1	0.0	0.0	2357.1	23.1	4.4
FEB	104.	5.8	.40	0.0	2.	.1	0.0	0.0	2361.1	28.8	5.7
MAR	120.	7.4	.49	.1	2.	.1	0.0	0.0	2365.5	36.0	7.2
APR	106.	6.3	.65	.1	2.	.1	5.0	0.0	2366.1	37.1	1.1
MAY	124.	7.6	.42	.1	2.	.1	7.4	0.0	2366.1	37.1	0.0
JUN	168.	10.0	.98	.2	2.	.1	9.7	0.0	2366.1	37.1	0.0
JUL	140.	8.6	5.13	.8	91.	5.6	2.2	0.0	2366.1	37.1	0.0
AUG	83.	5.1	4.19	.6	106.	6.5	0.0	0.0	2365.0	35.1	-2.0
SEP	64.	3.8	2.33	.4	10.	.6	.8	0.0	2366.1	37.1	2.0
OCT	67.	4.1	3.66	.6	2.	.1	3.4	0.0	2366.1	37.1	0.0
NOV	76.	4.5	.46	.1	2.	.1	4.3	0.0	2366.1	37.1	0.0
DEC	73.	4.5	.34	.1	2.	.1	4.3	0.0	2366.1	37.1	0.0
TOTAL		72.2	19.30	3.1		13.6	37.1	0.0			18.4

NORTON RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
REASONABLE MINIMUM INFLOW CONDITIONS											
JAN	2.	.1	.95	0.0	2.	.1	0.0	0.0	2276.4	3.3	0.0
FEB	2.	.1	1.00	0.0	2.	.1	0.0	0.0	2276.4	3.3	0.0
MAR	7.	.4	1.98	.1	2.	.1	0.0	0.0	2276.8	3.5	.2
APR	3.	.2	4.34	.2	2.	.1	0.0	0.0	2276.6	3.4	-.1
MAY	7.	.4	4.10	.1	7.	.4	0.0	.3	2277.1	3.6	.2
JUN	24.	1.4	7.86	.3	10.	.6	0.0	.2	2278.6	4.3	.7
JUL	13.	.8	8.77	.4	140.	8.6	0.0	8.2	2278.6	4.3	0.0
AUG	5.	.3	7.38	.3	135.	8.3	0.0	8.1	2278.2	4.1	-.2
SEP	5.	.3	6.12	.3	57.	3.4	0.0	3.3	2278.0	4.0	-.1
OCT	3.	.2	4.66	.2	24.	1.5	0.0	1.4	2277.7	3.9	-.1
NOV	2.	.1	2.62	.1	2.	.1	0.0	0.0	2277.5	3.8	-.1
DEC	2.	.1	1.22	0.0	2.	.1	0.0	0.0	2277.5	3.8	0.0
TOTAL		4.4	51.00	2.0		23.4	0.0	21.5			.5
MOST PROBABLE INFLOW CONDITIONS											
JAN	2.	.1	.80	0.0	2.	.1	0.0	0.0	2276.4	3.3	0.0
FEB	5.	.3	.85	0.0	2.	.1	0.0	0.0	2276.8	3.5	.2
MAR	13.	.8	1.24	0.0	2.	.1	0.0	0.0	2278.4	4.2	.7
APR	8.	.5	2.78	.1	2.	.1	0.0	0.0	2278.9	4.5	.3
MAY	15.	.9	2.55	.1	2.	.1	0.0	0.0	2280.2	5.2	.7
JUN	52.	3.1	3.85	.2	2.	.1	0.0	0.0	2284.4	8.0	2.8
JUL	28.	1.7	5.97	.3	81.	5.0	0.0	0.0	2278.7	4.4	-3.6
AUG	11.	.7	5.89	.2	89.	5.5	0.0	4.9	2278.6	4.3	-.1
SEP	13.	.8	4.38	.2	22.	1.3	0.0	.7	2278.6	4.3	0.0
OCT	7.	.4	4.14	.2	7.	.4	0.0	.2	2278.6	4.3	0.0
NOV	3.	.2	2.12	.1	2.	.1	0.0	0.0	2278.6	4.3	0.0
DEC	3.	.2	1.03	0.0	2.	.1	0.0	0.0	2278.7	4.4	.1
TOTAL		9.7	35.60	1.4		13.0	0.0	5.8			1.1
REASONABLE MAXIMUM INFLOW CONDITIONS											
JAN	7.	.4	.50	0.0	2.	.1	0.0	0.0	2277.1	3.6	.3
FEB	18.	1.0	.52	0.0	2.	.1	0.0	0.0	2278.9	4.5	.9
MAR	37.	2.3	.54	0.0	2.	.1	0.0	0.0	2282.6	6.7	2.2
APR	22.	1.3	1.43	.1	2.	.1	0.0	0.0	2284.1	7.8	1.1
MAY	42.	2.6	1.16	.1	2.	.1	0.0	0.0	2287.0	10.2	2.4
JUN	143.	8.5	2.52	.2	2.	.1	0.0	0.0	2294.3	18.4	8.2
JUL	78.	4.8	4.42	.5	18.	1.1	0.0	0.0	2296.5	21.6	3.2
AUG	33.	2.0	5.23	.7	36.	2.2	0.0	0.0	2295.9	20.7	-.9
SEP	37.	2.2	3.07	.4	2.	.1	0.0	0.0	2297.0	22.4	1.7
OCT	20.	1.2	2.72	.4	2.	.1	0.0	0.0	2297.4	23.1	.7
NOV	7.	.4	1.25	.2	2.	.1	0.0	0.0	2297.5	23.2	.1
DEC	8.	.5	.64	.1	2.	.1	0.0	0.0	2297.7	23.5	.3
TOTAL		27.2	24.00	2.7		4.3	0.0	0.0			20.2

HARLAN COUNTY LAKE OPERATION ESTIMATES - 1981

MONTH	UNDEPLETED INFLOW 1000 AF	UPSTREAM DEPLETIONS 1000 AF	DEPLETED INFLOW MEAN CFS	DEPLETED INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RES SPILL 1000 AF	REQ SHORT 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RES CHANGE 1000 AF
REASONABLE MINIMUM INFLOW CONDITIONS													
JAN	5.3	0.0	86.	5.3	.90	.7	5.	.3	0.0	0.0	1936.4	206.4	4.3
FEB	8.9	0.0	160.	8.9	.78	.6	5.	.3	0.0	0.0	1937.2	214.4	8.0
MAR	14.6	0.0	237.	14.6	1.74	1.5	5.	.3	0.0	0.0	1938.4	227.2	12.8
APR	12.9	0.0	217.	12.9	4.70	4.2	5.	.3	0.0	0.0	1939.2	235.6	8.4
MAY	16.8	0.0	273.	16.8	4.38	3.9	286.	17.6	0.0	0.0	1938.7	230.9	-4.7
JUN	26.3	0.0	442.	26.3	6.60	5.9	242.	14.4	0.0	0.0	1939.3	236.9	6.0
JUL	13.5	0.0	220.	13.5	9.71	8.3	626.	38.5	0.0	0.0	1936.1	203.6	-33.3
AUG	9.0	0.0	146.	9.0	8.41	6.2	756.	46.5	0.0	0.0	1931.2	159.9	-43.7
SEP	6.6	0.0	111.	6.6	5.56	3.7	287.	17.1	0.0	0.0	1929.5	145.7	-14.2
OCT	6.1	0.0	99.	6.1	4.52	3.0	0.	0.0	0.0	0.0	1929.8	148.8	3.1
NOV	5.3	0.0	89.	5.3	2.58	1.7	0.	0.0	0.0	0.0	1930.3	152.4	3.6
DEC	5.1	0.0	83.	5.1	1.12	.7	0.	0.0	0.0	0.0	1930.8	156.8	4.4
TOTAL	130.4	0.0		130.4	51.00	40.4		135.3	0.0	0.0			-45.3
MOST PROBABLE INFLOW CONDITIONS													
JAN	9.6	0.0	156.	9.6	.65	.5	10.	.6	0.0	0.0	1936.8	210.6	8.5
FEB	16.0	0.0	288.	16.0	.61	.5	11.	.6	0.0	0.0	1938.2	225.5	14.9
MAR	26.5	0.0	431.	26.5	1.13	1.0	10.	.6	0.0	0.0	1940.5	250.4	24.9
APR	23.3	0.0	392.	23.3	1.31	1.3	10.	.6	0.0	0.0	1942.3	271.8	21.4
MAY	30.4	0.0	494.	30.4	3.27	3.4	24.	1.5	0.0	0.0	1944.3	297.3	25.5
JUN	47.5	0.0	798.	47.5	5.46	5.9	29.	1.7	17.4	0.0	1946.0	319.8	22.5
JUL	24.5	0.0	398.	24.5	7.70	8.5	382.	23.5	0.0	0.0	1945.4	312.3	-7.5
AUG	16.3	0.0	265.	16.3	6.01	6.5	468.	28.8	0.0	0.0	1944.0	293.3	-19.0
SEP	12.0	0.0	202.	12.0	4.47	4.7	128.	7.6	0.0	0.0	1944.0	293.0	-.3
OCT	11.1	0.0	181.	11.1	3.43	3.6	10.	.6	0.0	0.0	1944.5	299.9	6.9
NOV	9.6	0.0	161.	9.6	1.55	1.7	10.	.6	0.0	0.0	1945.0	307.2	7.3
DEC	9.3	0.0	151.	9.3	.71	.8	10.	.6	0.0	0.0	1945.6	315.1	7.9
TOTAL	236.1	0.0		236.1	36.30	38.4		67.3	17.4	0.0			113.0
REASONABLE MAXIMUM INFLOW CONDITIONS													
JAN	19.2	0.0	312.	19.2	0.00	0.0	10.	.6	0.0	0.0	1937.8	220.7	18.6
FEB	32.0	0.0	576.	32.0	.28	.3	11.	.6	0.0	0.0	1940.6	251.8	31.1
MAR	52.9	0.0	860.	52.9	.70	.7	10.	.6	0.0	0.0	1944.8	303.4	51.6
APR	46.6	0.0	783.	46.6	.21	.2	10.	.6	29.4	0.0	1946.0	319.8	16.4
MAY	60.6	0.0	986.	60.6	1.78	2.0	13.	.8	57.8	0.0	1946.0	319.8	0.0
JUN	95.0	0.0	1597.	95.0	1.58	1.8	13.	.8	92.4	0.0	1946.0	319.8	0.0
JUL	48.9	0.0	795.	48.9	6.53	7.3	99.	6.1	35.5	0.0	1946.0	319.8	0.0
AUG	32.6	0.0	530.	32.6	3.43	3.8	104.	6.4	22.4	0.0	1946.0	319.8	0.0
SEP	24.0	0.0	403.	24.0	3.84	4.3	25.	1.5	18.2	0.0	1946.0	319.8	0.0
OCT	22.1	0.0	359.	22.1	2.28	2.5	10.	.6	19.0	0.0	1946.0	319.8	0.0
NOV	19.3	0.0	324.	19.3	1.03	1.1	10.	.6	17.6	0.0	1946.0	319.8	0.0
DEC	18.6	0.0	303.	18.6	.40	.4	10.	.6	17.6	0.0	1946.0	319.8	0.0
TOTAL	471.8	0.0		471.8	22.06	24.4		19.8	309.9	0.0			117.7

LOVEWELL RESERVOIR OPERATION ESTIMATES - 1981

MONTH	WHITE ROCK CREEK INFLOW 1000 AF	COURTLAND CANAL INFLOW 1000 AF	TOTAL INFLOW MEAN CFS	TOTAL INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RES SPILL 1000 AF	REQ SHORT 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RES CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS								
JAN	.1	0.0	2.	.1	.77	.2	0.	0.0	0.0	0.0	1579.0	31.8	-.1
FEB	.4	0.0	7.	.4	.75	.2	0.	0.0	0.0	0.0	1579.0	32.0	.2
MAR	.5	1.2	28.	1.7	1.69	.4	0.	0.0	0.0	0.0	1579.6	33.3	1.3
APR	.5	1.2	29.	1.7	3.79	.8	0.	0.0	0.0	0.0	1579.9	34.2	.9
MAY	1.3	10.2	187.	11.5	3.55	.8	99.	6.1	0.0	0.0	1581.6	38.8	4.6
JUN	2.7	7.7	175.	10.4	5.84	1.4	103.	6.1	0.0	0.0	1582.6	41.7	2.9
JUL	1.8	10.0	192.	11.8	7.75	1.8	294.	18.1	0.0	0.0	1579.7	33.6	-8.1
AUG	1.0	12.7	223.	13.7	6.09	1.2	343.	21.1	0.0	0.0	1576.0	25.0	-8.6
SEP	.9	3.0	66.	3.9	5.15	.8	155.	9.2	0.0	0.0	1572.9	18.9	-6.1
OCT	.5	1.2	28.	1.7	3.45	.5	0.	0.0	0.0	0.0	1573.6	20.1	1.2
NOV	.2	1.2	24.	1.4	2.37	.4	0.	0.0	0.0	0.0	1574.1	21.1	1.0
DEC	.1	0.0	2.	.1	.96	.2	0.	0.0	0.0	0.0	1574.0	21.0	-.1
TOTAL	10.0	48.4		58.4	42.16	8.7		60.6	0.0	0.0			-10.9
					MOST PROBABLE INFLOW CONDITIONS								
JAN	.3	0.0	5.	.3	.50	.1	0.	0.0	0.0	0.0	1579.1	32.1	.2
FEB	1.1	0.0	20.	1.1	.40	.1	0.	0.0	0.0	0.0	1579.5	33.1	1.0
MAR	1.2	1.2	39.	2.4	.92	.2	0.	0.0	0.0	0.0	1580.3	35.3	2.2
APR	1.3	1.2	42.	2.5	1.97	.4	0.	0.0	0.0	0.0	1581.1	37.4	2.1
MAY	3.5	1.2	76.	4.7	1.58	.4	34.	2.1	0.0	0.0	1581.9	39.6	2.2
JUN	7.0	1.2	138.	8.2	1.75	.4	35.	2.1	3.6	0.0	1582.6	41.7	2.1
JUL	4.6	4.2	143.	8.8	5.22	1.2	283.	17.4	0.0	0.0	1579.0	31.9	-9.8
AUG	2.5	6.6	148.	9.1	4.22	.8	286.	17.6	0.0	0.0	1574.8	22.6	-9.3
SEP	2.4	3.0	91.	5.4	3.36	.6	76.	4.5	0.0	0.0	1575.0	22.9	.3
OCT	1.4	1.2	42.	2.6	2.09	.4	0.	0.0	0.0	0.0	1576.1	25.1	2.2
NOV	.4	1.2	27.	1.6	1.41	.3	0.	0.0	0.0	0.0	1576.6	26.4	1.3
DEC	.3	0.0	5.	.3	.43	.1	0.	0.0	0.0	0.0	1576.7	26.6	.2
TOTAL	26.0	21.0		47.0	23.85	5.0		43.7	3.6	0.0			-5.3
					REASONABLE MAXIMUM INFLOW CONDITIONS								
JAN	.8	0.0	13.	.8	.16	0.0	0.	0.0	0.0	0.0	1579.3	32.7	.6
FEB	2.5	0.0	45.	2.5	.26	.1	0.	0.0	0.0	0.0	1580.2	35.1	2.4
MAR	3.0	0.0	49.	3.0	.35	.1	0.	0.0	0.0	0.0	1581.3	38.0	2.9
APR	3.1	0.0	52.	3.1	.44	.1	0.	0.0	0.0	0.0	1582.4	41.0	3.0
MAY	8.6	1.2	159.	9.8	.54	.1	15.	.9	8.1	0.0	1582.6	41.7	.7
JUN	16.9	1.2	304.	18.1	-1.08	-.3	20.	1.2	17.2	0.0	1582.6	41.7	0.0
JUL	11.1	1.2	200.	12.3	4.30	1.1	138.	8.5	2.7	0.0	1582.6	41.7	0.0
AUG	6.1	1.2	119.	7.3	3.06	.7	138.	8.5	0.0	0.0	1582.0	39.8	-1.9
SEP	5.8	0.0	97.	5.8	1.78	.4	35.	2.1	1.4	0.0	1582.6	41.7	1.9
OCT	3.4	0.0	55.	3.4	1.49	.4	0.	0.0	3.0	0.0	1582.6	41.7	0.0
NOV	1.1	0.0	18.	1.1	1.00	.2	0.	0.0	.9	0.0	1582.6	41.7	0.0
DEC	.8	0.0	13.	.8	-.15	0.0	0.	0.0	.8	0.0	1582.6	41.7	0.0
TOTAL	63.2	4.8		68.0	12.15	2.9		21.2	34.1	0.0			9.8

KIRWIN RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS						
JAN	3.	.2	.91	.1	0.	0.0	0.0	0.0	1695.5	8.5	.1
FEB	11.	.6	1.04	.1	0.	0.0	0.0	0.0	1696.1	9.0	.5
MAR	18.	1.1	1.79	.1	0.	0.0	0.0	0.0	1697.2	10.0	1.0
APR	15.	.9	4.60	.4	0.	0.0	0.0	0.0	1697.6	10.5	.5
MAY	31.	1.9	4.77	.4	39.	2.4	0.0	.2	1697.0	9.8	-.7
JUN	54.	3.2	6.32	.5	40.	2.4	0.0	0.0	1697.3	10.1	.3
JUL	24.	1.5	8.80	.7	117.	7.2	0.0	6.1	1697.0	9.8	-.3
AUG	20.	1.2	7.74	.7	137.	8.4	0.0	7.9	1697.0	9.8	.0
SEP	12.	.7	5.66	.5	61.	3.6	0.0	3.4	1697.0	9.8	.0
OCT	8.	.5	4.61	.4	0.	0.0	0.0	0.0	1697.1	9.9	.1
NOV	5.	.3	2.54	.2	0.	0.0	0.0	0.0	1697.2	10.0	.1
DEC	3.	.2	1.22	.1	0.	0.0	0.0	0.0	1697.3	10.1	.1
TOTAL		12.3	50.00	4.2		24.0	0.0	17.6			1.7
					MOST PROBABLE INFLOW CONDITIONS						
JAN	8.	.5	.73	.1	0.	0.0	0.0	0.0	1695.8	8.8	.4
FEB	25.	1.4	.77	.1	0.	0.0	0.0	0.0	1697.3	10.1	1.3
MAR	41.	2.5	1.04	.1	0.	0.0	0.0	0.0	1699.4	12.5	2.4
APR	37.	2.2	1.89	.2	0.	0.0	0.0	0.0	1701.0	14.5	2.0
MAY	73.	4.5	3.60	.4	13.	.8	0.0	0.0	1703.3	17.8	3.3
JUN	126.	7.5	4.65	.6	13.	.8	0.0	0.0	1707.1	23.9	6.1
JUL	60.	3.7	6.33	.9	106.	6.5	0.0	0.0	1704.9	20.2	-3.7
AUG	46.	2.8	5.56	.7	106.	6.5	0.0	0.0	1701.9	15.8	-4.4
SEP	27.	1.6	4.25	.5	27.	1.6	0.0	0.0	1701.6	15.3	-.5
OCT	20.	1.2	3.59	.4	0.	0.0	0.0	0.0	1702.1	16.1	.8
NOV	10.	.6	1.85	.2	0.	0.0	0.0	0.0	1702.4	16.5	.4
DEC	10.	.6	.74	.1	0.	0.0	0.0	0.0	1702.8	17.0	.5
TOTAL		29.1	35.00	4.3		16.2	0.0	0.0			8.6
					REASONABLE MAXIMUM INFLOW CONDITIONS						
JAN	21.	1.3	.45	0.0	0.	0.0	0.0	0.0	1696.9	9.7	1.3
FEB	61.	3.4	.50	0.0	0.	0.0	0.0	0.0	1699.9	13.1	3.4
MAR	102.	6.3	.56	.1	0.	0.0	0.0	0.0	1704.3	19.3	6.2
APR	91.	5.4	.53	.1	0.	0.0	0.0	0.0	1707.5	24.6	5.3
MAY	181.	11.1	1.68	.3	8.	.5	0.0	0.0	1712.3	34.9	10.3
JUN	309.	18.4	1.66	.4	8.	.5	0.0	0.0	1718.2	52.4	17.5
JUL	150.	9.2	5.47	1.6	65.	4.0	0.0	0.0	1719.2	56.0	3.6
AUG	111.	6.8	4.67	1.4	67.	4.1	0.0	0.0	1719.5	57.3	1.3
SEP	66.	3.9	2.75	.9	17.	1.0	0.0	0.0	1720.1	59.3	2.0
OCT	49.	3.0	2.27	.7	0.	0.0	0.0	0.0	1720.7	61.6	2.3
NOV	25.	1.5	1.02	.3	0.	0.0	0.0	0.0	1721.0	62.8	1.2
DEC	23.	1.4	.54	.2	0.	0.0	0.0	0.0	1721.3	64.0	1.2
TOTAL		71.7	22.10	6.0		10.1	0.0	0.0			55.6

WEBSTER RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS						
JAN	5.	.3	.96	.1	0.	0.0	0.0	0.0	1864.2	9.7	.2
FEB	9.	.5	1.11	.1	0.	0.0	0.0	0.0	1864.5	10.1	.4
MAR	15.	.9	2.08	.2	0.	0.0	0.0	0.0	1865.1	10.8	.7
APR	15.	.9	4.92	.5	0.	0.0	0.0	0.0	1865.4	11.2	.4
MAY	24.	1.5	4.75	.5	49.	3.0	0.0	0.0	1863.7	9.2	-2.0
JUN	37.	2.2	7.50	.7	66.	3.9	0.0	0.0	1861.5	6.8	-2.4
JUL	24.	1.5	9.04	.7	135.	8.3	0.0	6.0	1860.0	5.3	-1.5
AUG	15.	.9	8.08	.6	151.	9.3	0.0	9.0	1860.0	5.3	.0
SEP	7.	.4	6.70	.5	84.	5.0	0.0	5.0	1859.8	5.2	-.1
OCT	7.	.4	4.71	.3	0.	0.0	0.0	0.0	1860.0	5.3	.1
NOV	3.	.2	2.45	.2	0.	0.0	0.0	0.0	1860.0	5.3	.0
DEC	5.	.3	1.20	.1	0.	0.0	0.0	0.0	1860.2	5.5	.2
TOTAL		10.0	53.50	4.5		29.5	0.0	20.0			-4.0
					MOST PROBABLE INFLOW CONDITIONS						
JAN	11.	.7	.67	.1	0.	0.0	0.0	0.0	1864.5	10.1	.6
FEB	22.	1.2	.81	.1	0.	0.0	0.0	0.0	1865.4	11.2	1.1
MAR	34.	2.1	1.48	.2	0.	0.0	0.0	0.0	1866.8	13.1	1.9
APR	37.	2.2	2.72	.3	0.	0.0	0.0	0.0	1868.0	15.0	1.9
MAY	62.	3.8	3.13	.4	13.	.8	0.0	0.0	1869.7	17.6	2.6
JUN	94.	5.6	4.40	.6	17.	1.0	0.0	0.0	1872.0	21.6	4.0
JUL	62.	3.8	7.02	1.0	120.	7.4	0.0	0.0	1869.3	17.0	-4.6
AUG	37.	2.3	5.72	.7	120.	7.4	0.0	0.0	1865.4	11.2	-5.8
SEP	18.	1.1	4.69	.5	37.	2.2	0.0	0.0	1864.1	9.6	-1.6
OCT	18.	1.1	3.37	.3	0.	0.0	0.0	0.0	1864.7	10.4	.8
NOV	10.	.6	1.61	.2	0.	0.0	0.0	0.0	1865.1	10.8	.4
DEC	11.	.7	.78	.1	0.	0.0	0.0	0.0	1865.5	11.4	.6
TOTAL		25.2	36.40	4.5		18.8	0.0	0.0			1.9
					REASONABLE MAXIMUM INFLOW CONDITIONS						
JAN	36.	2.2	.53	.1	0.	0.0	0.0	0.0	1865.7	11.6	2.1
FEB	70.	3.9	.48	.1	0.	0.0	0.0	0.0	1868.3	15.4	3.8
MAR	111.	6.8	.70	.1	0.	0.0	0.0	0.0	1872.2	22.1	6.7
APR	116.	6.9	1.00	.2	0.	0.0	0.0	0.0	1875.6	28.8	6.7
MAY	197.	12.1	1.74	.3	0.	0.0	0.0	0.0	1880.7	40.6	11.8
JUN	296.	17.6	.72	.2	0.	0.0	0.0	0.0	1886.8	58.0	17.4
JUL	198.	12.2	5.63	1.5	62.	3.8	0.0	0.0	1889.0	64.9	6.9
AUG	117.	7.2	4.03	1.1	63.	3.9	0.0	0.0	1889.6	67.1	2.2
SEP	59.	3.5	3.75	1.1	5.	.3	0.0	0.0	1890.2	69.2	2.1
OCT	57.	3.5	2.83	.8	0.	0.0	0.0	0.0	1891.0	71.9	2.7
NOV	34.	2.0	.99	.3	0.	0.0	0.0	0.0	1891.4	73.6	1.7
DEC	34.	2.1	.60	.2	0.	0.0	0.0	0.0	1891.9	75.5	1.9
TOTAL		80.0	23.00	6.0		8.0	0.0	0.0			66.0

WACONDA LAKE OPERATION ESTIMATES - 1981

MONTH	UNDEPLETED INFLOW 1000 AF	UPSTREAM DEPLETIONS 1000 AF	DEPLETED INFLOW MEAN CFS	DEPLETED INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RES SPILL 1000 AF	REQ SHORT 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RES CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS								
JAN	2.3	0.0	37.	2.3	.89	.8	24.	1.5	0.0	0.0	1451.4	192.9	0.0
FEB	2.8	0.0	50.	2.8	1.00	.9	34.	1.9	0.0	0.0	1451.4	192.9	0.0
MAR	6.2	0.0	101.	6.2	1.83	1.7	11.	.7	0.0	0.0	1451.8	196.7	3.8
APR	4.5	0.0	76.	4.5	4.55	4.2	2.	.1	0.0	0.0	1451.8	196.9	.2
MAY	7.6	0.0	124.	7.6	4.48	4.1	2.	.1	0.0	0.0	1452.1	200.3	3.4
JUN	11.2	0.0	188.	11.2	6.57	6.1	35.	2.1	0.0	0.0	1452.4	203.3	3.0
JUL	6.0	0.0	98.	6.0	8.05	7.5	67.	4.1	0.0	0.0	1451.9	197.7	-5.6
AUG	3.6	0.0	59.	3.6	8.50	7.7	67.	4.1	0.0	0.0	1451.1	189.5	-8.2
SEP	5.3	0.0	89.	5.3	6.19	5.5	35.	2.1	0.0	0.0	1450.9	187.2	-2.3
OCT	3.3	0.0	54.	3.3	4.42	3.9	2.	.1	0.0	0.0	1450.9	186.5	-.7
NOV	2.0	0.0	34.	2.0	2.46	2.2	2.	.1	0.0	0.0	1450.8	186.2	-.3
DEC	1.7	0.0	28.	1.7	1.16	1.0	11.	.7	0.0	0.0	1450.8	186.2	0.0
TOTAL	56.5	0.0		56.5	50.10	45.6		17.6	0.0	0.0			-6.7
					MOST PROBABLE INFLOW CONDITIONS								
JAN	5.3	0.0	86.	5.3	.53	.5	78.	4.8	0.0	0.0	1451.4	192.9	0.0
FEB	6.5	0.0	117.	6.5	.63	.6	106.	5.9	0.0	0.0	1451.4	192.9	0.0
MAR	14.4	0.0	234.	14.4	.84	.8	11.	.7	0.0	0.0	1452.6	205.8	12.9
APR	10.3	0.0	173.	10.3	2.90	2.8	2.	.1	0.0	0.0	1453.3	213.2	7.4
MAY	17.7	0.0	288.	17.7	2.96	2.9	2.	.1	0.0	0.0	1454.5	227.9	14.7
JUN	26.0	0.0	437.	26.0	3.32	3.4	25.	1.5	7.5	0.0	1455.0	241.5	13.6
JUL	13.9	0.0	226.	13.9	6.05	6.4	46.	2.8	4.7	0.0	1455.6	241.5	0.0
AUG	8.3	0.0	135.	8.3	4.46	4.7	46.	2.8	.8	0.0	1455.6	241.5	0.0
SEP	12.3	0.0	207.	12.3	3.96	4.1	175.	10.4	0.0	0.0	1455.4	239.3	-2.2
OCT	7.6	0.0	124.	7.6	3.24	3.3	299.	18.4	0.0	0.0	1454.3	225.2	-14.1
NOV	4.7	0.0	79.	4.7	1.85	1.8	301.	17.9	0.0	0.0	1453.0	210.2	-15.0
DEC	3.9	0.0	63.	3.9	.76	.7	52.	3.2	0.0	0.0	1453.0	210.2	0.0
TOTAL	130.9	0.0		130.9	31.50	32.0		68.6	13.0	0.0			17.3
					REASONABLE MAXIMUM INFLOW CONDITIONS								
JAN	14.3	0.0	233.	14.3	.36	.3	228.	14.0	0.0	0.0	1451.4	192.9	0.0
FEB	17.6	0.0	317.	17.6	.21	.2	313.	17.4	0.0	0.0	1451.4	192.9	0.0
MAR	39.0	0.0	634.	39.0	.34	.3	299.	18.4	0.0	0.0	1453.3	213.2	20.3
APR	28.1	0.0	472.	28.1	1.39	1.4	301.	17.9	0.0	0.0	1454.0	222.0	8.8
MAY	48.1	0.0	782.	48.1	.87	.9	2.	.1	27.6	0.0	1455.6	241.5	19.5
JUN	70.7	0.0	1188.	70.7	-.20	-.2	2.	.1	70.8	0.0	1455.6	241.5	0.0
JUL	37.6	0.0	612.	37.6	4.46	4.7	2.	.1	32.8	0.0	1455.6	241.5	0.0
AUG	22.5	0.0	366.	22.5	3.27	3.4	2.	.1	19.0	0.0	1455.6	241.5	0.0
SEP	33.3	0.0	560.	33.3	2.29	2.4	2.	.1	30.8	0.0	1455.6	241.5	0.0
OCT	20.8	0.0	338.	20.8	2.41	2.5	298.	18.3	0.0	0.0	1455.6	241.5	0.0
NOV	12.7	0.0	213.	12.7	.92	1.0	301.	17.9	0.0	0.0	1455.1	235.3	-6.2
DEC	10.5	0.0	171.	10.5	.38	.4	164.	10.1	0.0	0.0	1455.1	235.3	0.0
TOTAL	355.2	0.0		355.2	16.70	17.3		114.5	181.0	0.0			42.4

CEDAR BLUFF RESERVOIR OPERATION ESTIMATES - 1981

MONTH	INFLOW MEAN CFS	INFLOW 1000 AF	NET EVAPORATION INCHES	NET EVAPORATION 1000 AF	RELEASE REQUIREMENT MEAN CFS	RELEASE REQUIREMENT 1000 AF	RESERVOIR SPILL 1000 AF	REQUIREMENT SHORTAGE 1000 AF	END OF MONTH ELEV FT	END OF MONTH CONT 1000 AF	RESERVOIR CHANGE 1000 AF
					REASONABLE MINIMUM INFLOW CONDITIONS						
JAN	2.	.1	1.23	.2	8.	.5	0.0	0.0	2101.4	23.3	-.6
FEB	5.	.3	1.39	.2	7.	.4	0.0	0.0	2101.2	23.0	-.3
MAR	13.	.8	2.48	.3	10.	.6	0.0	0.0	2101.2	22.9	-.1
APR	12.	.7	5.30	.7	7.	.4	0.0	0.0	2101.0	22.5	-.4
MAY	28.	1.7	5.10	.7	44.	2.7	0.0	2.1	2101.2	22.9	.4
JUN	45.	2.7	7.76	1.1	44.	2.6	0.0	2.1	2101.8	24.0	1.1
JUL	36.	2.2	9.16	1.3	111.	6.8	0.0	6.3	2102.1	24.4	.4
AUG	23.	1.4	8.88	1.3	115.	7.1	0.0	6.3	2101.7	23.7	-.7
SEP	13.	.8	6.41	.9	72.	4.3	0.0	3.1	2100.9	22.4	-1.3
OCT	8.	.5	4.93	.7	29.	1.8	0.0	1.1	2100.3	21.5	-.9
NOV	3.	.2	2.90	.4	7.	.4	0.0	0.0	2100.0	20.9	-.6
DEC	2.	.1	1.46	.2	7.	.4	0.0	0.0	2099.6	20.4	-.5
TOTAL		11.5	57.00	8.0		28.0	0.0	21.0			-3.5
					MOST PROBABLE INFLOW CONDITIONS						
JAN	5.	.3	1.08	.2	8.	.5	0.0	0.0	2101.5	23.5	-.4
FEB	14.	.8	1.13	.2	7.	.4	0.0	0.0	2101.7	23.7	.2
MAR	36.	2.2	1.72	.2	10.	.6	0.0	0.0	2102.5	25.1	1.4
APR	35.	2.1	3.77	.6	7.	.4	0.0	0.0	2103.1	26.2	1.1
MAY	78.	4.8	3.22	.5	21.	1.3	0.0	.7	2105.1	29.9	3.7
JUN	131.	7.8	4.29	.7	20.	1.2	0.0	0.0	2108.0	35.8	5.9
JUL	101.	6.2	7.39	1.3	93.	5.7	0.0	.3	2107.8	35.3	-.5
AUG	65.	4.0	6.04	1.1	107.	6.6	0.0	3.7	2107.8	35.3	0.0
SEP	37.	2.2	4.48	.8	35.	2.1	0.0	.7	2107.8	35.3	0.0
OCT	23.	1.4	3.73	.7	21.	1.3	0.0	.6	2107.8	35.3	0.0
NOV	7.	.4	2.46	.4	7.	.4	0.0	0.0	2107.6	34.9	-.4
DEC	7.	.4	1.20	.2	7.	.4	0.0	.0	2107.5	34.7	-.2
TOTAL		32.6	40.51	6.9		20.9	0.0	6.0			10.8
					REASONABLE MAXIMUM INFLOW CONDITIONS						
JAN	16.	1.0	.92	.1	8.	.5	0.0	0.0	2102.0	24.3	.4
FEB	43.	2.4	.87	.1	7.	.4	0.0	0.0	2103.1	26.2	1.9
MAR	111.	6.8	1.20	.2	10.	.6	0.0	0.0	2106.3	32.2	6.0
APR	111.	6.6	2.32	.4	7.	.4	0.0	0.0	2109.1	38.0	5.8
MAY	244.	15.0	2.02	.4	18.	1.1	0.0	0.0	2114.7	51.5	13.5
JUN	408.	24.3	1.25	.3	17.	1.0	0.0	0.0	2122.2	74.5	23.0
JUL	316.	19.4	5.22	1.6	62.	3.8	0.0	0.0	2126.0	88.5	14.0
AUG	203.	12.5	4.25	1.4	70.	4.3	0.0	0.0	2127.7	95.3	6.8
SEP	118.	7.0	3.86	1.4	24.	1.4	0.0	0.0	2128.7	99.5	4.2
OCT	73.	4.5	2.56	.9	16.	1.0	0.0	0.0	2129.3	102.1	2.6
NOV	24.	1.4	1.62	.6	7.	.4	0.0	0.0	2129.3	102.5	.4
DEC	20.	1.2	.92	.3	7.	.4	0.0	0.0	2129.5	103.0	.5
TOTAL		102.1	27.01	7.7		15.3	0.0	0.0			79.1

