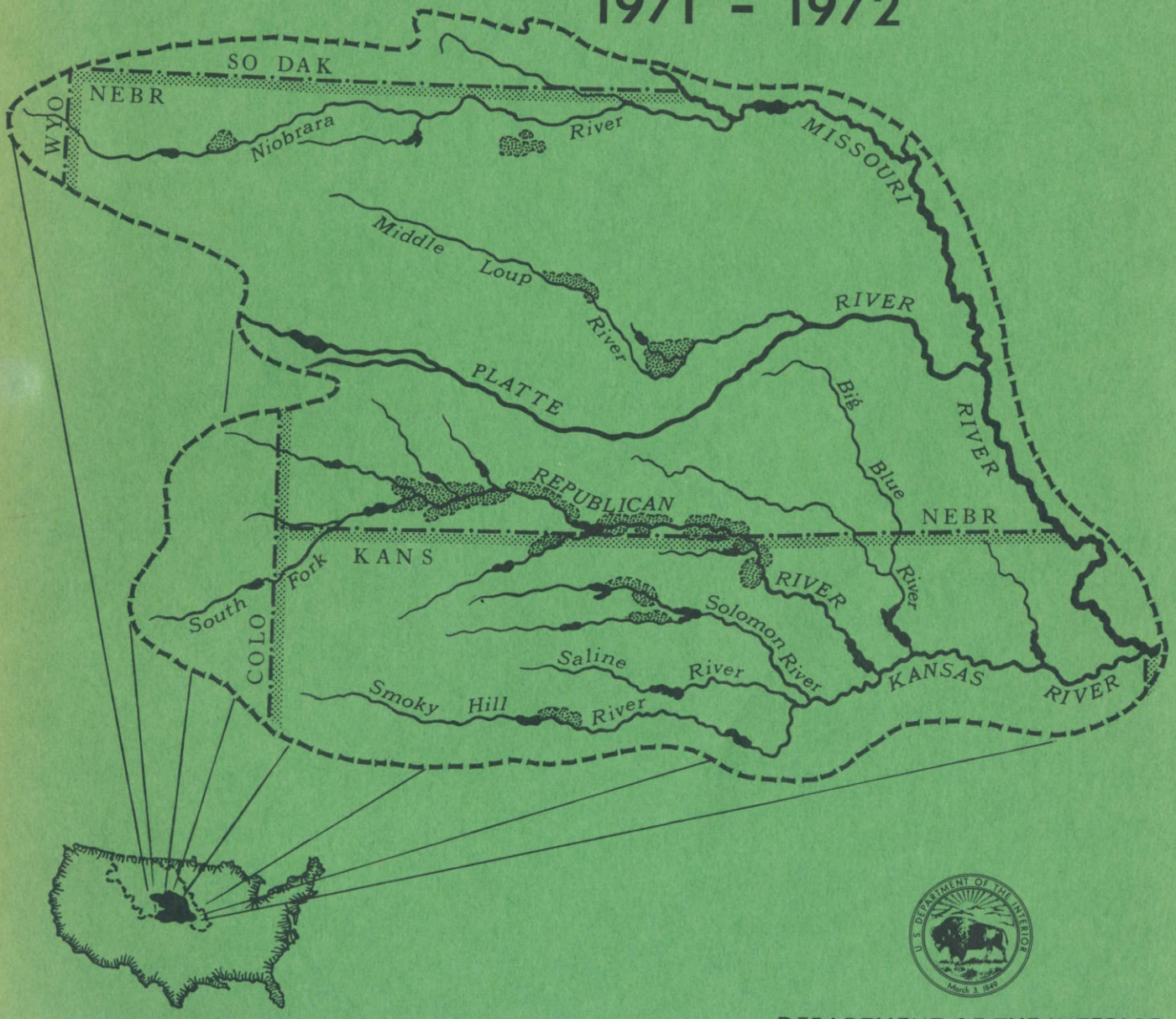
ANNUAL OPERATING PLAN

ANNUAL OPERATING PLAN

NIOBRARA, LOWER PLATTE, AND KANSAS RIVER BASINS 1971 - 1972



DEPARTMENT OF THE INTERIOR
Bureau of Reclamation

Department of the Interior

Bureau of Reclamation

Region 7 — Denver, Colorado

ANNUAL OPERATING PLAN

NIOBRARA, LOWER PLATTE, AND KANSAS RIVER BASINS

1971 OPERATIONS
1972 OUTLOOK

Billings
6-730

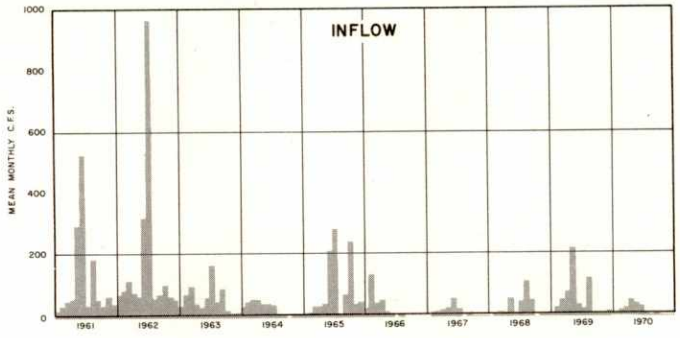
ERRATA

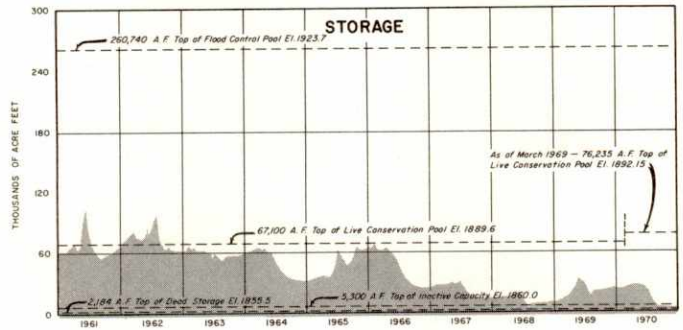
Exhibits 13 and 15 to the 1972 Annual Operating Plan for the Niobrara-Lower Platte and Kansas River Basins which were transmitted by our letter of March 20, 1972 containted printing errors.

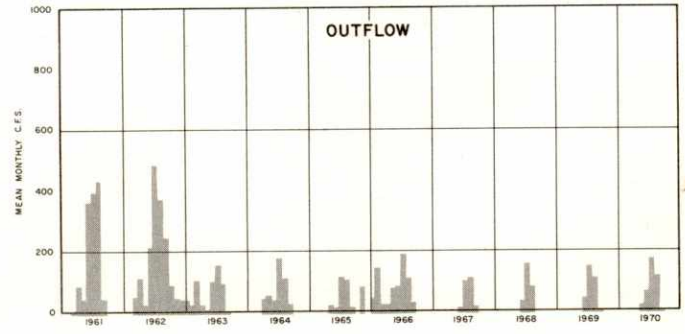
Please insert the attached corrected copies in your copy of the Annual Operating Plan.

REGION 7
BUREAU OF RECLAMATION

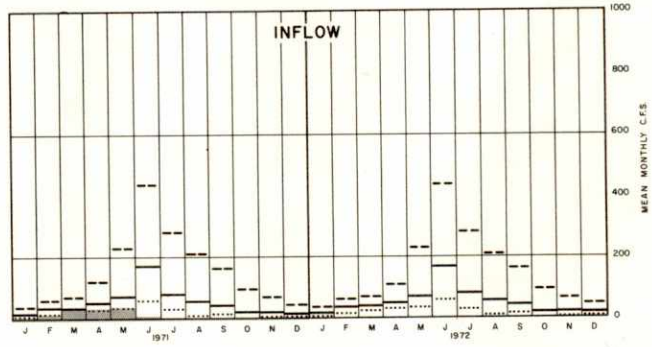
WEBSTER RESERVOIR
HISTORICAL OPERATION

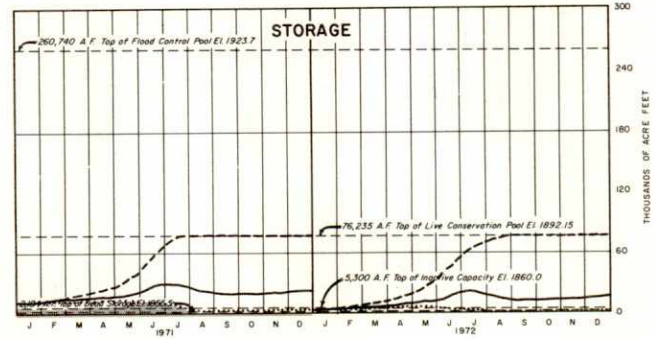


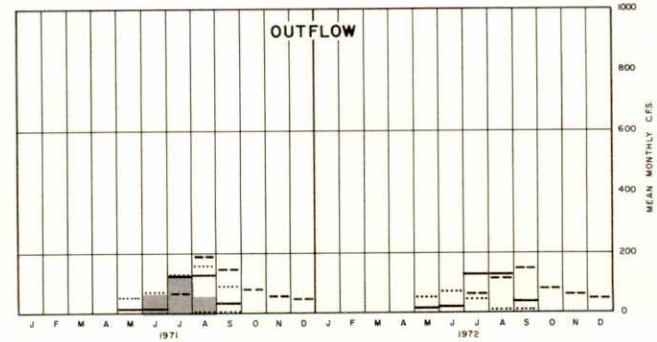




WEBSTER RESERVOIR
OPERATING PLANS



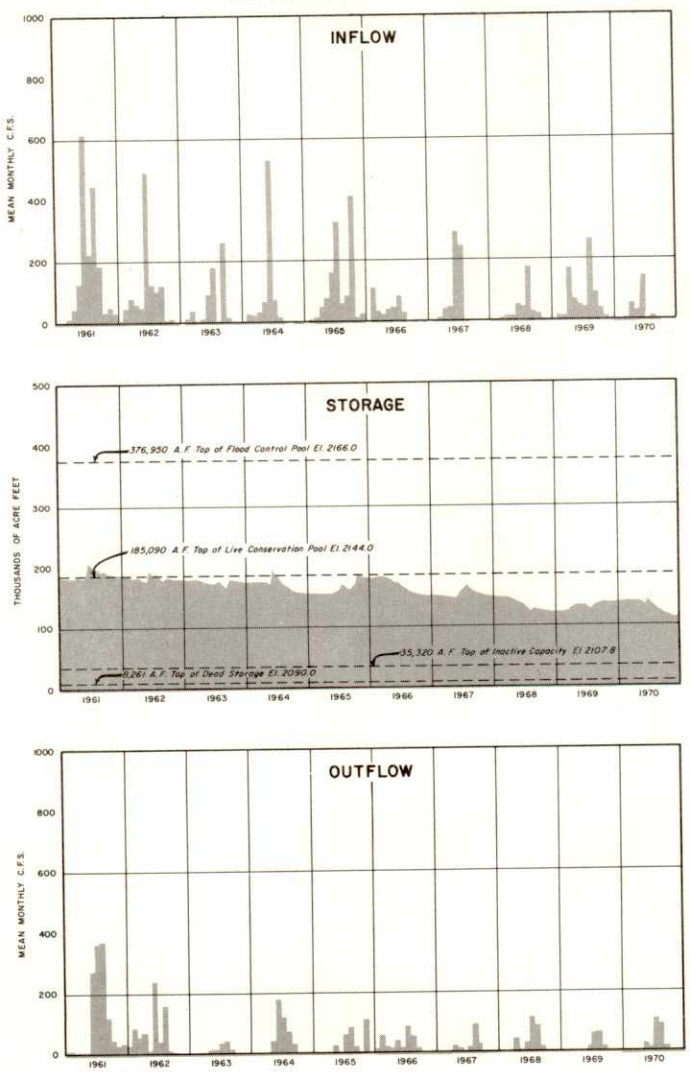




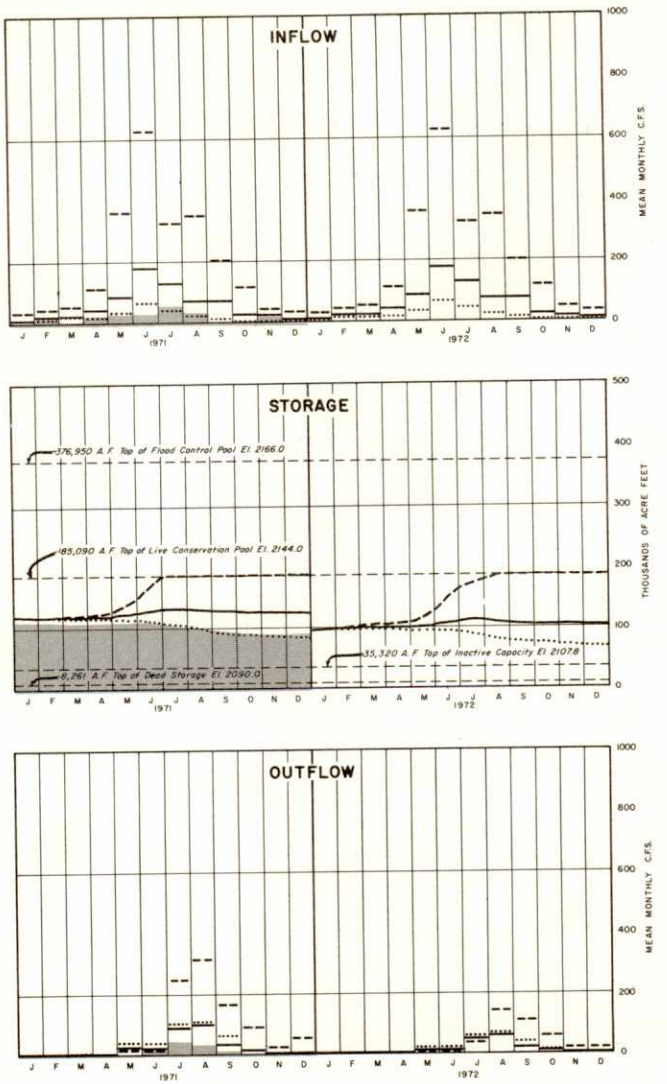
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 13

CEDAR BLUFF RESERVOIR
HISTORICAL OPERATION



CEDAR BLUFF RESERVOIR
OPERATING PLANS



MOST PROBABLE
REASONABLE MAXIMUM
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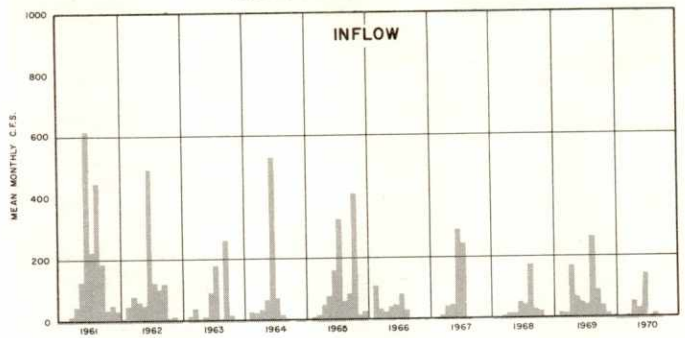
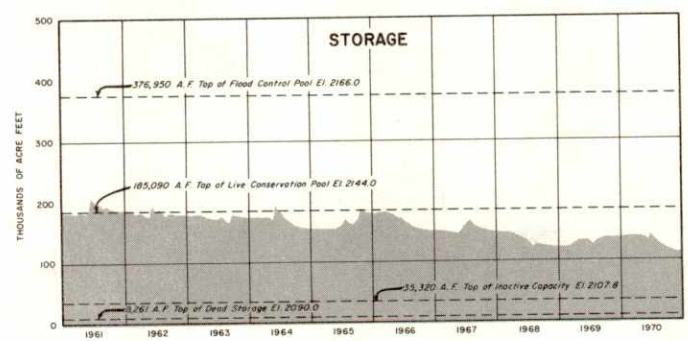
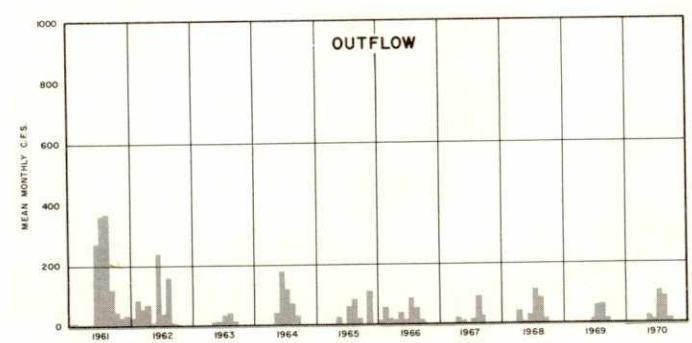
ACTUAL