TABLE 5

FLOOD DAMAGES PREVENTED BY KANSAS RIVER PROJECTS RESERVOIRS

BONNY

Year	Damages Prevented	Cumulative Total
1951	$ 293,000	$ 293,000
1953	135,000	428,000
1957	1,050,000	1,478,000
1960	169,000	1,647,000
1965	273,000	1,920,000
1967	42,000	1,962,000
1969	200,000	2,162,000

SWANSON

Year	Damages Prevented	Cumulative Total
1957	$ 233,000	$ 233,000
1960	900,000	1,133,000
1962	126,000	1,259,000
1964	50,000	1,309,000
1965	477,000	1,786,000
1967	182,000	1,968,000
1969	1,000	1,969,000

ENDERS

Year	Damages Prevented	Cumulative Total
1951	$ 220,000	$ 220,000
1956	104,000	324,000
1960	412,000	736,000
1962	37,000	773,000
1965	137,000	910,000
1967	42,000	952,000
1969	1,000	953,000

HUGH BUTLER

Year	Damages Prevented	Cumulative Total
1962	$ 2,000	$ 2,000
1965	137,000	139,000
1967	42,000	181,000

HARRY STRUNK

Year	Damages Prevented	Cumulative Total
1951	$ 14,000	$ 14,000
1957	5,000	19,000
1960	198,000	217,000
1962	29,000	246,000
1967	129,000	375,000
1969	6,000	381,000

NORTON

Year	Damages Prevented	Cumulative Total
1966	$ 132,000	$ 132,000
1967	885,000	1,017,000
1972	498,000	1,515,000

HARLAN COUNTY

Year	Damages Prevented	Cumulative Total
1957	$1,045,000	$ 1,045,000
1960	4,853,000	5,898,000
1961	255,000	6,153,000
1962	45,000	6,198,000
1964	182,000	6,380,000
1965	60,000	6,440,000
1966	1,658,000	8,098,000
1967	3,539,000	11,637,000
1969	14,000	11,651,000
1971	64,000	11,715,000
1973	1,310,000	13,025,000
1974	1,000	13,026,000
1975	200,000	13,226,000

LOVEWELL

Year	Damages Prevented	Cumulative Total
1957	$ 349,000	$ 349,000
1960	178,000	527,000
1961	165,000	692,000
1962	5,000	697,000
1971	9,000	706,000
1973	1,728,000	2,434,000
1975	98,000	2,532,000
1978	25,000	2,557,000
1979	13,000	2,570,000

KIRWIN

Year	Damages Prevented	Cumulative Total
1957	$ 522,000	$ 522,000
1958	10,000	532,000
1960	499,000	1,031,000
1961	1,000	1,032,000
1962	1,000	1,033,000
1964	34,000	1,067,000
1965	325,000	1,392,000
1967	191,000	1,583,000
1968	44,000	1,627,000
1969	2,000	1,629,000
1971	3,000	1,632,000
1973	40,000	1,672,000
1975	618,000	2,290,000
1978	4,000	2,294,000
1979	35,000	2,329,000

WEBSTER

Year	Damages Prevented	Cumulative Total
1957	$ 326,000	$ 326,000
1958	114,000	440,000
1960	1,018,000	1,458,000
1961	1,000	1,459,000
1962	1,000	1,460,000
1964	17,000	1,477,000
1965	325,000	1,802,000
1967	85,000	1,887,000
1968	2,000	1,889,000
1969	1,000	1,890,000
1971	3,000	1,893,000
1973	54,000	1,947,000
1975	885,000	2,832,000
1978	2,000	2,834,000
1979	16,000	2,850,000

WACONDA

Year	Damages Prevented	Cumulative Total
1968	$ 280,000	$ 280,000
1969	606,000	886,000
1971	9,000	895,000
1973	3,797,000	4,692,000
1974	1,000	4,693,000
1975	967,000	5,660,000
1978	11,000	5,671,000
1979	959,000	6,630,000

CEDAR BLUFF

Year	Damages Prevented	Cumulative Total
1951	$ 597,000	$ 597,000
1955	357,000	954,000
1956	19,000	973,000
1957	4,812,000	5,785,000
1958	829,000	6,614,000
1960	1,573,000	8,187,000
1961	101,000	8,288,000
1962	1,000	8,289,000
1964	17,000	8,306,000
1965	38,000	8,344,000
1967	42,000	8,386,000
1969	1,000	8,387,000
1971	8,000	8,395,000
1973	536,000	8,931,000
1975	11,000	8,942,000
1979	2,000	8,944,000

PROJECT TOTALS

Year	Damages Prevented	Cumulative Total
1951	$1,124,000	$ 1,124,000
1953	135,000	1,259,000
1955	357,000	1,616,000
1956	123,000	1,739,000
1957	8,342,000	10,081,000
1958	953,000	11,034,000
1960	9,800,000	20,834,000
1961	523,000	21,357,000
1962	247,000	21,604,000
1964	300,000	21,904,000
1965	1,772,000	23,676,000
1966	1,790,000	25,466,000
1967	5,179,000	30,645,000
1968	326,000	30,971,000
1969	832,000	31,803,000
1971	96,000	31,899,000
1972	498,000	32,397,000
1973	7,465,000	39,862,000
1974	2,000	39,864,000
1975	2,779,000	42,643,000
1978	42,000	42,685,000
1979	1,025,000	43,710,000

NOTE.--Construction cost of storage dams -- $208,954,130.

TABLE 6

OTHER USES AT FEDERALLY CONSTRUCTED STORAGE AND DIVERSION DAMS

NIOBRARA, LOWER PLATTE AND KANSAS RIVER BASINS

DURING 1980

Annual Totals

Features	Visitors	Cars in Area	Water Craft	Sport Fish Caught	Season Take Ducks	Season Take Geese
Colorado						
Bonny Reservoir	236,136	47,540	2,845	35,000	1,875	100
Kansas						
Norton Reservoir	131,134	37,340	2,156	12,500	150	10
Almena Diversion Dam	1,275	298	0	150	0	0
Lovewell Reservoir	255,580	82,044	6,045	55,000	1,500	35
Kirwin Reservoir	51,018	25,509	100	7,500 (est.)	5	55
Webster Reservoir	264,788	75,653	3,690	18,000	500	350
Woodston Diversion Dam	2,050	1,050	0	1,200	10	0
Waconda Lake	311,488	86,925	5,055	185,000	7,000	200
Cedar Bluff Reservoir	113,333	32,443	3,147	57,000	250	40
Nebraska						
Box Butte Reservoir	66,450	16,612	3,275	19,800	230	10
Merritt Reservoir	138,312	39,232	15,508	17,378	2,180	Closed
Arcadia Diversion Dam	10,475	2,250	0	6,500	100	0
Milburn Diversion Dam	1,340	475	0	600	15	0
Sherman Reservoir	209,000	70,000	19,000	60,000	1,000	75
Swanson Lake	44,431	9,000	1,200	37,800	300	70
Enders Reservoir	58,208	14,107	2,603	32,185	590	100
Hugh Butler Lake	205,633	51,800	10,061	28,000	300	25
Harry Strunk Lake	122,892	31,098	4,580	30,000	200	30
Harlan County Lake	861,091	408,000	601 1/	90,700 2/	560	300
TOTAL REPORTED	3,084,634	1,031,376	79,265	760,015	16,765	1,400

Visitors - Total visitor days which include fishing, hunting, boating skiing, camping, picnicking, and sightseeing.

Water Craft - Boating days which include rentals, inboards, outboards, rowboats, and sailboats.

1/ Peak day (May 25) - excluded from total.

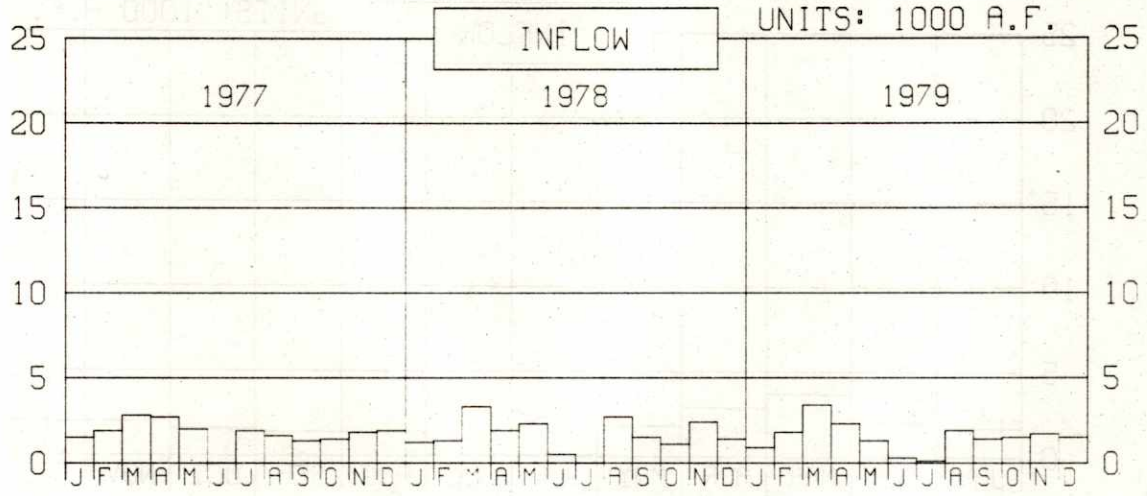
2/ lbs. - excluded from total.

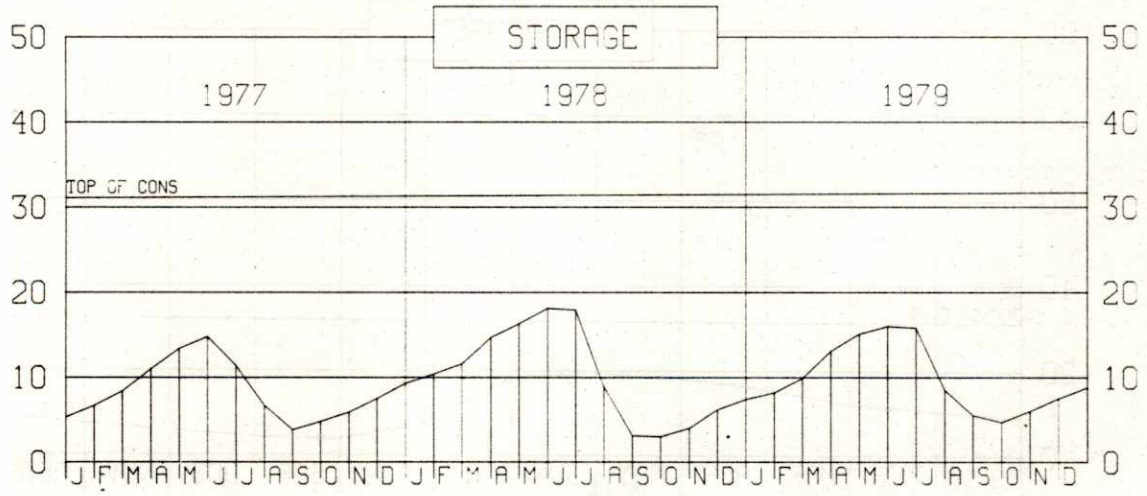
TABLE 7
WATER DIVERTED IN 1980 AND THE
ESTIMATED DIVERSION FOR 1981
(Units - Acre-Feet)

Irrigation District and Canal	1980 Irrigation Operations From	To	10-Year Average Diversion (1970-79)	1980 Diversion	Estimated Diversion in 1981
Mirage Flats Irrigation District					
Mirage Flats Canal	6/27	9/05	16,847	17,023	17,000
Ainsworth Irrigation District					
Ainsworth Canal	5/04	9/24	69,797	75,948	80,000
Sargent Irrigation District					
Sargent Canal	5/21	9/17	26,647	32,076	29,000
Farwell Irrigation District					
Farwell Canal	6/13	9/05	93,256	82,681	95,000
Frenchman Valley Irrigation District					
Culbertson Canal	4/21	9/03	18,472	12,885	12,000
H & RW Irrigation District					
Culbertson Extension Canal	5/19	8/17	24,860	18,574	17,000
Frenchman-Cambridge Irrigation District					
Meeker-Driftwood Canal	6/23	9/12	37,069	30,854	31,000
Bartley Canal	6/11	9/12	12,067	9,840	11,000
Red Willow Canal	6/11	9/10	9,568	7,473	9,000
Cambridge Canal	6/24	9/10	34,434	32,577	31,000
Total Frenchman-Cambridge Irrigation District			93,138	80,744	82,000
Almena Irrigation District					
Almena Canal	7/10	7/24	4,826	1,126	2,000
Bostwick Irrigation District in Nebraska					
Franklin Canal	6/25	9/02	28,794	29,730	24,000
Naponee Canal	6/20	9/01	3,529	3,999	3,300
Franklin Pump Canal	6/27	9/01	3,442	3,667	3,700
Superior Canal	6/19	8/21	14,616	15,440	13,000
Courtland Canal (Nebraska)	6/12	9/16	2,087	2,524	2,300
Total Bostwick Irrigation District in Nebraska			52,468	55,360	46,300
Kansas-Bostwick Irrigation District					
Courtland Canal above Lovewell	5/13	9/17	25,417	27,467	25,000
Courtland Canal below Lovewell	6/15	9/09	46,028	56,023	50,000
Total Kansas-Bostwick Irrigation District			71,445	83,490	75,000
Kirwin Irrigation District					
Kirwin Canal	6/30	8/08	20,389	12,405	6,000
Webster Irrigation District					
Osborne Canal	6/26	8/22	11,281	12,613	9,000
Cedar Bluff Irrigation District					
Cedar Bluff Canal	No irrigation in 1980		13,609	0	5,000
TOTAL			517,035	484,925	475,300

EXHIBIT 1A

BOX BUTTE RESERVOIR OPERATION





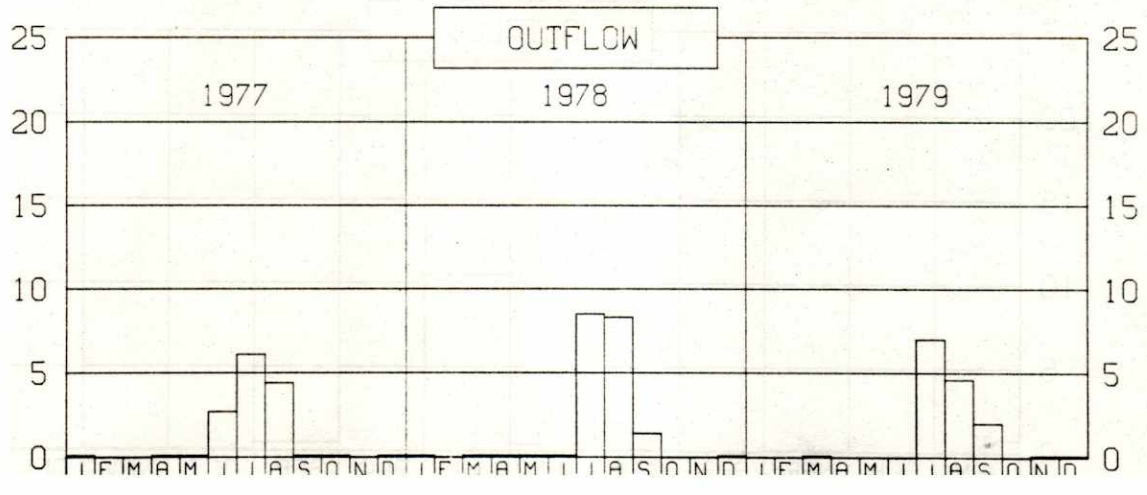


EXHIBIT 1B

BOX BUTTE RESERVOIR 1980 OPERATION

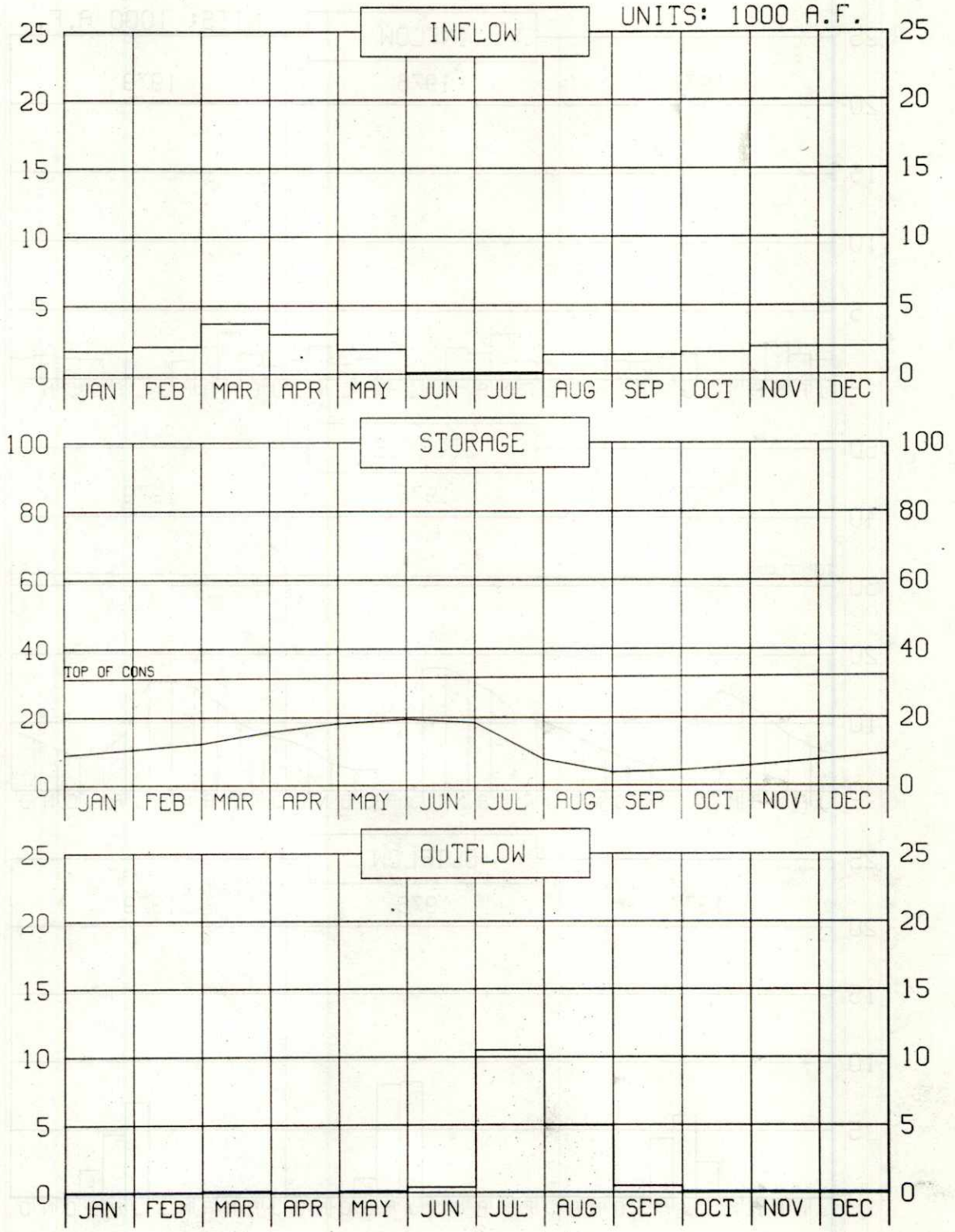


EXHIBIT 1C

BOX BUTTE RESERVOIR

CAL YEAR 1981 OPERATION PLAN

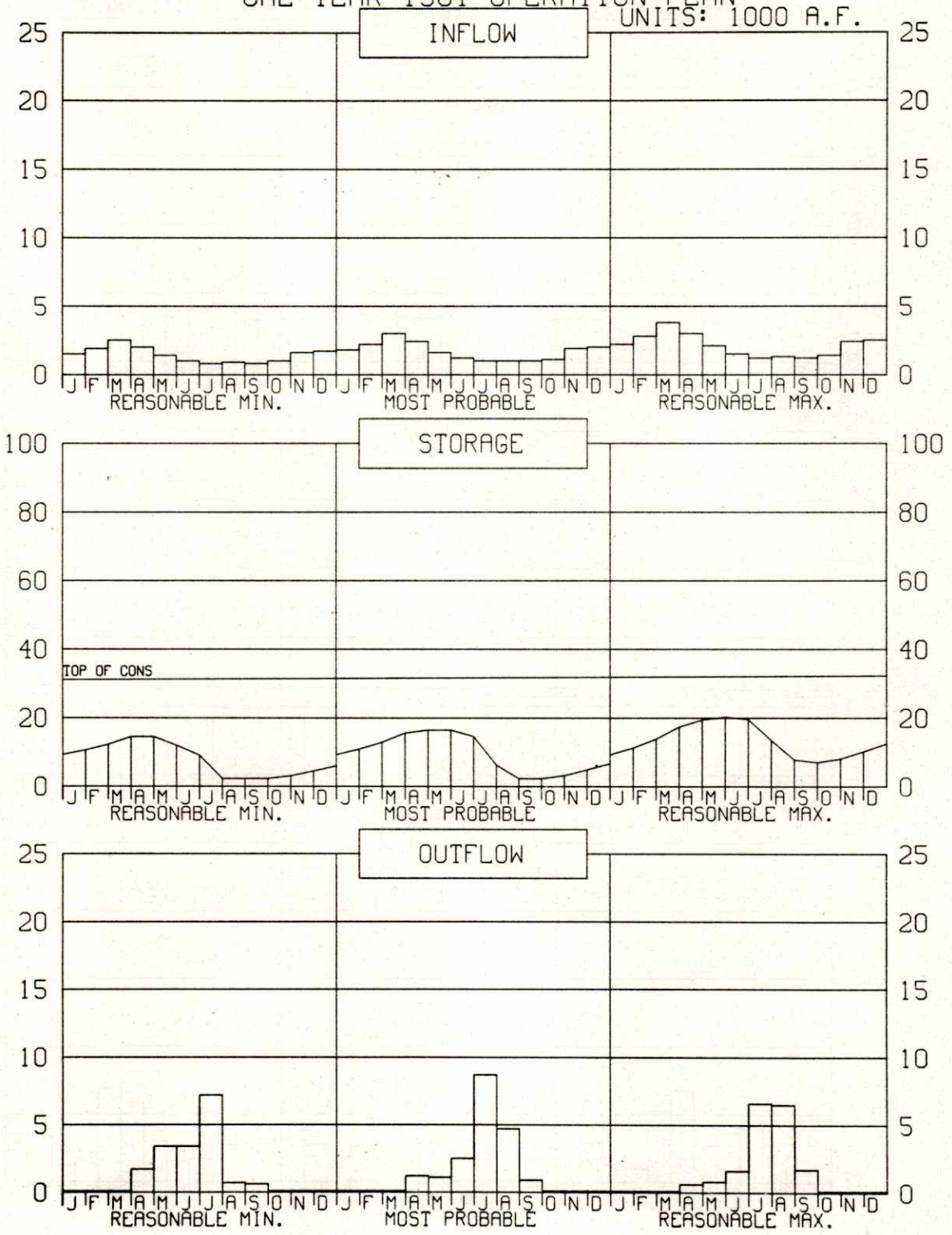


EXHIBIT 2A

MERRITT RESERVOIR OPERATION

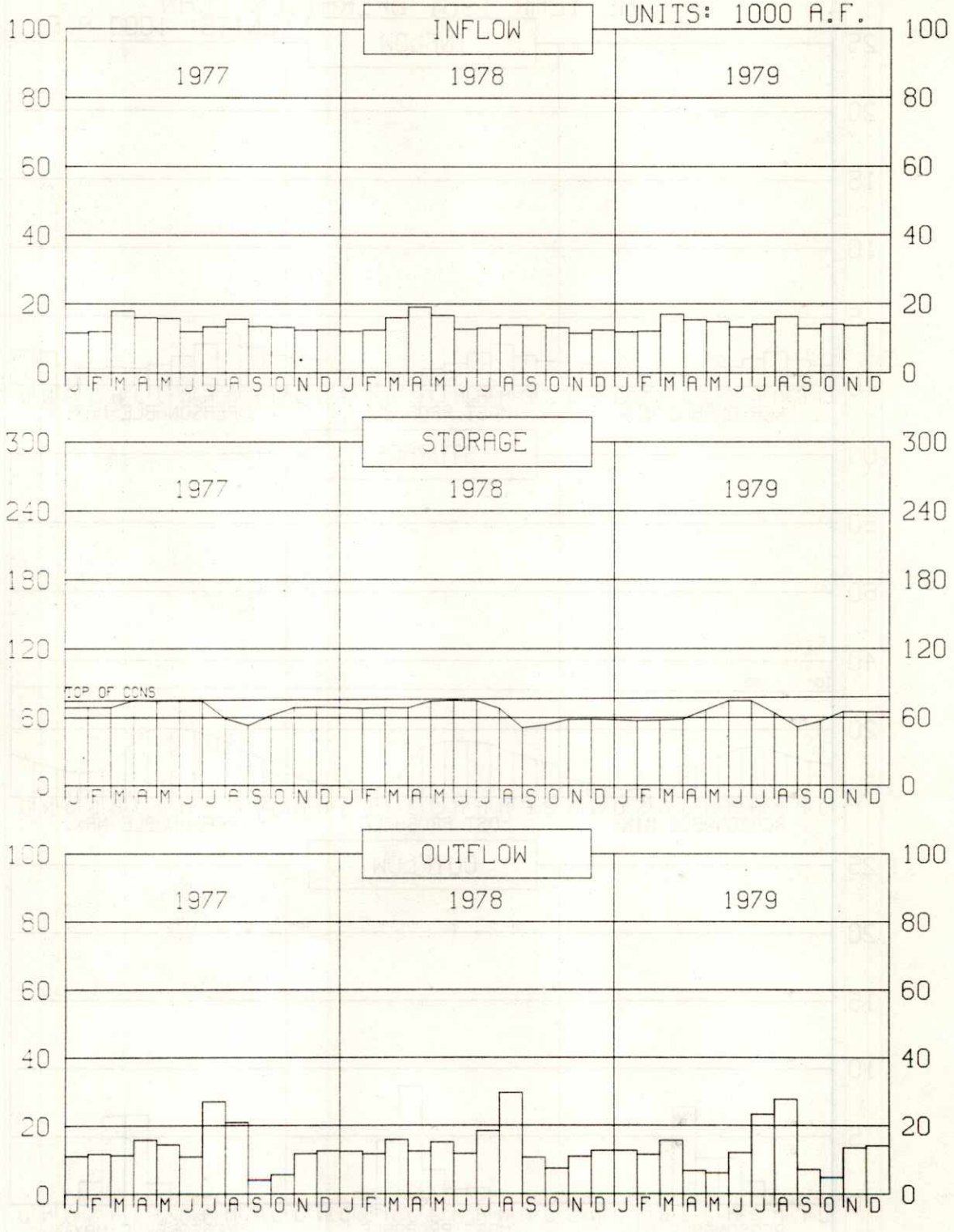


EXHIBIT 2B

MERRITT RESERVOIR 1980 OPERATION

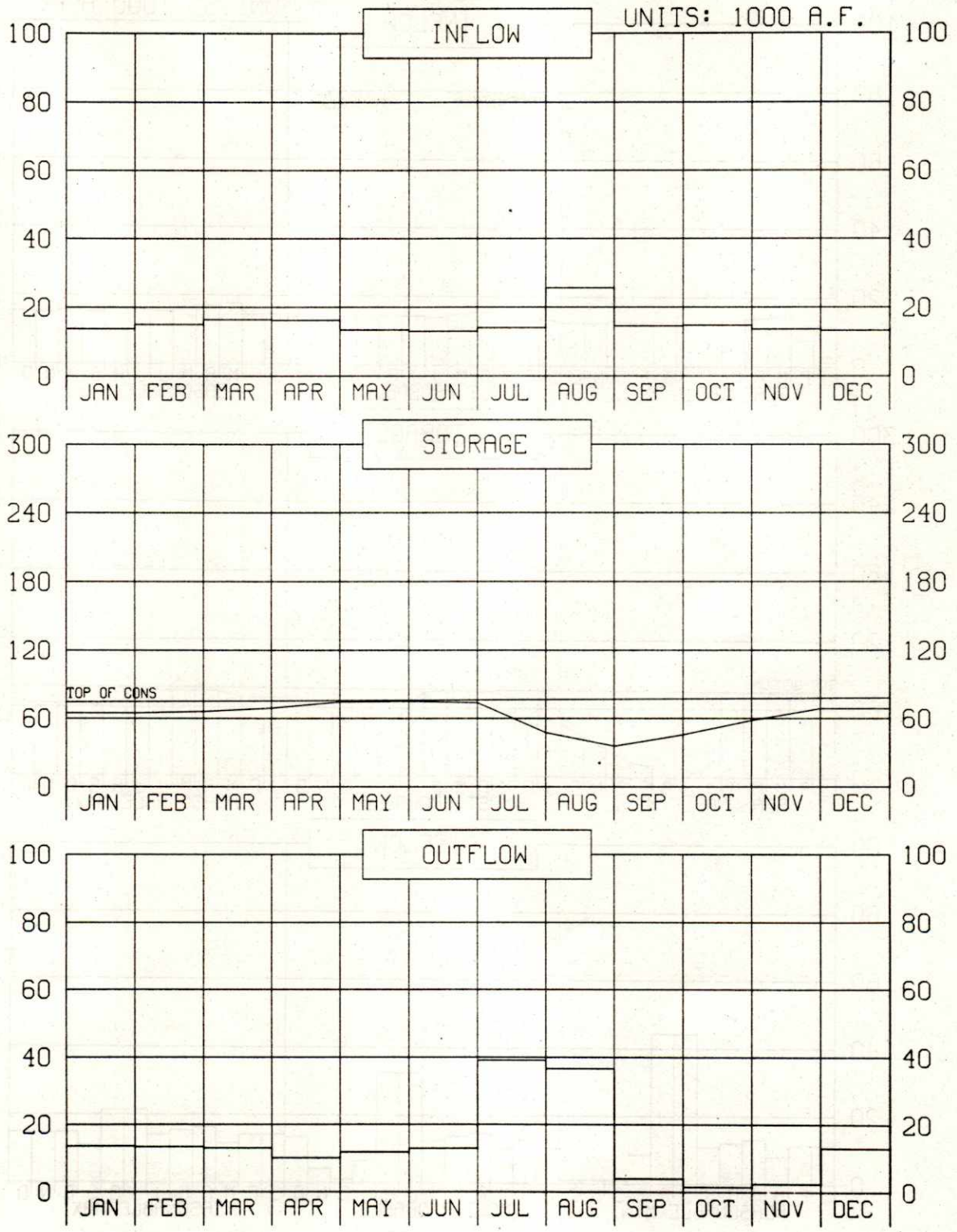


EXHIBIT 2C

MERRITT RESERVOIR

CAL YEAR 1981 OPERATION PLAN

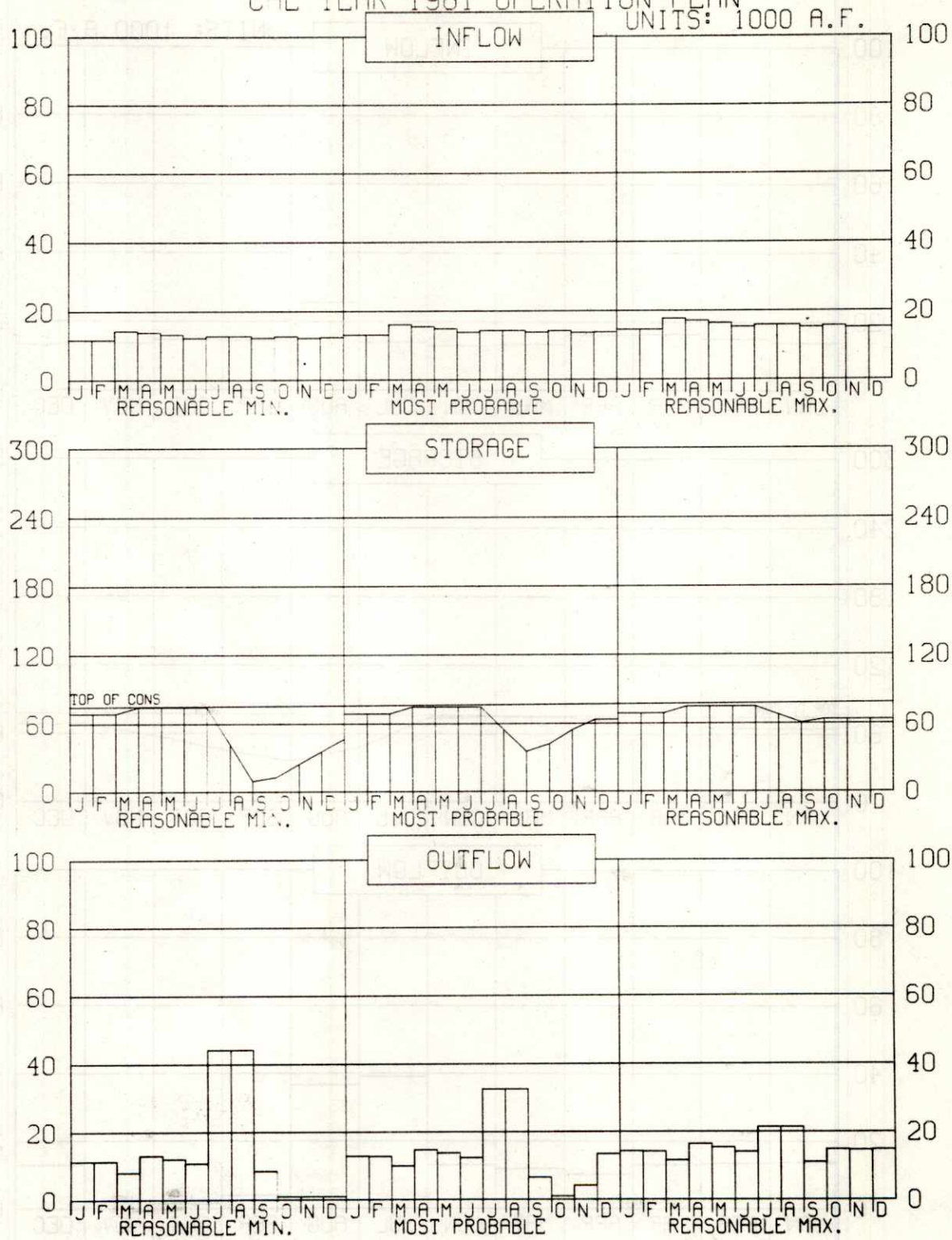


EXHIBIT 3A

SHERMAN RESERVOIR OPERATION

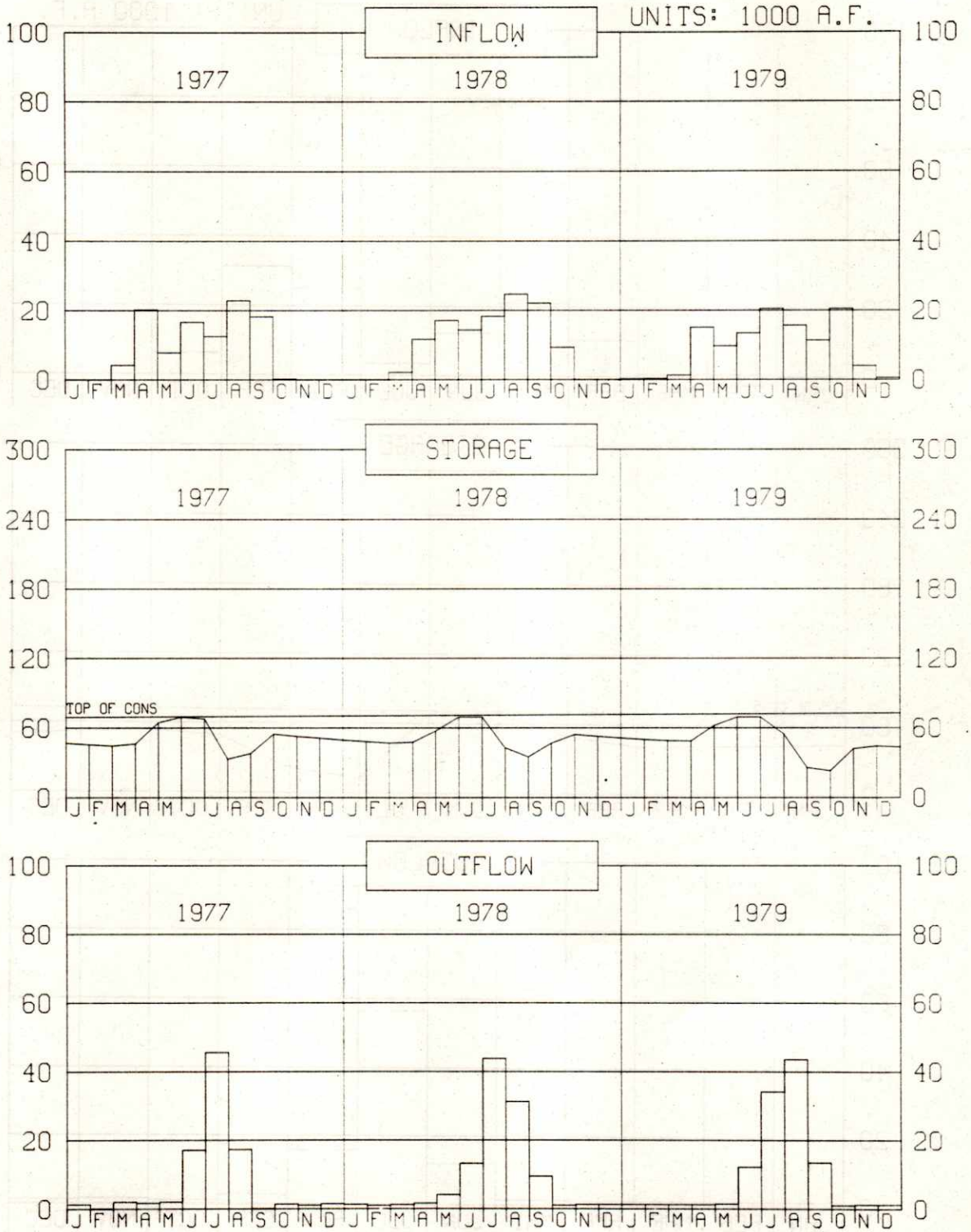


EXHIBIT 3B

SHERMAN RESERVOIR 1980 OPERATION

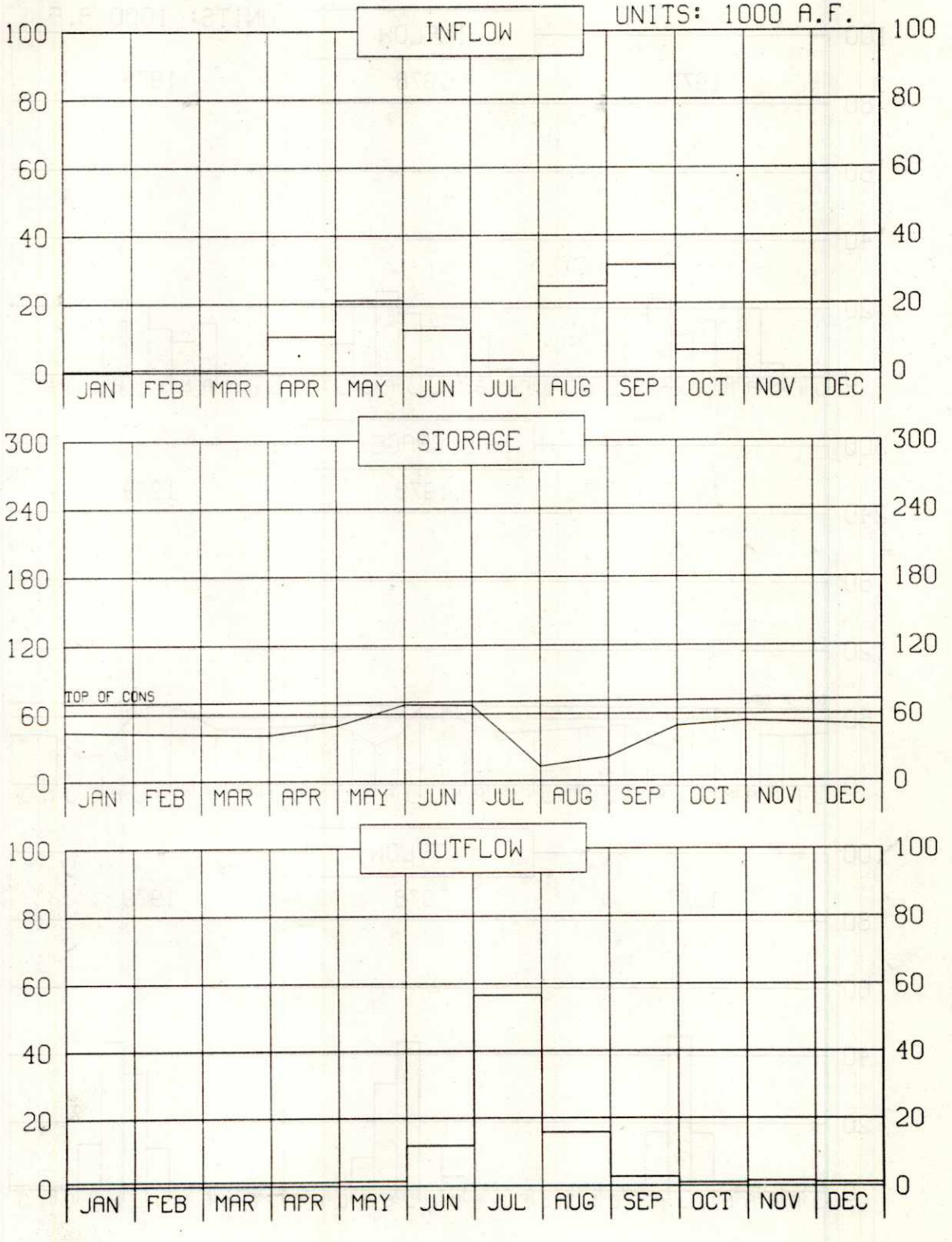


EXHIBIT 3C

SHERMAN RESERVOIR

CAL YEAR 1981 OPERATION PLAN

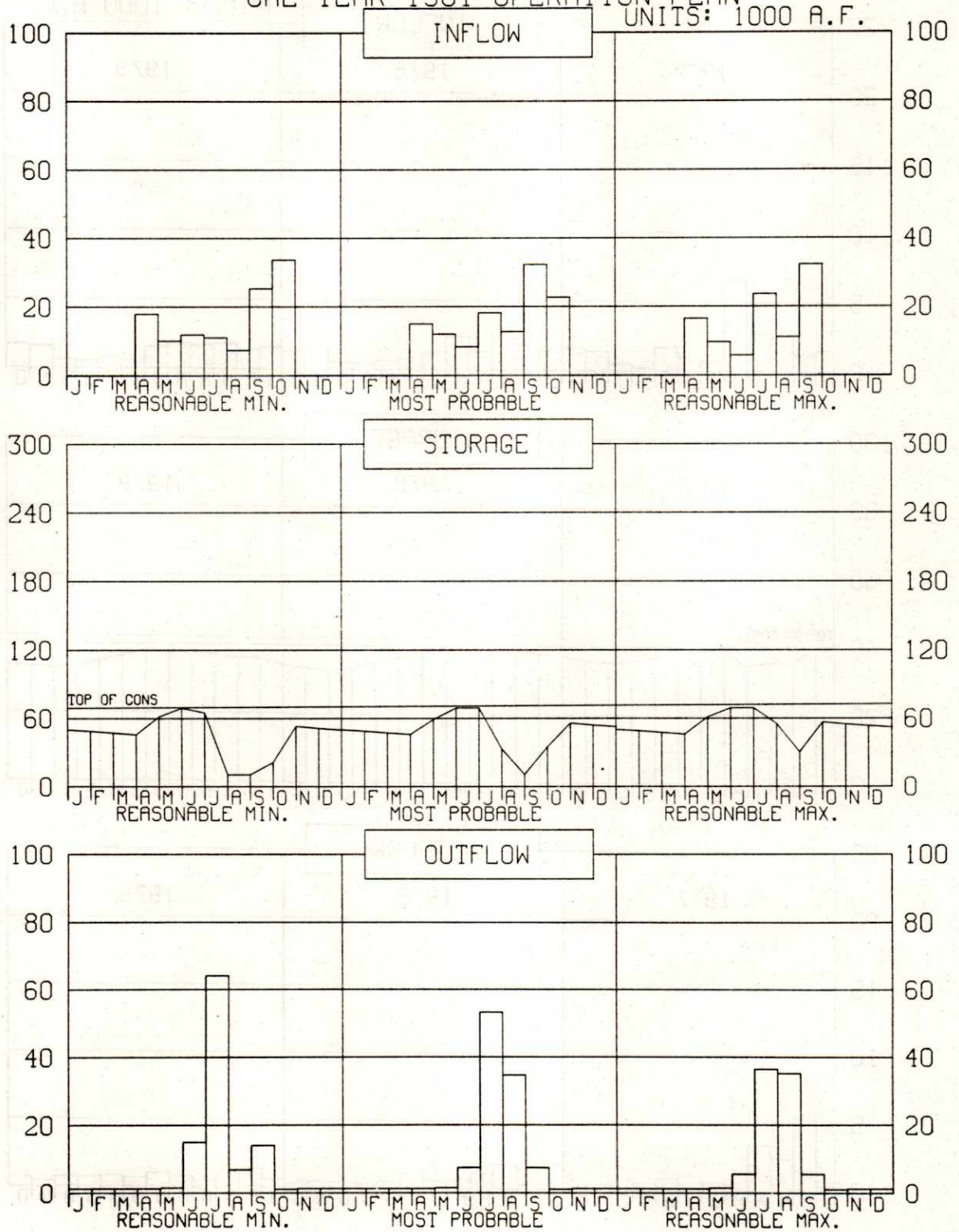


EXHIBIT 4A

BONNY RESERVOIR OPERATION

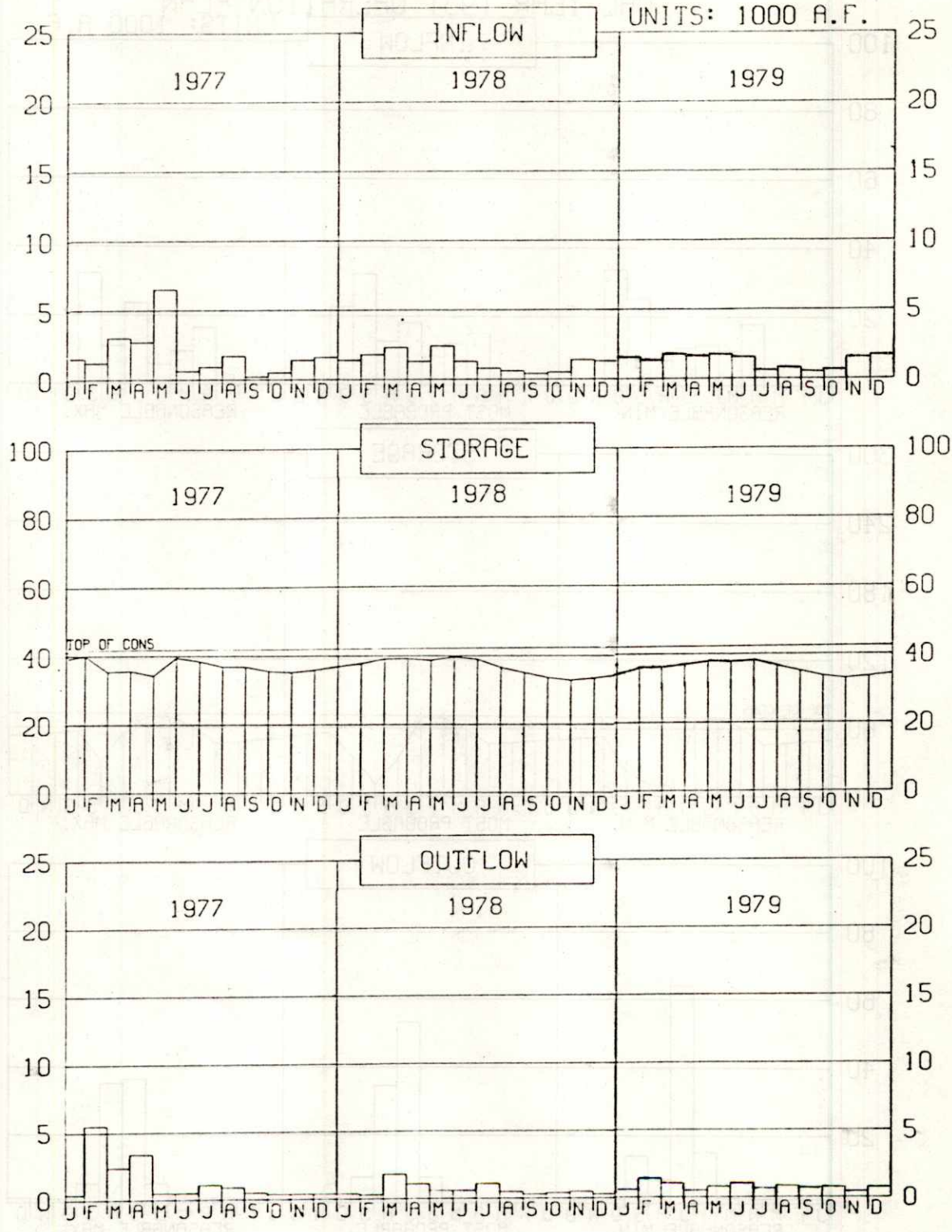


EXHIBIT 4B

BONNY RESERVOIR 1980 OPERATION

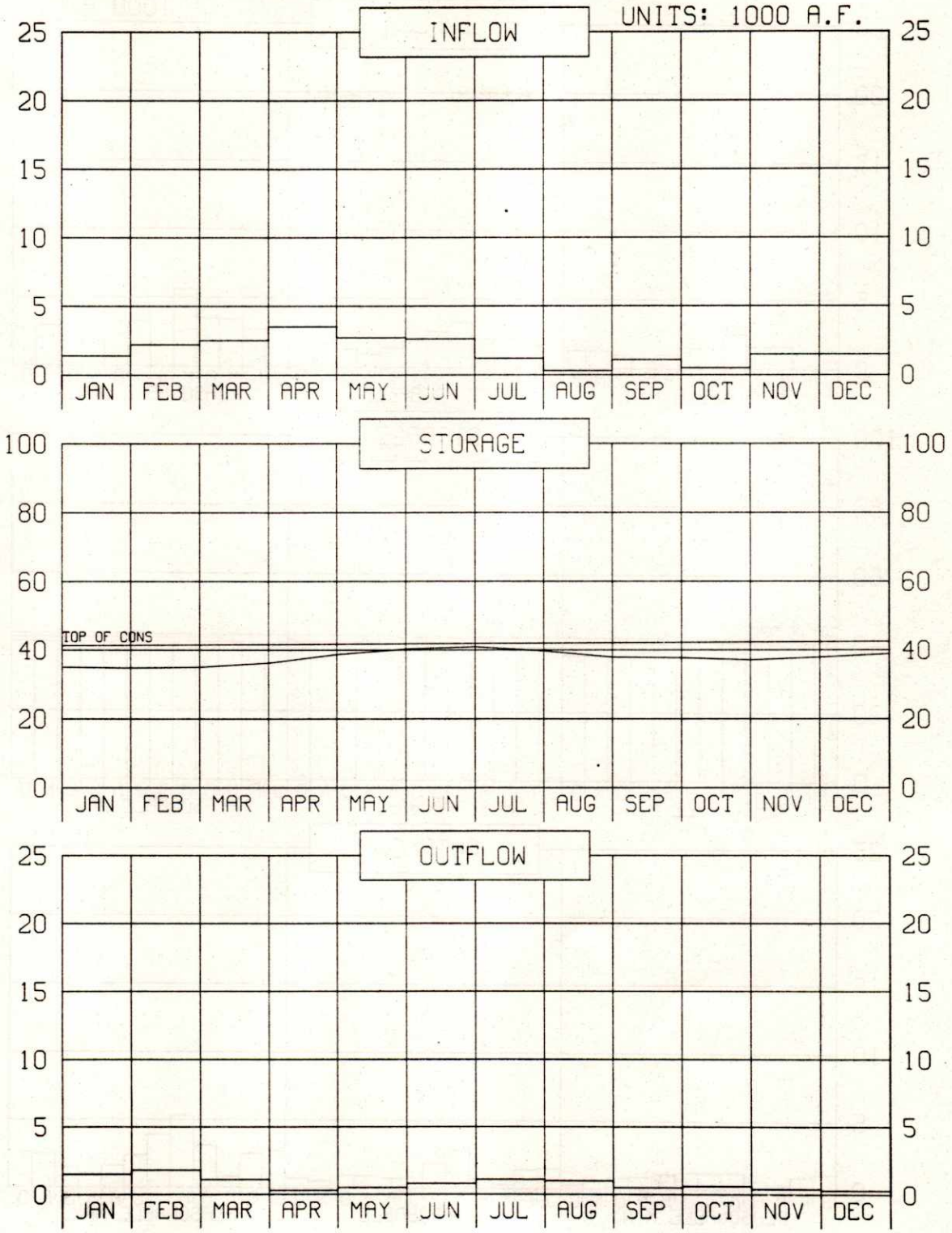
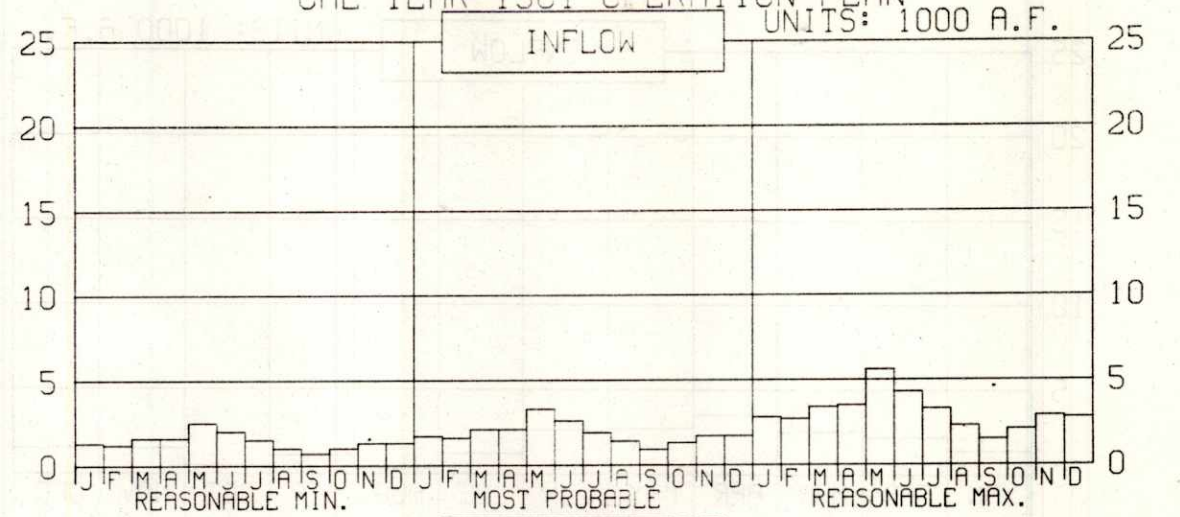


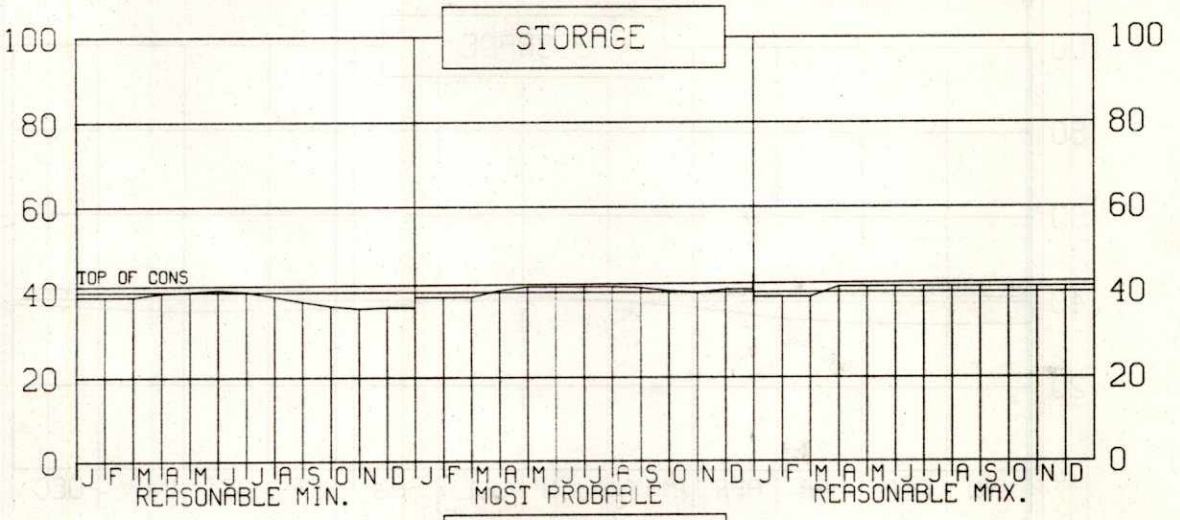
EXHIBIT 4C

BONNY RESERVOIR

CAL YEAR 1981 OPERATION PLAN

UNITS: 1000 A.F.