Exhibit 15

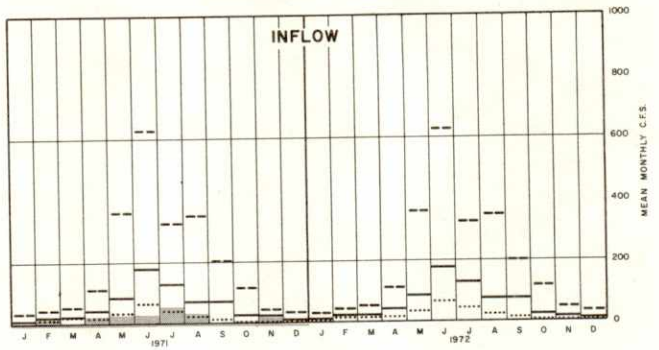
CEDAR BLUFF RESERVOIR
HISTORICAL OPERATION

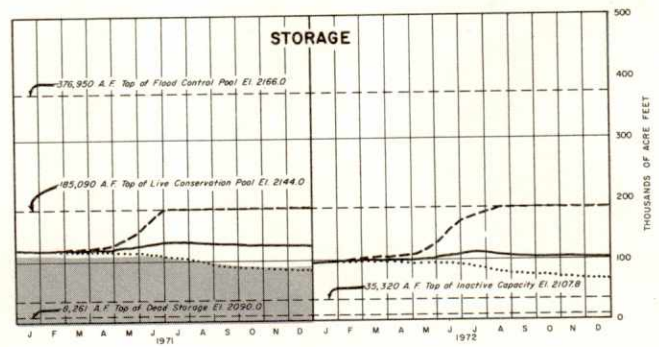


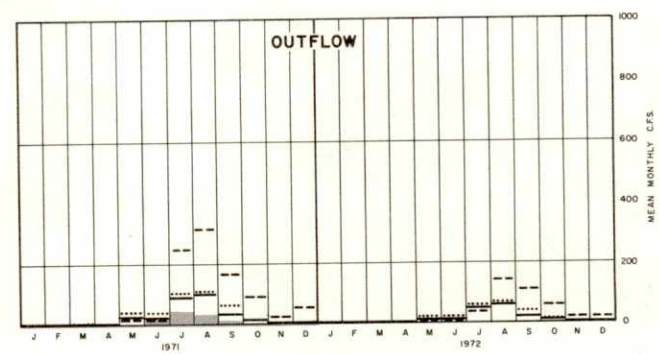




CEDAR BLUFF RESERVOIR
OPERATING PLANS







MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 15

TABLE OF CONTENTS

TABLE OF CONTENTS
(continued)

All following page 20

LIST OF TABLES

TABLE OF CONTENTS
(continued)

All following page 20

LIST OF EXHIBITS

TABLE OF CONTENTS
(continued)

All following page 20

LIST OF EXHIBITS
(continued)

SYNOPSIS

GENERAL

This is the nineteenth Annual Operating Plan for the federally owned reservoirs serving an irrigation function in the Niobrara, Lower Platte, and Kansas River Basins. There are 15 dams and reservoirs, 10 diversion dams, 10 pumping plants, and 22 canal systems in operation serving 267,847 acres of project lands. These features are located in Colorado, Nebraska, and Kansas, as shown on the location map in the back of this report. 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 Bureau of Reclamation or the Corps of Engineers. The diversion dams, pumping plants, and canal systems are operated by either irrigation or reclamation districts.

In addition to irrigation, these features serve flood control, municipal and industrial water, recreation, and fish and wildlife purposes.

1971 SUMMARY

Climatic Conditions. The annual precipitation during 1971 was nearly normal. The amount and intensity during any one storm was generally low and not conducive to appreciable surface runoff beyond filling small farm ponds and terraces. The rainfall during the peak irrigation demand period was below normal.

Storage Reservoirs. The inflows into two reservoirs were slightly above the normal year forecasts; between the dry and normal year forecasts into 11 reservoirs. Eight of the 15 reservoirs were drawn down to record-low water levels since initial filling of the conservation pools. The active conservation storage was evacuated from five of the eight reservoirs with record-low levels.

The carry-over storage from 1970 plus the 1971 inflows of Box Butte, Norton, and Webster Reservoirs were inadequate to fully supply the irrigation requirements of project lands.

Water Service. There were 542,116 acre-feet of water diverted to irrigate 225,350 acres of project lands in 13 irrigation districts. The project water supply was inadequate for 22,488 acres of lands irrigated in the Mirage Flats, Almena, and Webster Irrigation Districts. Arrangements were made with owners of private irrigation wells in the Mirage Flats and Almena Irrigation Districts for a supplemental water supply to their lands. The project water supplies for the other units mentioned in this report were adequate in 1971.

The full water requirements of three municipalities, two industrial companies, and a Federal fish hatchery were furnished from storage releases or return flows.

There were 356 acre-feet of storage water delivered to 595 acres of non-project lands and 78 acre-feet to a Colorado State fish hatchery under temporary one-year contracts. Under a long-term contract, 29,361 acre-feet were diverted to irrigate 11,000 acres of non-project lands in the Middle Loup Public Power and Irrigation District.

Irrigation Production. The crop yields from project lands in 1971 were generally higher than in 1970. Corn, the principal crop, had a higher yield by 8 percent. The unit prices for principal crops in 1971 were lower than in the previous year; however, the higher yields created a gross crop value of $29,441,400, as compared to $28,643,300 for 1970.*

Flood Control Benefits. Flood benefits in the amount of $96,000 were accrued in 1971 by the operation of Harlan County, Lovewell, Kirwin, Webster, Glen Elder, and Cedar Bluff Dams. The accumulated flood benefits for the years 1951 through 1971 by the facilities covered in this report total $31,660,000.

Fish and Wildlife and Recreation Benefits. The operations were generally flexible enough in 1971 to satisfy the recommendations of the Fish and Wildlife Service. Visitation to project facilities totaled 2,995,600, exceeding the 1970 total of 2,642,700. Table 5 contains information on 1971 visitations at specific features.

1972 OUTLOOK

The irrigation and reclamation districts estimate that 228,520 acres will be irrigated in 1972; however, this is based on a full water supply. The operation studies indicate that if 1972 is a dry year, the water supply will be inadequate for the irrigation of 42,350 acres in Mirage Flats, H & RW, Frenchman Valley, Almena, and Webster Irrigation Districts. As in past years, the Mirage Flats and Almena Irrigation Districts plan to use water from private irrigation wells to supplement the project water supply.

The industrial, municipal, and fish hatchery water supply requirements are expected to be met in full.

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*Gross crop values given in the narrative of this report are rounded.

During 1972, storage water in excess of project needs will be available from Bonny Reservoir and Waconda Lake for sale to private irrigators or for other non-project uses.

The pool levels in some of the reservoirs will more than likely be below normal during the early part of the year. With dry-year forecasted inflows, the conservation pools of Box Butte, Enders, Norton, Harlan County, Lovewell, Kirwin, Webster, and Cedar Bluff Reservoirs and Hugh Butler, Swanson, and Waconda Lakes will not fill during 1972. Even with low pool levels in the reservoirs and inadequate water supplies for irrigation of some project lands, the recommendations of State game, fish, and park commissions will generally be satisfied. As in the past, irrigation and reclamation districts will advise State agencies regarding aquatic weed control and canal operations. The Bureau of Reclamation will continue to operate the reservoirs and other facilities under its jurisdiction in the best interests of all project functions and for the greatest public benefit whenever possible.

CHAPTER I - INTRODUCTION

PURPOSE OF THE REPORT

In addition to describing the operational responsibilities of the Bureau of Reclamation, Corps of Engineers, and irrigation or reclamation districts, this Annual Operating Plan advises water users, cooperating agencies, and other interested groups or persons of the actual operations during 1971 and serves as guidelines for the 1972 operations.

OPERATIONAL RESPONSIBILITIES

The Bureau of Reclamation is responsible for irrigation operations at all Federal reservoirs in the Kansas River Projects area. Where the Bureau of Reclamation is the constructing agency, it is responsible for the employment of operation and maintenance personnel, safety of the structure, and reservoir operations for all other conservation functions, such as recreation, fish and wildlife, municipal and industrial uses, sanitation, and quality control not specifically associated with regulation of the flood control storage.

The Corps of Engineers is responsible for regulation of the flood control storage at all Federal reservoirs in the Kansas River Basin, and for conservation functions other than irrigation at the dams where it is the construction agency.

By contractual arrangements with the Bureau of Reclamation, 12 irrigation or reclamation districts are responsible for the operation of irrigation facilities constructed or rehabilitated by the Bureau of Reclamation in the Niobrara, Lower Platte, and Kansas River Basins with the exceptions of the reservoirs in the Kansas River Basin.

The States of Nebraska, Colorado, and Kansas are responsible for 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 Republican River Compact was authorized on August 4, 1942, by Public Law No. 696, which was enacted by the 77th Congress. The Compact was ratified by the States of Colorado, Kansas, and Nebraska. This Annual Operating Plan is in accordance with the objectives of the Compact, which are: "..to provide for the most efficient use of the waters of the Republican River Basin for multiple-purposes; to provide for an equitable division of such waters; to remove all causes, present and future, which might lead to controversies; to promote interstate comity; to recognize that the most efficient utilization of the waters within the Basin is for beneficial consumptive use, and to promote joint action

by the States and the United States in the efficient use of water and the control of destructive floods."

TABLES AND EXHIBITS

Principal records and graphs for the facilities reported herein are attached 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.

RESERVOIR OPERATIONS

At the end of the irrigation season, the carryover storage in each reservoir and the reasonable minimum inflow are evaluated to determine if water in excess of that required to fill the conservation pool may be anticipated. If excess inflow is apparent, controlled releases will be made to accomplish maximum downstream benefits. However, this plan is not used for Bonny Reservoir as winter releases from this reservoir are undesirable.

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 in the scope of this report are a part of the Pick-Sloan Missouri Basin Program and include multipurpose reservoirs, diversion dams, pump stations, and canal systems. Fifteen storage facilities are now in operation as follows:

Constructed by the Bureau of Reclamation:

(a) 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.

(b) Operated by the Bureau of Reclamation - 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:

(a) Harlan County Dam in the Kansas River Basin.

IRRIGATION DISTRICTS

Fourteen irrigation districts and one reclamation district in the Niobrara, Lower Platte, and Kansas River Basins have contracted with the Bureau of Reclamation for a water supply and irrigation facilities.

The normal irrigation season for 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 to October 15, and for all other districts, May 1 to September 30.

MUNICIPAL AND INDUSTRIAL WATER

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

FISH HATCHERY

A United States Bureau of Sport Fisheries and Wildlife warm-water fish hatchery is in operation below Cedar Bluff Reservoir.

OTHER FUNCTIONS

A "Statement of Operational Objectives" for Harlan County Reservoir was adopted by representatives of the Federal, State, and local interests in June 1952. The statement sets forth the general operational objectives and the specific reservoir uses considered desirable, such as that fish and wildlife interests will be best served by high pool levels with minimum fluctuations and regulation of outflow in excess of minimum requirements insofar as feasible. The statement recognizes that to assure realization of the greatest public benefits, operation plans

should be sufficiently comprehensive to permit the maximum integration of the secondary uses consistent with the primary purposes of flood control and irrigation.

Insofar as practicable, the above mentioned objectives are considered in the operation of all reservoirs in the Kansas River Basin and also for Merritt Reservoir in the Niobrara River Basin. The regulated outflow will also be of advantage to farmers, ranchers, industries, cities, and other interests below all reservoirs.

CHAPTER II - NIOBRARA AND LOWER PLATTE RIVER BASINS

MIRAGE FLATS PROJECT IN NEBRASKA

GENERAL

Niobrara River flows and Box Butte Reservoir storage provide a water supply which is normally insufficient to achieve maximum yields from the 11,662-acre Mirage Flats Irrigation District. Over 90 percent of the acreage in this district has been irrigated each year for the past 23 years. The water supply will yield an average diversion of one and a half acre-feet per acre which is about one acre-foot per acre short of the long-term average for a full water supply. Several of the landowners in the District have drilled irrigation wells as a source of a supplemental supply. The farmers that own wells share the well water with their neighbors, but the wells are too few in number to fully supplement the project water supply.

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 large sudden changes in the flows in the Niobrara River.

1971 SUMMARY

The Niobrara River flows and the carryover storage in Box Butte Reservoir were insufficient for a full water supply for the Mirage Flats Irrigation District lands and the active storage was evacuated for the second consecutive year. The 1971 low water surface elevation of 3970.42 (868 acre-feet) was reached on September 4. This is a record low since initial filling of the conservation capacity. The total precipitation in the Mirage Flats area was slightly above normal, but the period from mid-June through August was very dry with only small amounts of rainfall occurring during any one storm.

There were 10,621 acres irrigated which is 91 percent of the acres with service available. The farm deliveries from the project water supply were 1.02 acre-feet per acre and from privately owned irrigation wells, 0.38 acre-foot per acre. The gross crop value was $1,108,800.

1972 OUTLOOK

Flows from the Niobrara River into Box Butte Reservoir since the completion of the 1971 irrigation season have been slightly above normal. Even though the

water level in the reservoir was at a record low at the end of the 1971 irrigation season, the storage of 8,120 acre-feet on January 1, 1972 was about 200 acre-feet more than on this day one year previously. The Mirage Flats Irrigation District will announce to their water users in the spring the amount of water that will be available from Box Butte storage. The District plans for the irrigators to use water from privately owned irrigation wells as a supplemental supply. There are 10,500 acres expected to be irrigated in 1972.

AINSWORTH UNIT, SANDHILLS DIVISION IN NEBRASKA

GENERAL

The water supply for 33,960 acres in the Ainsworth Irrigation District is provided by Merritt Reservoir storage and Snake River flows. To avoid ice damage to the upstream face of Merritt Dam during the winter months, releases from Merritt Reservoir are regulated to maintain a water level about 5 feet below the top of the conservation capacity. When the reservoir surface clears of ice each spring, the conservation capacity is slowly filled. This operation greatly enhances the spring spawning of fish.

The Ainsworth Irrigation District cooperates with the Nebraska Game and Parks Commission by avoiding sudden large changes in reservoir releases. Small releases are also regulated as necessary to maintain a minimum flow of 15 c.f.s. in the Snake River below Merritt Dam.

1971 SUMMARY

The total precipitation for the year in the Merritt Dam vicinity was well above normal. The water supply was more than adequate to meet the irrigation requirements of 67,970 acre-feet to serve the 30,964 acres of irrigated land. The gross crop value was $4,019,000, which is nearly $700,000 more than in 1970.

1972 OUTLOOK

Releases from Merritt Reservoir will be regulated to fill the conservation capacity by mid-May. The water supply is expected to be adequate for the irrigation of an estimated 30,000 acres.

SARGENT UNIT, MIDDLE LOUP DIVISION IN NEBRASKA

GENERAL

The Sargent Irrigation District has contracted with the Loup Basin Reclamation District to operate the Milburn Diversion Dam and Sargent Canal system to serve 13,363 acres in this unit. 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 by an exchange of storage from Sherman Reservoir, provided the excess is not greater than the storage releases from Sherman Reservoir or if the excess is not greater than the amount of natural flow in the Middle Loup River passing the Arcadia Diversion Dam.

1971 SUMMARY

The annual precipitation over the Sargent Unit was below normal and the diversion of 27,794 acre-feet was above normal of which 1,740 acre-feet was storage from Sherman Reservoir. The diversions exceeded the appropriated natural flow right for 31 days during 1971. There were 11,402 acres irrigated with a gross crop value of $1,387,700.

1972 OUTLOOK

The Loup Basin Reclamation District estimates that 11,000 acres in the Sargent Unit will be irrigated in 1972. The water supply is expected to be adequate.

FARWELL UNIT, MIDDLE LOUP DIVISION IN NEBRASKA

GENERAL

The Loup Basin Reclamation District operates the Arcadia Diversion Dam, Sherman Feeder Canal, Sherman Dam and Reservoir, and the Farwell Canal system serving 47,925 acres of Farwell Irrigation District land. Diversions are also made through the Arcadia Diversion Dam to 11,800 acres of non-project lands in the Middle Loup Public Power and Irrigation District under appropriated natural-flow water rights.

During the winter months, the pool level of Sherman Reservoir is kept at least 5 feet below the top of the conservation capacity to avoid ice damage to the upstream face of Sherman Dam. Each spring, diversions into Sherman Feeder Canal from the Middle Loup River will be made to fill the conservation capacity

of Sherman Reservoir by mid-June. The gradual rising water surface in the spring is ideal for fish spawning.

The planned elevation for the top of the conservation pool of Sherman Reservoir was 2162.0. Since construction of the dam, the sill of the morning glory spillway has settled to approximate elevation 2161.3, which has been used as the control for the top of conservation capacity. A contract has been awarded to raise the height of the morning glory spillway to sill elevation 2162.3. The reservoir content at this elevation is 69,076 acre-feet and the water surface area is 2,868 acres. The 2162.3 crest elevation will allow about 0.3 of a foot for future settlement above that originally planned.

Whenever the flows in the Middle Loup River at Arcadia, Nebr., exceed 6,000 c.f.s., and safe capacity flows are diverted into Sherman Feeder Canal to Sherman Reservoir, flood control benefits can be accrued by such operations.

1971 SUMMARY

The diversions from the Middle Loup River at Arcadia Diversion Dam were 29,361 acre-feet to Middle Loup Public Power and Irrigation District and 129,177 acre-feet into Sherman Feeder Canal.

The conservation capacity of Sherman Reservoir was filled in the spring. The precipitation at Sherman Dam was below normal during July and August, and the active conservation storage was zero by the 1st of September. This was the first year that all of the active storage had been released for irrigation since the initial filling of the conservation pool in 1963. The water supply was adequate to irrigate 37,435 acres of Farwell Irrigation District lands. The gross crop value was $4,115,900.

1972 OUTLOOK

Diversions from the Middle Loup River for the normal spring filling of the conservation capacity of Sherman Reservoir will be deferred until modification of the morning glory spillway has been completed.

The water supply is expected to be adequate for the 38,500 acres that are planned to be irrigated in 1972.

CHAPTER III - REPUBLICAN RIVER BASIN

ARMEL UNIT, UPPER REPUBLICAN DIVISION IN COLORADO

GENERAL

Bonny Reservoir storage as required is transferred to Swanson Lake where releases into the Republican River are regulated to meet the industrial needs of the Midwest Oil Corporation and LVO Company (Livingston Oil Company) for their waterflood operations in the Sleepy Hollow Oil Field, south of Bartley, Nebr.

Bonny Reservoir inflows from the South Fork of the Republican River and Landsman Creek are released into Hale Ditch, as requested by the State Engineer of Colorado. Bonny storage water is available to Hale Ditch and other natural flow appropriators under temporary contracts.

Winter releases are normally not made from Bonny Reservoir in order to avoid potential ice damage to the exposed Hale Ditch outlet pipe, which is an integral part of the Bonny Dam outlet works. To reduce the chances of a large fall drawdown, the reservoir pool level is lowered 2 feet after May 15, and maintained there or below through the summer months. During low inflow years, the normal reservoir losses will lower the pool another 2 to 3 feet by September. In higher inflow years, it will be necessary to make special releases to lower the water surface to the winter pool level.

The operation of Bonny Reservoir enhances the fish spawning in the spring with a slowly rising or stable pool level, and in the fall the stable pool level, during the waterfowl migration period, affords excellent hunting conditions.

1971 SUMMARY

The precipitation and inflow to Bonny Reservoir during 1971 were below normal. The water supply was more than adequate, however, to furnish 454 acre-feet to Midwest Oil Corporation and 19 acre-feet to LVO Company. Two contracts were completed for 143 and 78 acre-feet for storage water from Bonny Reservoir to supplement appropriated natural flow water rights. As directed by the Colorado Water Commissioner, 2,814 acre-feet of reservoir inflows from the South Fork Republican River and Landsman Creek flows were passed through Bonny Reservoir into Hale Ditch. The total diversion into Hale Ditch from Bonny Reservoir was 3,035 acre-feet, of which 221 acre-feet were storage water.

1972 OUTLOOK

The Midwest Oil Corporation and the LVO Company will have an adequate water supply in 1972. Bonny storage will also be available for sale to Hale Ditch and other private irrigators under temporary contract.

The prospects are excellent for hunting, fishing, and recreation uses in 1972.

FRENCHMAN UNIT, FRENCHMAN-CAMBRIDGE DIVISION IN NEBRASKA

GENERAL

The transportation of water from Enders Reservoir through 52 miles of Frenchman Creek channel to the Culbertson Diversion Dam created an erosion problem that made it necessary to initiate a Control and Stabilization Program in 1964. The program has restored private access, protected private and public improvements, stabilized various reaches of channel banks, and reduced sediment from the flow in the Culbertson Canal and the stream at the Culbertson Diversion Dam.

The Culbertson Canal and the Culbertson Extension Canal systems serve 9,600 acres in the Frenchman Valley Irrigation District and 11,522 acres in the H & RW Irrigation District. The water supply for these lands is furnished by flows from Frenchman River 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.

1971 SUMMARY

While the precipitation at Enders Dam was above normal, the inflow into Enders Reservoir was only slightly above the dry-year forecast. This is the fourth consecutive year with below-normal inflows. The conservation pool was not filled during 1971. The active conservation storage capacity was evacuated by the end of August, and by the 7th of September the pool level was at elevation 3080.75, which is a record low since the initial filling of the conservation capacity in 1952.

The available project water supply of 15 inches per irrigated acre in the H & RW Irrigation District was inadequate by an estimated 6 inches per acre. The corn yields were about 15 bushels per acre below comparable areas with a full water supply. The precipitation over the irrigated area was below normal from mid-July to mid-September, and the diversions of 52,240 acre-feet to these two districts were considerably greater than the normal year forecasts. The Frenchman

Valley Irrigation District reports that 7,563 acres received water in 1971, and H & RW reports 10,622 acres, which are 79 and 92 percent, respectively, of the lands with service available. The gross crop value for Frenchman Valley Irrigation District was $1,032,000, and for H & RW, $1,342,600.

At the request of the Frenchman Valley and H & RW Irrigation Districts, the Bureau of Reclamation investigated the feasibility of pumping seepage collected in Enders Dam spillway stilling basin back into Enders Reservoir. Special pump tests were conducted intermittently during early October.

1972 OUTLOOK

The fall and early winter inflows into Enders Reservoir were about 1,200 acre-feet greater than during the previous year, but are still considerable below normal year forecasts. If the present trend of low inflow continues, the project water supply will be inadequate to irrigate 8,500 acres in Frenchman Valley Irrigation District and 11,000 acres in H & RW Irrigation District.

The Control and Stabilization Program on Frenchman Creek channel will be continued in 1972.

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

GENERAL

The normal operation of Trenton Dam and Swanson Lake, Red Willow Dam and Hugh Butler Lake, and Medicine Creek Dam and Harry Strunk Lake during the spring months with a slowly rising or stable pool level enhances optimum spawning of northern and walleye pike. The seepage below Red Willow and Medicine Creek Dams provides excellent fishing.

Service is provided by Meeker-Driftwood Canal to 16,600 acres; Red Willow Canal to 4,900 acres; Bartley Canal to 6,500 acres; and Cambridge Canal to 17,000 acres. The water for these lands is provided by Swanson, Hugh Butler, and Harry Strunk Lakes' storages, and flows of the Republican River and Red Willow and Medicine Creeks.

1971 SUMMARY

The precipitation was above normal, while the inflow to Swanson Lake was only slightly greater than the dry-year forecast. The conservation capacity lacked

about 2,200 acre-feet of being filled during 1971. The carryover storage and 1971 inflows furnished full water supplies to project lands served by the Meeker-Driftwood and Bartley Canal systems. The Frenchman-Cambridge Irrigation District diverted 41,710 acre-feet into Meeker-Driftwood Canal to irrigate 14,685 acres, and 12,229 acre-feet into Bartley Canal for 5,717 acres. The water surface area in Swanson Lake at the end of 1971 was about 4,800 acre-feet greater than at the end of 1970.

The precipitation and inflow into Hugh Butler Lake were above normal, and the water supply was more than adequate for Red Willow Canal diversions. The District diverted 9,376 acre-feet for the irrigation of 4,500 acres served by Red Willow Canal. This acreage was 20 percent larger than estimated before the 1971 season. There were an estimated 750 acre-feet of Red Willow Creek flows used downstream from Red Willow Dam for irrigation of non-project lands under senior water rights. Twenty-four acre-feet of Hugh Butler storage were sold in July under short-term contracts to irrigate 42 acres of non-project lands. The water level of Hugh Butler Lake at the end of the 1971 irrigation season (elevation 2574.56) was the lowest since initial filling in 1967.

Precipitation was above normal while the inflow was below normal for Harry Strunk Lake. The water supply was adequate for the diversion of 34,667 acre-feet for 15,883 acres served by the Cambridge Canal. There were 188 acre-feet of Harry Strunk storage sold to natural flow appropriators to irrigate 313 acres of non-project lands.

The Frenchman-Cambridge Irrigation District raised the ogee crest of the Cambridge Diversion Dam by about 6 inches. The District reports that the diversion dam operated successfully during the 1971 irrigation season and no water was wasted when the Cambridge Canal was filled to capacity. Also, the silt at the diversion dam was controlled to the extent that the dredge in the Cambridge Canal stilling basin was not operated even with no special releases made from Harry Strunk Lake for sluicing.

The gross crop value from the lands served by Meeker-Driftwood, Bartley, Red Willow, and Cambridge Canals was $5,779,300, as compared to $5,236,500 in 1970. Sizeable areas of irrigated lands served by Bartley and Red Willow Canals received severe damage from hailstorms, but higher average yields over the District, even with lower crop prices, increased the income.

1972 OUTLOOK

The carryover storage and 1972 flows are forecasted to adequately furnish a water supply for 40,000 acres that the Frenchman-Cambridge Irrigation District expects to deliver water to in 1972. On a canal basis, 15,200 acres are

estimated to be served from each of the Meeker-Driftwood and Cambridge Canals; 4,000 acres from Red Willow Canal; and 5,600 acres from Bartley Canal.

ALMENA UNIT, KANASKA DIVISION IN KANSAS

GENERAL

There are 5,350 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, Kans., provides for a maximum annual use of 1,600 acre-feet from Norton Reservoir.

1971 SUMMARY

The annual precipitation at Norton Dam was 108 percent of normal. During June, July, and August, the precipitation was below normal, and consequently, the irrigation requirements were above normal. The active storage in the conservation capacity of Norton Reservoir was evacuated by the 10th of August, and all irrigation releases were stopped by the 20th. Releases to Norton, however, were continued during the balance of the year. The 1971 minimum pool elevation of 2277.96 (3,995 acre-feet) on August 29, was the lowest level since initial filling of the conservation capacity in 1967.

The irrigation district officials were advised early in the spring that carryover storage in Norton Reservoir with below normal flows in Prairie Dog Creek would not furnish an adequate water supply for the 1971 season. For the second consecutive year, the District used water from privately owned irrigation wells to supplement the project water supply.

The Almena Irrigation District diverted 6,906 acre-feet from Prairie Dog Creek, which was nearly equal to the 6,835 acre-feet supplemental supply from irrigation wells. Even though the water supply was depleted by August 20, the average crop yields were the highest of the 13 districts discussed in this report. The 5,264 acres that were irrigated in 1971 produced a gross crop value of $816,800.

The city of Norton used 816 acre-feet of municipal water during 1971.

1972 OUTLOOK

The Almena Irrigation District expects to deliver water to 5,350 acres if an adequate water supply is available. If 1972 is a dry year without significant run-off producing storms above Norton Reservoir, only 200 to 300 acre-feet of storage are expected to accumulate in the active conservation pool. The District plans to use water from privately owned irrigation as in past years. The January 1972 inflows were about normal, so some storage is expected to be available for irrigation releases. With continuing normal inflow into the reservoir and normal rainfall over the irrigated area, a full water supply can be furnished from Norton storage and Prairie Dog Creek flows.

Norton's requirements are expected to be met in full in 1972.

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

GENERAL

Harlan County Reservoir storage and Republican River flows provide a project water supply for 22,848 acres in the Bostwick Irrigation District in Nebraska, and 11,805 acres in the Kansas - Bostwick Irrigation District above Lovewell Reservoir and together with White Rock Creek flows and Lovewell Reservoir storage furnish a water supply for 28,071 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.

It is desirable for water quality purposes to maintain minimum daily flows of 40 cubic feet per second in the Republican River below Superior, Nebr. When the Superior Canal and Courtland Canal (in Nebraska) are in operation, the return flows of seepage and surface irrigation runoff along with the natural flow pickup in the Republican River below the Superior-Courtland Diversion Dam will more than meet this minimum flow requirement. In the interest of water conservation, during dry years when forecasted operation studies indicate that reasonable minimum inflows will not fill Harlan County Reservoir before the start of the next irrigation season, available flows in the fall and spring of the year in the Republican River below Harlan County Dam, with minimum release of 10 c.f.s. from the reservoir, are diverted into Courtland Canal to transport water into the conservation capacity of Lovewell Reservoir. During these periods when flows of the Republican River are diverted into the Courtland Canal for extended periods

with no irrigation deliveries, and in combination with below normal precipitation, the flows in the Republican River downstream from Superior may be as low as 20 c.f.s.

In cooperation with the Kansas Forestry, Fish and Game Commission, the Kansas-Bostwick Irrigation District and the Bureau of Reclamation maintain a minimum flow of 20 c. f. s. into Lovewell Reservoir when Courtland Canal above Lovewell Reservoir is in operation. This minimum inflow provides excellent fishing around the Courtland Canal inlet into Lovewell Reservoir. The seepage below Lovewell Dam into White Rock Creek maintains a small live stream throughout the year.

1971 SUMMARY - BOSTWICK DIVISION - NEBRASKA

The precipitation at Harlan County Dam was 112 percent of normal, while the inflow was below normal. Even though the conservation capacity did not fill in 1971 by about 15,000 acre-feet, the operation of Harlan County Dam and Reservoir did prevent $64,000 of flood damages. The water supply was adequate to meet the irrigation requirements of 29,096 acres of the Bostwick Division in Nebraska and Kansas above Lovewell Dam and transfers of storage to Lovewell Reservoir.

The diversions into Franklin, Naponee, and Superior Canals were considerably above normal, while diversions into Franklin Pump Canal and Courtland Canal (Nebraska) were slightly below normal. The Bostwick Irrigation District in Nebraska diverted 61,489 acre-feet for 19,708 acres. The gross crop value was $2,674,700.

During the irrigation season, the mean daily flows in the Republican River below Superior, Nebr., were greater than the desired minimum of 40 c.f.s. Following the end of the season on September 4, with only minimum releases of 10 c.f.s. from Harlan County Reservoir, the Republican River flows at the Superior-Courtland Diversion Dam were diverted to partially fill the conservation capacity of Lovewell Reservoir. These diversions were continued until October 25th. The flows in the Republican River below Superior dropped below 40 c.f.s. from mid-September to mid-October. The minimum flow was 18 c.f.s. on October 13 and 14th.

1971 SUMMARY - BOSTWICK DIVISION - KANSAS

The precipitation at Lovewell Dam was normal. The inflows into Lovewell Reservoir from White Rock Creek were below normal, while the diversions into the reservoir from Courtland Canal were 150 percent of the dry-year forecast. The operation of Lovewell Dam and Reservoir prevented $9,000 of flood damages. The accumulated flood damages prevented since the start of operation in 1957 are $706,000.

The Kansas - Bostwick Irrigation District diverted 72,417 acre-feet to serve 9,388 acres above Lovewell Dam and 19,246 acres below Lovewell. This acreage is 72 percent of the area with service available. The gross crop value for 1971 was $3,611,700.

1972 OUTLOOK - BOSTWICK DIVISION

The Bostwick Irrigation District in Nebraska expects to deliver water to 22,640 acres and the Kansas-Bostwick Irrigation District to 28,000 acres. The storage in Harlan County and Lovewell Reservoirs and the flows of the Republican River and White Rock Creek are forecasted to furnish an adequate water supply for the Bostwick lands.

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 reservoir inflows from the North Fork of the Solomon River.

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

1971 SUMMARY

The precipitation was 89 percent of normal. The inflow was only slightly greater than the dry-year forecast and the lowest water surface elevation of 1718.57, on October 24, 1971, set a record low pool level since the initial filling of the conservation capacity in 1960. The operation of Kirwin Dam and Reservoir did, however, prevent flood damages of $3,000 in 1971. The water supply was adequate to fully meet the irrigation requirements.

The Kirwin Irrigation District diverted 22,739 acre-feet for irrigation of 9,852 acres. The gross crop value from these acres was $1,441,800.

1972 OUTLOOK

The Kirwin Irrigation District estimates that 10,000 acres will be irrigated in 1972. The carryover storage in Kirwin Reservoir and the forecasted inflows from the North Fork of the Solomon River are expected to be adequate to irrigate these lands.

WEBSTER UNIT, SOLOMON DIVISION IN KANSAS

GENERAL

The Webster Irrigation District has service available to 8,564 acres. The project water supply is provided by Webster Reservoir storage and flows of the South Fork of the Solomon River.

The Kansas Forestry, Fish and Game Commission operates a portable fish hatchery at the Webster Dam spillway stilling basin during the spring months. Unless absolutely necessary for flood control releases, the spillway gates are not opened while the hatchery is in operation.

1971 SUMMARY

In 1971, the precipitation at Webster Dam was 87 percent of normal. Even though the inflow was slightly less than the reasonable minimum forecast, the operation of Webster Dam and Reservoir prevented $3,000 of flood damages. The carryover storage and flows of the South Fork of the Solomon River were inadequate for a project water supply. Of the 11,874 acre-feet released from Webster Reservoir, only 9,175 acre-feet reached the Woodston Diversion Dam for diversion into the Osborne Canal system. The active storage in the conservation capacity was evacuated by August 2, and all releases were stopped on August 8th. After this time, the evaporation losses exceeded the reservoir inflow until October 22, when the lowest water surface elevation of 1857.35 (3,224 acre-feet) was reached. This is a record low pool level since initial filling of the conservation capacity in 1957. During the period from October 22 through December 31, the storage in Webster Reservoir increased only 153 acre-feet.

The Webster Irrigation District reports that 6,603 acres were irrigated. Only $9\frac{1}{2}$ inches of water per acre were available for delivery at the farm turnouts. As 13 inches were needed for a full supply, yields were reduced accordingly by about 15 percent. The gross crop value was $883,800, which is about $146,000 less than in 1970.