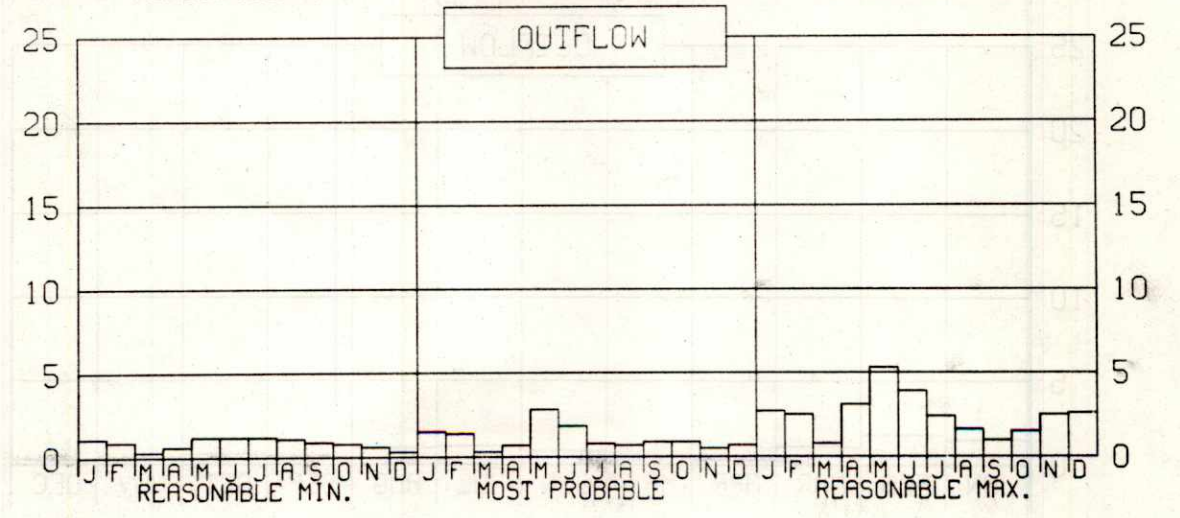


EXHIBIT 5A

SWANSON LAKE OPERATION

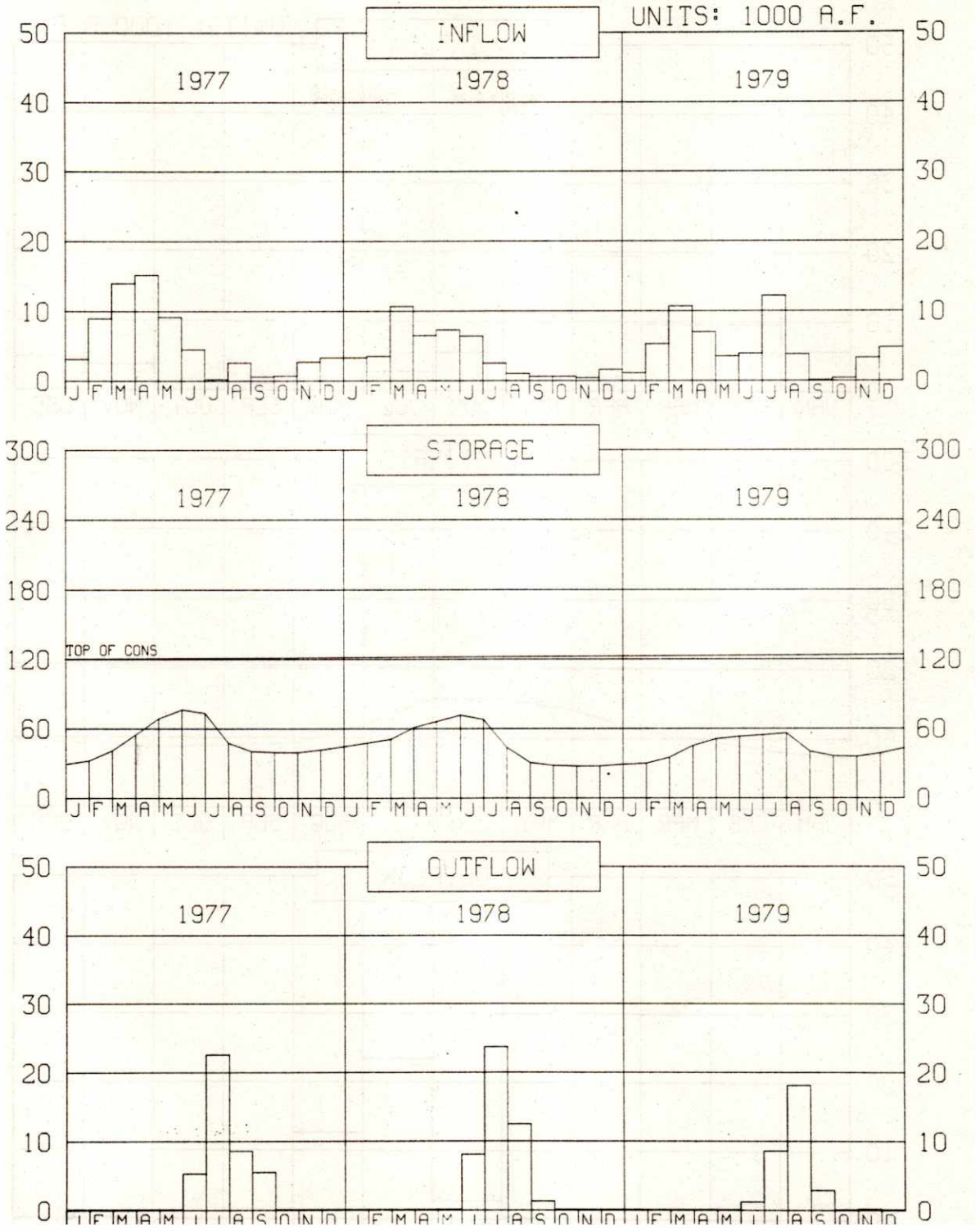


EXHIBIT 5B

SWANSON LAKE 1980 OPERATION

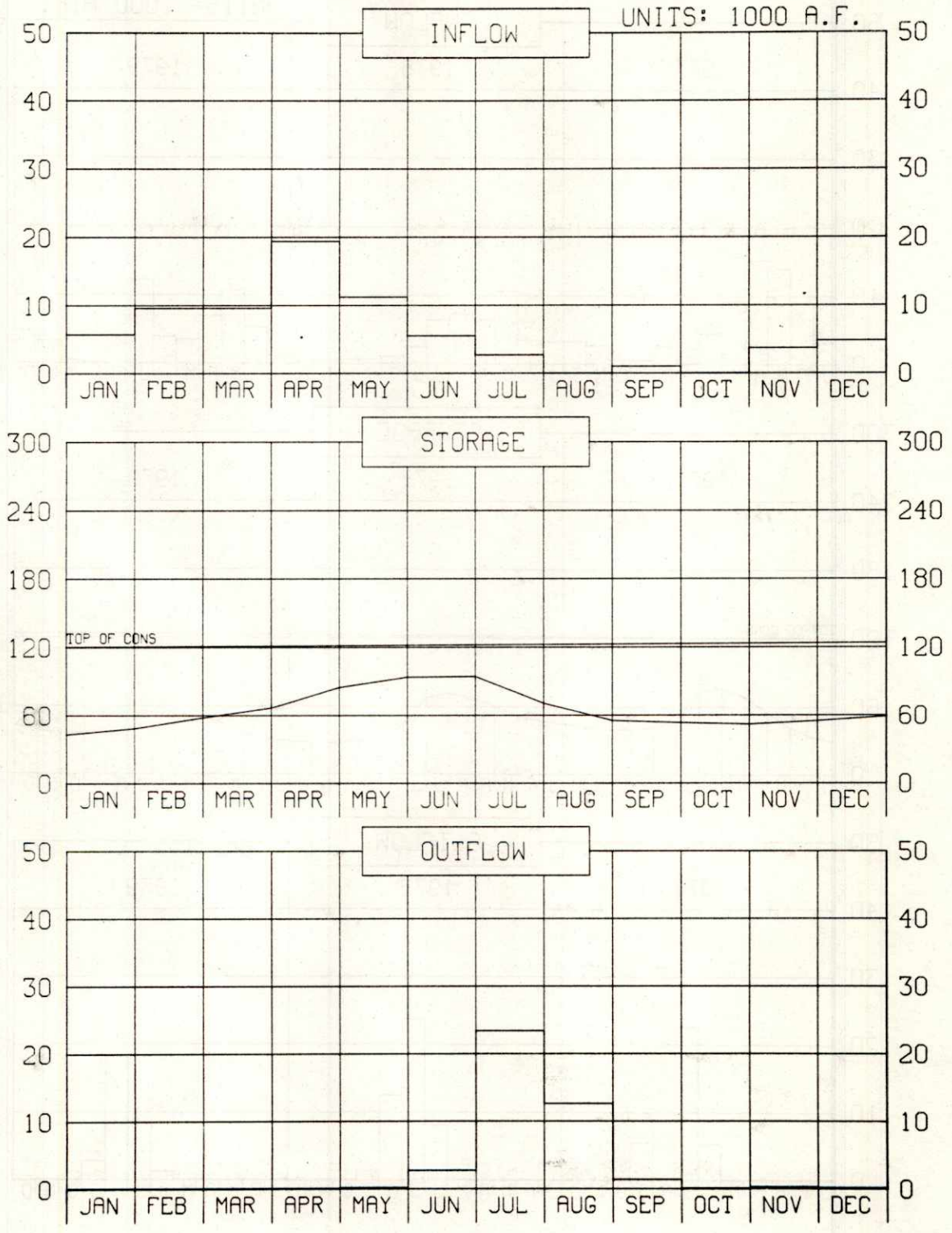


EXHIBIT 5C

SWANSON LAKE

CAL YEAR 1981 OPERATION PLAN

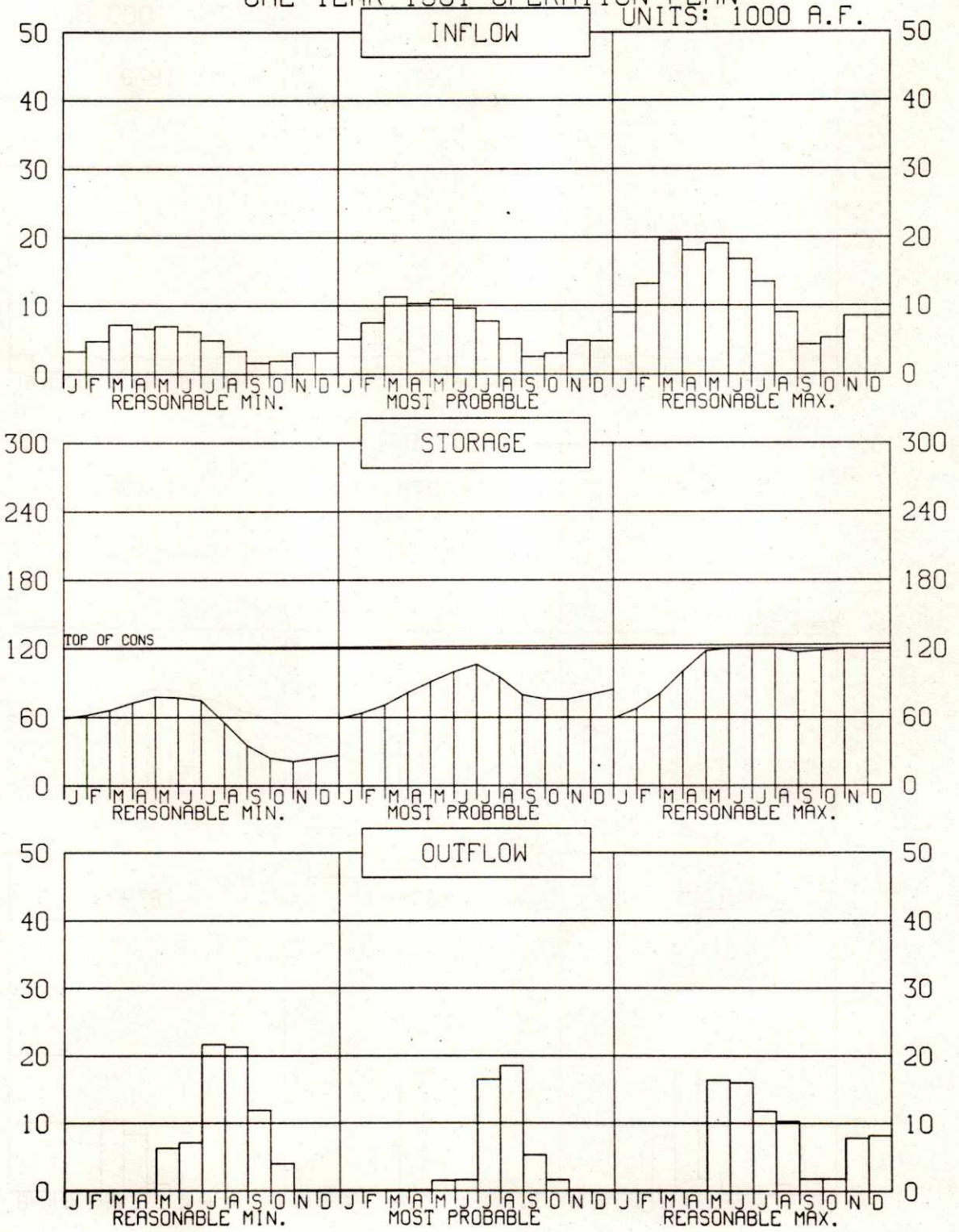


EXHIBIT 6A

ENDERS RESERVOIR OPERATION

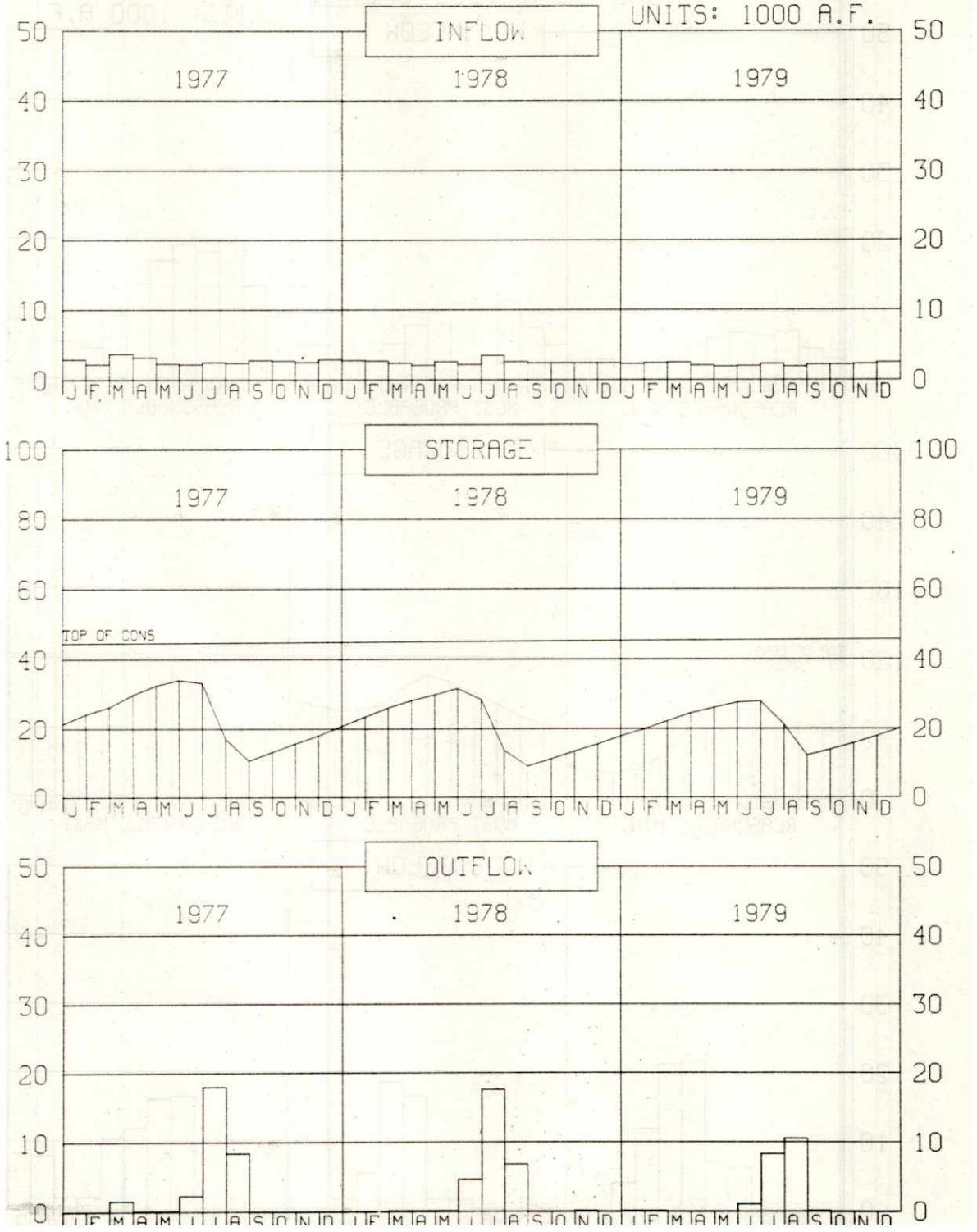


EXHIBIT 6B

ENDERS RESERVOIR 1980 OPERATION

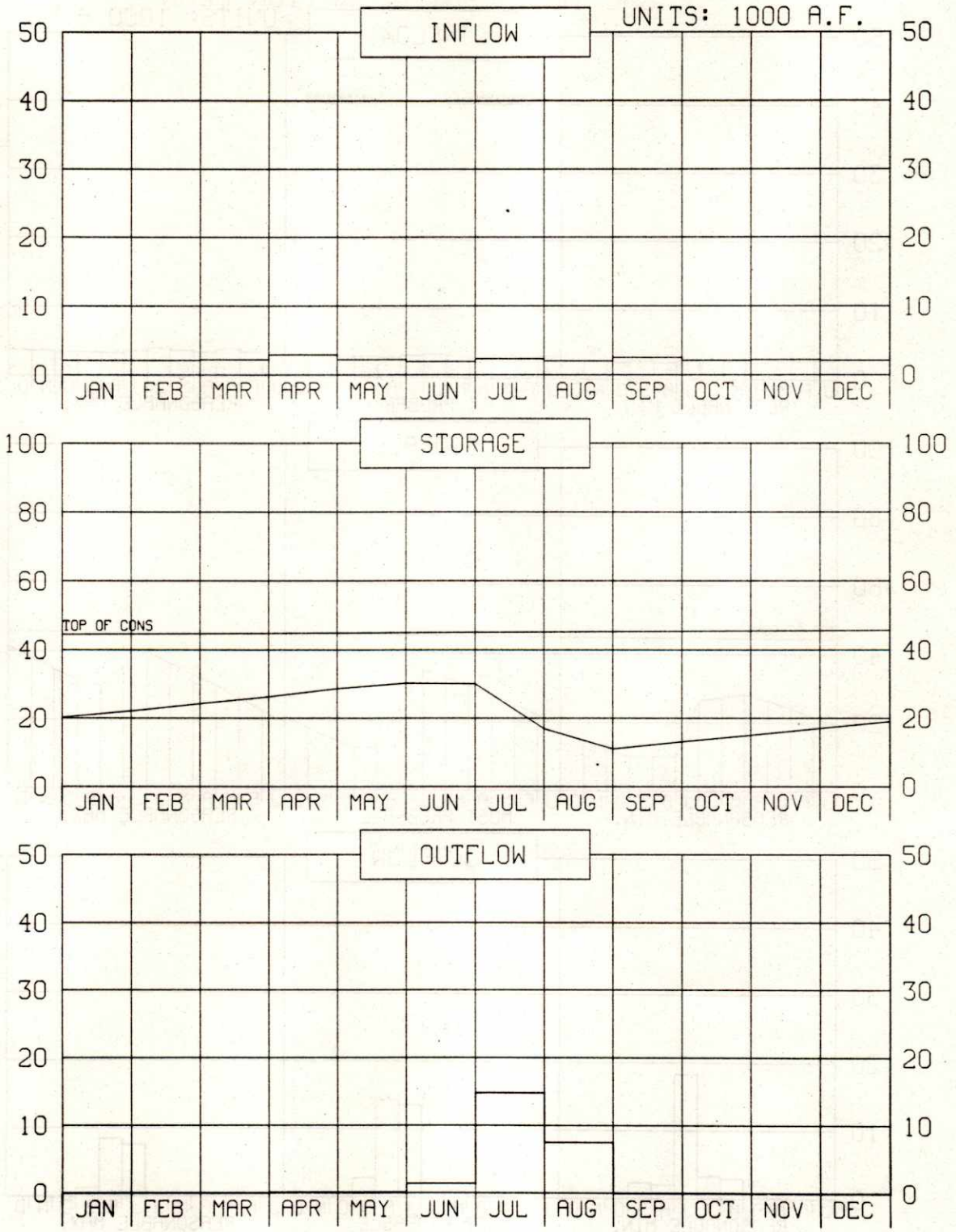


EXHIBIT 6C

ENDERS RESERVOIR

CAL YEAR 1981 OPERATION PLAN

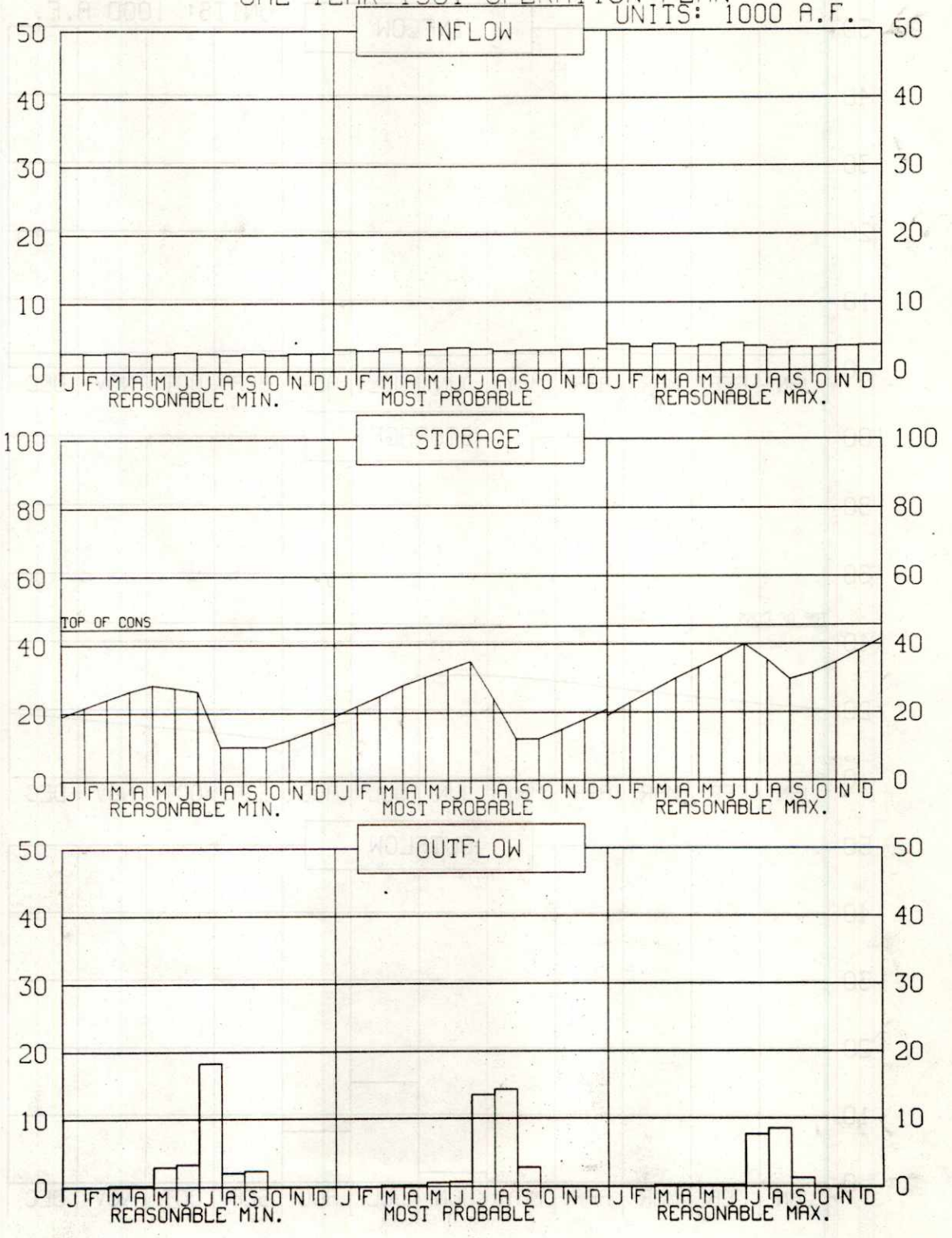
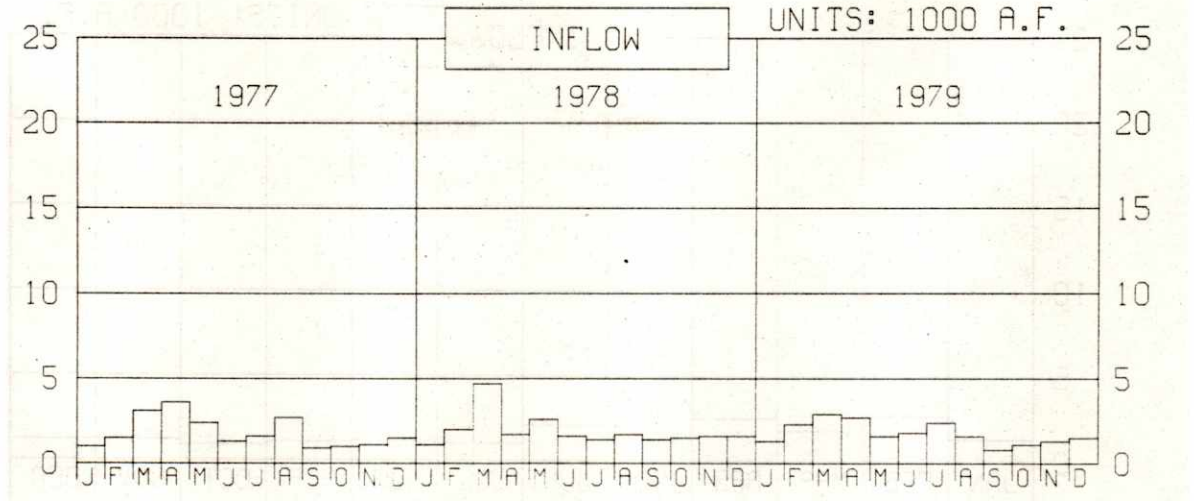
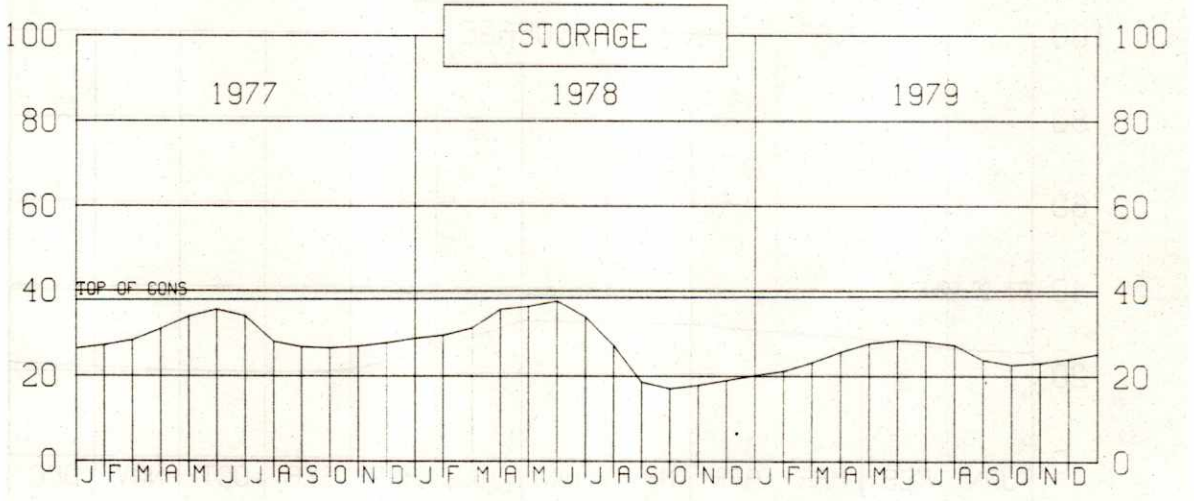


EXHIBIT 7A

HUGH BUTLER LAKE OPERATION





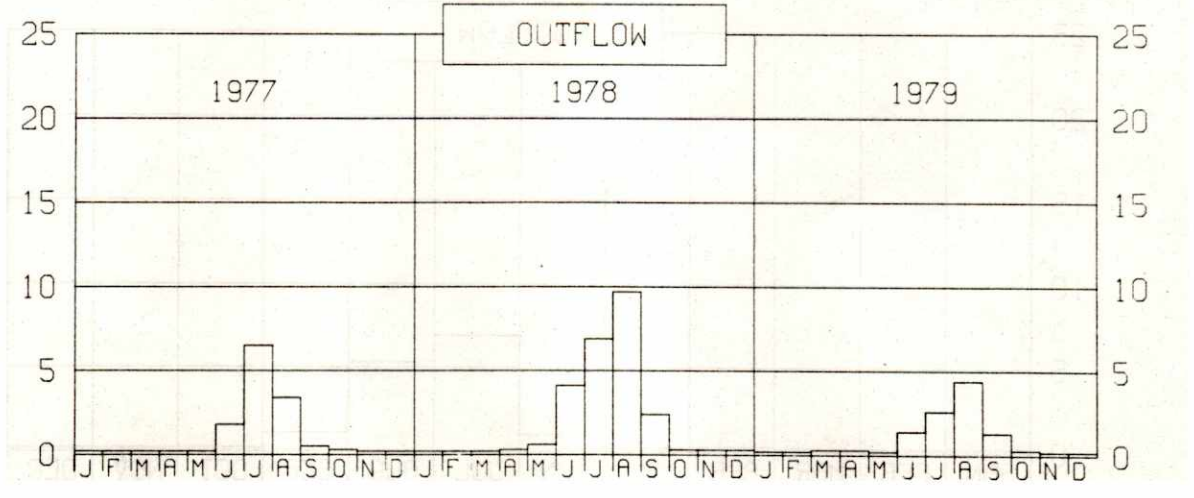


EXHIBIT 7B

HUGH BUTLER LAKE 1980 OPERATION

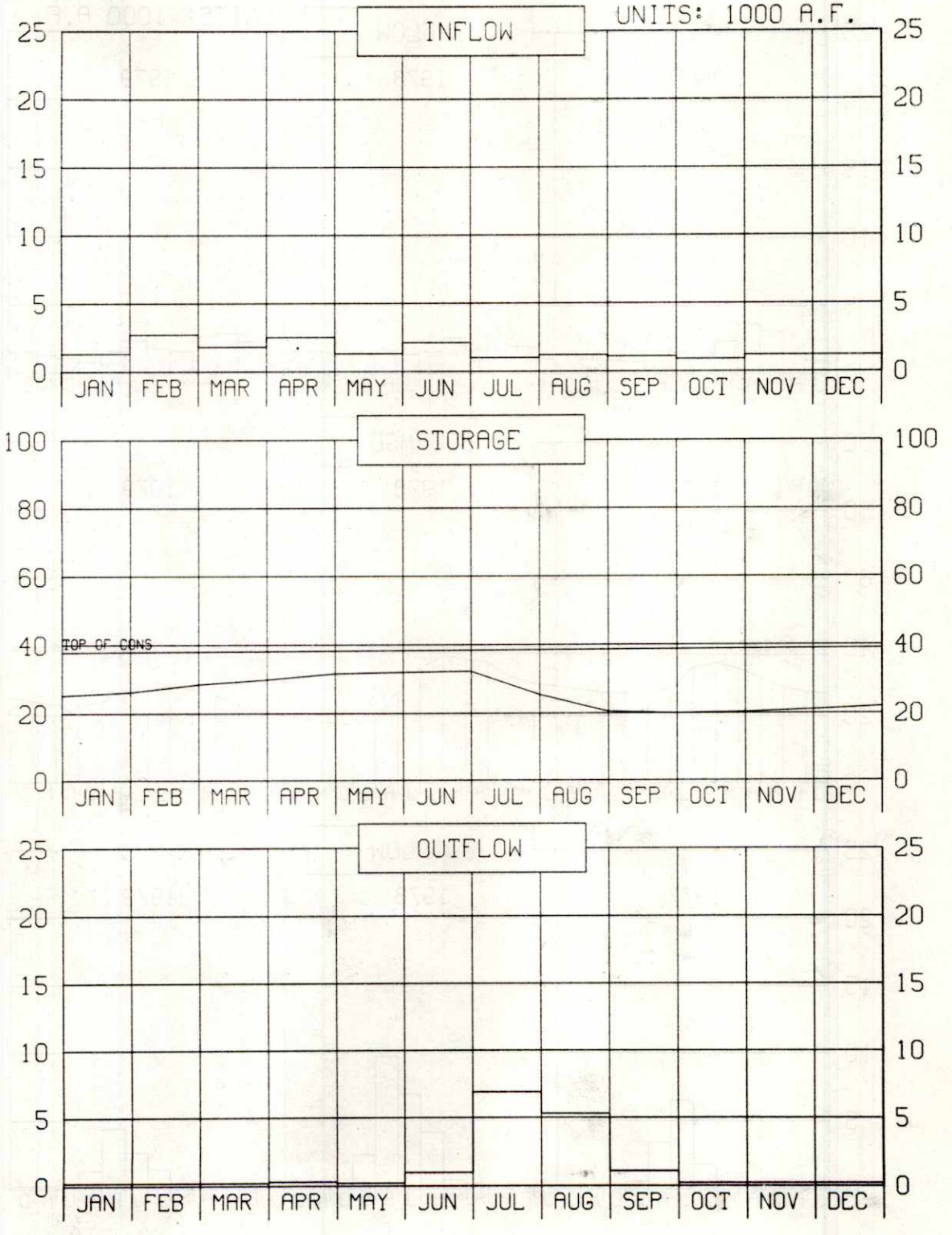


EXHIBIT 7C

HUGH BUTLER LAKE

CAL YEAR 1981 OPERATION PLAN

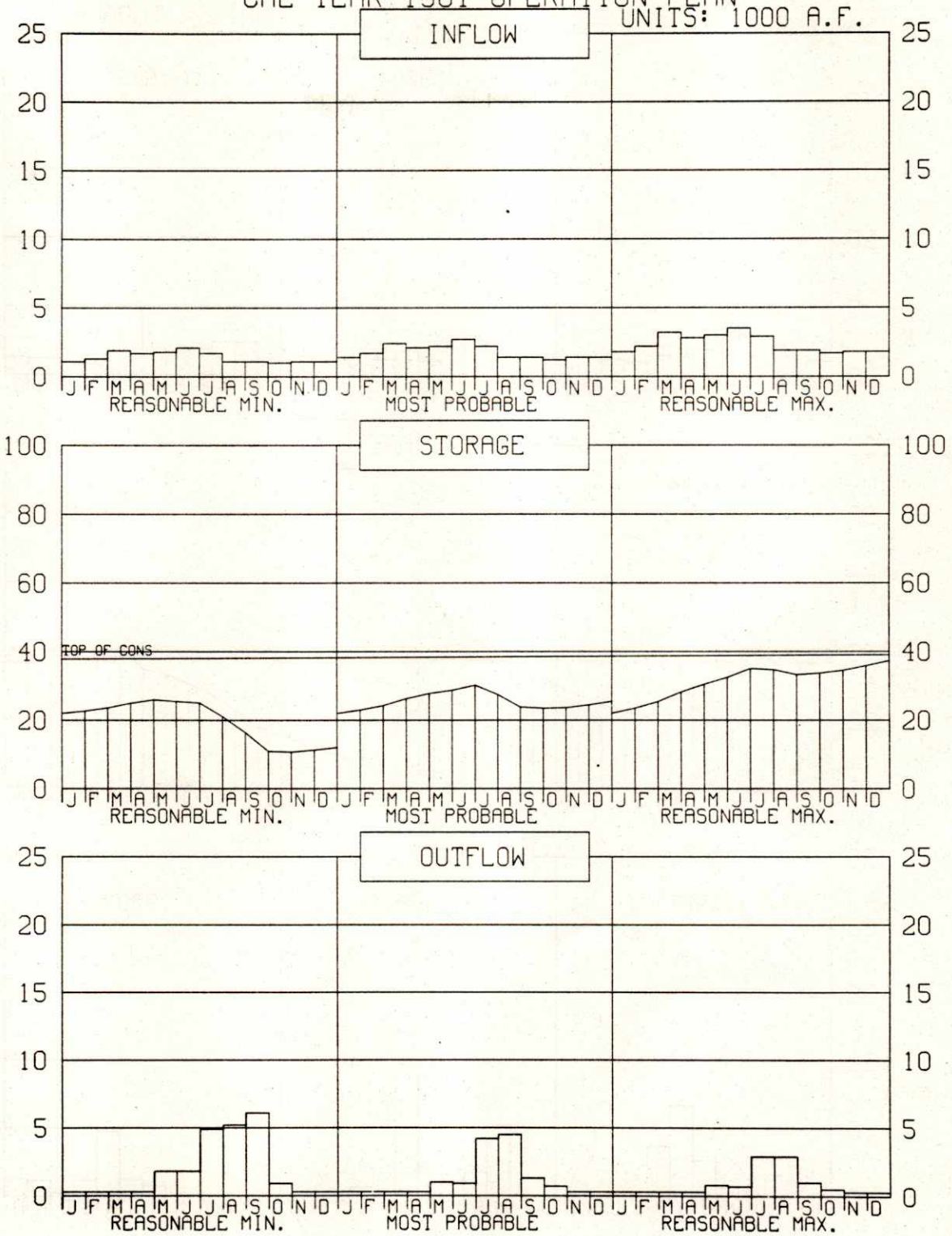


EXHIBIT 8A

HARRY STRUNK LAKE OPERATION

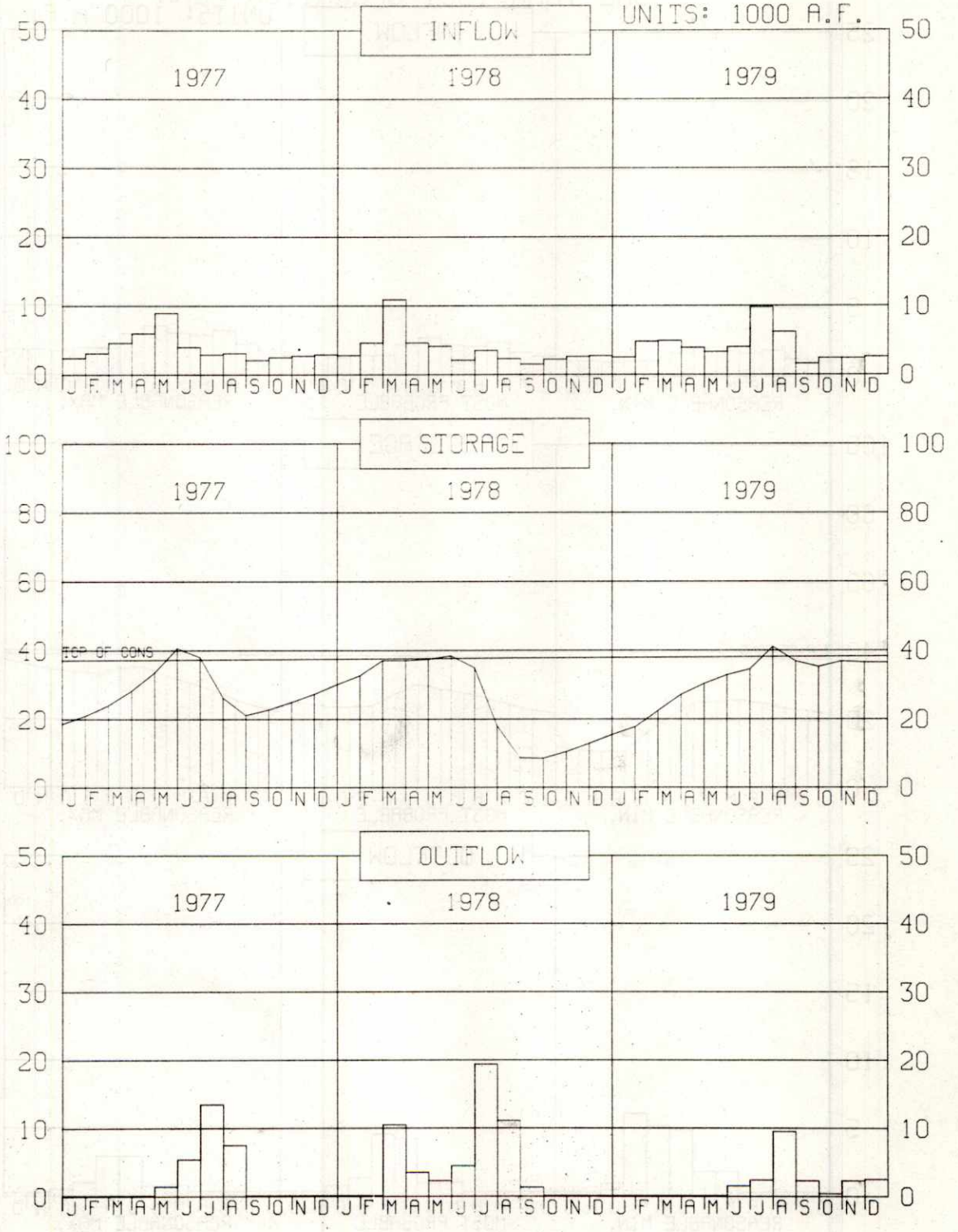


EXHIBIT 8B

HARRY STRUNK LAKE 1980 OPERATION

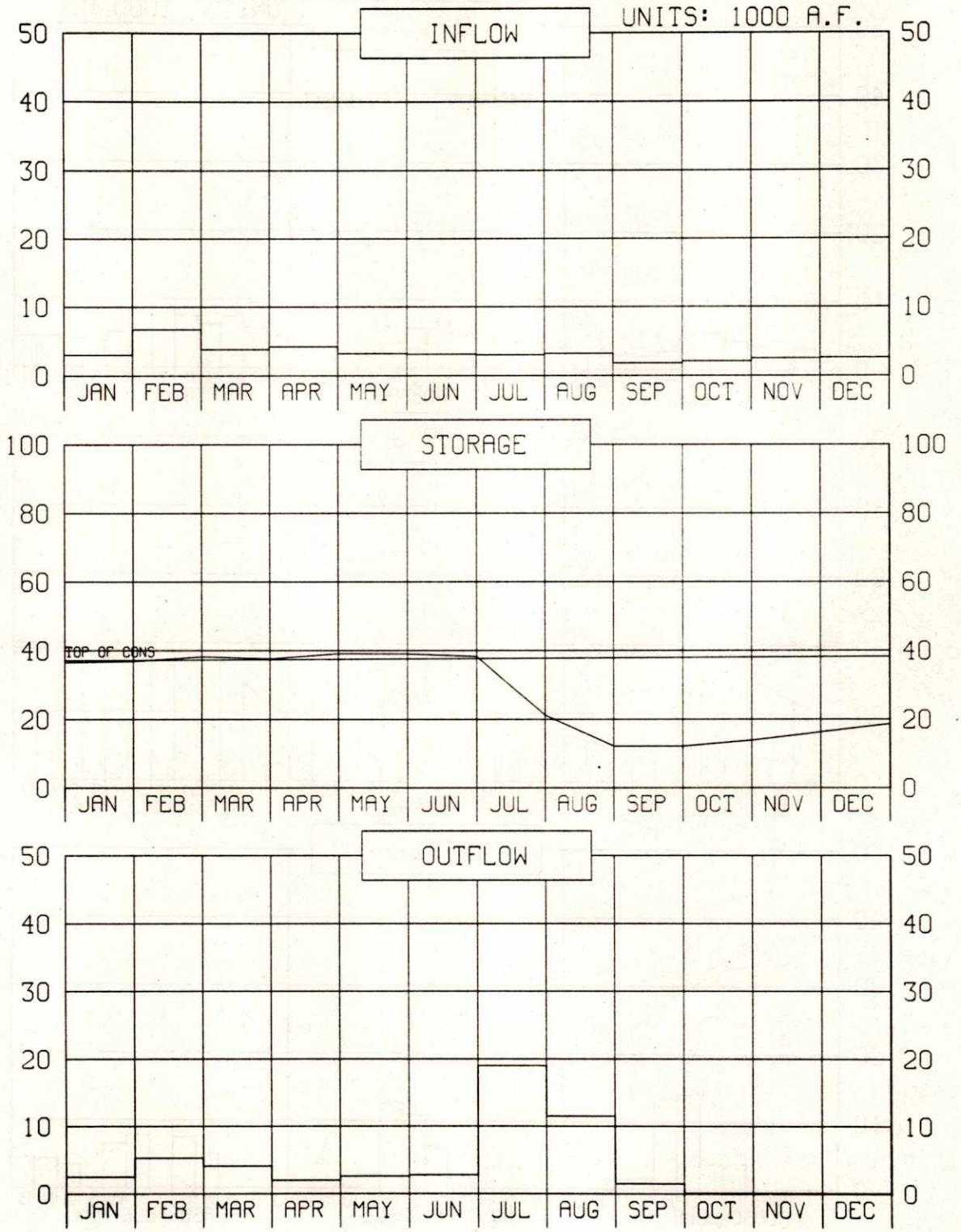


EXHIBIT 8C

HARRY STRUNK LAKE

CAL YEAR 1981 OPERATION PLAN

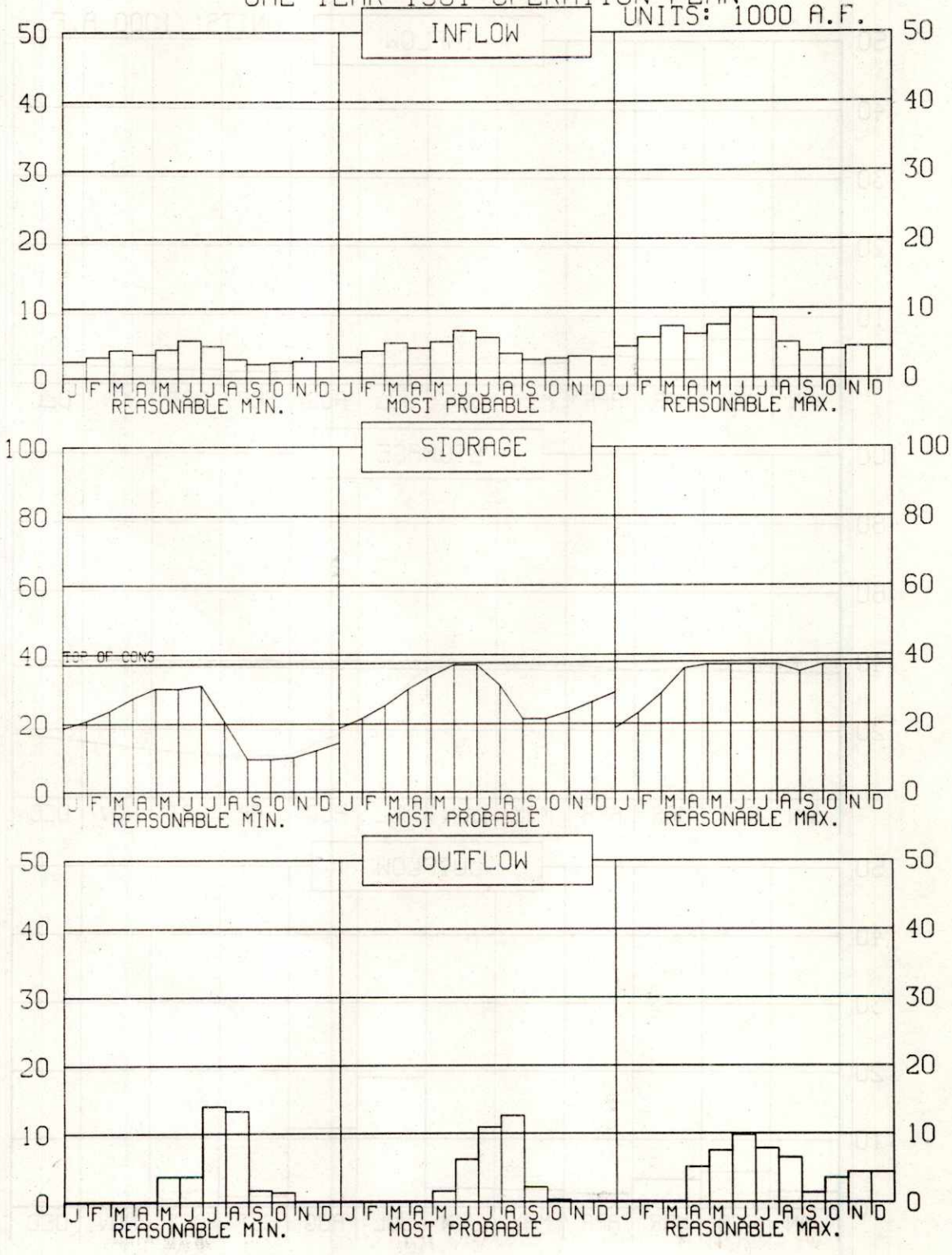
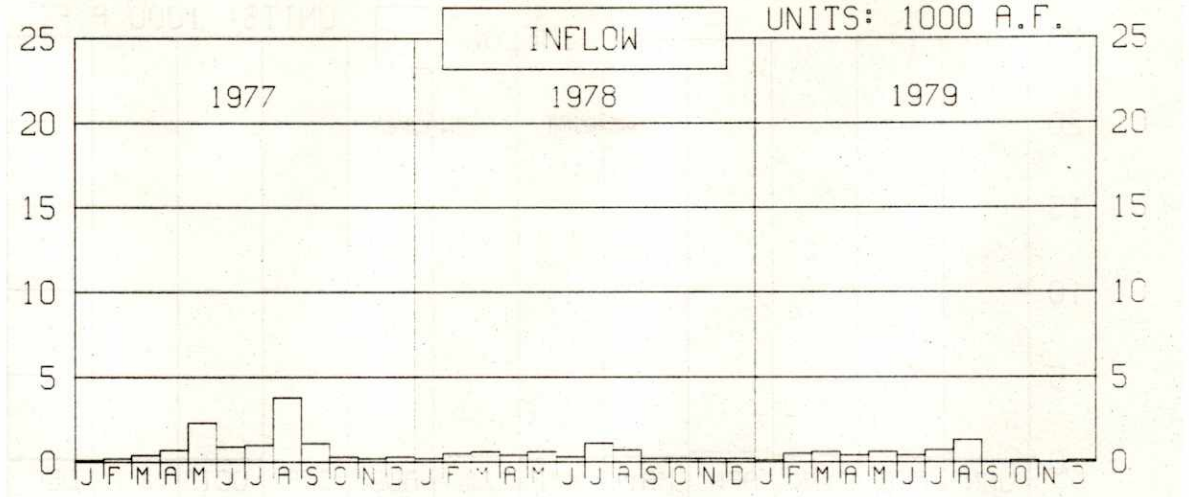
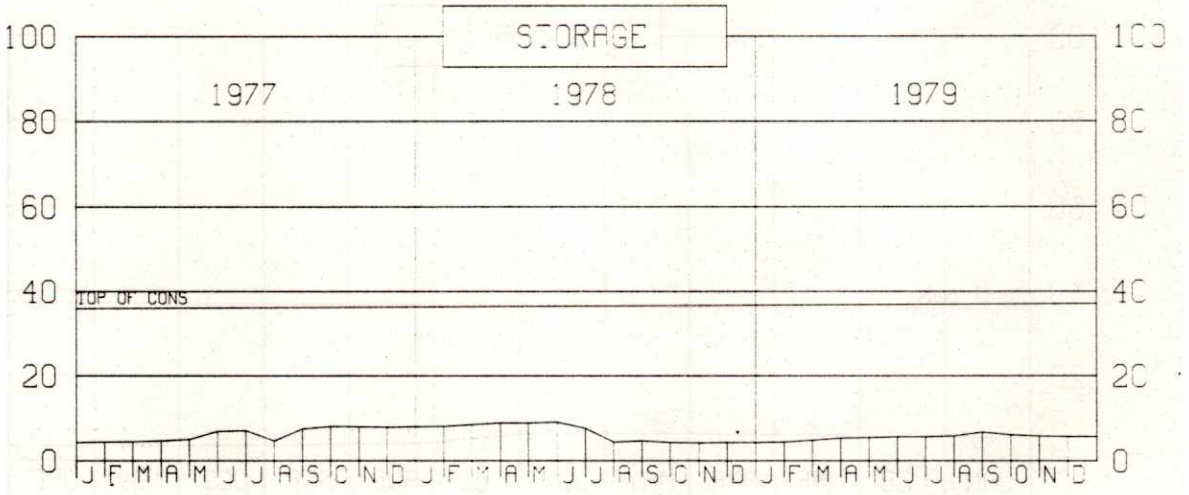