1972 OUTLOOK

The 1972 water supply outlook for the Webster Irrigation District lands is very bleak. The low inflows of 1971 are continuing into 1972 and the storage in Webster Reservoir increased by less than 35 acre-feet during January of this year. If this low flow condition continues into the spring and summer of 1972, a very severe shortage will occur. If a water supply is available with more favorable inflow conditions, the Webster Irrigation District plans to deliver water to 7,000 acres in 1972.

GLEN ELDER UNIT, SOLOMON DIVISION IN KANSAS

GENERAL

Pending construction of irrigation facilities, releases from Waconda Lake will be regulated as required for water quality control in the Solomon River downstream from the municipal water supply intake at Beloit.

The water service contract with Beloit provides for maximum annual release of 2,000 acre-feet from Waconda Lake.

The available facilities along the shores of Waconda Lake and the large water surface area will afford opportunities to many thousands of people for picnics, sightseeing, recreation, water sports, hunting, and fishing. The operating criteria for Waconda Lake also provides for a stable or rising pool level during the fish spawning period each spring.

1971 SUMMARY

The precipitation at Glen Elder Dam was 96 percent of normal. Even though the inflow was slightly less than the reasonable minimum forecasted inflow, the operation of Glen Elder Dam and Waconda Lake in 1971 prevented $9,000 of flood damages.

There were 900 acre-feet released for the benefit of Beloit. Also, about 10,000 acre-feet were released to provide water quality control in the Solomon River at Beloit.

1972 OUTLOOK

The municipal requirements of Beloit will be met in full with releases as required from Waconda Lake. In addition to this operation, releases will be regulated as required to maintain water quality control in the Solomon River at Beloit.

CEDAR BLUFF UNIT, SMOKY HILL DIVISION IN KANSAS

GENERAL

Cedar Bluff Reservoir storage and Smoky Hill River flows provided an annual water supply for the 6,800 acres in the Cedar Bluff Irrigation District, up to 4,000 acre-feet for the Cedar Bluff National Fish Hatchery, and a maximum of 2,000 acre-feet for the city of Russell, Kans.

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

1971 SUMMARY

The precipitation was 105 percent of normal. The inflow was slightly greater than the reasonable minimum forecasted inflow condition. The operation of Cedar Bluff Dam and Reservoir prevented $8,000 of flood benefits. The water supplies for the Cedar Bluff Irrigation District and the Cedar Bluff National Fish Hatchery were furnished in full. No releases were required for Russell. The lowest water surface elevation of 2128.05 (96,870 acre-feet) was the lowest pool level since 1955.

The Cedar Bluff Irrigation District diverted 13,686 acre-feet to irrigate 5,897 acres of project lands. The gross crop value of $610,900 was an increase of 13 percent over the previous year.

The Cedar Bluff National Fish Hatchery diverted 2,186 acre-feet. Of this, 868 acre-feet were passed through the hatchery facilities and returned to the Smoky Hill River below Cedar Bluff Dam.

1972 OUTLOOK

The carryover storage in Cedar Bluff Reservoir and the inflows from the Smoky Hill River are expected to fully meet the requirements of the Cedar Bluff National Fish Hatchery, Russell, and the irrigation of 6,000 acres of project lands.

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	2161.3 2/	---
	Total Acre-feet	3,839	10,496	66,246 2/	---
	Net Acre-feet	3,839	6,657	55,750 2/	---
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	37,780	86,630
	Net Acre-feet	6,313	4,137	27,330	48,850
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	- Elevation Ft.	1885.0	1927.0	1946.0	1973.5
	Total Acre-feet	929	144,761	342,560	840,561
	Net Acre-feet	929	143,832	197,799	498,001
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	99,440	314,550
	Net Acre-feet	6,385	3,400	89,665	215,110
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.)		58,070	312,307	1,475,108	3,658,039
Total Net Acre-feet		58,070	254,237	1,162,801	2,354,723

1/ Includes space for sediment storage.

2/ Upon completion of contract to raise lip of intake structure the Elevation will be 2162.3, Acre-feet 69,076, and Net Acre-feet 58,580.

TABLE 2
SUMMARY OF 1971 OPERATIONS

MIRAGE FLATS PROJECT
BOX BUTTE RESERVOIR AND MIRAGE FLATS CANAL

MONTH	Inflow (AF)	Outflow (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	MIRAGE FLATS CANAL Diversions To Canal (AF)	MIRAGE FLATS CANAL Delivered To Farms (AF)
Jan.	1,986	38	64	.29	9,915	0	0
Feb.	2,403	40	81	.24	12,177	0	0
Mar.	2,633	49	161	.27	14,588	0	0
Apr.	2,918	51	298	2.93	17,148	0	0
May	2,500	62	382	3.35	19,206	0	0
June	1,958	555	481	3.23	20,270	407	0
July	0	10,431	556	.80	9,668	10,047	4,872
Aug.	583	9,914	126	.36	1,366	9,450	5,592
Sep.	1,677	753	82	2.33	2,315	1,096	362
Oct.	1,646	45	109	1.43	3,793	0	0
Nov.	2,566	40	126	.26	6,174	0	0
Dec.	2,072	40	75	.01	8,120	0	0
TOTAL	22,942	22,018	2,541	15.50	---	21,000	10,826
NORMAL	22,100	23,600	3,900	15.27	31,060 1/	26,000	---

1/ Conservation Pool Capacity.

NOTE.--MIRAGE FLATS IRRIGATION DISTRICT
Mirage Flats Canal:
Acres with service available -- 11,662
Acres irrigated 1971 -- 10,621
Gross Crop Value 1971 -- $1,108,769

SANDHILLS DIVISION
AINSWORTH UNIT
MERRITT RESERVOIR AND AINSWORTH CANAL

MONTH	Inflow (AF)	Outflow To River (AF)	Outflow To Canal (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	AINSWORTH CANAL Diversions To Canal (AF)	AINSWORTH CANAL Delivered To Farms (AF)
Jan.	13,826	14,618	0	152	.40	60,909	0	0
Feb.	14,208	14,168	0	177	.56	61,166	0	0
Mar.	14,133	17,216	0	381	.40	61,166	0	0
Apr.	18,424	3,473	0	956	5.29	75,075	0	0
May	15,040	16,001	770	958	3.72	73,626	770	0
June	13,526	8,035	4,423	1,329	1.19	73,913	4,423	1,437
July	14,252	835	29,253	1,301	1.68	57,452	29,253	22,129
Aug.	14,755	1,186	29,124	889	5.75	41,642	29,124	22,597
Sep.	13,907	2,352	4,374	749	1.61	49,712	4,374	1,440
Oct.	15,635	3,273	26	497	1.64	61,442	26	0
Nov.	15,011	12,462	0	486	.33	62,449	0	0
Dec.	14,712	13,371	0	206	.11	62,449	0	0
TOTAL	177,429	106,990	67,970	8,081	22.68	---	67,970	47,603
NORMAL	190,600	105,600	72,700	11,300	17.52	74,486 2/	72,700	---

2/ Conservation Pool Capacity.

NOTE.--AINSWORTH IRRIGATION DISTRICT
Ainsworth Canal:
Acres with service available -- 33,960
Acres irrigated 1971 -- 30,964
Gross Crop Value 1971 -- $4,018,989

MIDDLE LOUP DIVISION

	SARGENT UNIT SARGENT CANAL		MIDDLE LOUP UNIT 3/ MID. LOUP P. P. CANALS	FARWELL UNIT SHERMAN RESERVOIR AND FARWELL CANALS						
MONTH	Diversions To Canal (AF)	Delivered To Farms (AF)	Diversions To Canals (AF)	Inflow (AF)	Outflow To Canals (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	Diversions To Canals (AF)	Delivered To Farms (AF)
Jan.	0	0	0	0	0	137	.20	37,935	0	0
Feb.	0	0	0	0	0	155	1.02	37,348	0	0
Mar.	0	0	0	0	0	154	.20	36,403	0	0
Apr.	0	0	0	17,926	0	756	1.74	53,454	0	0
May	0	0	657	12,451	0	929	2.49	64,857	0	0
June	2,317	158	4,393	12,154	10,272	1,440	5.27	65,404	10,272	1,018
July	11,454	7,128	10,225	11,505	37,039	1,298	2.04	38,131	37,039	21,230
Aug.	11,597	7,619	11,971	8,628	35,863	416	1.22	10,089	35,863	23,130
Sep.	2,426	885	2,115	30,621	5,544	675	1.58	34,545	5,544	3,100
Oct.	0	0	0	17,863	0	547	2.12	51,768	0	0
Nov.	0	0	0	0	0	470	1.64	49,650	0	0
Dec.	0	0	0	0	0	183	.06	47,589	0	0
TOTAL	27,794	15,790	29,361	111,148	88,718	7,160	19.58	---	88,718	48,478
NORMAL	23,800	---	---	94,900	64,500	11,500	20.80	66,246 4/	64,500	---

3/ Non-Project. 4/ Conservation Pool Capacity.

NOTE.--SARGENT IRRIGATION DISTRICT
Sargent Canal:
Acres with service available -- 13,363
Acres irrigated 1971 -- 11,402
Gross Crop Value 1971 -- $1,387,703

MIDDLE LOUP P. P. IRRIGATION DISTRICT
Middle Loup P. P. Canals:
Acres with service available -- 11,800
Acres irrigated 1971 -- 11,000

FARWELL IRRIGATION DISTRICT
Farwell Canals:
Acres with service available -- 47,925
Acres irrigated 1971 -- 37,435
Gross Crop Value 1971 -- $4,732,224

UPPER REPUBLICAN DIVISION
ARMEL UNIT
BONNY RESERVOIR

MONTH	Inflow (AF)	Outflow To River (AF)	Outflow To Hale Ditch (AF)	Warren Act Sales (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)
Jan.	1,960	362	0	0	196	.74	39,720
Feb.	2,060	310	0	0	242	1.61	41,461
Mar.	1,760	2,090	0	0	308	.70	41,340
Apr.	2,600	909	528	0	779	2.60	41,891
May	2,940	4,070	950	0	903	2.90	38,681
June	1,310	1,470	537	0	1,021	.44	36,707
July	750	419	339	80	1,144	1.87	35,539
Aug.	60	322	163	142	1,163	.38	33,922
Sep.	670	327	115	0	850	1.55	33,346
Oct.	1,440	716	387	0	613	.83	33,490
Nov.	1,840	338	16	0	420	.90	34,893
Dec.	1,696	326	0	0	246	.09	36,289
TOTAL	19,086	11,659 5/	3,035	222	7,885	14.61	---
NORMAL	27,000	11,700	3,800	---	6,300	16.35	41,340 6/

5/ Includes releases for industrial uses. 6/ Conservation Pool Capacity.

TABLE 2
SUMMARY OF 1971 OPERATIONS

FRENCHMAN-CAMBRIDGE DIVISION
FRENCHMAN UNIT
ENDERS RESERVOIR, CULBERTSON CANAL, AND CULBERTSON EXTENSION CANAL

MONTH	Inflow (AF)	Outflow (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	CULBERTSON CANAL Diversions To Canal (AF)	CULBERTSON CANAL Delivered To Farms (AF)	CULBERTSON EXT. CANAL Diversions To Canal (AF)	CULBERTSON EXT. CANAL Delivered To Farms (AF)
Jan.	4,000	345	72	.49	26,566	0	0	0	0
Feb.	3,610	395	102	1.05	29,740	0	0	0	0
Mar.	3,930	436	150	.75	33,135	0	0	0	0
Apr.	3,800	451	547	4.83	35,905	3,706	2,187	0	0
May	3,610	466	576	2.03	38,445	950	561	3,074	8
June	3,920	2,390	915	3.06	39,336	1,402	827	3,207	206
July	5,210	18,120	850	2.92	25,482	7,254	4,280	9,988	5,599
Aug.	4,740	20,160	386	.79	9,909	7,496	4,424	12,379	7,130
Sep.	4,850	1,940	293	2.05	11,944	1,525	900	1,259	539
Oct.	3,990	333	219	1.34	15,595	0	0	0	0
Nov.	4,170	329	181	.94	19,311	0	0	0	0
Dec.	4,106	365	76	.04	23,080	0	0	0	0
TOTAL	49,776	45,730	4,367	20.29	---	22,333	13,179	29,907	13,482
NORMAL	59,400	29,500	4,600	18.76	44,480 1/	16,300	---	22,000	---

1/ Conservation Pool Capacity.

NOTE.--FRENCHMAN VALLEY IRRIGATION DISTRICT
Culbertson Canal:
Acres with service available -- 9,600
Acres irrigated 1971 -- 7,563
Gross Crop Value 1971 -- $1,045,566

H & RW IRRIGATION DISTRICT
Culbertson Extension Canal:
Acres with service available -- 11,522
Acres irrigated 1971 -- 10,622
Gross Crop Value 1971 -- $1,343,912

FRENCHMAN-CAMBRIDGE DIVISION (Continued)
MEEKER-DRIFTWOOD UNIT
SWANSON LAKE AND MEEKER-DRIFTWOOD CANAL

MONTH	Inflow (AF)	Outflow To River (AF)	Outflow To Meeker-Driftwood Canal (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	MEEKER-DRIFTWOOD Diversions To Canal (AF)	MEEKER-DRIFTWOOD Delivered To Farms (AF)
Jan.	4,720	63	0	227	.72	69,600	0	0
Feb.	8,230	63	0	316	1.86	77,770	0	0
Mar.	13,220	55	0	504	.80	90,770	0	0
Apr.	14,040	59	0	1,828	4.11	102,950	0	0
May	13,400	92	1,620	1,828	2.73	112,980	1,620	0
June	7,660	291	2,836	2,714	4.04	115,000	2,836	390
July	2,500	4,490	16,188	2,635	3.44	93,660	16,188	10,929
Aug.	700	6,690	16,681	2,323	.17	68,070	16,681	12,706
Sep.	320	752	4,385	1,551	1.27	61,130	4,385	2,468
Oct.	950	77	0	1,001	1.43	61,020	0	0
Nov.	4,480	83	0	636	1.61	65,140	0	0
Dec.	4,106	74	0	340	.08	69,220	0	0
TOTAL	74,326	12,789	41,710	15,903	22.26	---	41,710	26,493
NORMAL	103,300	125,900	28,800	13,300	19.38	120,160 2/	28,800	---

2/ Conservation Pool Capacity.

NOTE.--Meeker-Driftwood Canal:
Acres with service available -- 16,600
Acres irrigated 1971 -- 14,685
Gross Crop Value 1971 -- $2,218,153

FRENCHMAN-CAMBRIDGE DIVISION (Continued)
RED WILLOW UNIT
HUGH BUTLER LAKE, RED WILLOW CANAL, AND BARTLEY CANAL

MONTH	Inflow (AF)	Outflow (AF)	Warren Act Sales (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	RED WILLOW CANAL Diversions To Canal (AF)	RED WILLOW CANAL Delivered To Farms (AF)	BARTLEY CANAL Diversions To Canal (AF)	BARTLEY CANAL Delivered To Farms (AF)
Jan.	1,460	263	0	73	.25	32,862	0	0	0	0
Feb.	1,820	265	0	91	1.42	34,463	0	0	0	0
Mar.	2,160	308	0	173	.57	36,324	0	0	0	0
Apr.	2,620	315	0	646	3.89	38,050	0	0	0	0
May	2,270	1,640	0	654	2.36	38,018	309	0	346	0
June	2,120	2,970	0	943	4.01	36,579	972	203	1,228	225
July	1,680	5,530	24	974	2.94	31,920	3,922	2,956	5,640	4,631
Aug.	1,390	4,420	0	806	.82	28,024	3,585	2,552	4,440	3,860
Sep.	1,390	925	0	582	1.33	27,711	588	324	575	379
Oct.	1,810	240	0	422	2.00	28,827	0	0	0	0
Nov.	1,886	238	0	190	1.83	30,321	0	0	0	0
Dec.	1,398	264	0	84	.04	31,422	0	0	0	0
TOTAL	22,004	17,378	24	5,638	21.46	---	9,376	6,035	12,229	9,095
NORMAL	20,500	16,100	---	4,400	19.75	37,776 3/	6,400	---	10,600	---

3/ Conservation Pool Capacity.

NOTE.--Red Willow Canal:
Acres with service available -- 4,900
Acres irrigated 1971 -- 4,500
Gross Crop Value 1971 -- $511,817

Bartley Canal:
Acres with service available -- 6,500
Acres irrigated 1971 -- 5,717
Gross Crop Value 1971 -- $763,459

FRENCHMAN-CAMBRIDGE DIVISION (Continued)
CAMBRIDGE UNIT
HARRY STRUNK LAKE AND CAMBRIDGE CANAL

MONTH	Inflow (AF)	Outflow (AF)	Warren Act Sales (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	CAMBRIDGE CANAL Diversions To Canal (AF)	CAMBRIDGE CANAL Delivered To Farms (AF)
Jan.	3,270	201	0	58	.25	28,017	0	0
Feb.	3,700	182	0	94	.92	31,554	0	0
Mar.	3,950	218	0	208	.61	35,271	0	0
Apr.	4,750	712	0	774	4.97	38,606	0	0
May	4,480	5,400	0	789	3.63	37,235	2,281	0
June	3,640	4,140	0	1,059	3.41	36,501	2,984	484
July	3,000	11,150	189	1,001	2.83	27,247	14,076	10,009
Aug.	2,230	10,910	0	628	2.24	18,765	13,812	10,783
Sep.	2,510	1,100	0	485	1.65	19,959	1,514	671
Oct.	3,620	138	0	402	1.40	23,018	0	0
Nov.	3,670	171	0	230	2.38	26,445	0	0
Dec.	3,094	141	0	104	.07	29,413	0	0
TOTAL	41,914	34,463	189	5,832	24.36	---	34,667	21,947
NORMAL	52,800	48,700	---	4,900	19.20	37,141 4/	24,300	---

4/ Conservation Pool Capacity.