EXHIBIT 9A

NORTON RESERVOIR OPERATION





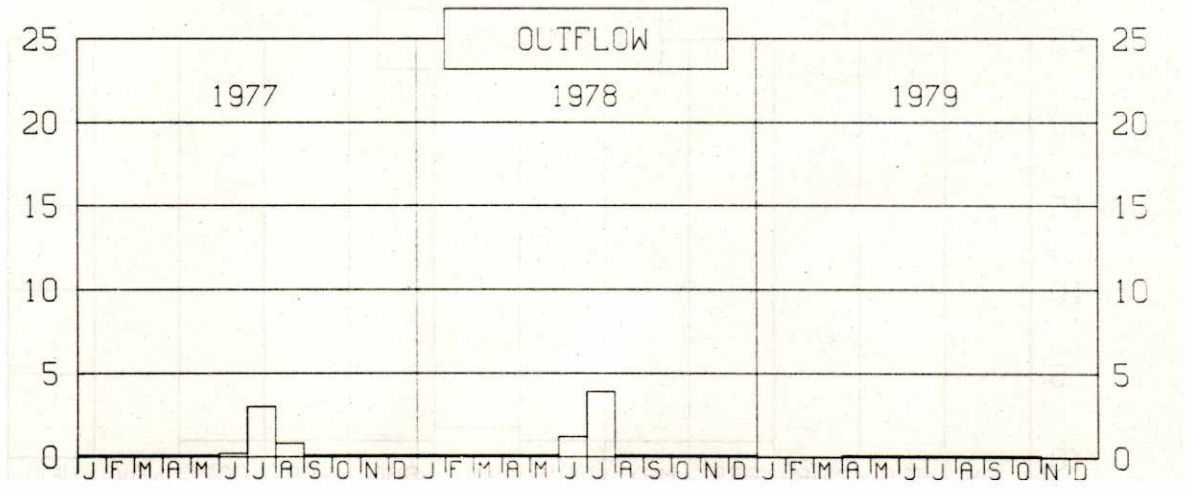


EXHIBIT 9B

NORTON RESERVOIR 1980 OPERATION

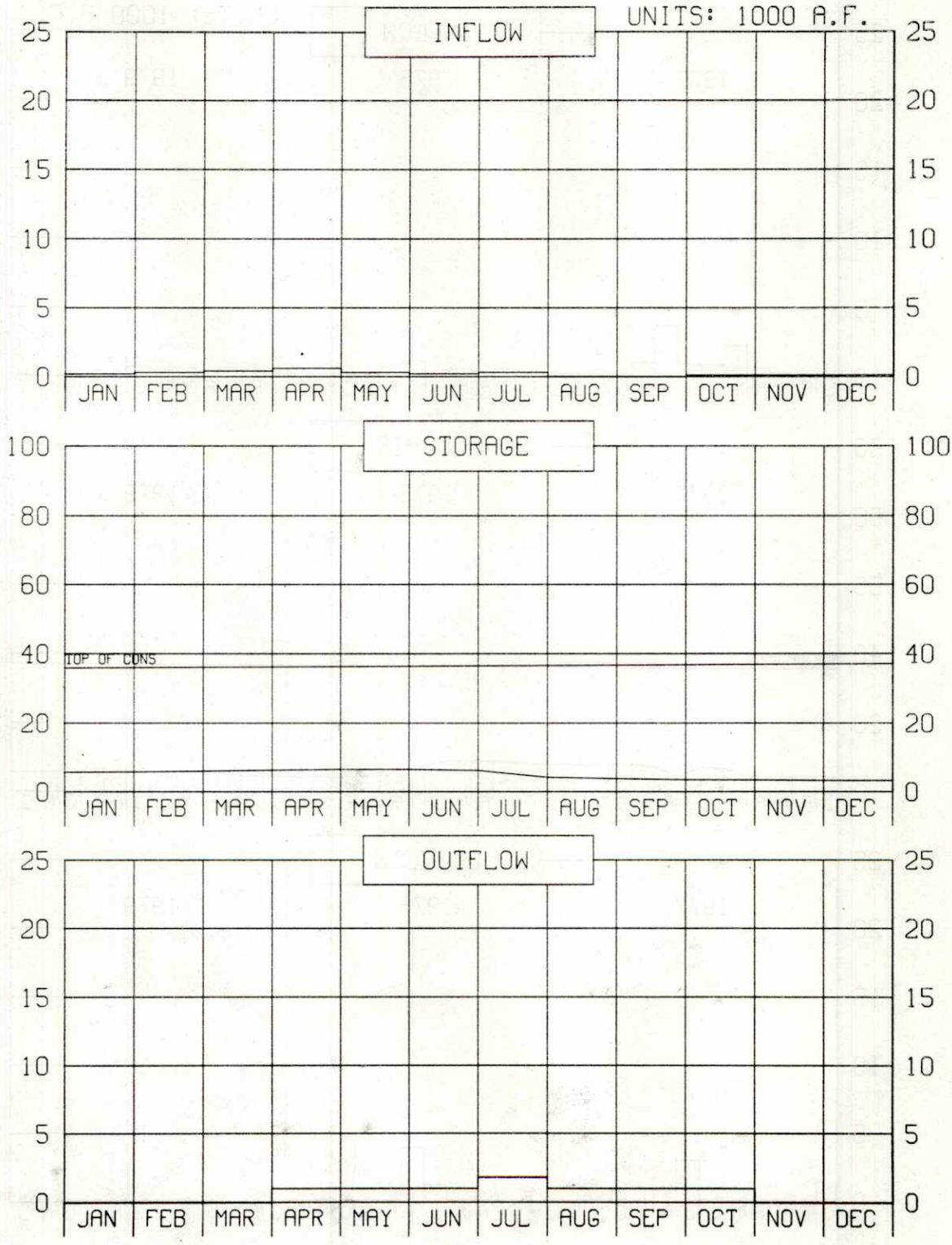


EXHIBIT 9C

NORTON RESERVOIR

CAL YEAR 1981 OPERATION PLAN

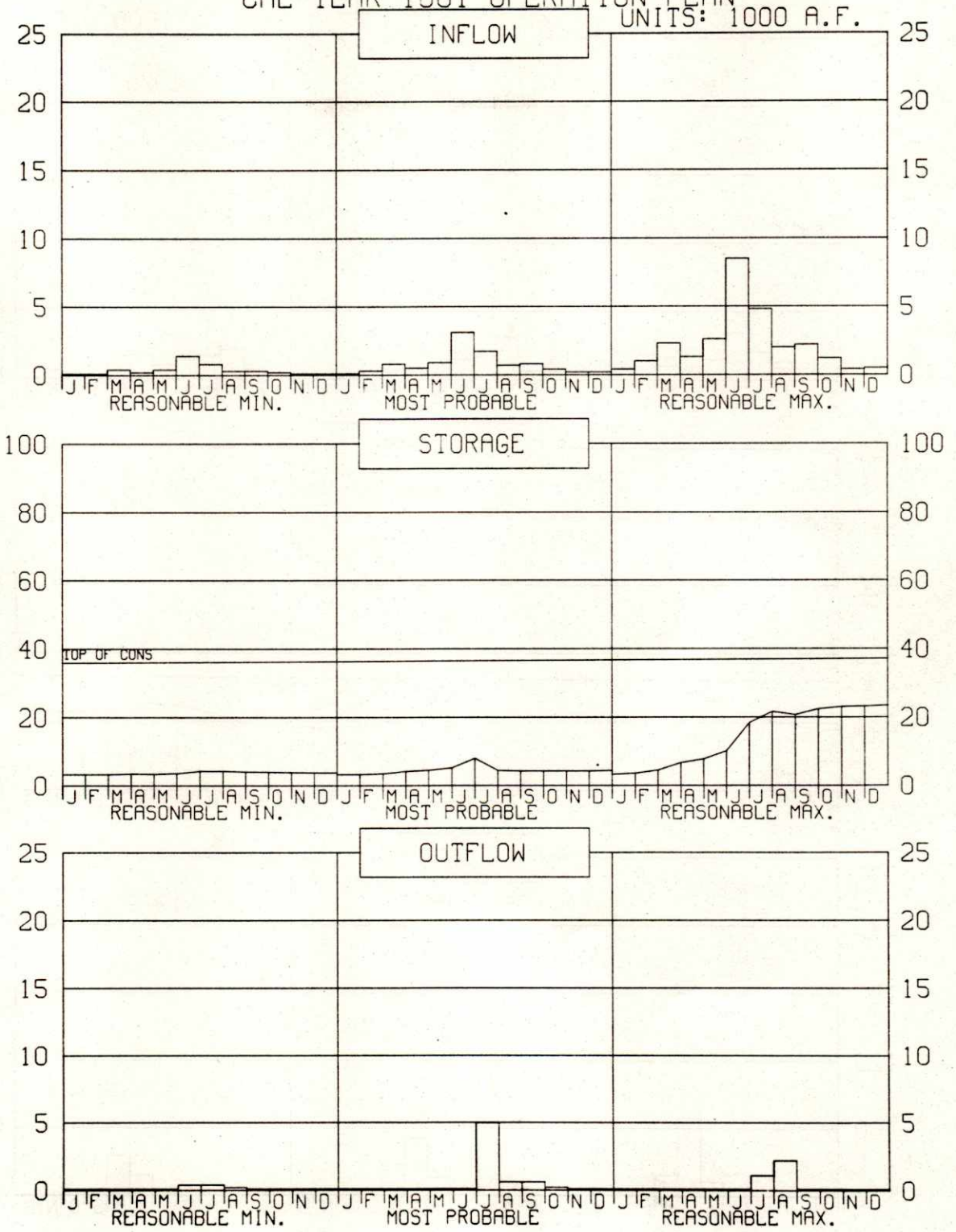


EXHIBIT 10A

HARLAN COUNTY LAKE OPERATION

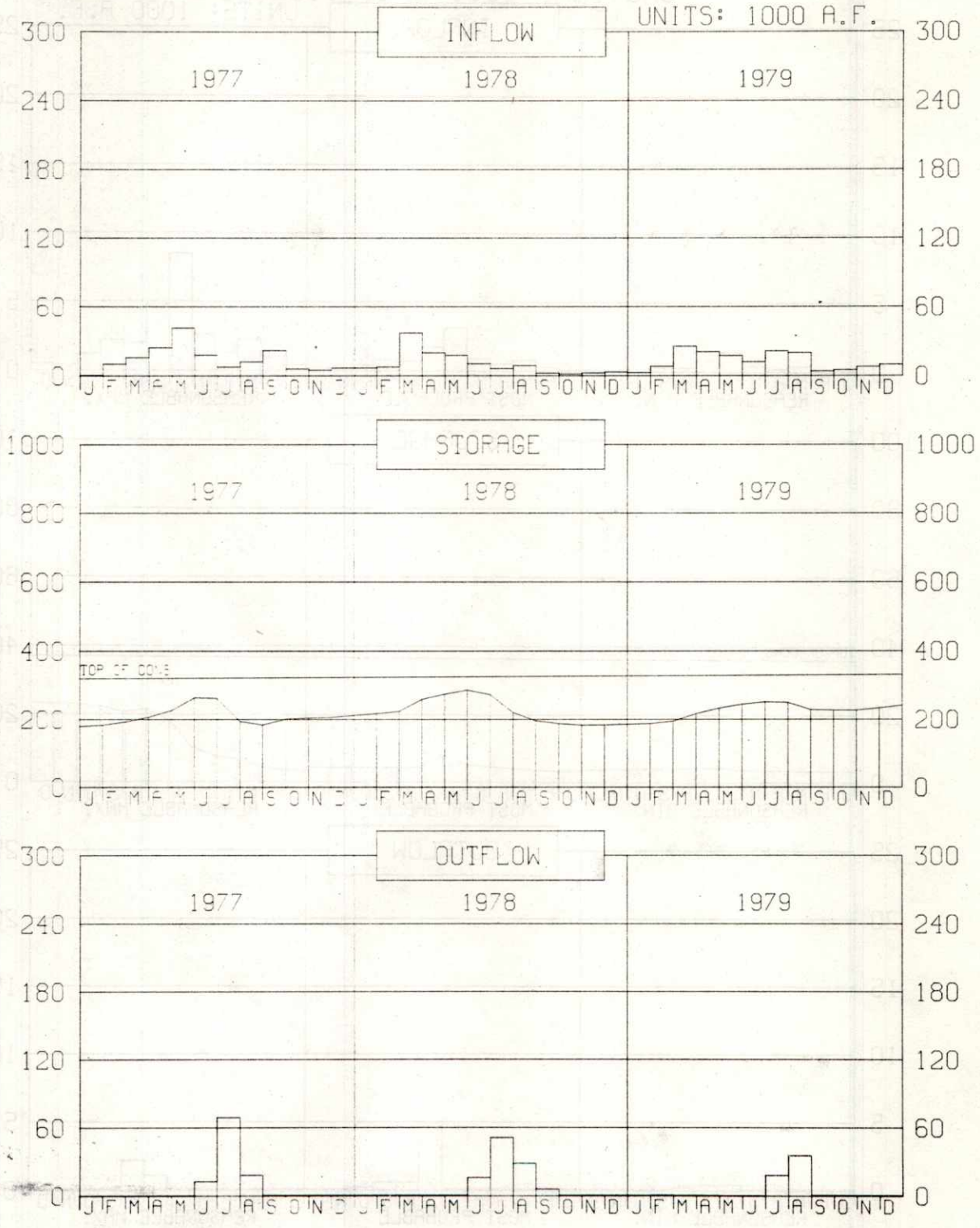


EXHIBIT 10B

HARLAN COUNTY LAKE 1980 OPERATION

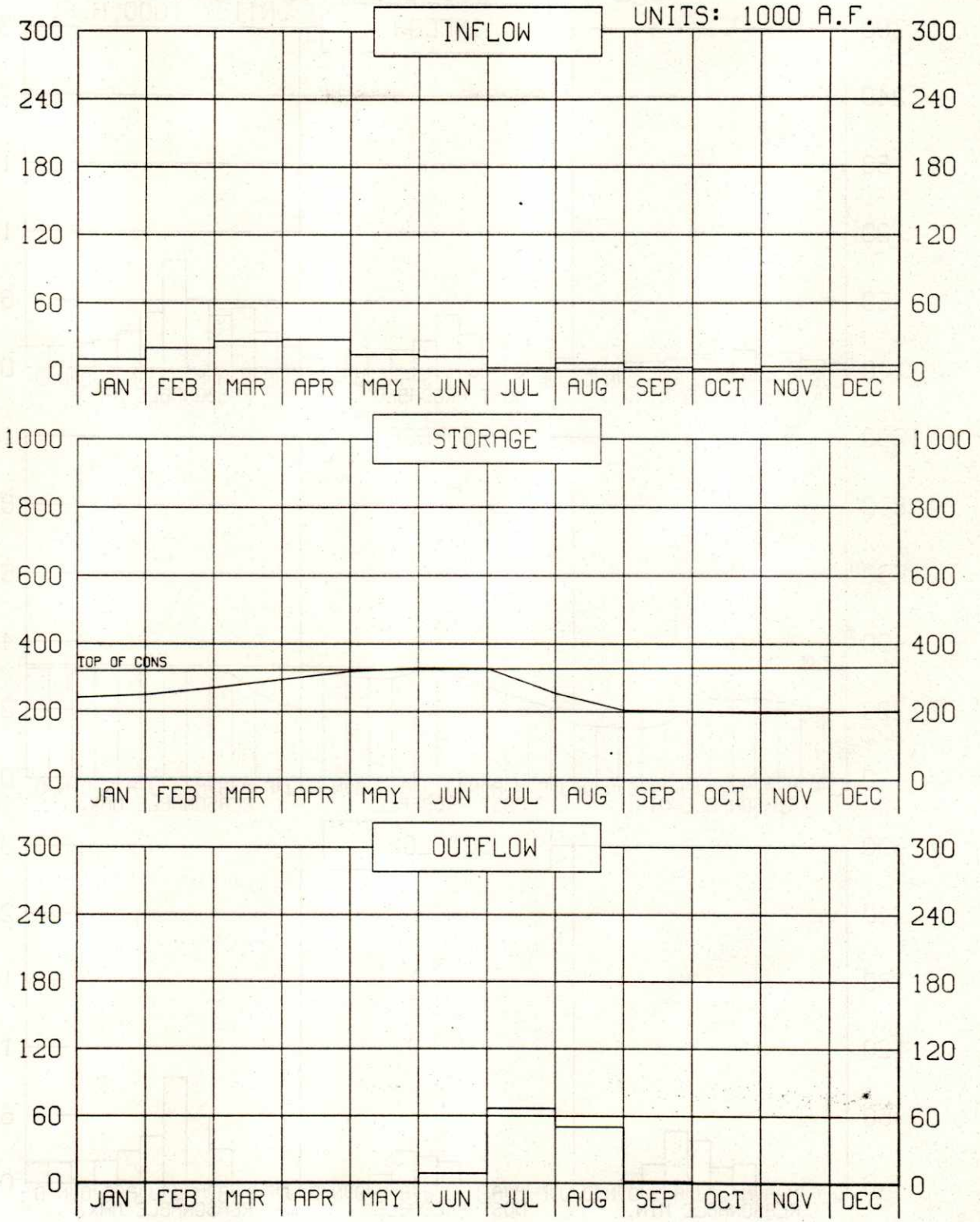


EXHIBIT 10C

HARLAN COUNTY LAKE

CAL YEAR 1981 OPERATION PLAN

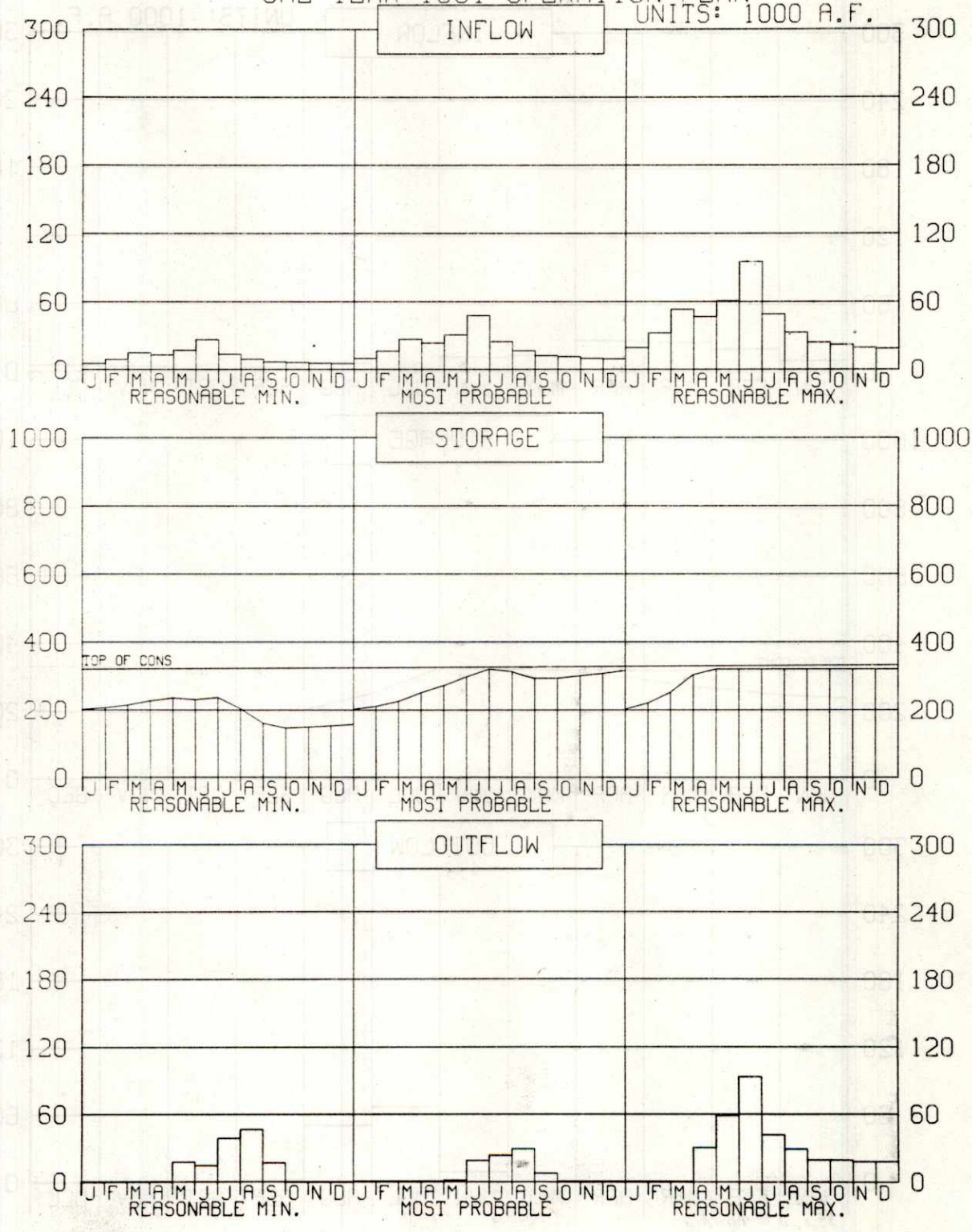
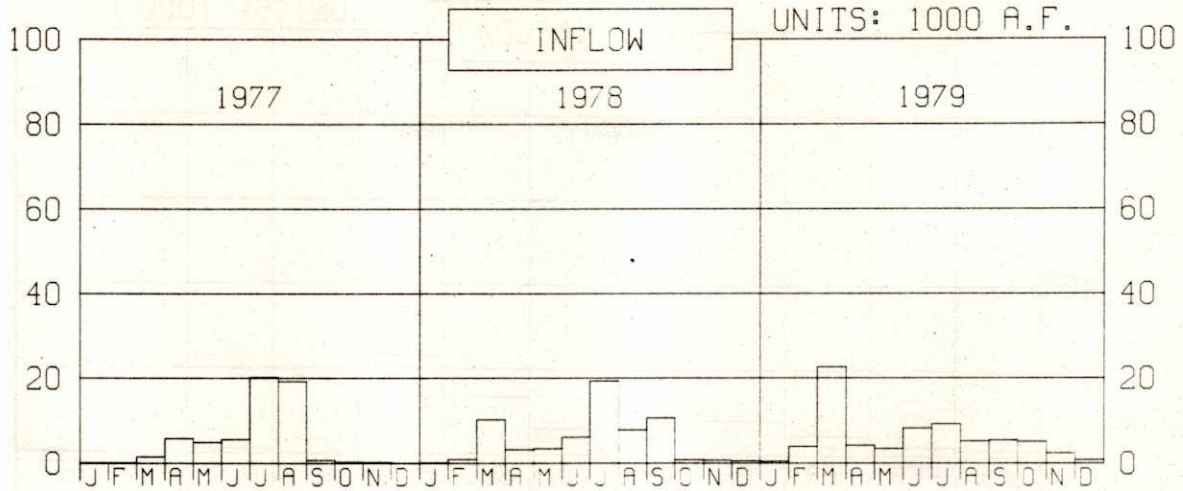
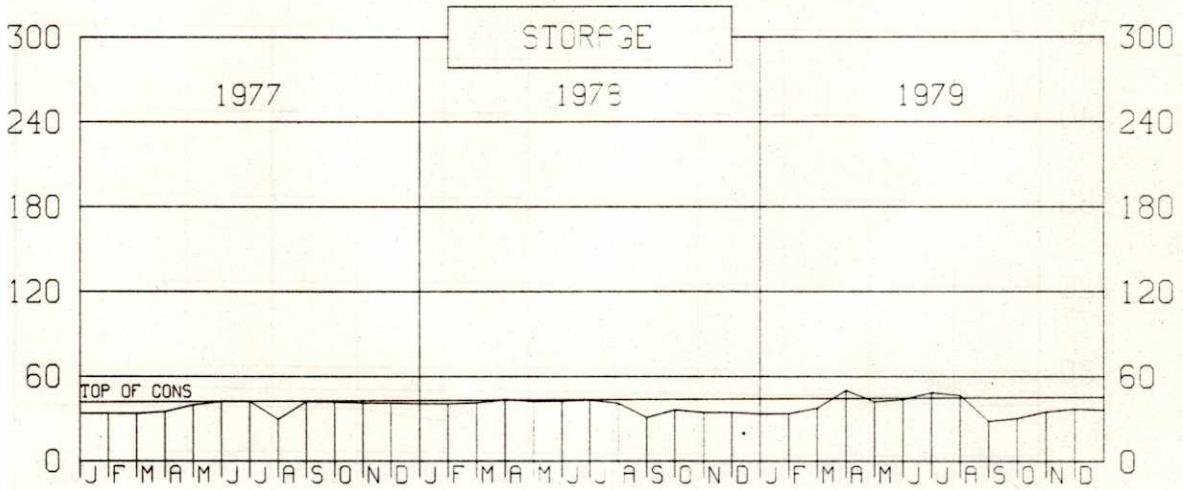