NOTE.--Cambridge Canal:
Acres with service available -- 17,000
Acres irrigated 1971 -- 15,883
Gross Crop Value 1971 -- $2,285,827

FRENCHMAN-CAMBRIDGE IRRIGATION DISTRICT (Meeker-Driftwood, Red Willow, Bartley, and Cambridge Canals):
Acres with service available -- 45,003
Acres irrigated 1971 -- 40,785
Gross Crop Value 1971 -- $5,779,256

TABLE 2
SUMMARY OF 1971 OPERATIONS

KANASKA DIVISION
ALMENA UNIT
NORTON RESERVOIR AND ALMENA CANAL

MONTH	Inflow (AF)	Outflow To River (AF)	Outflow To City Of Norton (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	ALMENA CANAL Diversions To Canal (AF)	ALMENA CANAL Delivered To Farms (AF)
Jan.	320	9	38	56	.14	8,678	0	0
Feb.	480	8	33	57	.57	9,049	0	0
Mar.	570	7	40	85	.20	9,469	0	0
Apr.	2,220	8	58	429	3.24	11,181	0	0
May	1,680	6	55	462	4.18	12,259	86	0
June	1,290	1,390	92	730	3.17	11,470	1,153	676
July	20	4,161	124	599	2.17	6,777	3,421	2,685
Aug.	424	2,570	148	324	2.06	4,067	2,246	1,624
Sep.	440	12	72	221	1.98	4,146	0	0
Oct.	280	5	69	170	1.73	4,210	0	0
Nov.	510	8	44	91	2.52	4,598	0	0
Dec.	317	6	43	48	.09	4,798	0	0
TOTAL	8,551	8,190	816	3,272	22.05	---	6,906	4,985
NORMAL	20,000	10,000	1,700	4,500	20.38	35,935 1/	10,000	---

1/ Conservation Pool Capacity.

NOTE.--ALMENA IRRIGATION DISTRICT

Almena Canal:
Acres with service available -- 5,350
Acres irrigated 1971 -- 5,264
Gross Crop Value 1971 -- $816,755

BOSTWICK DIVISION
FRANKLIN UNIT
HARLAN COUNTY RESERVOIR, FRANKLIN CANAL, AND NAPONEE CANAL

MONTH	Inflow (AF)	Outflow To River (AF)	Outflow To Canals (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	FRANKLIN CANAL Diversions To Canal (AF)	FRANKLIN CANAL Delivered To Farms (AF)	NAPONEE CANAL Diversions To Canal (AF)	NAPONEE CANAL Delivered To Farms (AF)
Jan.	7,020	622	0	519	.21	239,893	0	0	0	0
Feb.	13,860	631	0	527	1.35	253,160	0	0	0	0
Mar.	17,620	592	0	979	.66	269,848	0	0	0	0
Apr.	18,340	522	0	4,951	1.81	282,684	0	0	0	0
May	29,850	611	2,117	5,507	4.94	304,572	2,117	0	0	0
June	21,180	6,710	2,656	7,922	2.18	310,733	2,380	597	276	171
July	14,500	40,740	17,095	7,472	3.42	259,804	15,418	7,713	1,677	1,388
Aug.	6,040	30,280	15,690	6,376	1.68	213,272	13,951	7,146	1,739	1,202
Sep.	11,800	1,980	533	4,215	3.05	217,907	533	66	0	0
Oct.	8,930	689	0	3,246	2.35	222,794	0	0	0	0
Nov.	12,000	714	0	1,333	1.81	233,265	0	0	0	0
Dec.	10,364	738	0	624	.14	242,084	0	0	0	0
TOTAL	171,504	84,829	38,091	43,671	23.60	---	34,399	15,522	3,692	2,761
NORMAL	308,100	292,900	26,300	38,600	20.91	342,560 2/	22,500	---	3,800	---

2/ Conservation Pool Capacity.

NOTE.--Franklin Canal:
Acres with service available -- 11,016
Acres irrigated 1971 -- 9,652
Gross Crop Value 1971 -- $1,279,456

Naponee Canal:
Acres with service available -- 1,737
Acres irrigated 1971 -- 1,394
Gross Crop Value 1971 -- $197,357

BOSTWICK DIVISION (Continued)
SUPERIOR-COURTLAND UNIT
FRANKLIN PUMP CANAL, SUPERIOR CANAL, AND COURTLAND CANAL IN NEBRASKA

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 (Nebr.) Diversions To Canal (AF)	COURTLAND (Nebr.) Delivered To Farms (AF)
Jan.	0	0	0	0	0	0
Feb.	0	0	0	0	0	0
Mar.	0	0	0	0	0	0
Apr.	0	0	0	0	0	0
May	0	0	1,159	0	0	0
June	122	73	846	257	50	57
July	2,306	1,360	7,859	4,842	1,224	1,079
Aug.	1,852	1,032	6,356	3,703	831	732
Sep.	32	6	278	44	22	19
Oct.	0	0	0	0	0	0
Nov.	0	0	0	0	0	0
Dec.	0	0	0	0	0	0
TOTAL	4,312	2,471	16,498	8,846	2,127	1,887
NORMAL	4,400	---	11,800	---	3,300	---

NOTE.--Franklin Pump Canal:
Acres with service available -- 2,108
Acres irrigated 1971 -- 1,989
Gross Crop Value 1971 -- $261,153

Superior Canal:
Acres with service available -- 5,964
Acres irrigated 1971 -- 5,295
Gross Crop Value 1971 -- $728,691

Courtland Canal in Nebraska:
Acres with service available -- 1,962
Acres irrigated 1971 -- 1,378
Gross Crop Value 1971 -- $206,060

BOSTWICK IRRIGATION DISTRICT IN NEBRASKA
Franklin, Naponee, Franklin Pump & Superior Canals, and Courtland Canal in Nebraska:
Acres with service available -- 22,787
Acres irrigated 1971 -- 19,708
Gross Crop Value 1971 -- $2,674,717

BOSTWICK DIVISION (Continued)
COURTLAND UNIT
COURTLAND CANAL ABOVE LOVEWELL, LOVEWELL RESERVOIR, AND COURTLAND CANAL BELOW LOVEWELL

MONTH	COURTLAND (Above) Diversions To Canal (AF)	COURTLAND (Above) Delivered To Farms (AF)	Inflow Wh. Rock Creek (AF)	Inflow Courtland Canal (AF)	Outflow Wh. Rock Creek (AF)	Outflow To Canal (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	COURTLAND (Below) Diversions To Canal (AF)	COURTLAND (Below) Delivered To Farms (AF)
Jan.	0	0	280	0	4	0	110	1.43	37,570	0	0
Feb.	0	0	3,138	0	7	0	86	2.81	40,660	0	0
Mar.	0	0	1,630	0	9	0	238	.96	42,170	0	0
Apr.	0	0	860	0	499	0	1,077	.86	41,510	0	0
May	0	0	2,130	0	11	0	1,110	4.05	42,470	0	0
June	1,600	700	5,040	1,266	3,578	4,832	1,551	3.79	39,490	4,832	1,383
July	15,584	9,420	192	14,508	8	20,624	1,480	2.79	32,550	20,624	10,634
Aug.	7,858	4,506	0	16,177	4	19,543	1,246	.86	28,330	19,543	10,778
Sep.	174	83	0	6,491	8	2,202	972	1.50	30,970	2,202	611
Oct.	0	0	496	3,007	7	0	674	3.37	33,720	0	0
Nov.	0	0	560	0	7	0	531	1.89	33,800	0	0
Dec.	0	0	0	0	6	0	103	.73	33,950	0	0
TOTAL	25,216	14,709	14,326	41,449	4,148	47,201	9,178	25.04	---	47,201	23,406
NORMAL	17,700	---	25,700	27,200	0	34,500	5,300	24.72	41,690 3/	34,500	---

3/ Conservation Pool Capacity.

NOTE.--Courtland Canal above Lovewell:
Acres with service available -- 11,805
Acres irrigated 1971 -- 9,388
Gross Crop Value 1971 -- $1,219,130

Courtland Canal below Lovewell:
Acres with service available -- 28,071
Acres irrigated 1971 -- 19,246
Gross Crop Value 1971 -- $2,392,546

KANSAS-BOSTWICK IRRIGATION DISTRICT
Courtland Canal above Lovewell, and Courtland Canal below Lovewell:
Acres with service available -- 39,876
Acres irrigated 1971 -- 28,634
Gross Crop Value 1971 -- $3,611,676

TABLE 2
SUMMARY OF 1971 OPERATIONS

SOLOMON DIVISION
KIRWIN UNIT
KIRWIN RESERVOIR AND KIRWIN CANAL

MONTH	Inflow (AF)	Outflow To River (AF)	Outflow To Canal (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	KIRWIN CANAL Diversions To Canal (AF)	KIRWIN CANAL Delivered To Farms (AF)
Jan.	272	5	0	255	.05	74,770	0	0
Feb.	2,072	5	0	257	2.16	76,530	0	0
Mar.	2,510	6	0	391	.47	78,090	0	0
Apr.	2,802	5	0	1,619	2.18	79,280	0	0
May	4,672	5	0	1,645	4.18	82,210	0	0
June	2,788	3	3,493	2,717	1.68	78,880	3,493	1,706
July	700	10	10,370	2,722	1.80	66,020	10,370	8,118
Aug.	484	12	8,680	2,087	.71	55,214	8,680	6,776
Sep.	1,476	24	196	1,579	2.18	54,750	196	150
Oct.	364	5	0	1,068	2.25	53,900	0	0
Nov.	850	5	0	531	1.91	53,970	0	0
Dec.	615	5	0	213	.35	54,005	0	0
TOTAL	19,605	90	22,739	15,084	19.92	---	22,739	16,750
NORMAL	38,100	13,700	17,800	14,300	22.34	99,445 1/	17,800	---

1/ Conservation Pool Capacity.

NOTE.--KIRWIN IRRIGATION DISTRICT
Kirwin Canal:
Acres with service available -- 11,435
Acres irrigated 1971 -- 9,852
Gross Crop Value 1971 -- $1,421,675

SOLOMON DIVISION (Continued)
WEBSTER UNIT
WEBSTER RESERVOIR AND OSBORNE CANAL

MONTH	Inflow (AF)	Outflow (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	OSBORNE CANAL Diversions To Canal (AF)	OSBORNE CANAL Delivered To Farms (AF)
Jan.	68	112	69	.24	9,114	0	0
Feb.	1,466	5	95	2.37	10,212	0	0
Mar.	2,630	4	156	.53	11,727	0	0
Apr.	2,354	5	546	2.90	13,571	0	0
May	2,606	9	580	4.33	15,537	0	0
June	788	2,883	902	1.29	13,160	1,277	165
July	1,324	7,763	799	1.93	5,955	6,109	3,720
Aug.	108	1,865	435	1.40	3,600	1,789	1,299
Sep.	126	2	335	1.81	3,391	0	0
Oct.	164	2	249	1.59	3,290	0	0
Nov.	214	2	87	1.77	3,323	0	0
Dec.	173	0	41	.53	3,377	0	0
TOTAL	12,021	12,652	4,294	20.69	---	9,175	5,264
NORMAL	34,700	19,000	7,100	23.87	76,235 2/	15,000	---

2/ Conservation Pool Capacity.

NOTE.--WEBSTER IRRIGATION DISTRICT
Osborne Canal:
Acres with service available -- 8,564
Acres irrigated 1971 -- 6,603
Gross Crop Value 1971 -- $883,986

SOLOMON DIVISION (Continued)
GLEN ELDER UNIT
WACONDA LAKE

MONTH	Inflow (AF)	Outflow (AF)	Outflow For City Of Beloit (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)
Jan.	1,800	750	30	400	.81	79,406
Feb.	5,332	378	30	469	1.59	83,937
Mar.	7,946	213	20	743	.56	90,648
Apr.	3,384	666	20	2,676	.92	90,896
May	8,150	665	40	2,668	4.57	95,543
June	5,554	890	100	4,209	3.47	96,003
July	11,720	2,309	180	4,438	5.30	101,049
Aug.	772	2,065	180	4,061	.24	98,347
Sep.	10,754	1,515	180	3,116	1.36	102,338
Oct.	2,440	744	60	2,265	2.92	101,429
Nov.	4,056	448	30	1,377	2.08	103,107
Dec.	2,995	381	30	697	.66	104,435
TOTAL	64,903	11,024	900	27,119	24.48	---
NORMAL	122,000	1,500	---	36,800	25.50	238,251 3/

3/ Conservation Pool Capacity.

SMOKY HILL DIVISION
ELLIS UNIT
CEDAR BLUFF RESERVOIR AND CEDAR BLUFF CANAL

MONTH	Inflow (AF)	Outflow To River (AF) 5/	Outflow To Canal (AF)	Outflow To Fish Hatchery (AF)	Evap. (AF)	Precip. (Inches)	End Of Month Content (AF)	CEDAR BLUFF CANAL Diversions To Canal (AF)	CEDAR BLUFF CANAL Delivered To Farms (AF)
Jan.	564	11	0	117	439	.40	116,840	0	0
Feb.	1,324	12	0	104	441	1.48	117,720	0	0
Mar.	846	10	0	82	639	.70	117,380	0	0
Apr.	2,050	21	0	168	2,451	2.74	117,330	0	0
May	2,278	46	369	263	2,542	2.54	116,640	369	29
June	2,414	68	2,725	285	3,829	1.41	112,320	2,725	1,214
July	3,774	106	4,844	298	3,113	4.78	107,530	4,844	3,669
Aug.	2,450	115	4,131	281	2,651	1.72	102,820	4,131	2,884
Sep.	90	104	1,617	242	2,350	.88	98,590	1,617	1,139
Oct.	754	25	0	193	1,580	2.68	97,480	0	0
Nov.	1,462	35	0	80	767	3.01	97,960	0	0
Dec.	296	20	0	75	384	.70	97,860	0	0
TOTAL	18,302	573	13,686	2,188	21,186	23.04	---	13,686	8,935
NORMAL	42,600	6,000	12,800	---	19,800	22.03	185,090 4/	12,800	---

4/ Conservation Pool Capacity.

5/ No releases required for City of Russell, Kansas.