EXHIBIT 11A

LOVEWELL RESERVOIR OPERATION





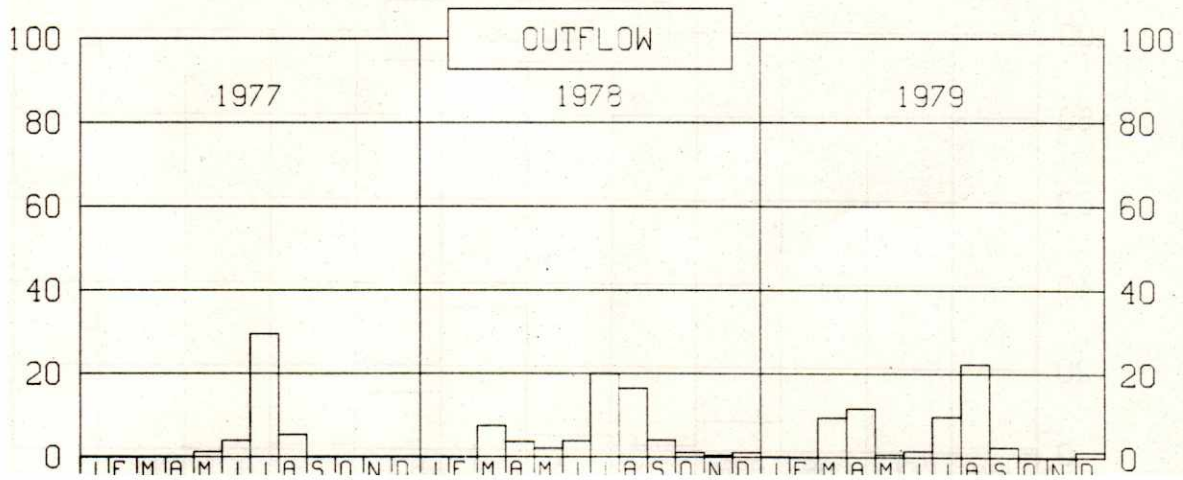


EXHIBIT 11B

LOVEWELL RESERVOIR 1980 OPERATION

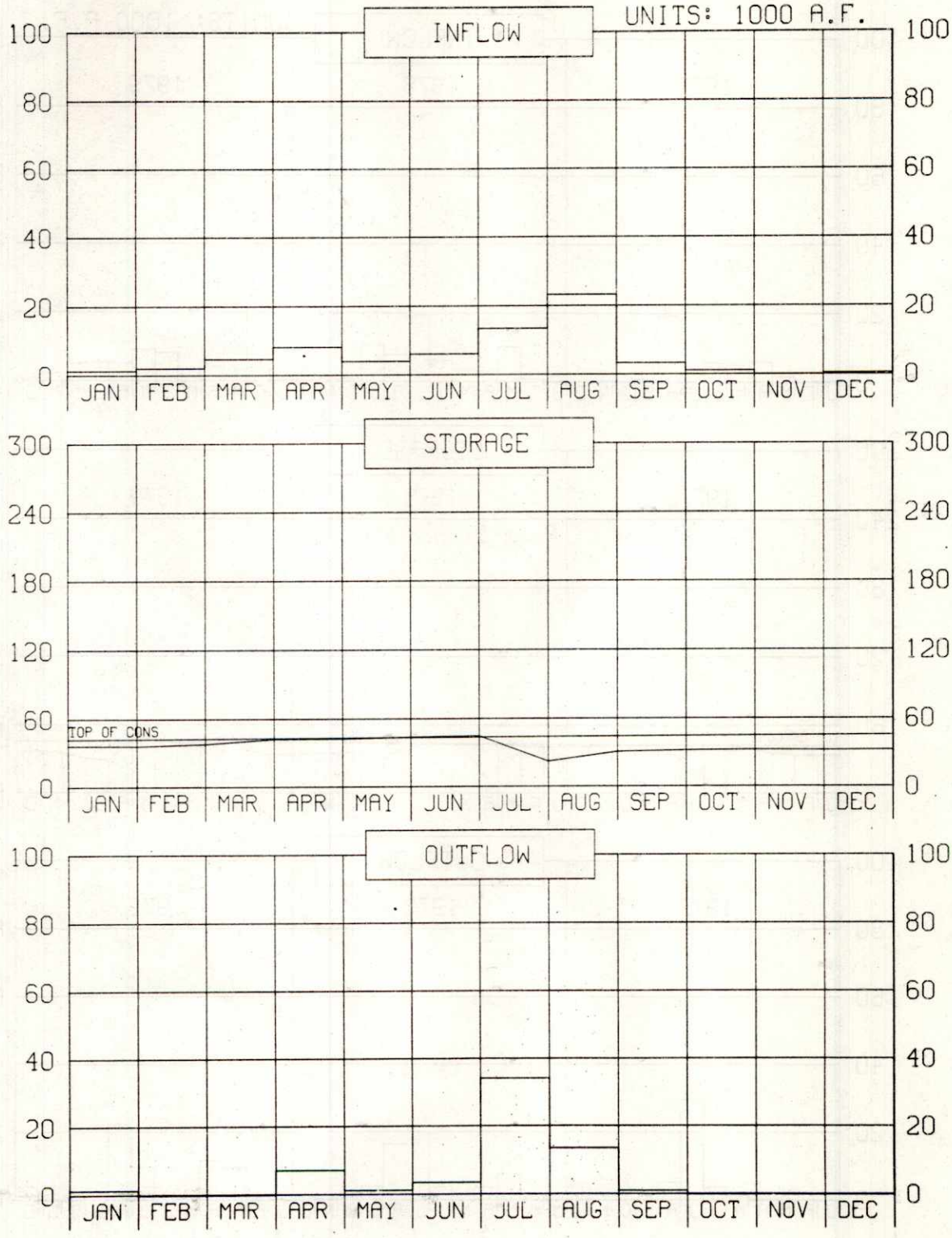


EXHIBIT 11C

LOVEWELL RESERVOIR

CAL YEAR 1981 OPERATION PLAN

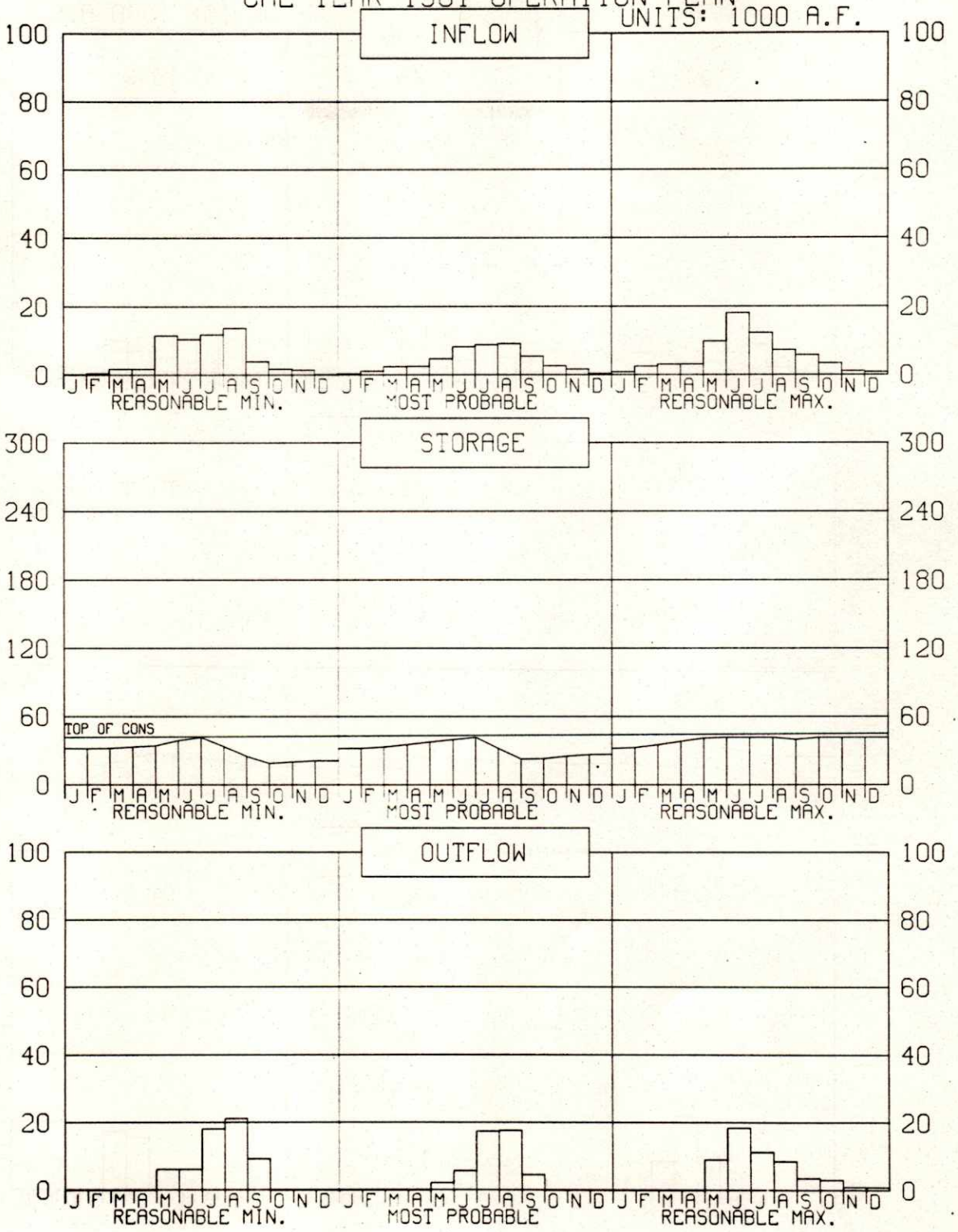


EXHIBIT 12A

KIRWIN RESERVOIR OPERATION

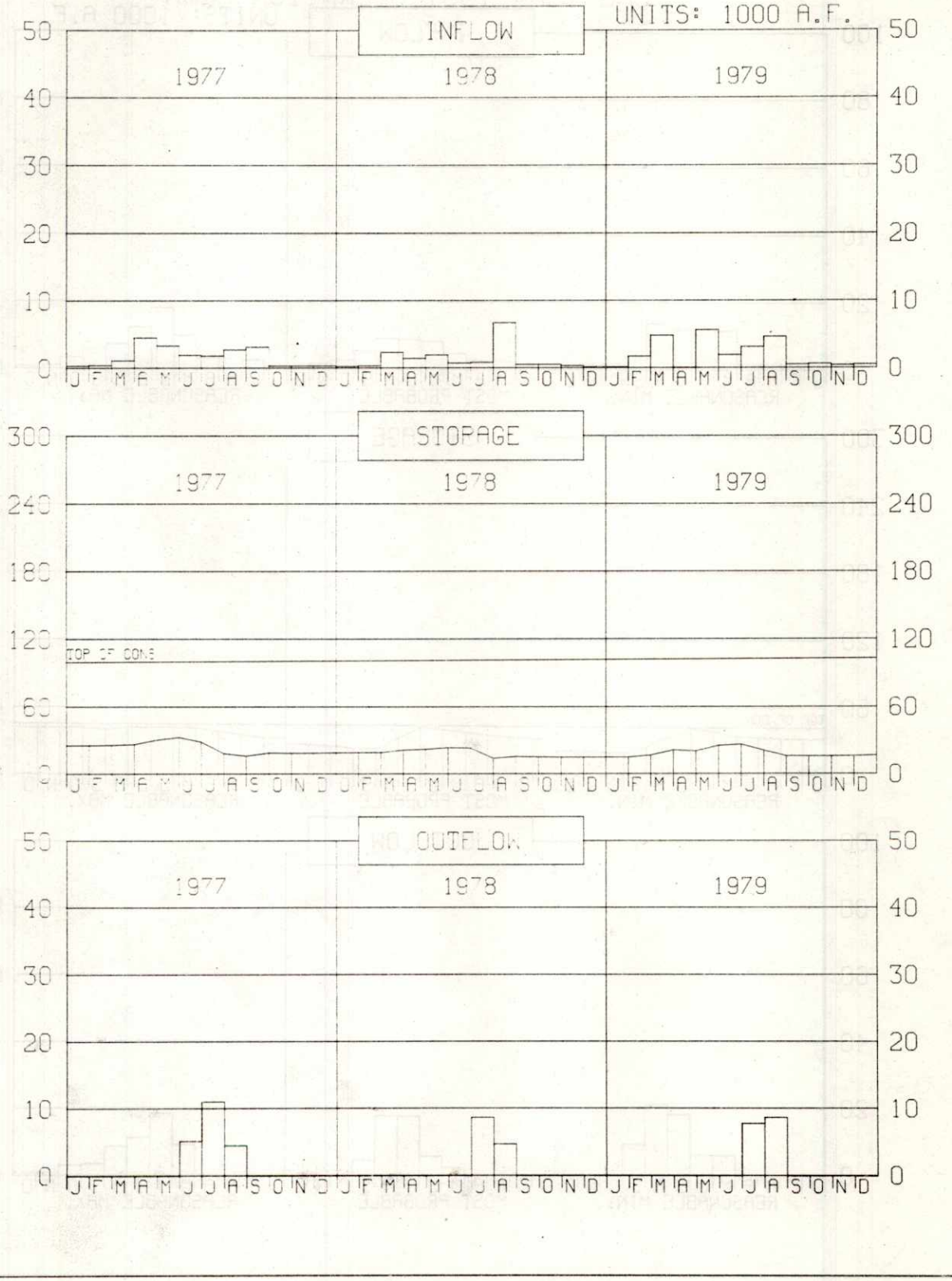


EXHIBIT 12B

KIRWIN RESERVOIR 1980 OPERATION

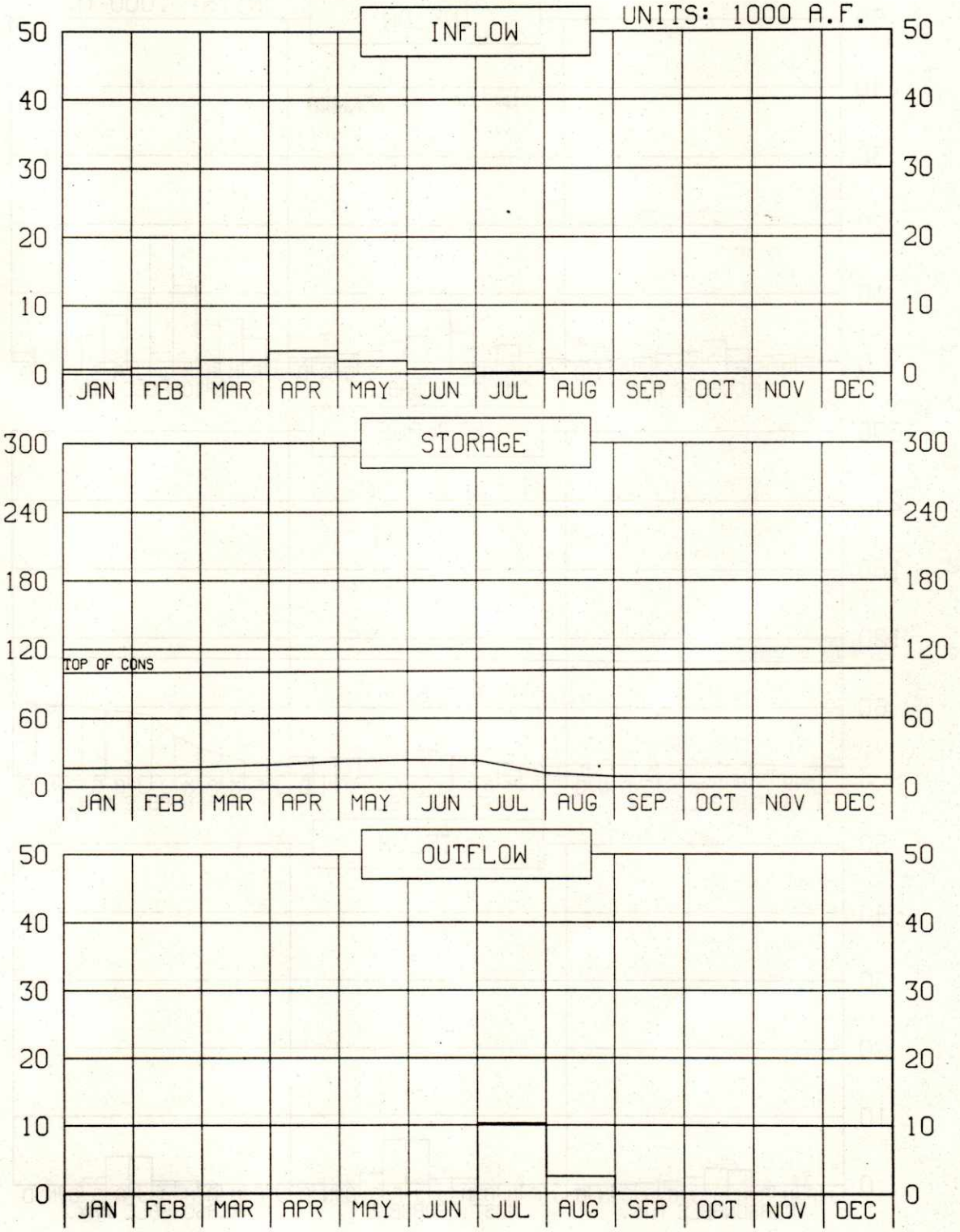


EXHIBIT 12C

KIRWIN RESERVOIR

CAL YEAR 1981 OPERATION PLAN

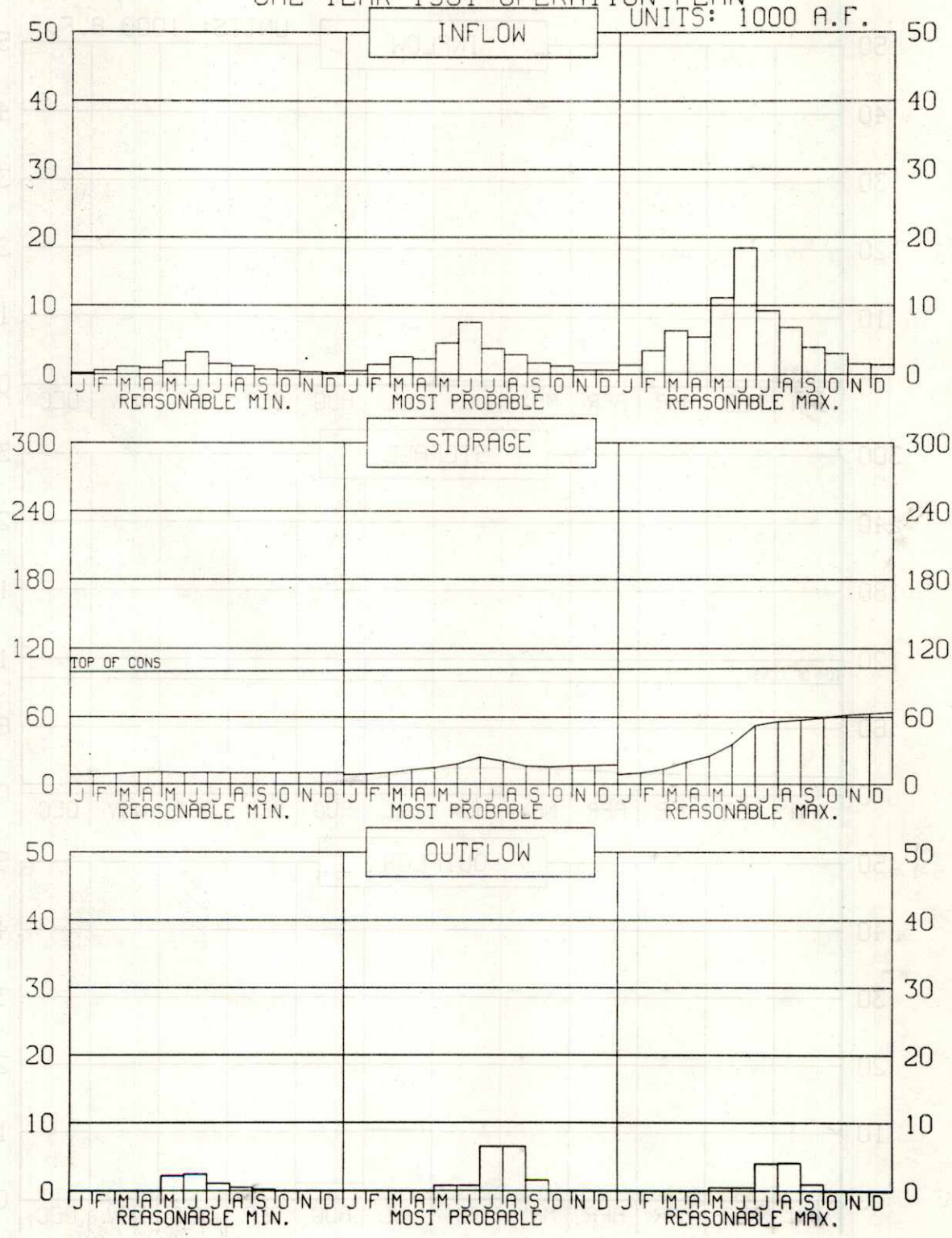


EXHIBIT 13A

WEBSTER RESERVOIR OPERATION

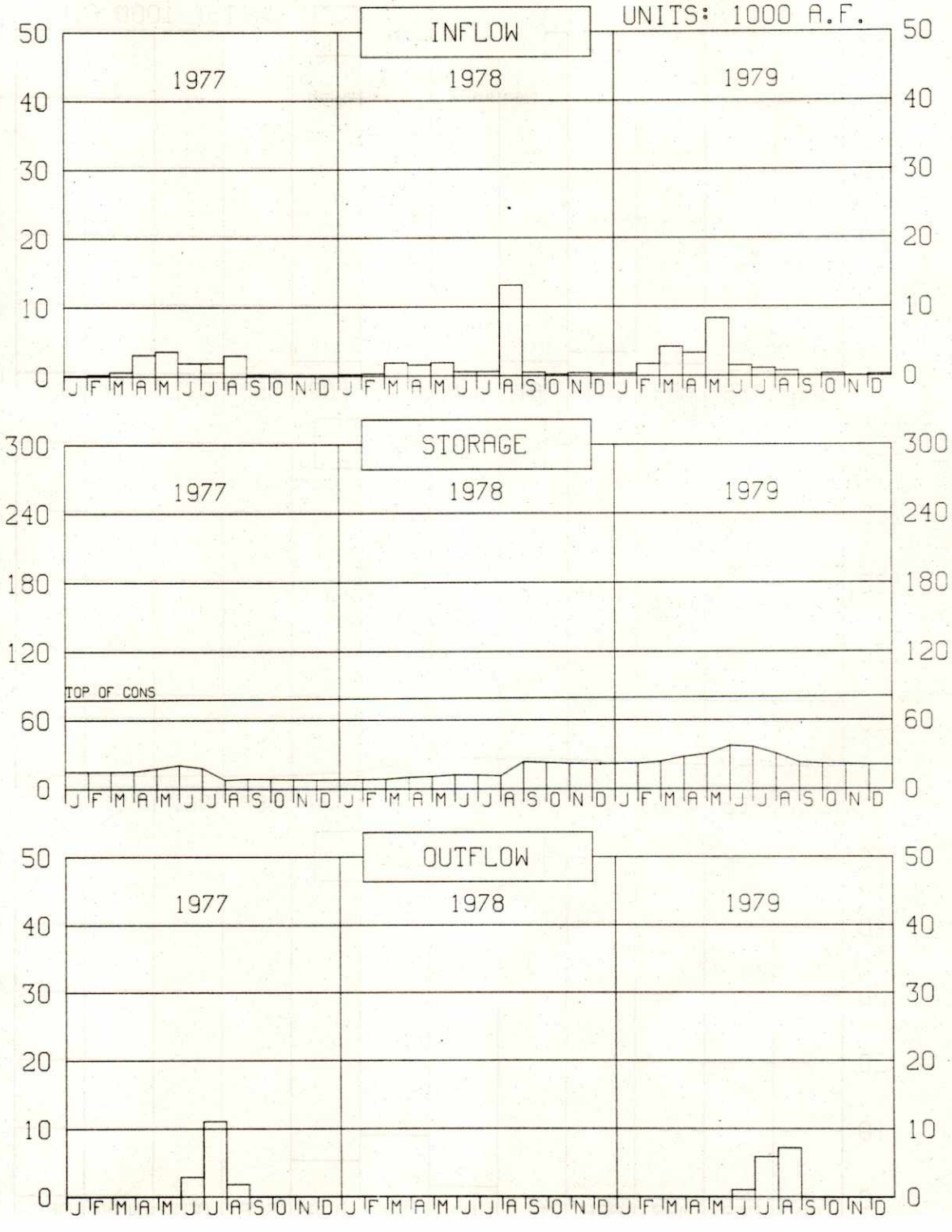


EXHIBIT 13B

WEBSTER RESERVOIR 1980 OPERATION

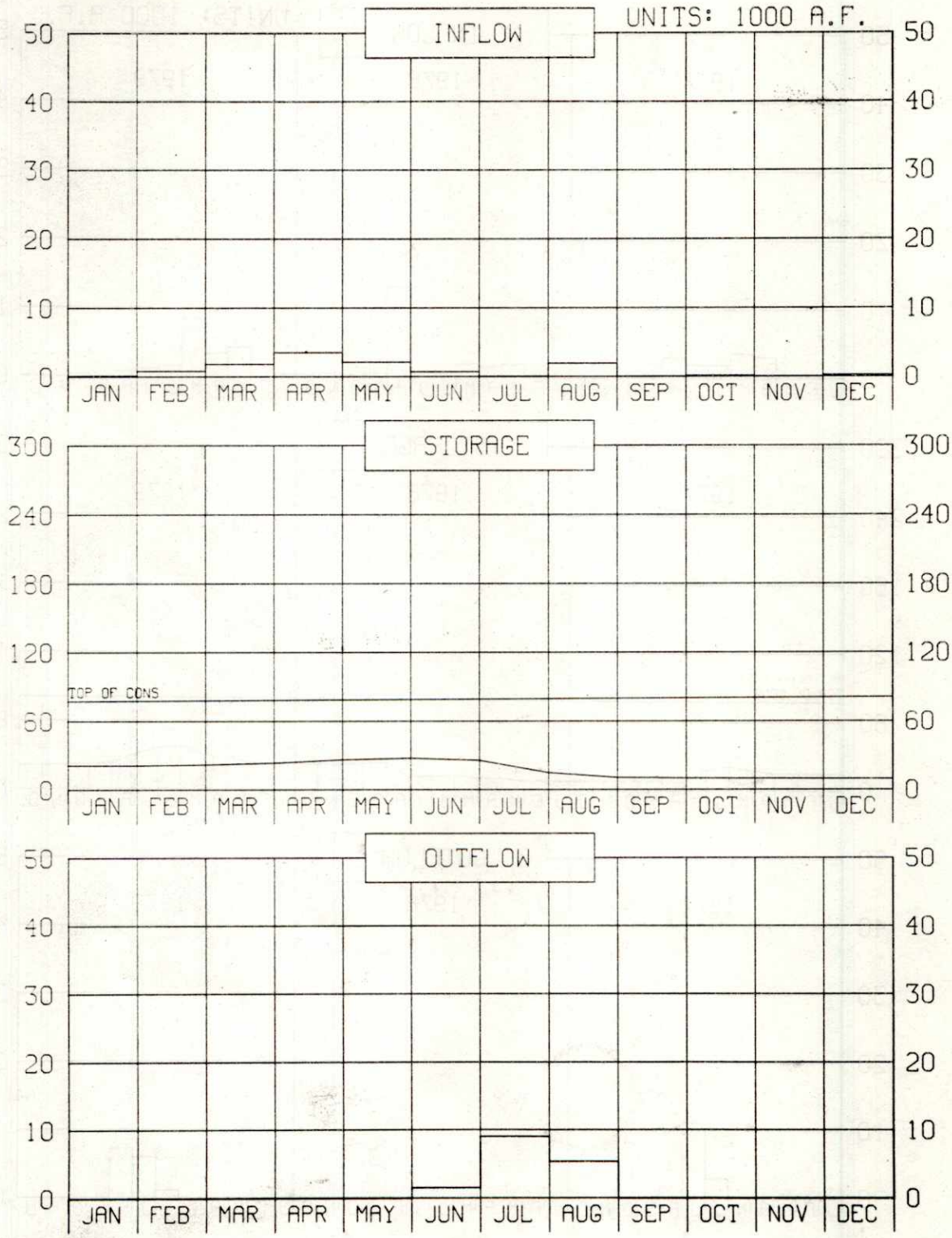


EXHIBIT 13C

WEBSTER RESERVOIR

CAL YEAR 1981 OPERATION PLAN

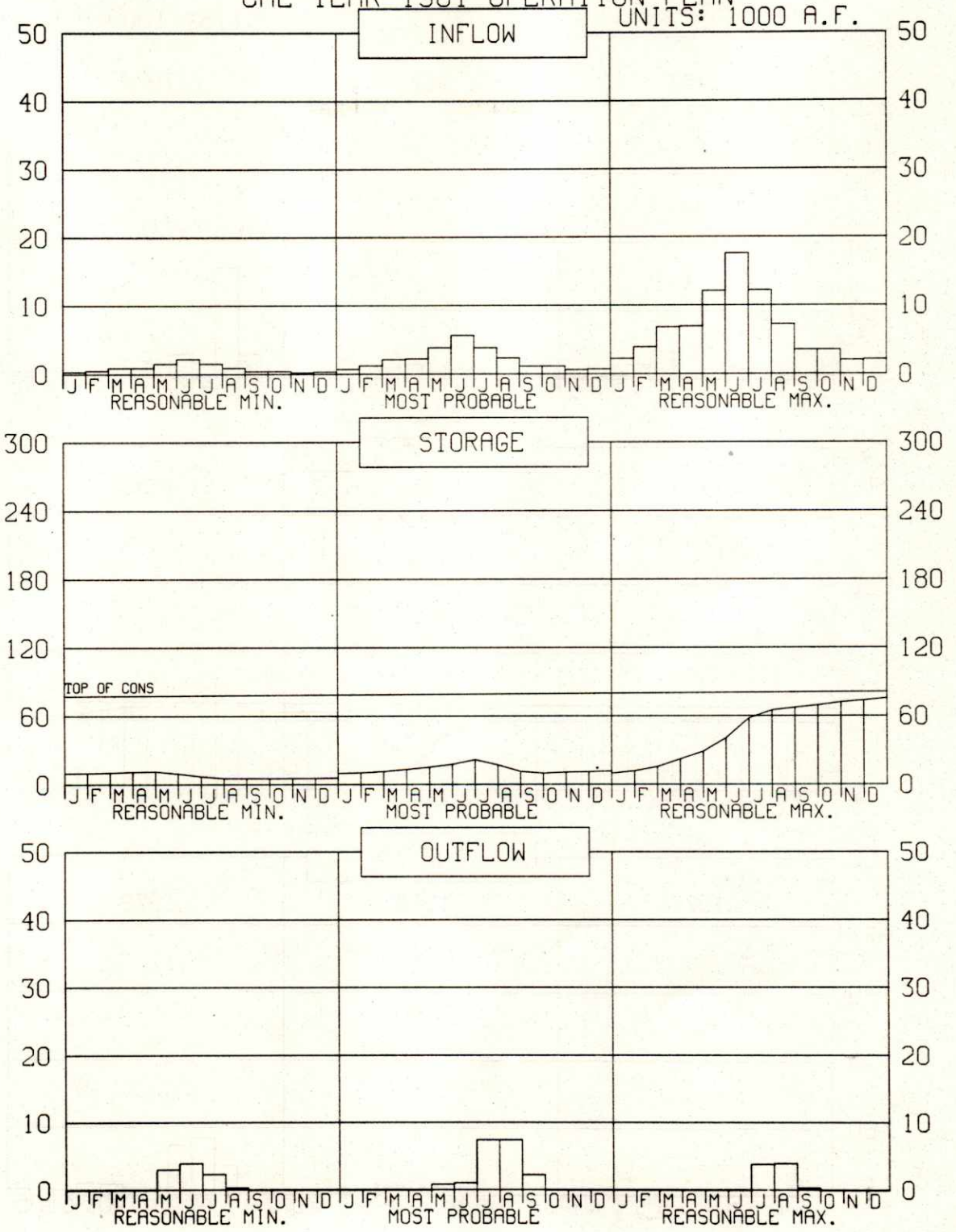


EXHIBIT 14A

WACONDA LAKE OPERATION

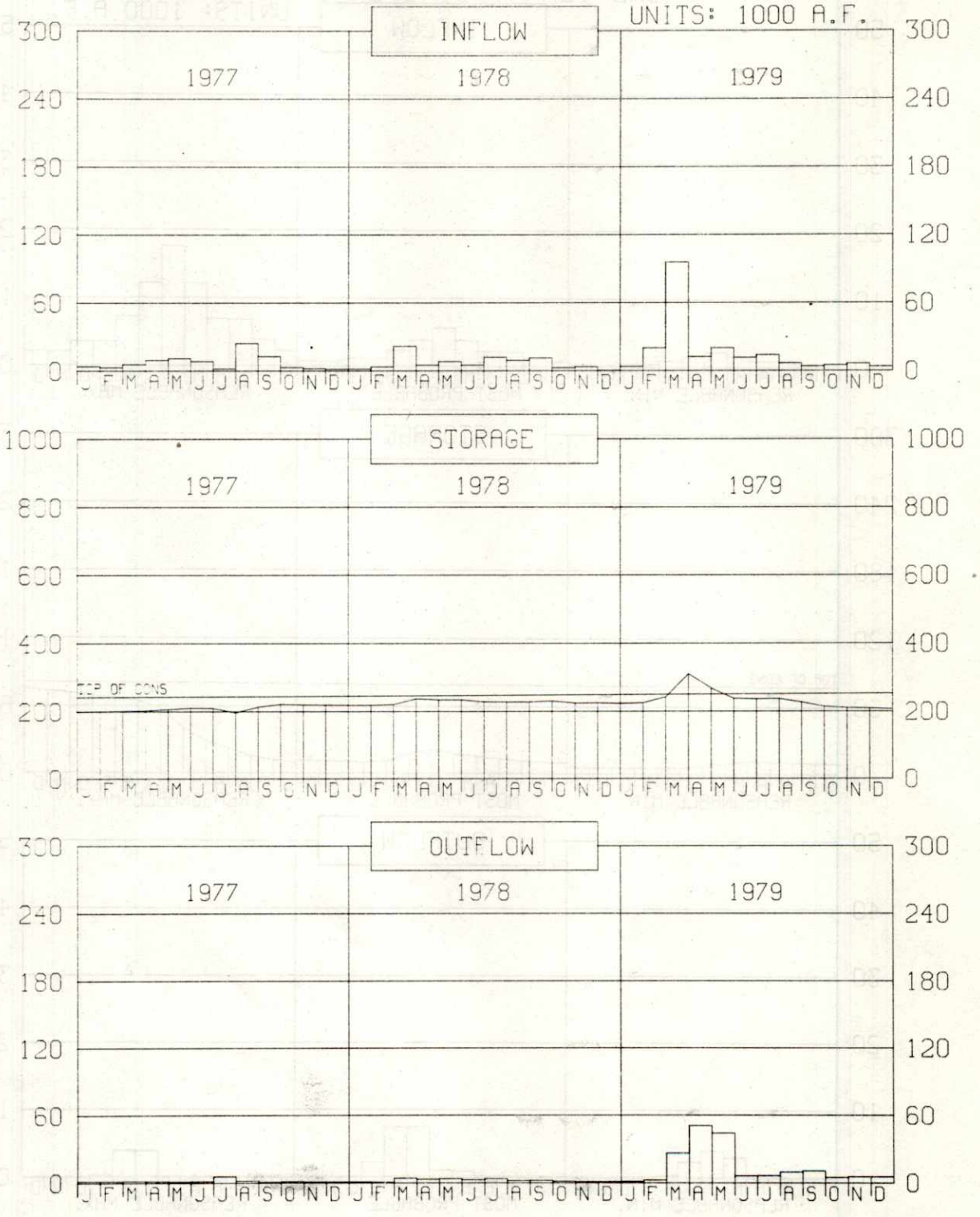


EXHIBIT 14B

WACONDA LAKE 1980 OPERATION

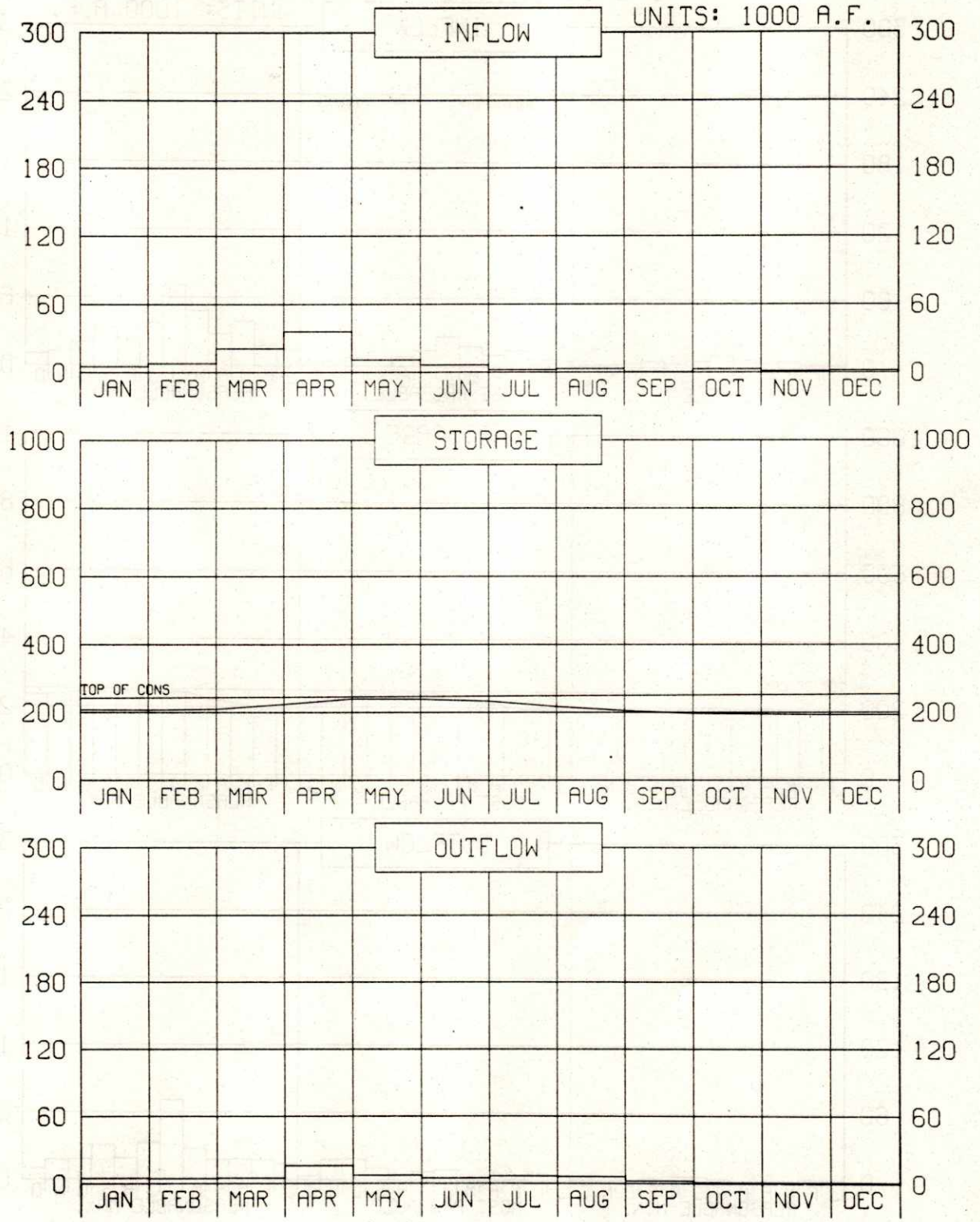


EXHIBIT 14C

WACONDA LAKE

CAL YEAR 1981 OPERATION PLAN

UNITS: 1000 A.F.