NOTE.--CEDAR BLUFF IRRIGATION DISTRICT
Cedar Bluff Canal:
Acres with service available -- 6,800
Acres irrigated 1971 -- 5,897
Gross Crop Value 1971 -- $610,884

TABLE 3
BOX BUTTE RESERVOIR AND MIRAGE FLATS CANAL
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	Month	Hist. Inflow	Net Evap. AF	Total Release Req.	Canal Req.[1]	Prior Rights	Res. Change	Res. Cont. at End of Month	Res. Spill	Res. Elev. at End of Month	Req. Shortage
Reas. Minimum	Jan	2.0	.1	.1	.0	.0	1.8	9.9	.0	3989.6	
	Feb	2.1	.1	.1	.0	.0	1.9	11.8	.0	3991.7	
	Mar	3.2	.2	.1	.0	.0	2.9	14.7	.0	3994.6	
	Apr	2.6	.5	1.6	1.7	.0	.5	15.2	.0	3995.1	
	May	1.4	.8	3.4	3.5	.0	- 2.8	12.4	.0	3992.3	
	Jun	.8	.7	3.4	3.5	.0	- 3.3	9.1	.0	3988.6	
	Jul	.5	.6	10.0	10.2	.1	- 8.5	.6	.0	3969.0	1.6
	Aug	.5	.1	10.1	10.2	.1	.0	.6	.0	3969.0	9.7
	Sep	.5	.1	5.0	5.1	.0	.0	.6	.0	3969.0	4.6
	Oct	.7	.1	.1	.0	.0	.5	1.1	.0	3971.6	
	Nov	1.5	.1	.1	.0	.0	1.3	2.4	.0	3976.8	
	Dec	2.2	.0	.1	.0	.0	2.1	4.5	.0	3981.5	
	TOTAL	18.0	3.4	34.1	34.2	.2	- 3.6	.0	.0		
Most Probable	Jan	2.3	.1	.1	.0	.0	2.1	10.2	.0	3989.9	
	Feb	2.4	.1	.1	.0	.0	2.2	12.4	.0	3992.3	
	Mar	3.4	.2	.1	.0	.0	3.1	15.5	.0	3995.4	
	Apr	2.9	.4	1.2	1.3	.0	1.3	16.8	.0	3996.5	
	May	1.5	.7	1.1	1.3	.0	- .3	16.5	.0	3996.3	
	Jun	1.4	.7	2.4	2.6	.0	- 1.7	14.8	.0	3994.7	
	Jul	1.1	.8	8.5	9.1	.1	- 8.2	6.6	.0	3985.2	
	Aug	1.0	.4	8.6	9.1	.1	- 6.0	.6	.0	3969.0	2.0
	Sep	.7	.1	2.4	2.6	.0	.0	.6	.0	3969.0	1.8
	Oct	1.0	.1	.1	.0	.0	.8	1.4	.0	3973.1	
	Nov	1.9	.1	.1	.0	.0	1.7	3.1	.0	3978.6	
	Dec	2.5	.1	.1	.0	.0	2.3	5.4	.0	3983.2	
	TOTAL	22.1	3.8	24.8	26.0	.2	- 2.7	.0	.0		
Reas. Maximum	Jan	2.6	.1	.1	.0	.0	2.4	10.5	.0	3990.3	
	Feb	2.7	.1	.1	.0	.0	2.5	13.0	.0	3992.9	
	Mar	4.7	.2	.1	.0	.0	4.4	17.4	.0	3997.1	
	Apr	3.7	.3	.6	1.1	.0	2.8	20.2	.0	3999.4	
	May	2.4	.7	.8	1.1	.0	.9	21.1	.0	4000.1	
	Jun	3.2	.6	1.6	2.2	.0	1.0	22.1	.0	4000.8	
	Jul	2.1	.9	6.5	7.5	.0	- 5.3	16.8	.0	3996.5	
	Aug	1.6	.7	6.4	7.5	.0	- 5.5	11.3	.0	3991.1	
	Sep	1.3	.4	1.7	2.2	.0	- .8	10.5	.0	3990.3	
	Oct	1.8	.2	.1	.0	.0	1.5	12.0	.0	3991.9	
	Nov	2.5	.2	.1	.0	.0	2.2	14.2	.0	3994.1	
	Dec	2.9	.1	.1	.0	.0	2.7	16.9	.0	3996.6	
	TOTAL	31.5	4.5	18.2	21.6	.0	8.8	.0	.0		

[1] BASED ON 10,800 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
MERRITT RESERVOIR AND AINSWORTH CANAL OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	MONTH	HIST. INFLOW	NET EVAP. AF	AINSWORTH CANAL REQ.[1]	RELEASE TO RIVER	TOTAL RELEASE REQ.	RES. CHANGE	RES.CONT. AT END OF MONTH	RES. SPILL	RES.ELEV. AT END OF MONTH
REAS. MINIMUM	JAN	14.5	.2	.0	1.0	1.0	.0	62.4	13.3	2941.6
	FEB	14.1	.2	.0	1.0	1.0	.0	62.4	12.9	2941.6
	MAR	16.6	.4	.0	1.0	1.0	12.1	74.5	3.1	2946.0
	APR	15.3	1.5	.0	1.0	1.0	.0	74.5	12.8	2946.0
	MAY	15.8	1.9	11.5	1.0	12.5	.0	74.5	1.4	2946.0
	JUN	14.0	2.3	11.5	1.0	12.5	- .8	73.7	.0	2945.7
	JUL	13.3	2.2	39.9	1.0	40.9	- 29.8	43.9	.0	2933.3
	AUG	13.4	1.0	39.9	1.0	40.9	- 28.5	15.4	.0	2910.8
	SEP	13.3	.5	11.5	1.0	12.5	.3	15.7	.0	2911.2
	OCT	14.8	.4	.0	1.0	1.0	13.4	29.1	.0	2924.0
	NOV	14.6	.3	.0	1.0	1.0	13.3	42.4	.0	2932.5
	DEC	15.1	.2	.0	1.0	1.0	13.9	56.3	.0	2939.1
	TOTAL	174.8	11.1	114.3	12.0	126.3	- 6.1	.0	43.5	
MOST PROBABLE	JAN	16.2	.2	.0	1.0	1.0	.0	62.4	15.0	2941.6
	FEB	15.2	.2	.0	1.0	1.0	.0	62.4	14.0	2941.6
	MAR	17.4	.4	.0	1.0	1.0	12.1	74.5	3.9	2946.0
	APR	16.9	1.1	.0	1.0	1.0	.0	74.5	14.8	2946.0
	MAY	17.2	1.6	4.2	1.0	5.2	.0	74.5	10.4	2946.0
	JUN	15.5	1.8	4.2	1.0	5.2	.0	74.5	8.5	2946.0
	JUL	14.8	2.0	33.6	1.0	34.6	- 21.8	52.7	.0	2937.6
	AUG	14.8	1.3	33.6	1.0	34.6	- 21.1	31.6	.0	2925.9
	SEP	14.8	.8	8.4	1.0	9.4	4.6	36.2	.0	2928.9
	OCT	15.9	.7	.0	1.0	1.0	14.2	50.4	.0	2936.5
	NOV	15.8	.5	.0	1.0	1.0	12.0	62.4	2.3	2941.6
	DEC	16.1	.2	.0	1.0	1.0	.0	62.4	14.9	2941.6
	TOTAL	190.6	10.8	84.0	12.0	96.0	.0	.0	83.8	
REAS. MAXIMUM	JAN	17.3	.2	.0	1.0	1.0	.0	62.4	16.1	2941.6
	FEB	16.3	.2	.0	1.0	1.0	.0	62.4	15.1	2941.6
	MAR	18.7	.4	.0	1.0	1.0	12.1	74.5	5.2	2946.0
	APR	18.8	.8	.0	1.0	1.0	.0	74.5	17.0	2946.0
	MAY	18.4	1.3	2.7	1.0	3.7	.0	74.5	13.4	2946.0
	JUN	16.6	1.5	2.7	1.0	3.7	.0	74.5	11.4	2946.0
	JUL	16.3	1.8	21.3	1.0	22.3	- 7.8	66.7	.0	2943.2
	AUG	15.8	1.5	21.3	1.0	22.3	- 8.0	58.7	.0	2940.1
	SEP	15.8	1.1	5.4	1.0	6.4	3.7	62.4	4.6	2941.6
	OCT	16.9	1.0	.0	1.0	1.0	.0	62.4	14.9	2941.6
	NOV	16.6	.5	.0	1.0	1.0	.0	62.4	15.1	2941.6
	DEC	17.5	.2	.0	1.0	1.0	.0	62.4	16.3	2941.6
	TOTAL	205.0	10.5	53.4	12.0	65.4	.0	.0	129.1	

[1] BASED ON 30,000 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
SHERMAN RESERVOIR AND FARWELL CANALS
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	MONTH	HIST. INFLOW	NET EVAP. AF	CANAL REQ.[1]	TOTAL RELEASE REQ.	SEEPAGE	RES. CHANGE	RES.CONT. AT END OF MONTH	RES. SPILL	RES.ELEV. AT END OF MONTH
REAS. MINIMUM	JAN	.0	.2	.0	.0	1.5	- 1.7	45.9	.0	2153.1
	FEB	.0	.2	.0	.0	1.5	- 1.7	44.2	.0	2152.4
	MAR	.0	.2	.0	.0	1.5	- 1.7	42.5	.0	2151.6
	APR	.0	1.1	.0	.0	1.5	- 2.6	39.9	.0	2150.3
	MAY	28.0	1.4	10.4	10.4	1.5	14.7	54.6	.0	2156.9
	JUN	28.4	2.1	10.4	10.4	1.5	14.4	69.0	.0	2162.3
	JUL	20.0	2.3	37.0	37.0	1.5	- 20.8	48.2	.0	2154.2
	AUG	18.6	1.5	37.0	37.0	1.5	- 21.4	26.8	.0	2142.9
	SEP	31.5	1.1	10.4	10.4	1.5	18.5	45.3	.0	2152.9
	OCT	12.6	.9	.0	.0	1.5	10.2	55.5	.0	2157.2
	NOV	.0	.5	.0	.0	1.5	- 2.0	53.5	.0	2156.4
	DEC	.0	.2	.0	.0	1.5	- 1.7	51.8	.0	2155.7
	TOTAL	139.1	11.7	105.2	105.2	18.0	4.2	.0	.0	
MOST PROBABLE	JAN	.0	.2	.0	.0	1.5	- 1.7	45.9	.0	2153.1
	FEB	.0	.2	.0	.0	1.5	- 1.7	44.2	.0	2152.4
	MAR	.0	.2	.0	.0	1.5	- 1.7	42.5	.0	2151.6
	APR	.0	.8	.0	.0	1.5	- 2.3	40.2	.0	2150.4
	MAY	28.0	1.3	3.5	3.5	1.5	21.7	61.9	.0	2159.7
	JUN	13.9	1.7	3.5	3.5	1.5	7.2	69.1	.0	2162.3
	JUL	26.0	2.1	28.5	28.5	1.5	- 6.1	63.0	.0	2160.1
	AUG	22.0	1.8	28.5	28.5	1.5	- 9.8	53.2	.0	2156.3
	SEP	14.4	1.3	6.8	6.8	1.5	4.8	58.0	.0	2158.2
	OCT	.0	.9	.0	.0	1.5	- 2.4	55.6	.0	2157.3
	NOV	.0	.5	.0	.0	1.5	- 2.0	53.6	.0	2156.5
	DEC	.0	.2	.0	.0	1.5	- 1.7	51.9	.0	2155.8
	TOTAL	104.3	11.2	70.8	70.8	18.0	4.3	.0	.0	
REAS. MAXIMUM	JAN	.0	.2	.0	.0	1.5	- 1.7	45.9	.0	2153.1
	FEB	.0	.2	.0	.0	1.5	- 1.7	44.2	.0	2152.4
	MAR	.0	.2	.0	.0	1.5	- 1.7	42.5	.0	2151.6
	APR	.0	.6	.0	.0	1.5	- 2.1	40.4	.0	2150.5
	MAY	20.9	1.0	2.3	2.3	1.5	16.1	56.5	.0	2157.6
	JUN	17.8	1.4	2.3	2.3	1.5	12.6	69.1	.0	2162.3
	JUL	22.6	1.8	19.3	19.3	1.5	.0	69.1	.0	2162.3
	AUG	15.2	1.5	19.3	19.3	1.5	- 7.1	62.0	.0	2159.7
	SEP	3.2	1.1	4.5	4.5	1.5	- 3.9	58.1	.0	2158.3
	OCT	.0	.9	.0	.0	1.5	- 2.4	55.7	.0	2157.3
	NOV	.0	.5	.0	.0	1.5	- 2.0	53.7	.0	2156.5
	DEC	.0	.2	.0	.0	1.5	- 1.7	52.0	.0	2155.8
	TOTAL	79.7	9.6	47.7	47.7	18.0	4.4	.0	.0	

[1] BASED ON 38,500 ACRES TO BE IRRIGATED UNDER THE FARWELL CANAL SYSTEMS IN 1972.

TABLE 3
BONNY RESERVOIR AND HALE DITCH
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	Month	Hist. Inflow	Net Evap. AF	Rel. to Hale Ditch [1]	Rel. to River	Total Release Req.	Res. Change	Res. Cont. at End of Month	Res. Spill	Res. Elev. at End of Month
Reas. Minimum	Jan	1.9	.2	.0	.4	.4	1.3	37.9	.0	3670.3
	Feb	1.9	.3	.0	.4	.4	1.2	39.1	.0	3670.9
	Mar	2.3	.4	.0	.4	.4	1.5	40.6	.0	3671.6
	Apr	2.0	.7	.3	.4	.7	.6	41.2	.0	3672.0
	May	1.9	.9	.9	4.1	5.0	- 4.0	37.2	.0	3669.9
	Jun	1.3	1.1	.9	.4	1.3	- 1.1	36.1	.0	3669.3
	Jul	.7	1.3	.9	.4	1.3	- 1.9	34.2	.0	3668.3
	Aug	.4	1.0	.8	.4	1.2	- 1.8	32.4	.0	3667.3
	Sep	.4	.8	.6	.4	1.0	- 1.4	31.0	.0	3666.5
	Oct	1.1	.7	.5	.4	.9	- .5	30.5	.0	3666.2
	Nov	1.6	.4	.3	.4	.7	.5	31.0	.0	3666.5
	Dec	1.8	.3	.0	.4	.4	1.1	32.1	.0	3667.1
	TOTAL	17.3	8.1	5.2	8.5	13.7	- 4.5	.0	.0	
Most Probable	Jan	2.2	.2	.0	.4	.4	1.6	38.2	.0	3670.4
	Feb	2.2	.2	.0	.4	.4	1.6	39.8	.0	3671.2
	Mar	2.9	.3	.0	.4	.4	1.5	41.3	.7	3672.0
	Apr	2.6	.5	.4	.4	.8	.0	41.3	1.3	3672.0
	May	3.0	.5	.6	3.8	4.4	- 3.9	37.4	2.0	3670.0
	Jun	3.1	.7	.6	3.4	4.0	- 1.6	35.8	.0	3669.2
	Jul	1.7	1.0	.4	.4	.8	- .1	35.7	.0	3669.1
	Aug	1.8	.9	.4	.4	.8	.1	35.8	.0	3669.2
	Sep	1.5	.7	.6	2.0	2.6	- 1.8	34.0	.0	3668.2
	Oct	1.7	.7	.6	.4	1.0	.0	34.0	.0	3668.2
	Nov	2.1	.4	.2	1.5	1.7	.0	34.0	.0	3668.2
	Dec	2.2	.2	.0	.4	.4	1.6	35.6	.0	3669.1
	TOTAL	27.0	6.3	3.8	13.9	17.7	- 1.0	.0	4.0	
Reas. Maximum	Jan	2.7	.1	.0	.4	.4	2.2	38.8	.0	3670.7
	Feb	2.7	.2	.0	.4	.4	2.1	40.9	.0	3671.8
	Mar	3.5	.2	.0	.4	.4	.4	41.3	2.5	3672.0
	Apr	3.2	.4	.3	.4	.7	.0	41.3	2.1	3672.0
	May	5.2	.3	.5	3.8	4.3	- 3.9	37.4	4.5	3670.0
	Jun	6.4	.4	.2	5.8	6.0	.0	37.4	.0	3670.0
	Jul	4.2	.8	.2	3.2	3.4	.0	37.4	.0	3670.0
	Aug	4.2	.6	.4	3.2	3.6	.0	37.4	.0	3670.0
	Sep	2.5	.5	.4	3.5	3.9	- 1.9	35.5	.0	3669.0
	Oct	2.3	.5	.3	1.5	1.8	.0	35.5	.0	3669.0
	Nov	2.4	.4	.3	1.7	2.0	.0	35.5	.0	3669.0
	Dec	2.5	.2	.0	.4	.4	1.9	37.4	.0	3670.0
	TOTAL	41.8	4.6	2.6	24.7	27.3	.8	.0	9.1	

[1] BASED ON 700 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
SWANSON LAKE, MEEKER-DRIFTWOOD AND BARTLEY CANALS
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	Month	Undepl. Inflow	Corr.For Upstr. Depl.	Depl. Inflow	Net Evap. AF	Meeker-Driftwood Canal Req.[1]	Total Release Req.	Bartley Canal Req.[2]	Res. Change	Res.Cont. at End of Month	Res. Spill	Res.Elev. at End of Month
Reas. Minimum	JAN	7.5	- 1.5	6.0	.3	.0	.1	.0	5.6	74.8	.0	2741.8
	FEB	9.5	- 1.5	8.0	.4	.0	.1	.0	7.5	82.3	.0	2743.7
	MAR	11.1	- 1.9	9.2	.7	.0	.1	.0	8.4	90.7	.0	2745.6
	APR	8.5	- 1.3	7.2	1.4	.0	.1	.0	5.7	96.4	.0	2746.9
	MAY	7.7	3.1	10.8	1.5	4.1	5.9	1.5	3.4	99.8	.0	2747.7
	JUN	6.9	.0	6.9	2.0	4.1	6.0	1.5	- 1.1	98.7	.0	2747.5
	JUL	2.4	- .5	1.9	2.8	12.3	19.8	4.4	- 20.7	78.0	.0	2742.6
	AUG	1.9	- .7	1.2	2.2	12.3	19.7	4.4	- 20.7	57.3	.0	2737.1
	SEP	.5	.6	1.1	1.4	6.1	10.7	2.1	- 11.0	46.3	.0	2733.7
	OCT	2.6	- .2	2.4	1.1	2.1	3.5	.7	- 2.2	44.1	.0	2733.0
	NOV	5.7	- .9	4.8	.7	.0	.1	.0	4.0	48.1	.0	2734.3
	DEC	6.7	- 1.4	5.3	.3	.0	.1	.0	4.9	53.0	.0	2735.8
	TOTAL	71.0	- 6.2	64.8	14.8	41.0	66.2	14.6	- 16.2	.0	.0	
Most Probable	JAN	9.6	- 1.8	7.8	.2	.0	.1	.0	7.5	76.7	.0	2742.3
	FEB	12.0	- 1.8	10.2	.3	.0	.1	.0	9.8	86.5	.0	2744.7
	MAR	14.3	- 2.1	12.2	.5	.0	.1	.0	11.6	98.1	.0	2747.3
	APR	12.0	- .8	11.2	.9	.0	.1	.0	10.2	108.3	.0	2749.5
	MAY	13.5	3.4	16.9	.8	1.4	1.4	.5	11.9	120.2	2.8	2752.0
	JUN	15.7	.9	16.6	1.5	1.5	1.5	.5	.0	120.2	13.6	2752.0
	JUL	5.7	- .8	4.9	2.4	10.0	15.0	3.5	- 12.5	107.7	.0	2749.4
	AUG	6.0	- .9	5.1	2.2	11.6	17.0	4.0	- 14.1	93.6	.0	2746.3
	SEP	5.0	1.1	6.1	1.2	2.9	4.6	1.0	.3	93.9	.0	2746.4
	OCT	4.6	- .7	3.9	1.6	1.5	1.5	.5	.8	94.7	.0	2746.6
	NOV	8.1	- .4	7.7	.8	.0	.1	.0	6.8	101.5	.0	2748.1
	DEC	8.5	- 1.8	6.7	.4	.0	.1	.0	6.2	107.7	.0	2749.4
	TOTAL	115.0	- 5.7	109.3	12.8	28.9	41.6	10.0	38.5	.0	16.4	
Reas. Maximum	JAN	11.8	- 2.3	9.5	.2	.0	.1	.0	9.2	78.4	.0	2742.7
	FEB	14.5	- 2.2	12.3	.2	.0	.1	.0	12.0	90.4	.0	2745.6
	MAR	19.3	- .9	18.4	.2	.0	.1	.0	18.1	108.5	.0	2749.6
	APR	16.3	- .4	15.9	.2	.0	.1	.0	11.7	120.2	3.9	2752.0
	MAY	23.1	3.3	26.4	.3	.8	.8	.3	.0	120.2	25.3	2752.0
	JUN	27.4	- .4	27.0	.8	.9	.9	.3	.0	120.2	25.3	2752.0
	JUL	29.3	- .7	28.6	1.7	5.9	7.8	2.1	.0	120.2	19.1	2752.0
	AUG	18.3	- .5	17.8	2.1	6.8	9.4	2.3	.0	120.2	6.3	2752.0
	SEP	10.5	1.4	11.9	1.0	1.7	1.7	.6	.0	120.2	9.2	2752.0
	OCT	8.7	- .5	8.2	1.6	.9	.9	.3	.0	120.2	5.7	2752.0
	NOV	10.1	- .4	9.7	.7	.0	.1	.0	.0	120.2	8.9	2752.0
	DEC	10.7	- 2.1	8.6	.3	.0	.1	.0	.0	120.2	8.2	2752.0
	TOTAL	200.0	- 5.7	194.3	9.3	17.0	22.1	5.9	51.0	.0	111.9	

[1] BASED ON 15,200 ACRES TO BE IRRIGATED IN 1972.
[2] BASED ON 5,600 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
ENDERS RESERVOIR, CULBERTSON AND CULBERTSON EXTENSION CANALS
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	MONTH	HIST. INFLOW	NET EVAP. AF	TOTAL RELEASE REQ.	CULBERTSON CANAL REQ.[1]	CULB. EXT. CANAL REQ.[2]	RES. CHANGE	RES.CONT. AT END OF MONTH	RES. SPILL	RES.ELEV. AT END OF MONTH	REQ. SHORTAGE
REAS. MINIMUM	JAN	4.5	.1	.6	.0	.0	3.8	26.9	.0	3100.3	
	FEB	4.0	.1	.6	.0	.0	3.3	30.2	.0	3102.9	
	MAR	4.0	.2	.6	.0	.0	3.2	33.4	.0	3105.2	
	APR	3.6	.5	.6	.0	.0	2.5	35.9	.0	3106.9	
	MAY	4.0	.6	2.1	2.4	3.1	1.3	37.2	.0	3107.8	
	JUN	4.2	.7	3.3	2.5	3.2	.2	37.4	.0	3107.9	
	JUL	3.9	.9	17.9	7.3	9.5	- 14.9	22.5	.0	3096.6	
	AUG	4.1	.5	16.8	7.3	9.5	- 12.1	10.4	.0	3083.0	1.1
	SEP	3.8	.3	7.3	3.7	4.7	.0	10.4	.0	3083.0	3.8
	OCT	4.2	.3	.6	1.3	1.7	3.3	13.7	.0	3087.5	
	NOV	4.2	.2	.6	.0	.0	3.4	17.1	.0	3091.4	
	DEC	4.3	.1	.6	.0	.0	3.6	20.7	.0	3095.0	
	TOTAL	48.8	4.5	51.6	24.5	31.7	- 2.4	.0	.0		
MOST PROBABLE	JAN	5.5	.1	.6	.0	.0	4.8	27.9	.0	3101.1	
	FEB	5.1	.1	.6	.0	.0	4.4	32.3	.0	3104.4	
	MAR	5.2	.2	.6	.0	.0	4.4	36.7	.0	3107.4	
	APR	4.9	.3	.6	.0	.0	4.0	40.7	.0	3110.0	
	MAY	5.0	.4	.6	.8	1.1	3.8	44.5	.2	3112.3	
	JUN	5.1	.5	.6	.9	1.1	.0	44.5	4.0	3112.3	
	JUL	4.7	.8	12.6	6.0	7.7	- 8.7	35.8	.0	3106.8	
	AUG	4.5	.7	14.6	6.8	8.8	- 10.8	25.0	.0	3098.7	
	SEP	4.5	.4	1.4	1.7	2.2	2.7	27.7	.0	3100.9	
	OCT	4.7	.5	.6	.8	1.1	3.6	31.3	.0	3103.7	
	NOV	5.0	.3	.6	.0	.0	4.1	35.4	.0	3106.6	
	DEC	5.2	.1	.6	.0	.0	4.5	39.9	.0	3109.5	
	TOTAL	59.4	4.4	34.0	17.0	22.0	16.8	.0	4.2		
REAS. MAXIMUM	JAN	6.1	.1	.6	.0	.0	5.4	28.5	.0	3101.5	
	FEB	5.7	.0	.6	.0	.0	5.1	33.6	.0	3105.3	
	MAR	6.0	.1	.6	.0	.0	5.3	38.9	.0	3108.9	
	APR	5.6	.1	.6	.0	.0	4.9	43.8	.0	3111.9	
	MAY	6.1	.2	.6	.5	.6	.7	44.5	4.6	3112.3	
	JUN	6.6	.3	.6	.5	.6	.0	44.5	5.7	3112.3	
	JUL	5.5	.6	3.4	3.7	4.8	.0	44.5	1.5	3112.3	
	AUG	5.5	.6	6.4	4.3	5.5	- 1.5	43.0	.0	3111.4	
	SEP	5.7	.3	.6	1.1	1.4	1.5	44.5	3.3	3112.3	
	OCT	5.5	.5	.6	.5	.6	.0	44.5	4.4	3112.3	
	NOV	5.6	.3	.6	.0	.0	.0	44.5	4.7	3112.3	
	DEC	5.8	.1	.6	.0	.0	.0	44.5	5.1	3112.3	
	TOTAL	69.7	3.2	15.8	10.6	13.5	21.4	.0	29.3		

[1] BASED ON 8,500 ACRES TO BE IRRIGATED IN 1972.
[2] BASED ON 11,000 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
HUGH BUTLER LAKE AND RED WILLOW CANAL
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	Month	Hist. Inflow	Net Evap. AF	Total Release Req.	Canal Req.[1]	Res. Change	Res.Cont. at End of Month	Res. Spill	Res.Elev. at End of Month
Reas. Minimum	Jan	1.2	.1	.3	.0	.8	32.2	.0	2578.2
	Feb	1.4	.1	.3	.0	1.0	33.2	.0	2578.9
	Mar	1.7	.3	.3	.0	1.1	34.3	.0	2579.6
	Apr	1.5	.6	.3	.0	.6	34.9	.0	2580.0
	May	1.7	.6	1.3	1.0	- .2	34.7	.0	2579.9
	Jun	1.5	.9	1.2	1.0	- .6	34.1	.0	2579.5
	Jul	1.1	1.0	4.0	3.1	- 3.9	30.2	.0	2576.8
	Aug	.8	.7	3.7	3.1	- 3.6	26.6	.0	2574.1
	Sep	.7	.6	1.7	1.6	- 1.6	25.0	.0	2572.8
	Oct	.8	.5	.4	.5	- .1	24.9	.0	2572.7
	Nov	1.0	.3	.3	.0	.4	25.3	.0	2573.0
	Dec	1.1	.1	.3	.0	.7	26.0	.0	2573.6
	TOTAL	14.5	5.8	14.1	10.3	- 5.4	.0	.0	
Most Probable	Jan	1.5	.1	.3	.0	1.1	32.5	.0	2578.4
	Feb	1.6	.1	.3	.0	1.2	33.7	.0	2579.2
	Mar	2.0	.2	.3	.0	1.5	35.2	.0	2580.2
	Apr	1.9	.4	.3	.0	1.2	36.4	.0	2581.0
	May	2.4	.4	.7	.4	1.3	37.7	.0	2581.7
	Jun	3.1	.4	.6	.4	.1	37.8	2.0	2581.8
	Jul	1.9	.8	3.4	2.5	- 2.3	35.5	.0	2580.4
	Aug	1.1	.7	3.6	2.9	- 3.2	32.3	.0	2578.3
	Sep	1.0	.5	.8	.7	- .3	32.0	.0	2578.1
	Oct	1.1	.5	.3	.4	.3	32.3	.0	2578.3
	Nov	1.4	.2	.3	.0	.9	33.2	.0	2578.9
	Dec	1.5	.1	.3	.0	1.1	34.3	.0	2579.6
	TOTAL	20.5	4.4	11.2	7.3	2.9	.0	2.0	
Reas. Maximum	Jan	1.8	.0	.3	.0	1.5	32.9	.0	2578.7
	Feb	1.9	.1	.3	.0	1.5	34.4	.0	2579.7
	Mar	2.5	.1	.3	.0	2.1	36.5	.0	2581.0
	Apr	2.4	.2	.3	.0	1.3	37.8	.6	2581.8
	May	2.9	.2	.5	.2	.0	37.8	2.2	2581.8
	Jun	5.4	.2	.4	.2	.0	37.8	4.8	2581.8
	Jul	3.0	.5	2.3	1.5	.0	37.8	.2	2581.8
	Aug	1.8	.6	2.3	1.7	- 1.1	36.7	.0	2581.1
	Sep	2.3	.4	.5	.4	1.1	37.8	.3	2581.8
	Oct	1.5	.4	.3	.2	.0	37.8	.8	2581.8
	Nov	1.6	.2	.3	.0	.0	37.8	1.1	2581.8
	Dec	1.6	.1	.3	.0	.0	37.8	1.2	2581.8
	TOTAL	28.7	3.0	8.1	4.2	6.4	.0	11.2	

[1] BASED ON 4,000 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
HARRY STRUNK LAKE AND CAMBRIDGE CANAL
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	Month	Hist. Inflow	Net Evap. AF	Total Release Req.	Canal Req.[1]	Res. Change	Res. Cont. at End of Month	Res. Spill	Res. Elev. at End of Month
Reas. Minimum	Jan	3.0	.1	.3	.0	2.6	32.1	.0	2363.2
	Feb	3.3	.1	.3	.0	2.9	35.0	.0	2364.9
	Mar	3.8	.3	.3	.0	2.1	37.1	1.1	2366.1
	Apr	3.6	.7	.3	.0	.0	37.1	2.6	2366.1
	May	3.5	.6	2.5	3.8	.0	37.1	.4	2366.1
	Jun	3.9	.8	2.5	3.8	.0	37.1	.6	2366.1
	Jul	2.8	1.2	10.4	11.4	- 8.8	28.3	.0	2360.8
	Aug	2.8	.8	10.3	11.6	- 8.3	20.0	.0	2354.5
	Sep	2.2	.4	4.5	5.8	- 2.7	17.3	.0	2352.1
	Oct	2.5	.4	.7	2.0	1.4	18.7	.0	2353.4
	Nov	2.9	.2	.3	.0	2.4	21.1	.0	2355.5
	Dec	2.9	.1	.3	.0	2.5	23.6	.0	2357.5
	TOTAL	37.2	5.7	32.7	38.4	- 5.9	.0	4.7	
Most Probable	Jan	3.6	.1	.3	.0	3.2	32.7	.0	2363.6
	Feb	3.8	.1	.3	.0	3.4	36.1	.0	2365.5
	Mar	4.4	.2	.3	.0	1.0	37.1	2.9	2366.1
	Apr	4.7	.4	.3	.0	.0	37.1	4.0	2366.1
	May	6.1	.4	.3	1.2	.0	37.1	5.4	2366.1
	Jun	7.6	.6	.3	1.4	.0	37.1	6.7	2366.1
	Jul	6.1	.9	8.0	9.1	- 2.8	34.3	.0	2364.5
	Aug	3.6	.7	9.2	10.3	- 6.3	28.0	.0	2360.6
	Sep	3.1	.4	1.3	2.6	1.4	29.4	.0	2361.5
	Oct	3.1	.5	.3	1.2	2.3	31.7	.0	2363.0
	Nov	3.3	.3	.3	.0	2.7	34.4	.0	2364.6
	Dec	3.4	.1	.3	.0	2.7	37.1	.3	2366.1
	TOTAL	52.8	4.7	21.2	25.8	7.6	.0	19.3	
Reas. Maximum	Jan	4.2	.0	.3	.0	3.9	33.4	.0	2364.0
	Feb	4.6	.1	.3	.0	3.7	37.1	.5	2366.1
	Mar	5.7	.1	.3	.0	.0	37.1	5.3	2366.1
	Apr	6.1	.1	.3	.0	.0	37.1	5.7	2366.1
	May	8.3	.1	.3	.8	.0	37.1	7.9	2366.1
	Jun	20.4	.2	.3	.8	.0	37.1	19.9	2366.1
	Jul	9.5	.8	3.8	5.3	.0	37.1	4.9	2366.1
	Aug	5.8	.6	4.6	6.1	.0	37.1	.6	2366.1
	Sep	6.4	.4	.3	1.5	.0	37.1	5.7	2366.1
	Oct	4.0	.6	.3	.8	.0	37.1	3.1	2366.1
	Nov	3.8	.1	.3	.0	.0	37.1	3.4	2366.1
	Dec	4.1	.1	.3	.0	.0	37.1	3.7	2366.1
	TOTAL	82.9	3.2	11.4	15.3	7.6	.0	60.7	

[1] BASED ON 15,200 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
NORTON RESERVOIR AND ALMENA CANAL
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	MONTH	HIST. INFLOW	NET EVAP. AF	CITY OF NORTON REQ.	TOTAL RELEASE REQ.	CANAL REQ.[1]	RES. CHANGE	RES.CONT. AT END OF MONTH	RES. SPILL	RES.ELEV. AT END OF MONTH	REQ. SHORTAGE
REAS. MINIMUM	JAN	.2	.0	.1	.1	.0	.1	4.9	.0	2279.7	
	FEB	.4	.0	.1	.1	.0	.3	5.2	.0	2280.3	
	MAR	.5	.1	.1	.1	.0	.3	5.5	.0	2280.8	
	APR	.5	.2	.1	.1	.0	.2	5.7	.0	2281.1	
	MAY	.9	.2	.1	2.2	1.6	- 1.5	4.2	.0	2278.4	
	JUN	2.2	.3	.1	2.6	1.6	- .6	3.6	.0	2277.1	.1
	JUL	1.1	.3	.2	6.5	4.8	.0	3.6	.0	2277.1	5.7
	AUG	.8	.3	.2	6.2	4.8	.0	3.6	.0	2277.1	5.7
	SEP	.3	.2	.1	3.2	2.4	.0	3.6	.0	2277.1	3.1
	OCT	.1	.2	.1	1.4	.8	- .1	3.5	.0	2276.9	1.4
	NOV	.2	.1	.1	.1	.0	.0	3.6	.0	2277.1	.0
	DEC	.2	.0	.1	.1	.0	.1	3.7	.0	2277.3	
	TOTAL	7.4	1.9	1.4	22.7	16.0	- 1.1	.0	.0		
MOST PROBABLE	JAN	.4	.0	.1	.1	.0	.3	5.1	.0	2280.1	
	FEB	.7	.0	.1	.1	.0	.6	5.7	.0	2281.1	
	MAR	.8	.1	.1	.1	.0	.6	6.3	.0	2282.0	
	APR	.9	.2	.1	.1	.0	.6	6.9	.0	2282.9	
	MAY	2.4	.2	.1	.2	.5	2.0	8.9	.0	2285.5	
	JUN	6.7	.3	.1	.1	.5	6.3	15.2	.0	2291.8	
	JUL	4.4	.6	.1	4.2	3.5	- .4	14.8	.0	2291.4	
	AUG	1.8	.5	.1	4.7	4.0	- 3.4	11.4	.0	2288.3	
	SEP	.8	.3	.1	1.2	1.0	- .7	10.7	.0	2287.5	
	OCT	.4	.3	.1	.7	.5	- .6	10.1	.0	2286.9	
	NOV	.3	.2	.1	.1	.0	.0	10.1	.0	2286.9	
	DEC	.4	.1	.1	.1	.0	.2	10.3	.0	2287.1	
	TOTAL	20.0	2.8	1.2	11.7	10.0	5.5	.0	.0		
REAS. MAXIMUM	JAN	.8	.0	.1	.1	.0	.7	5.5	.0	2280.8	
	FEB	1.2	.0	.1	.1	.0	1.1	6.6	.0	2282.5	
	MAR	1.8	.0	.1	.1	.0	1.7	8.3	.0	2284.7	
	APR	1.4	.1	.1	.1	.0	1.2	9.5	.0	2286.2	
	MAY	9.1	.1	.1	.1	.3	8.9	18.4	.0	2294.3	
	JUN	16.2	.4	.1	.1	.3	15.7	34.1	.0	2303.4	
	JUL	10.7	.8	.1	.6	2.1	1.8	35.9	7.5	2304.3	
	AUG	5.2	1.0	.1	1.7	2.4	.0	35.9	2.5	2304.3	
	SEP	3.1	.6	.1	.1	.6	.0	35.9	2.4	2304.3	
	OCT	1.9	.5	.1	.4	.3	.0	35.9	1.0	2304.3	
	NOV	.8	.2	.1	.1	.0	.0	35.9	.5	2304.3	
	DEC	.8	.1	.1	.1	.0	.0	35.9	.6	2304.3	
	TOTAL	53.0	3.8	1.2	3.6	6.0	31.1	.0	14.5		

[1] BASED ON 5,350 ACRES TO BE IRRIGATED IN 1972.