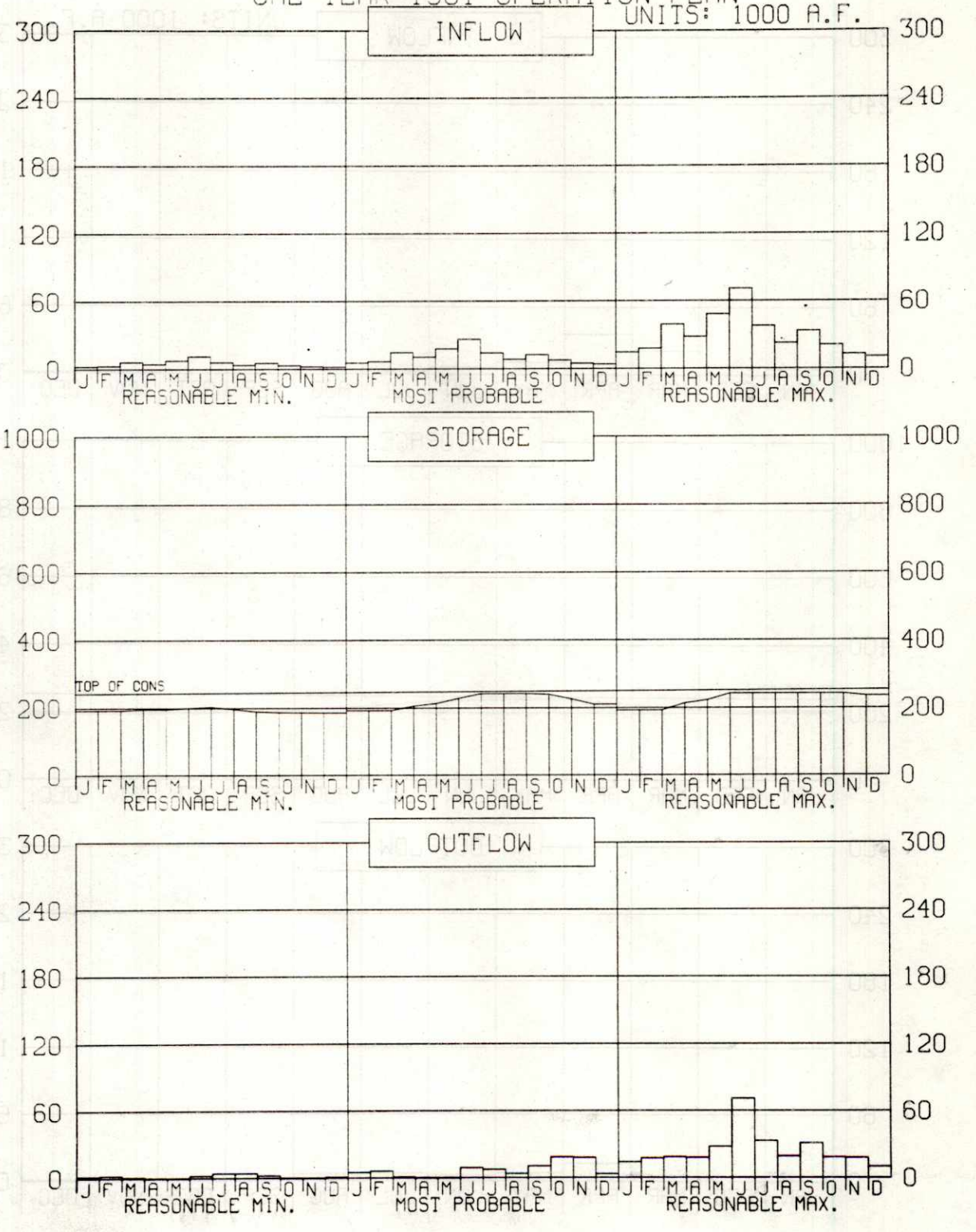


EXHIBIT 15A

CEDAR BLUFF RESERVOIR OPERATION

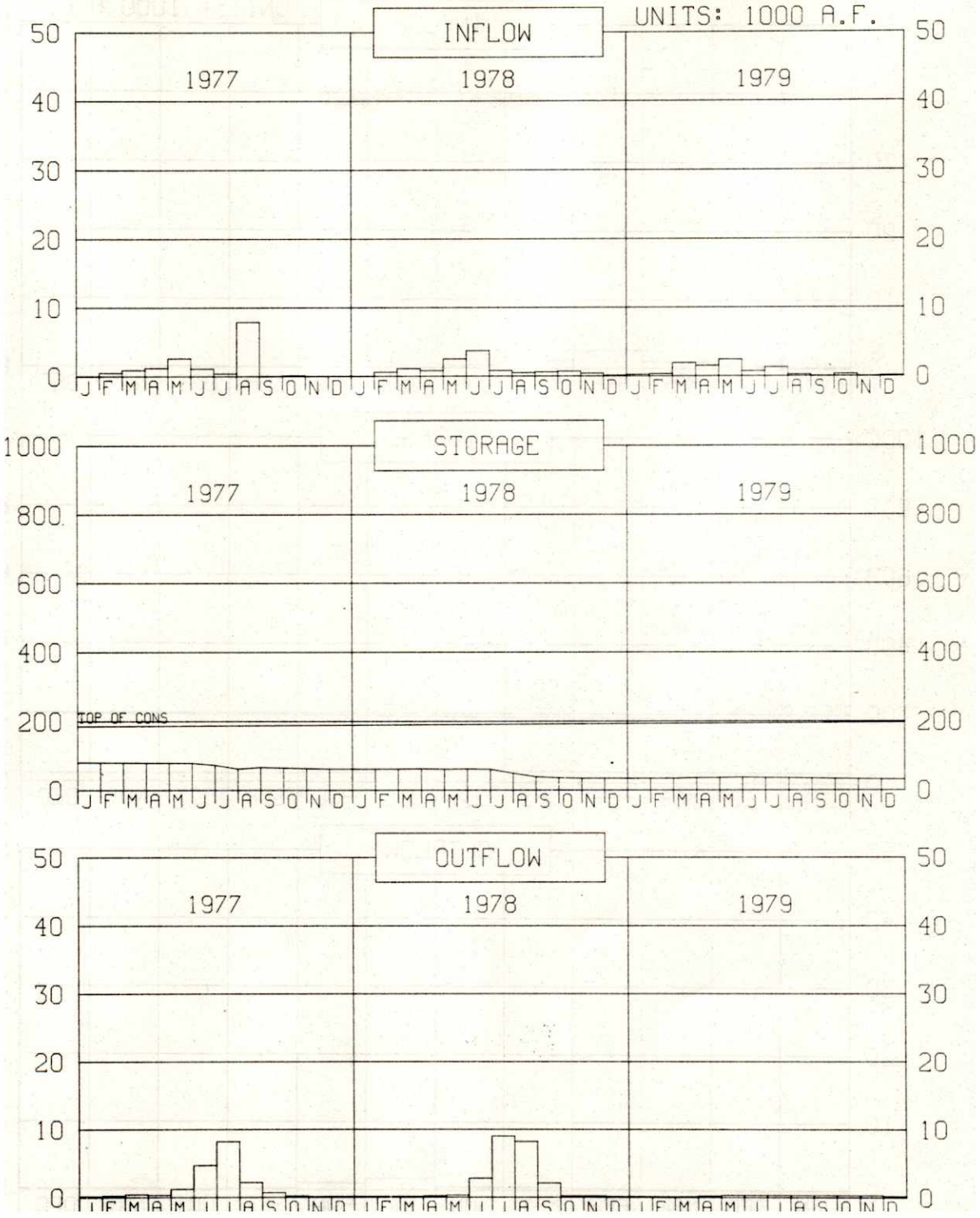


EXHIBIT 15B

CEDAR BLUFF RESERVOIR 1980 OPERATION

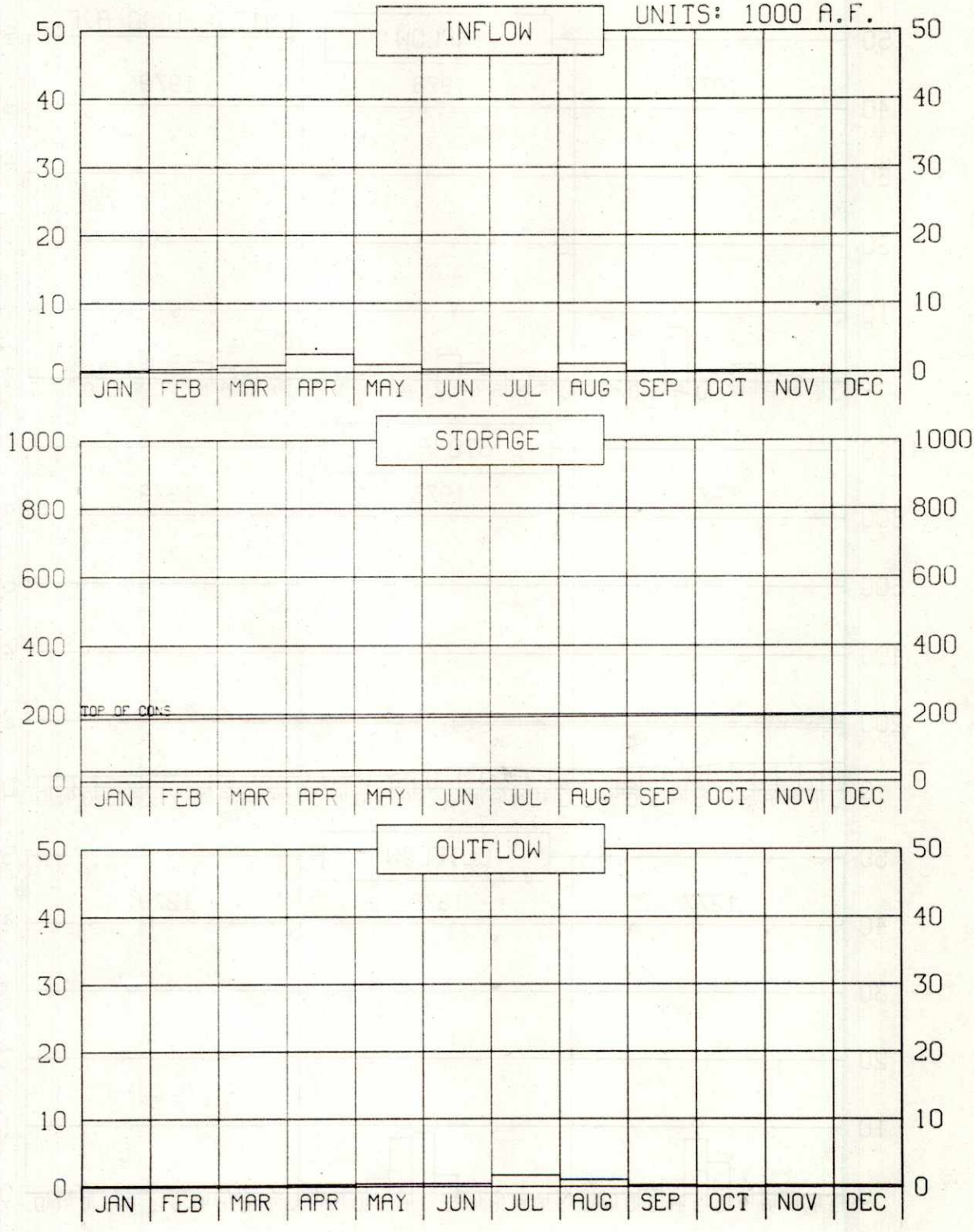


EXHIBIT 150

CEDAR BLUFF RESERVOIR

CAL YEAR 1981 OPERATION PLAN

UNITS: 1000 A.F.

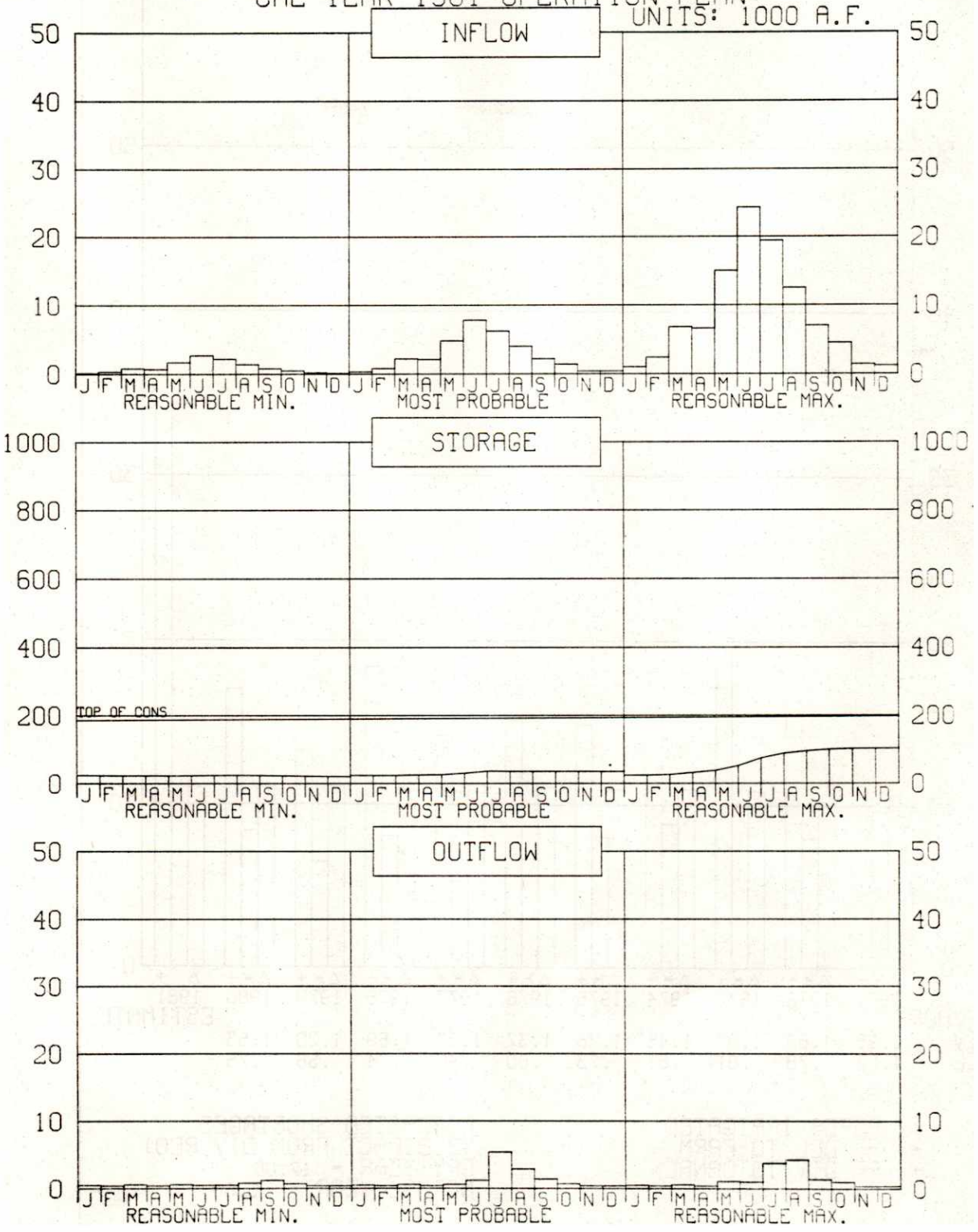
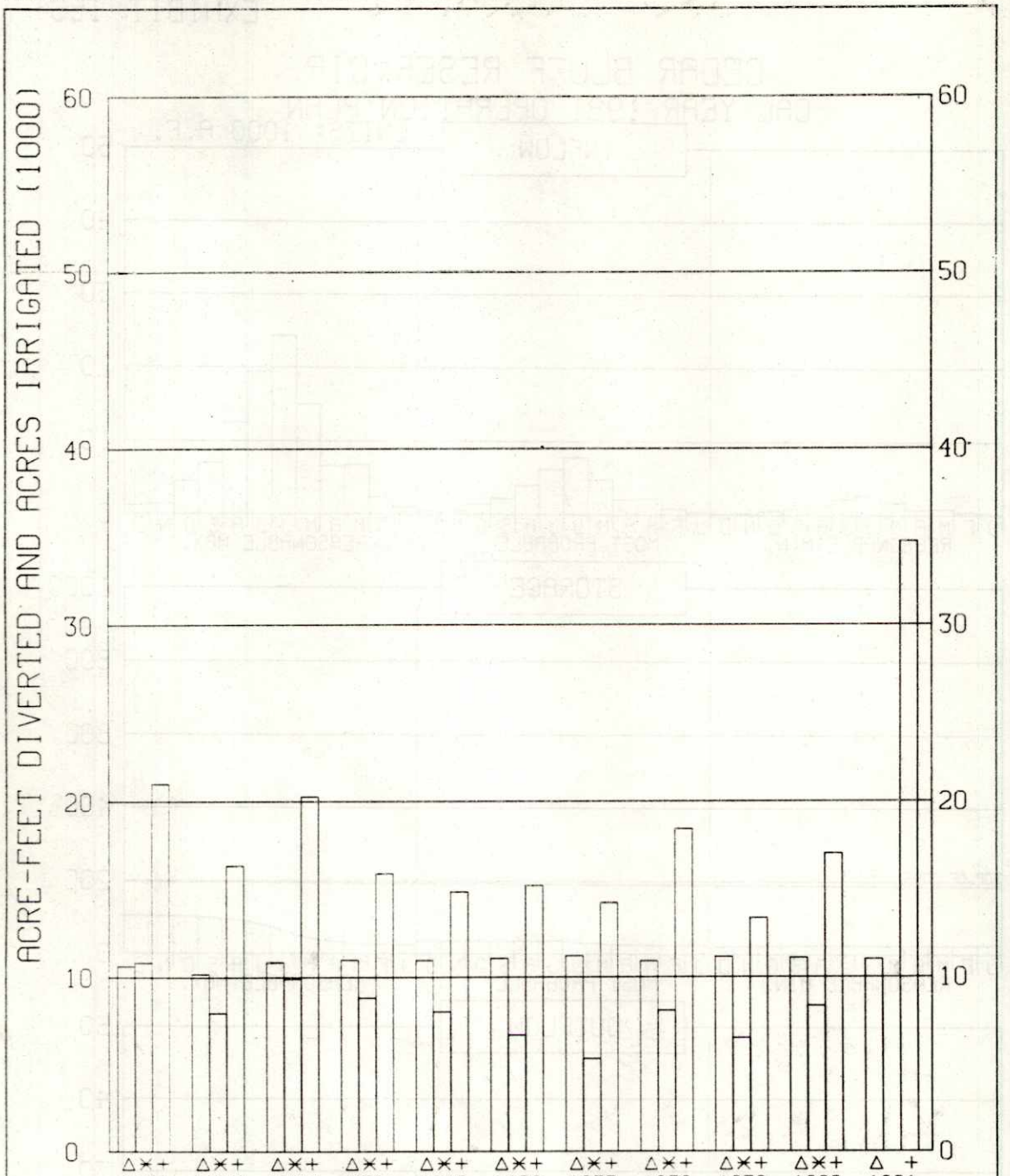


EXHIBIT 16

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
MIRAGE FLATS IRRIGATION DISTRICT



AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
DIV	1.98	1.60	1.87	1.45	1.36	1.37	1.27	1.69	1.20	1.53
DEL	1.02	.78	.91	.81	.73	.60	.48	.74	.58	.75

Δ ACRES IRRIGATED
✳ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR = 17.00
NORMAL YEAR = 5.60

EXHIBIT 17

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED AINSWORTH IRRIGATION DISTRICT

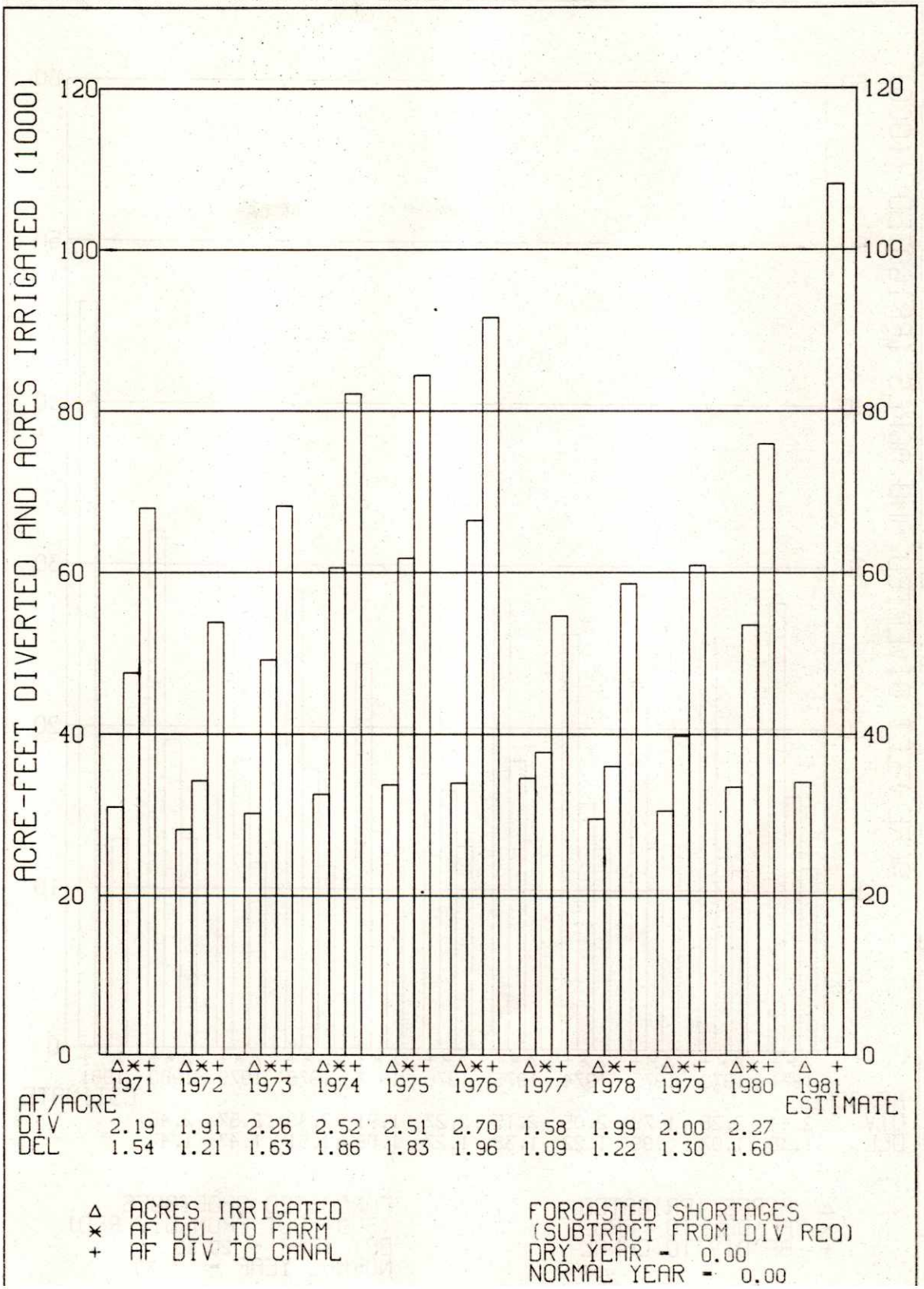
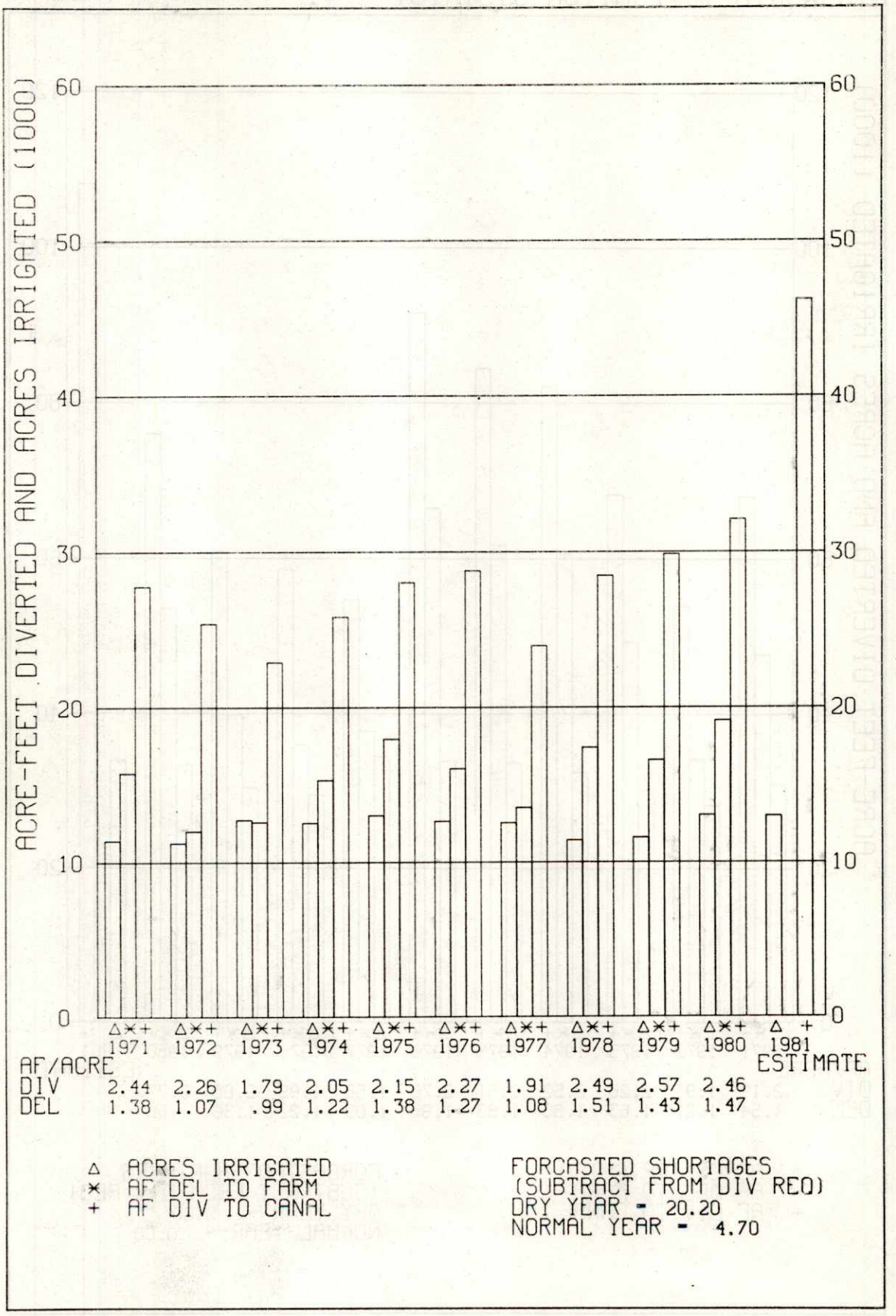


EXHIBIT 18

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
SARGENT IRRIGATION DISTRICT



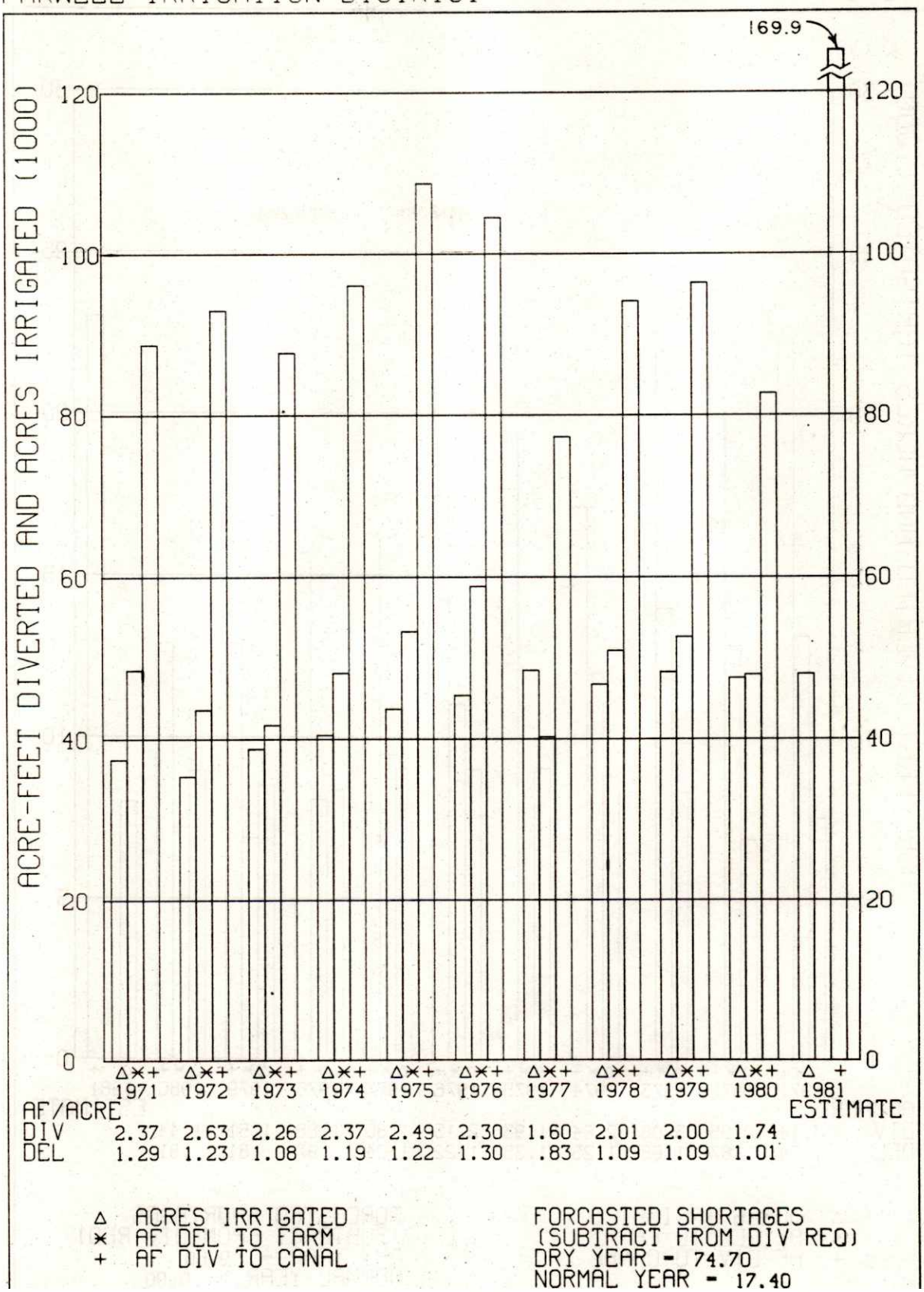
AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
DIV	2.44	2.26	1.79	2.05	2.15	2.27	1.91	2.49	2.57	2.46
DEL	1.38	1.07	.99	1.22	1.38	1.27	1.08	1.51	1.43	1.47

Δ ACRES IRRIGATED
✳ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR - 20.20
NORMAL YEAR - 4.70

EXHIBIT 19

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
FARWELL IRRIGATION DISTRICT



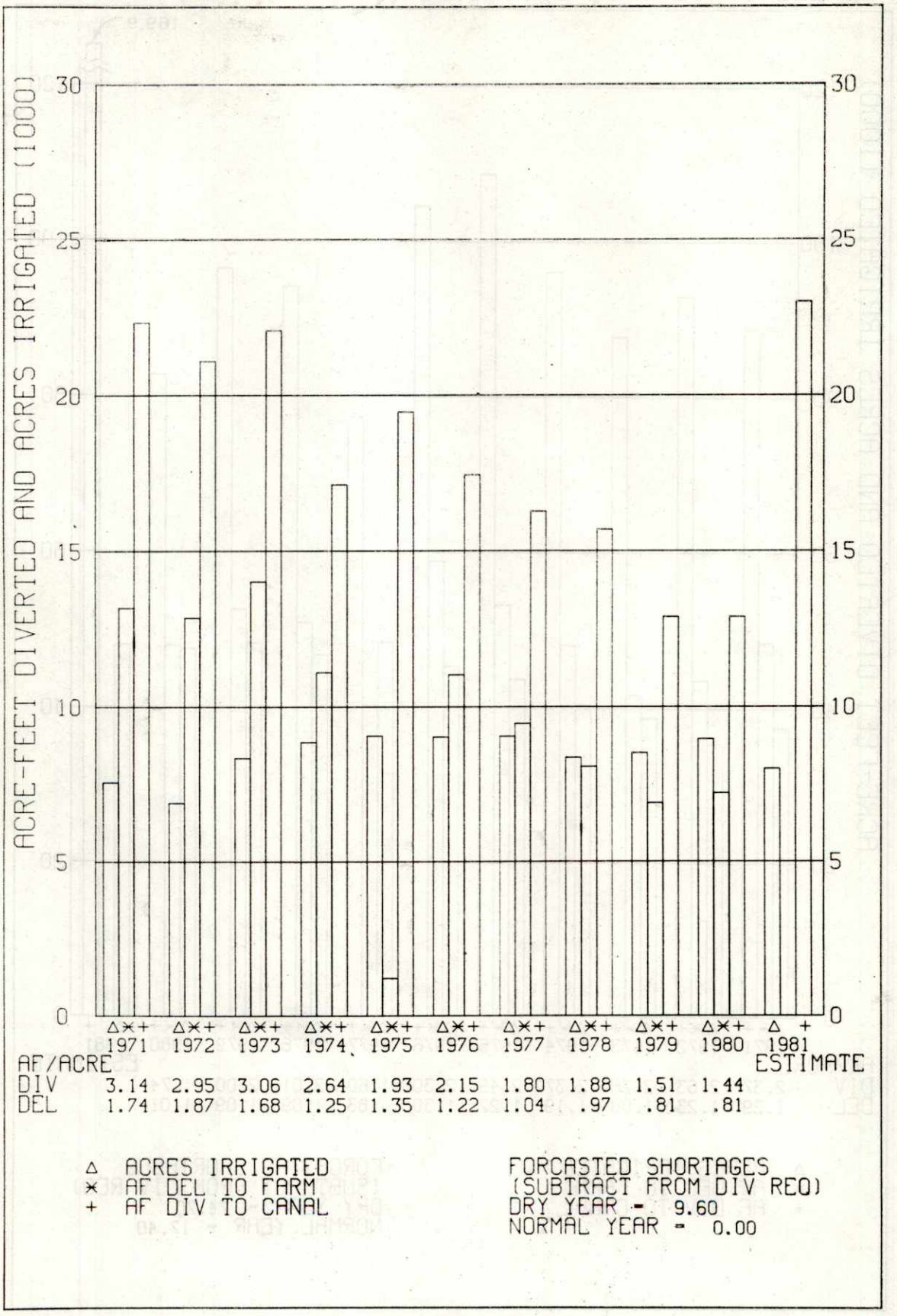
AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
DIV	2.37	2.63	2.26	2.37	2.49	2.30	1.60	2.01	2.00	1.74
DEL	1.29	1.23	1.08	1.19	1.22	1.30	.83	1.09	1.09	1.01

Δ ACRES IRRIGATED
✳ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR - 74.70
NORMAL YEAR - 17.40

EXHIBIT 20

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
FRENCHMAN VALLEY IRRIGATION DISTRICT



AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
DIV	3.14	2.95	3.06	2.64	1.93	2.15	1.80	1.88	1.51	1.44
DEL	1.74	1.87	1.68	1.25	1.35	1.22	1.04	.97	.81	.81

Δ ACRES IRRIGATED
✳ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR - 9.60
NORMAL YEAR - 0.00

EXHIBIT 21

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
H AND RW IRRIGATION DISTRICT

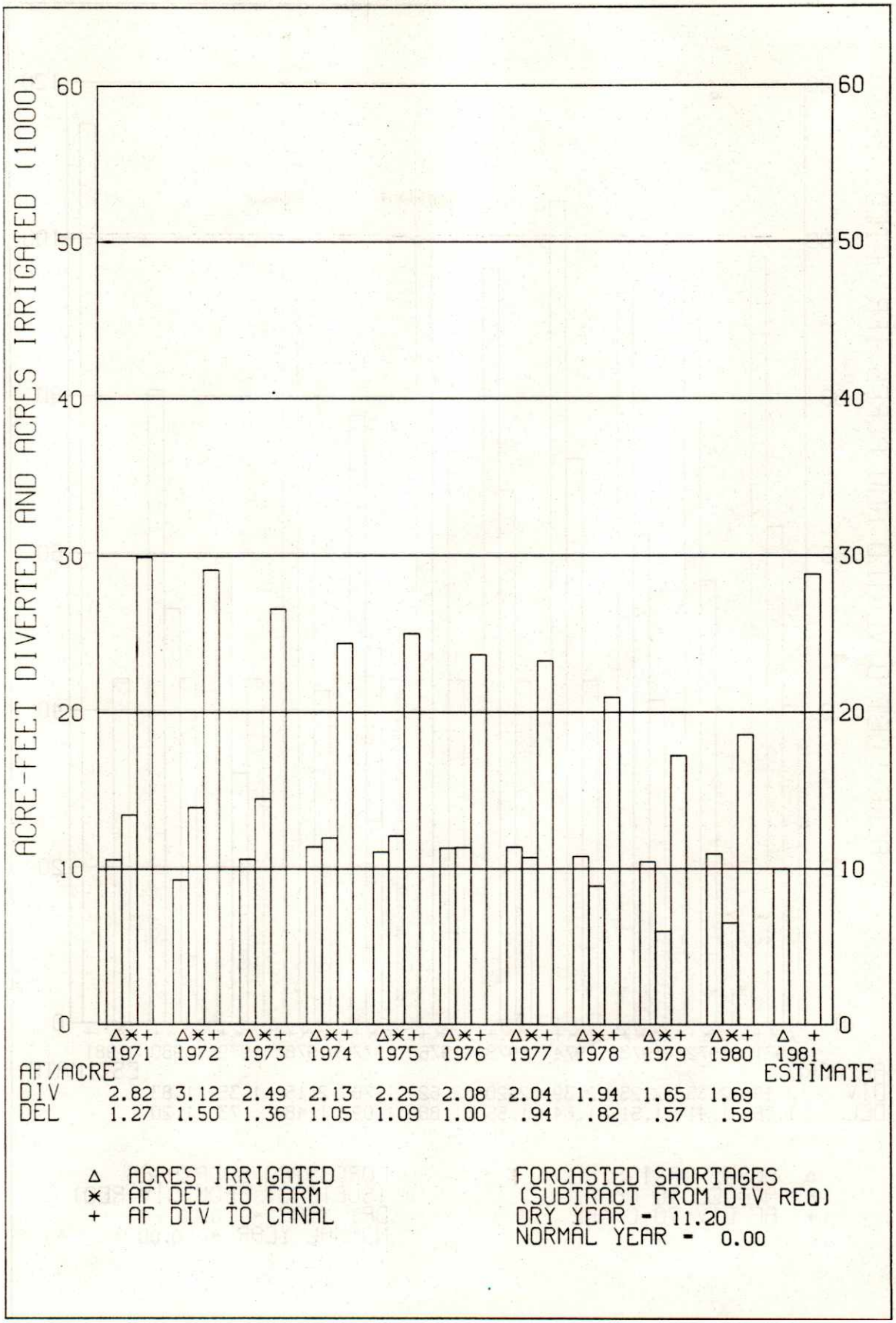
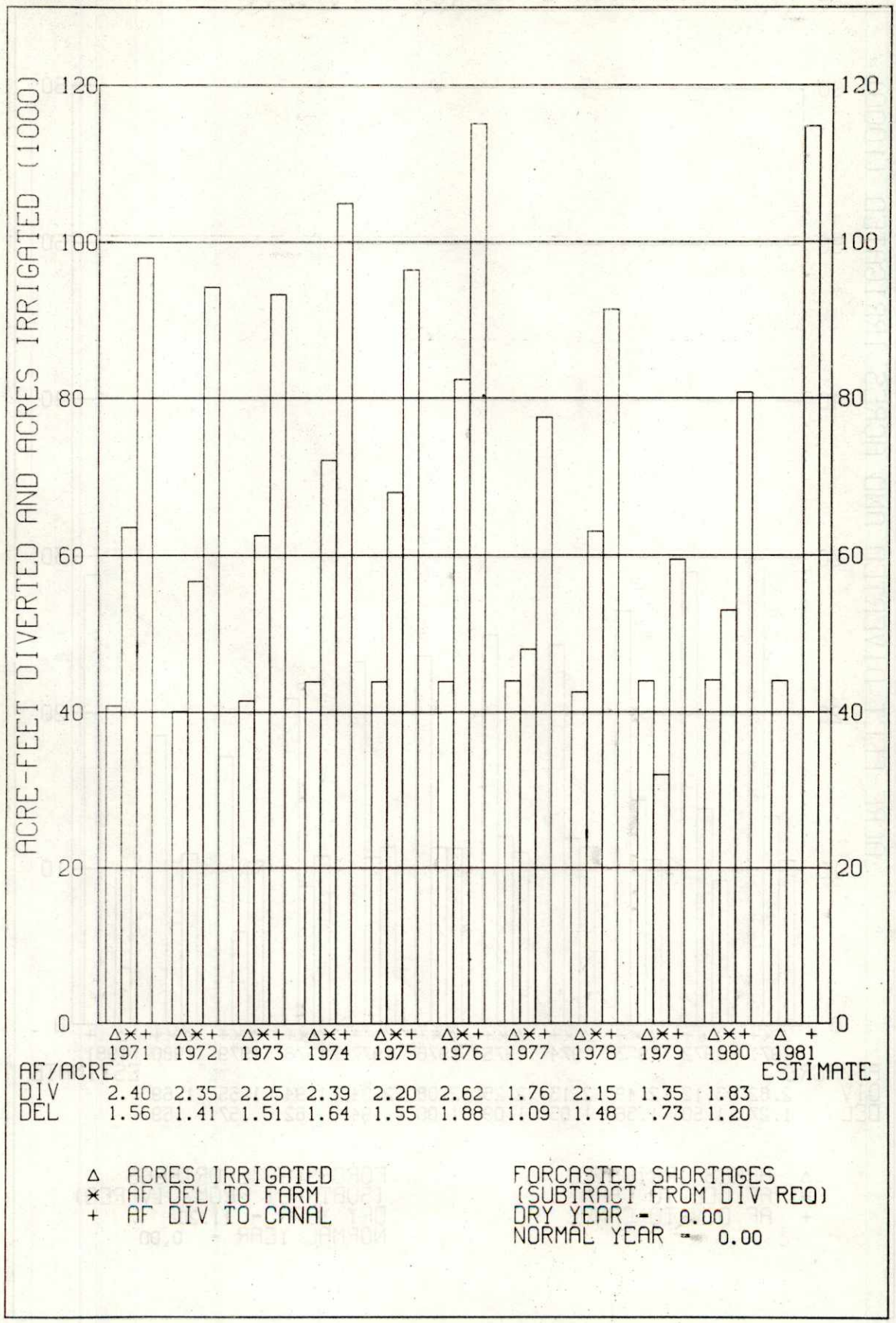


EXHIBIT 22

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
FRENCHMAN CAMBRIDGE IRRIGATION DISTRICT



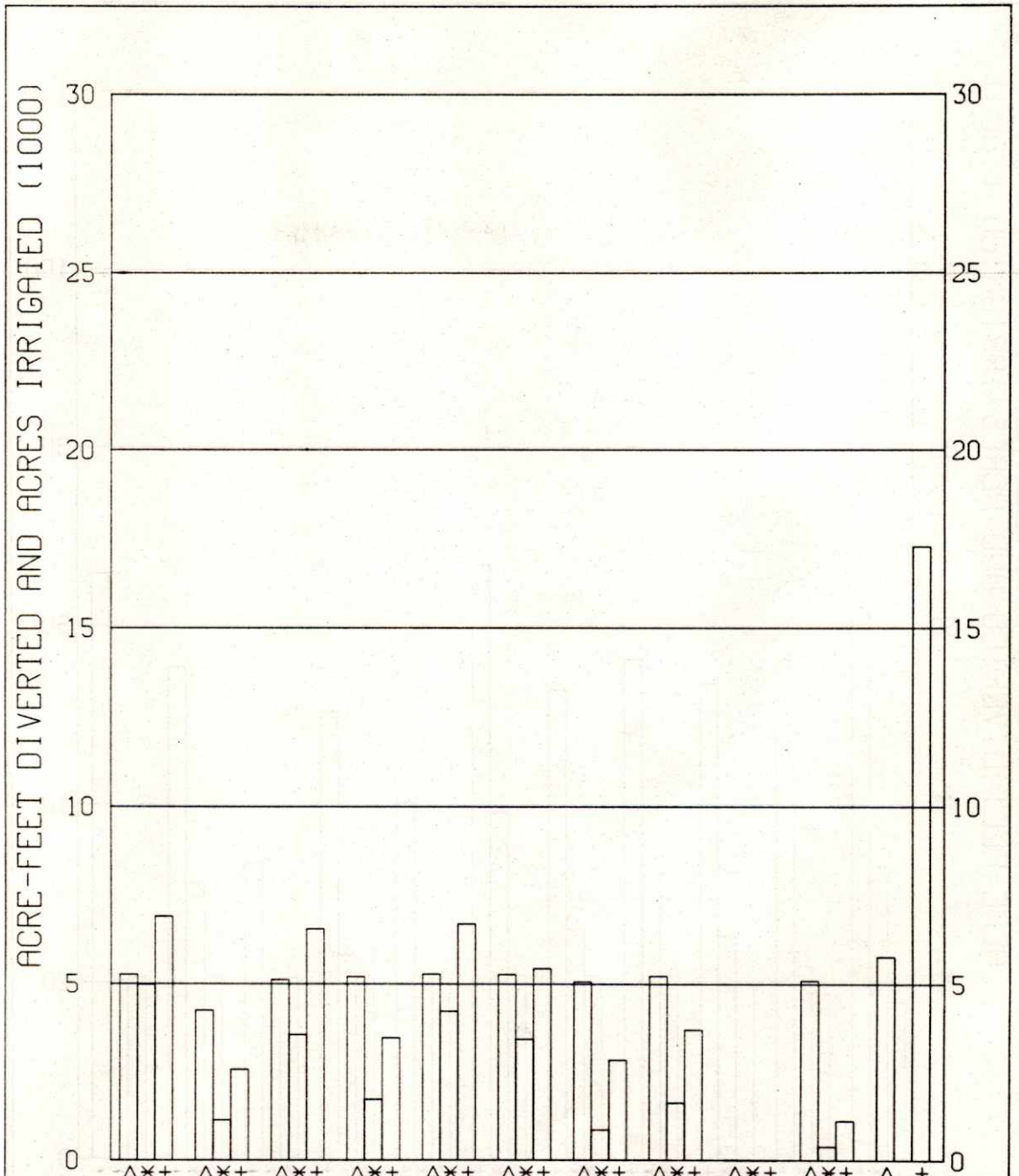
AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981 ESTIMATE
DIV	2.40	2.35	2.25	2.39	2.20	2.62	1.76	2.15	1.35	1.83	
DEL	1.56	1.41	1.51	1.64	1.55	1.88	1.09	1.48	.73	1.20	

Δ ACRES IRRIGATED
✳ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR = 0.00
NORMAL YEAR = 0.00

EXHIBIT 23

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
ALMENA IRRIGATION DISTRICT



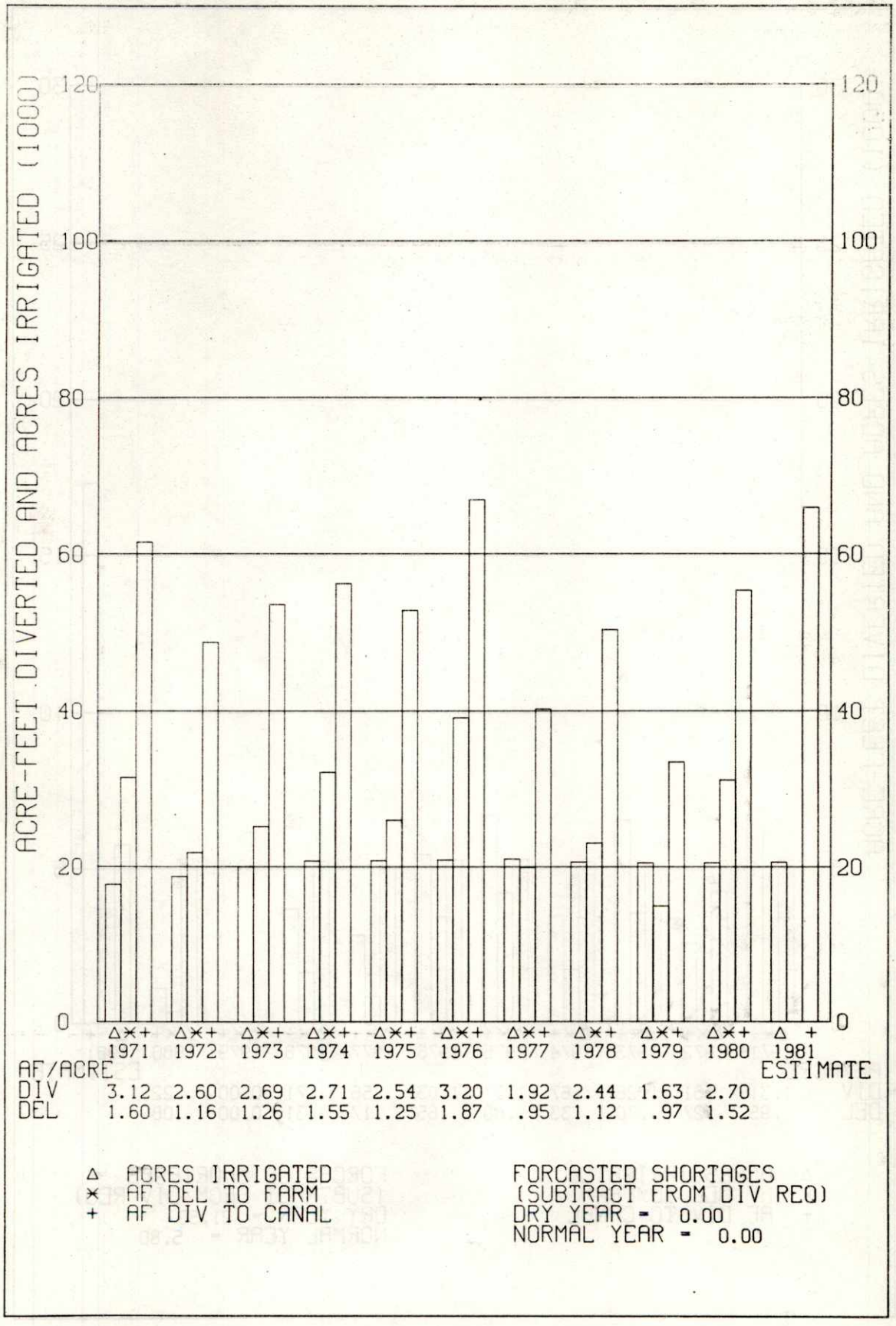
AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
DIV	1.31	.61	1.28	.67	1.27	1.03	.56	.71	0.00	.22
DEL	.95	.27	.70	.33	.80	.65	.17	.31	0.00	.08

Δ ACRES IRRIGATED
✳ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR - 21.50
NORMAL YEAR - 5.80

EXHIBIT 24

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
BOSTWICK IRRIGATION DISTRICT IN NEBRASKA



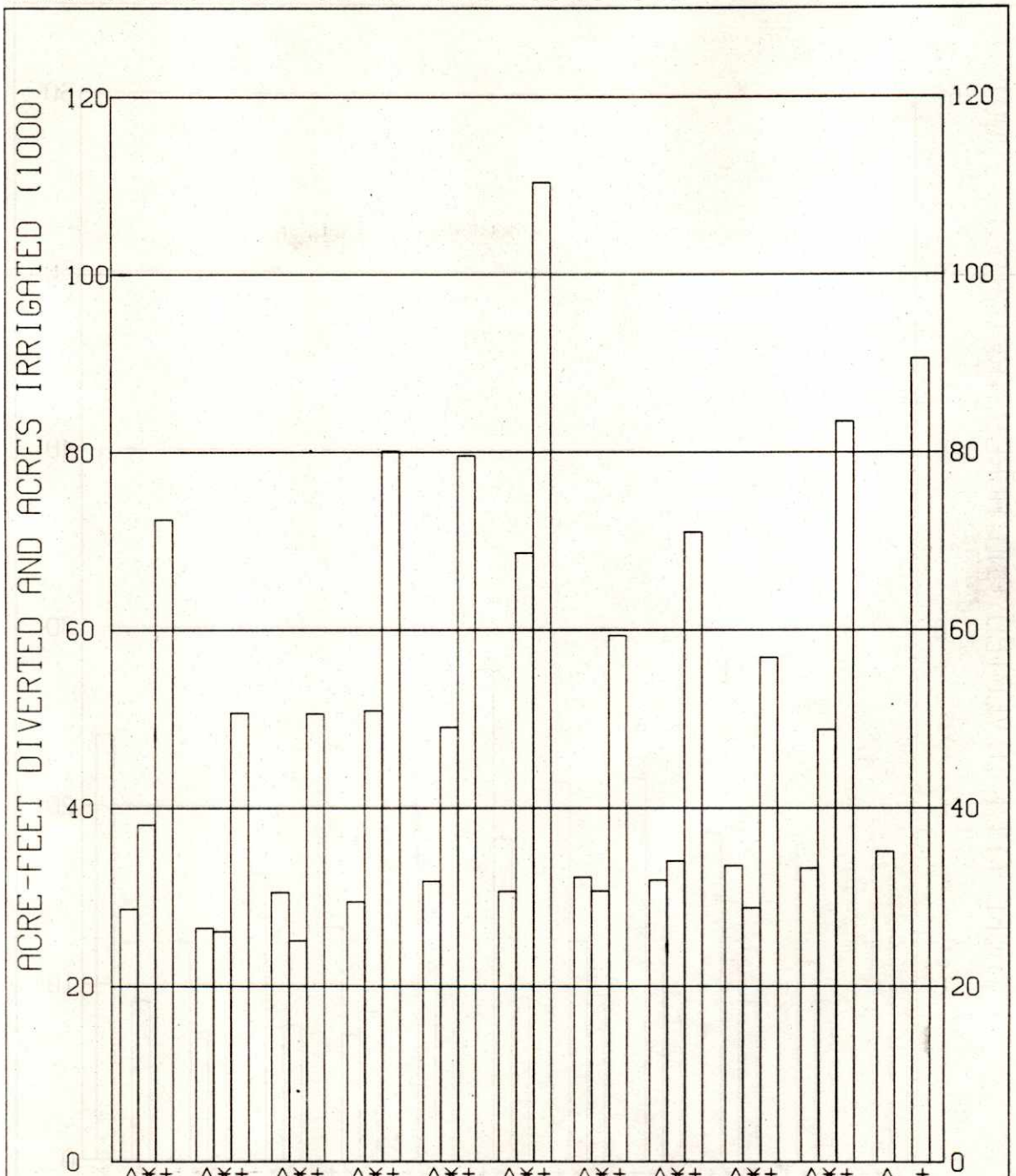
AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
DIV	3.12	2.60	2.69	2.71	2.54	3.20	1.92	2.44	1.63	2.70
DEL	1.60	1.16	1.26	1.55	1.25	1.87	.95	1.12	.97	1.52

Δ ACRES IRRIGATED
✕ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR - 0.00
NORMAL YEAR - 0.00

EXHIBIT 25

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
KANSAS-BOSTWICK IRRIGATION DISTRICT



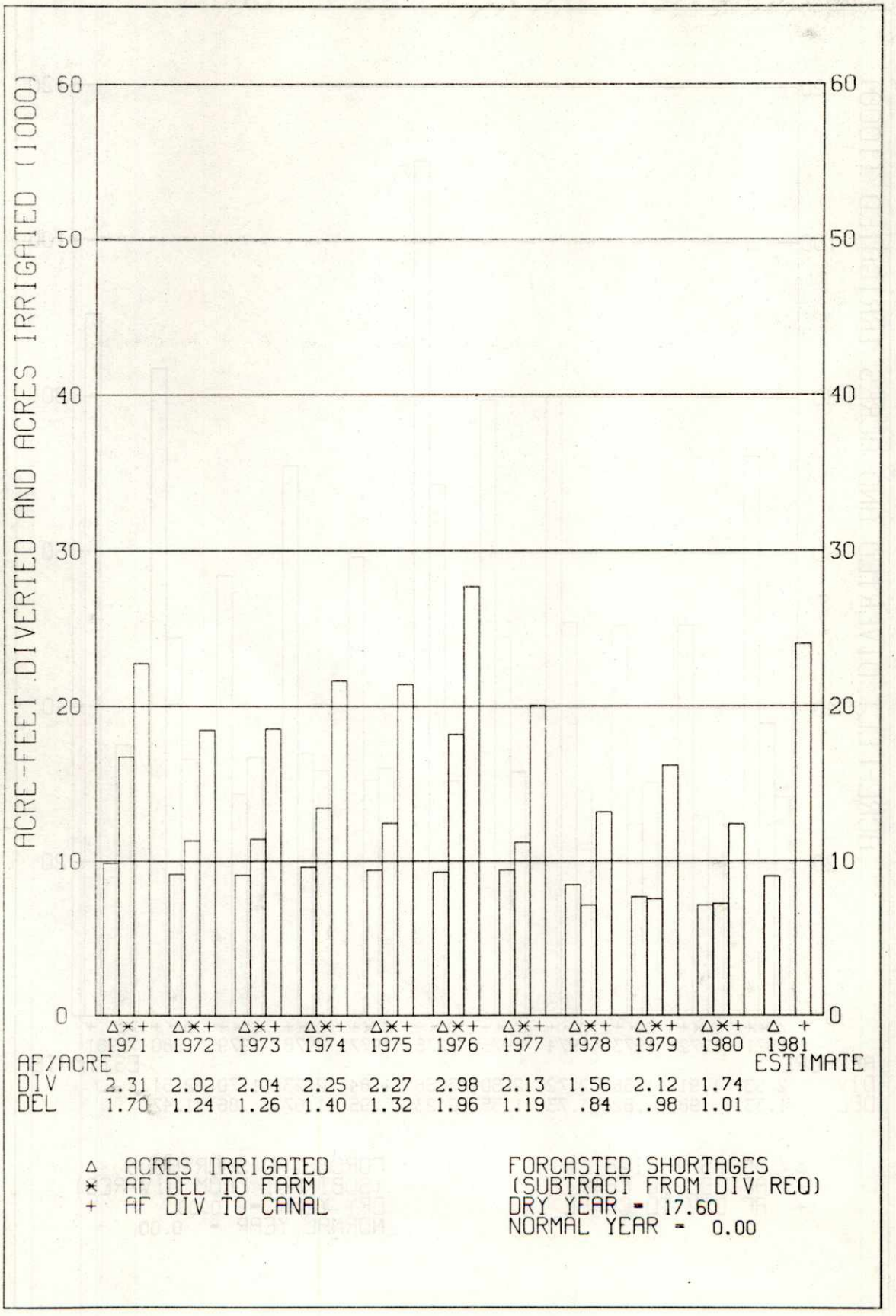
AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981 ESTIMATE
DIV	2.53	1.91	1.66	2.72	2.50	3.58	1.84	2.23	1.70	2.51	
DEL	1.33	.98	.82	1.73	1.55	2.23	.95	1.07	.86	1.47	

Δ ACRES IRRIGATED
✳ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR - 0.00
NORMAL YEAR - 0.00

EXHIBIT 26

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
KIRWIN IRRIGATION DISTRICT



AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981 ESTIMATE
DIV	2.31	2.02	2.04	2.25	2.27	2.98	2.13	1.56	2.12	1.74	
DEL	1.70	1.24	1.26	1.40	1.32	1.96	1.19	.84	.98	1.01	

Δ ACRES IRRIGATED
* AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR = 17.60
NORMAL YEAR = 0.00

EXHIBIT 27

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
WEBSTER IRRIGATION DISTRICT

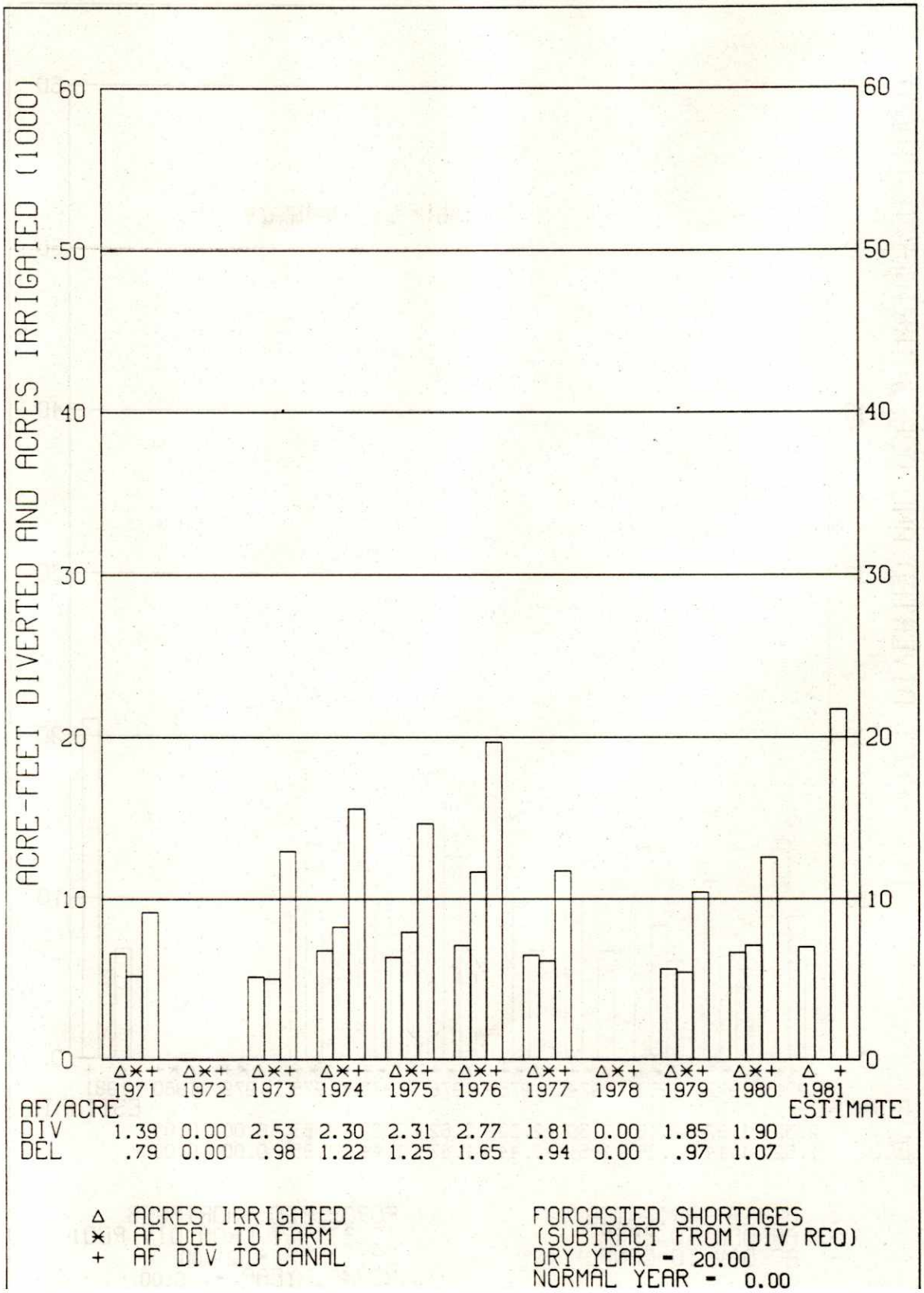
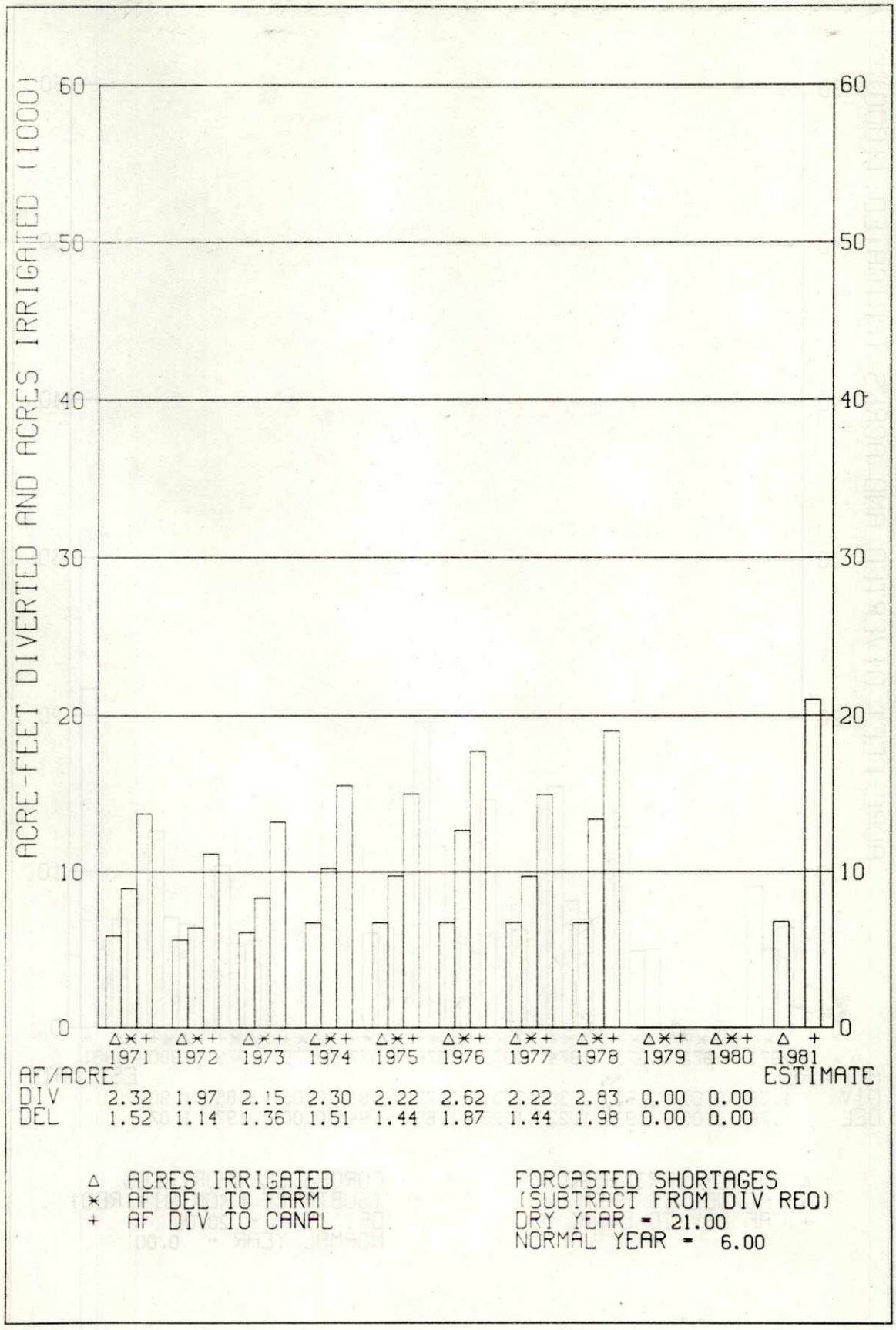


EXHIBIT 28

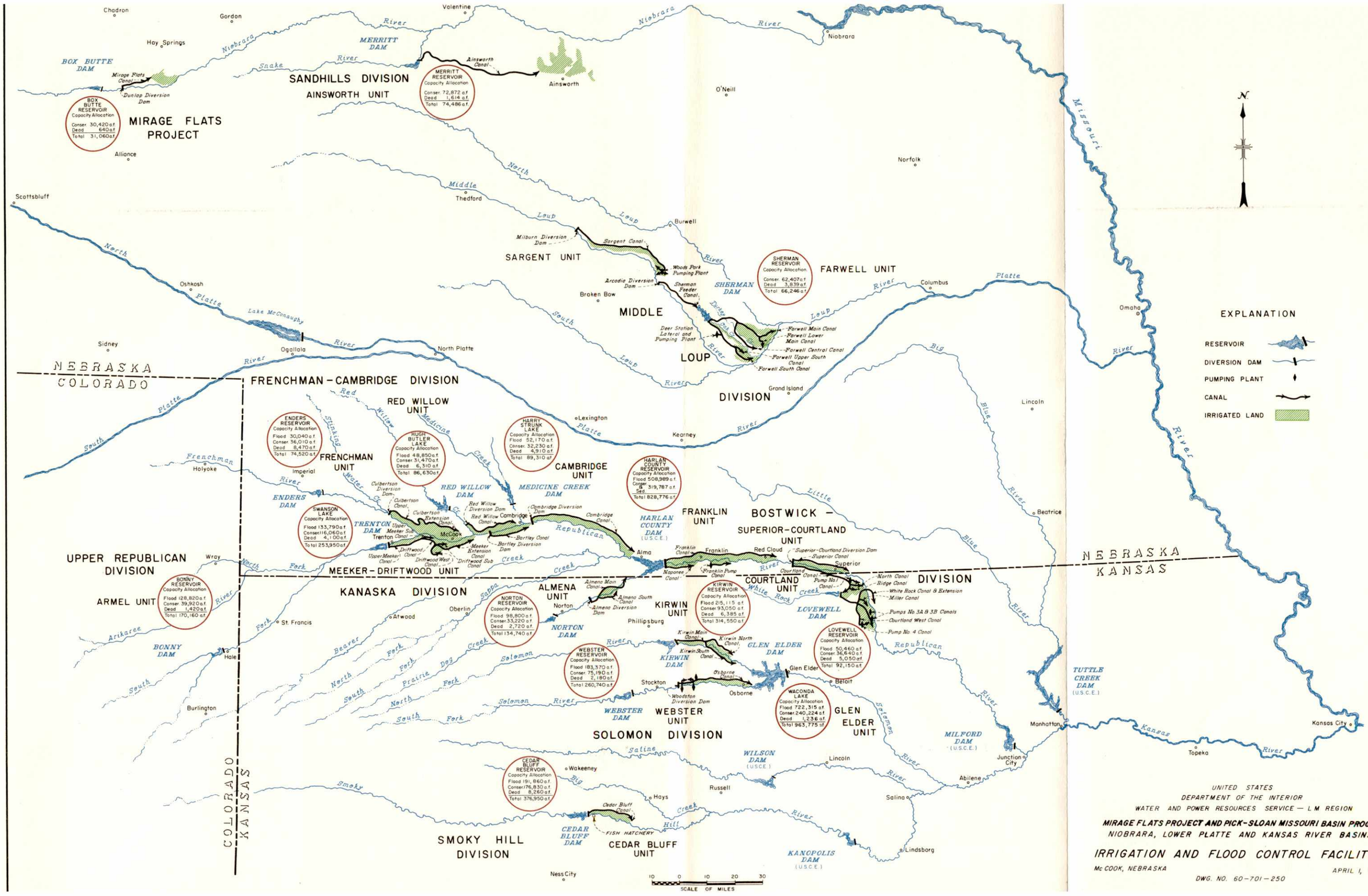
CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
CEDAR BLUFF IRRIGATION DISTRICT



AF/ACRE	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981 ESTIMATE
DIV	2.32	1.97	2.15	2.30	2.22	2.62	2.22	2.83	0.00	0.00	
DEL	1.52	1.14	1.36	1.51	1.44	1.87	1.44	1.98	0.00	0.00	

Δ ACRES IRRIGATED
✳ AF DEL TO FARM
\+ AF DIV TO CANAL

FORCASTED SHORTAGES
(SUBTRACT FROM DIV REQ)
DRY YEAR - 21.00
NORMAL YEAR - 6.00



UNITED STATES
DEPARTMENT OF THE INTERIOR
WATER AND POWER RESOURCES SERVICE — L M REGION

MIRAGE FLATS PROJECT AND PICK-SLOAN MISSOURI BASIN PROGRAM
NIOBRARA, LOWER PLATTE AND KANSAS RIVER BASINS

IRRIGATION AND FLOOD CONTROL FACILITIES

Mc COOK, NEBRASKA

APRIL 1, 1980

DWG. NO. 60-701-250