TABLE 3

HARLAN COUNTY RESERVOIR, FRANKLIN, NAPONEE, FRANKLIN PUMP, SUPERIOR, COURTLAND (NEBRASKA) AND COURTLAND ABV. LOVEWELL (KANSAS) CANALS
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	Month	Undepl. Inflow	Corr.For Upstr. Depl.	Depl. Inflow	Net Evap. AF	Franklin Canal Req.[1]	Naponee Canal Req.[2]	Total Release Req.	Franklin Pump Canal Req.[3]	Superior Canal Req.[4]	Courtland Canals in Nebr. Req.[5]	Courtland Canals in Kansas Above Lovewell [6]	Res. Change	Res.Cont. at End of Month	Res. Spill	Res.Elev. at End of Month
Reas. Minimum	JAN	19.2	- 13.8	5.4	.8	.0	.0	.6	.0	.0	.0	.0	4.0	246.1	.0	1937.8
	FEB	24.3	- 16.2	8.1	.7	.0	.0	.6	.0	.0	.0	.0	6.8	252.9	.0	1938.4
	MAR	32.1	- 18.7	13.4	1.6	.0	.0	.6	.0	.0	.0	.0	11.2	264.1	.0	1939.4
	APR	28.0	- 15.3	12.7	4.3	.0	.0	.6	.0	.0	.0	.0	7.8	271.9	.0	1940.2
	MAY	36.5	- 17.3	19.2	4.1	3.6	.5	15.2	.7	1.7	.5	2.5	- .1	271.8	.0	1940.1
	JUN	42.0	- 16.4	25.6	6.2	3.8	.6	9.7	.7	1.7	.5	2.5	9.7	281.5	.0	1941.0
	JUL	15.4	2.9	18.3	8.9	11.2	1.8	38.6	2.1	5.2	1.5	7.3	- 29.2	252.3	.0	1938.4
	AUG	13.6	2.8	16.4	7.3	13.1	2.0	43.8	2.5	6.1	1.7	8.6	- 34.7	217.6	.0	1935.0
	SEP	6.2	.2	6.4	4.6	5.5	.9	15.5	1.0	2.6	.8	3.7	- 13.7	203.9	.0	1933.6
	OCT	5.6	- 8.4	.0	3.6	.0	.0	.7	.0	.0	.0	.0	- 4.3	199.6	.0	1933.2
	NOV	13.2	- 10.6	2.6	2.0	.0	.0	.6	.0	.0	.0	.0	.0	199.6	.0	1933.2
	DEC	16.9	- 12.1	4.8	.9	.0	.0	.6	.0	.0	.0	.0	3.3	202.9	.0	1933.5
	TOTAL	253.0	-122.9	132.9	45.0	37.2	5.8	127.1	7.0	17.3	5.0	24.6	- 39.2	.0	.0	
Most Probable	JAN	22.4	- 17.9	4.5	.6	.0	.0	.6	.0	.0	.0	.0	3.3	245.4	.0	1937.7
	FEB	31.2	- 20.7	10.5	.5	.0	.0	.6	.0	.0	.0	.0	9.4	254.8	.0	1938.6
	MAR	38.0	- 21.3	16.7	1.0	.0	.0	.6	.0	.0	.0	.0	15.1	269.9	.0	1940.0
	APR	38.8	- 17.9	20.9	1.2	.0	.0	.6	.0	.0	.0	.0	19.1	289.0	.0	1941.7
	MAY	59.9	- 19.4	40.5	3.3	1.2	.2	2.2	.2	.6	.2	.9	35.0	324.0	.0	1944.6
	JUN	106.6	- 12.4	94.2	5.9	1.3	.3	3.0	.2	.6	.2	.9	18.6	342.6	66.7	1946.0
	JUL	42.1	- 13.8	28.3	8.4	9.9	1.5	31.2	1.9	5.0	1.4	7.1	- 11.3	331.3	.0	1945.1
	AUG	26.6	- 6.9	19.7	6.3	9.9	1.5	29.0	1.9	5.1	1.5	7.2	- 15.6	315.7	.0	1943.9
	SEP	19.7	- 12.7	7.0	4.6	2.4	.4	5.6	.5	1.2	.3	1.7	- 3.2	312.5	.0	1943.6
	OCT	16.4	- 13.1	3.3	3.5	.0	.0	.6	.0	.0	.0	.0	- .8	311.7	.0	1943.6
	NOV	20.8	- 14.6	6.2	1.6	.0	.0	.6	.0	.0	.0	.0	4.0	315.7	.0	1943.9
	DEC	23.5	- 15.5	8.0	.7	.0	.0	.6	.0	.0	.0	.0	6.7	322.4	.0	1944.4
	TOTAL	446.0	-186.2	259.8	37.6	24.7	3.9	75.2	4.7	12.5	3.6	17.8	80.3	.0	66.7	
Reas. Maximum	JAN	28.1	- 22.0	6.1	.0	.0	.0	.6	.0	.0	.0	.0	5.5	247.6	.0	1937.9
	FEB	42.6	- 24.9	17.7	.0	.0	.0	.6	.0	.0	.0	.0	17.1	264.7	.0	1939.5
	MAR	57.1	- 27.5	29.6	.0	.0	.0	.6	.0	.0	.0	.0	29.0	293.7	.0	1942.1
	APR	55.8	- 18.9	36.9	.2	.0	.0	.6	.0	.0	.0	.0	36.1	329.8	.0	1945.0
	MAY	105.5	- 8.0	97.5	1.9	.6	.1	1.4	.1	.3	.1	.4	12.8	342.6	81.4	1946.0
	JUN	166.5	- 19.4	147.1	1.7	.7	.1	1.5	.1	.3	.1	.5	.0	342.6	143.9	1946.0
	JUL	105.4	- 26.8	78.6	7.2	5.0	.8	7.9	.9	2.5	.7	3.4	.0	342.6	63.5	1946.0
	AUG	63.8	- 25.0	38.8	3.8	5.0	.8	7.9	.9	2.5	.7	3.4	.0	342.6	27.1	1946.0
	SEP	75.0	- 7.3	67.7	4.2	1.2	.2	1.8	.4	.5	.2	.9	.0	342.6	61.7	1946.0
	OCT	34.4	- 4.7	29.7	2.5	.0	.0	.6	.0	.0	.0	.0	.0	342.6	26.6	1946.0
	NOV	31.4	.2	31.6	1.1	.0	.0	.6	.0	.0	.0	.0	.0	342.6	29.9	1946.0
	DEC	30.4	- 1.0	29.4	.4	.0	.0	.6	.0	.0	.0	.0	.0	342.6	28.4	1946.0
	TOTAL	796.0	-185.3	610.7	23.0	12.5	2.0	24.7	2.4	6.1	1.8	8.6	100.5	.0	462.5	

[1] BASED ON 11,060 ACRES TO BE IRRIGATED IN 1972.
[2] BASED ON 1,740 ACRES TO BE IRRIGATED IN 1972.
[3] BASED ON 2,090 ACRES TO BE IRRIGATED IN 1972.
[4] BASED ON 5,840 ACRES TO BE IRRIGATED IN 1972.
[5] BASED ON 1,940 ACRES TO BE IRRIGATED IN 1972.
[6] BASED ON 9,550 ACRES TO BE IRRIGATED IN 1972.

NOTE: TOTAL RELEASE REQUIRED INCLUDES RELEASES FOR LOVEWELL RESERVOIR.

TABLE 3
LOVEWELL RESERVOIR AND COURTLAND CANAL
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	Month	Inflow From W.R.Cr.	Inflow From Court.	Total Inflow	Net Evap. AF	Canal Req.[1]	Total Release Req.	Res. Change	Res.Cont. at End of Month	Res. Spill	Res.Elev. at End of Month
Reas. Minimum	Jan	.1	.0	.1	.2	.0	.0	- .1	33.8	.0	1579.7
	Feb	.1	.0	.1	.2	.0	.0	- .1	33.7	.0	1579.7
	Mar	.2	.0	.2	.4	.0	.0	- .2	33.5	.0	1579.6
	Apr	.2	.0	.2	.8	.0	.0	- .6	32.9	.0	1579.4
	May	.9	7.8	8.7	.8	4.8	4.8	3.1	36.0	.0	1580.6
	Jun	1.6	2.8	4.4	1.3	4.8	4.8	- 1.7	34.3	.0	1579.9
	Jul	.7	9.7	10.4	1.6	14.2	14.2	- 5.4	28.9	.0	1577.7
	Aug	.4	9.7	10.1	1.1	16.6	16.6	- 7.6	21.3	.0	1574.2
	Sep	.3	1.2	1.5	.8	7.2	7.2	- 6.5	14.8	.0	1570.5
	Oct	.1	.0	.1	.5	.0	.0	- .4	14.4	.0	1570.3
	Nov	.0	.0	.0	.3	.0	.0	- .3	14.1	.0	1570.1
	Dec	.0	.0	.0	.1	.0	.0	- .1	14.0	.0	1570.0
	TOTAL	4.6	31.2	35.8	8.1	47.6	47.6	- 19.9	.0	.0	
Most Probable	Jan	.3	.0	.3	.1	.0	.0	.2	34.1	.0	1579.9
	Feb	.7	.0	.7	.1	.0	.0	.6	34.7	.0	1580.1
	Mar	1.1	.0	1.1	.2	.0	.0	.9	35.6	.0	1580.4
	Apr	1.2	.0	1.2	.4	.0	.0	.8	36.4	.0	1580.7
	May	4.2	.0	4.2	.4	1.7	1.7	2.1	38.5	.0	1581.5
	Jun	9.7	.0	9.7	.4	1.7	1.7	3.2	41.7	4.4	1582.6
	Jul	2.6	9.8	12.4	1.3	13.7	13.7	- 2.6	39.1	.0	1581.7
	Aug	1.3	6.3	7.6	.9	13.8	13.8	- 7.1	32.0	.0	1579.0
	Sep	2.6	.0	2.6	.7	3.4	3.4	- 1.5	30.5	.0	1578.4
	Oct	1.2	.0	1.2	.4	.0	.0	.8	31.3	.0	1578.8
	Nov	.5	.0	.5	.3	.0	.0	.2	31.5	.0	1578.8
	Dec	.3	.0	.3	.1	.0	.0	.2	31.7	.0	1578.9
	TOTAL	25.7	16.1	41.8	5.3	34.3	34.3	- 2.2	.0	4.4	
Reas. Maximum	Jan	.6	.0	.6	.0	.0	.0	.6	34.5	.0	1580.0
	Feb	1.7	.0	1.7	.1	.0	.0	1.6	36.1	.0	1580.6
	Mar	3.3	.0	3.3	.1	.0	.0	3.2	39.3	.0	1581.8
	Apr	3.6	.0	3.6	.1	.0	.0	2.4	41.7	1.1	1582.6
	May	8.5	.0	8.5	.1	.7	.7	.0	41.7	7.7	1582.6
	Jun	20.8	.0	20.8	- .3	.9	.9	.0	41.7	20.2	1582.6
	Jul	11.8	.0	11.8	1.1	6.6	6.6	.0	41.7	4.1	1582.6
	Aug	4.0	.0	4.0	.7	6.6	6.6	- 3.3	38.4	.0	1581.5
	Sep	8.3	.0	8.3	.4	1.8	1.8	3.3	41.7	2.8	1582.6
	Oct	3.9	.0	3.9	.4	.0	.0	.0	41.7	3.5	1582.6
	Nov	1.1	.0	1.1	.2	.0	.0	.0	41.7	.9	1582.6
	Dec	.9	.0	.9	.0	.0	.0	.0	41.7	.9	1582.6
	TOTAL	68.5	.0	68.5	2.9	16.6	16.6	7.8	.0	41.2	

[1] BASED ON 18,450 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
KIRWIN RESERVOIR AND KIRWIN CANAL
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	MONTH	HIST. INFLOW	NET EVAP. AF	CANAL REQ.[1]	TOTAL RELEASE REQ.	RES. CHANGE	RES.CONT. AT END OF MONTH	RES. SPILL	RES.ELEV. AT END OF MONTH
REAS. MINIMUM	JAN	.2	.3	.0	.0	- .1	54.5	.0	1718.8
	FEB	.9	.3	.0	.0	.6	55.1	.0	1719.0
	MAR	1.4	.5	.0	.0	.9	56.0	.0	1719.2
	APR	1.7	1.4	.0	.0	.3	56.3	.0	1719.3
	MAY	2.2	1.4	2.7	2.7	- 1.9	54.4	.0	1718.8
	JUN	4.2	1.9	2.7	2.7	- .4	54.0	.0	1718.6
	JUL	2.8	2.5	8.0	8.0	- 7.7	46.3	.0	1716.4
	AUG	1.8	1.9	9.3	9.3	- 9.4	36.9	.0	1713.1
	SEP	.7	1.2	4.0	4.0	- 4.5	32.4	.0	1711.3
	OCT	.2	.9	.0	.0	- .7	31.7	.0	1711.0
	NOV	.3	.5	.0	.0	- .2	31.5	.0	1710.9
	DEC	.3	.2	.0	.0	.1	31.6	.0	1711.0
	TOTAL	16.7	13.0	26.7	26.7	- 23.0	.0	.0	
MOST PROBABLE	JAN	.8	.2	.0	.0	.6	55.2	.0	1719.0
	FEB	1.8	.2	.0	.0	1.6	56.8	.0	1719.4
	MAR	2.1	.3	.0	.0	1.8	58.6	.0	1719.9
	APR	2.7	.6	.0	.0	2.1	60.7	.0	1720.5
	MAY	4.3	1.2	.9	.9	2.2	62.9	.0	1721.0
	JUN	10.2	1.6	.9	.9	7.7	70.6	.0	1723.0
	JUL	6.4	2.2	7.2	7.2	- 3.0	67.6	.0	1722.2
	AUG	4.0	1.8	7.2	7.2	- 5.0	62.6	.0	1721.0
	SEP	2.4	1.4	1.8	1.8	- .8	61.8	.0	1720.8
	OCT	1.3	1.2	.0	.0	.1	61.9	.0	1720.8
	NOV	1.2	.6	.0	.0	.6	62.5	.0	1720.9
	DEC	.9	.2	.0	.0	.7	63.2	.0	1721.1
	TOTAL	38.1	11.5	18.0	18.0	8.6	.0	.0	
REAS. MAXIMUM	JAN	2.0	.1	.0	.0	1.9	56.5	.0	1719.3
	FEB	2.6	.2	.0	.0	2.4	58.9	.0	1720.0
	MAR	3.3	.2	.0	.0	3.1	62.0	.0	1720.8
	APR	5.2	.2	.0	.0	5.0	67.0	.0	1722.1
	MAY	15.3	.6	.5	.5	14.2	81.2	.0	1725.4
	JUN	30.9	.7	.6	.6	18.2	99.4	11.4	1729.2
	JUL	15.2	2.3	4.5	4.5	.0	99.4	8.4	1729.2
	AUG	11.6	2.0	4.5	4.5	.0	99.4	5.1	1729.2
	SEP	12.6	1.2	1.1	1.1	.0	99.4	10.3	1729.2
	OCT	5.0	1.0	.0	.0	.0	99.4	4.0	1729.2
	NOV	2.6	.4	.0	.0	.0	99.4	2.2	1729.2
	DEC	2.0	.2	.0	.0	.0	99.4	1.8	1729.2
	TOTAL	108.3	9.1	11.2	11.2	44.8	.0	43.2	

[1] BASED ON 10,000 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
WEBSTER RESERVOIR AND OSBORNE CANAL
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	Month	Hist. Inflow	Net Evap. AF	Total Release Req.	Canal Req.[1]	Res. Change	Res. Cont. at End of Month	Res. Spill	Res. Elev. at End of Month	Req. Shortage
Reas. Minimum	JAN	.3	.1	.0	.0	.2	3.6	.0	1857.9	
	FEB	.8	.1	.0	.0	.7	4.3	.0	1858.8	
	MAR	1.3	.1	.0	.0	1.2	5.5	.0	1860.2	
	APR	1.7	.4	.0	.0	1.3	6.8	.0	1861.6	
	MAY	1.9	.4	3.0	2.2	- 1.5	5.3	.0	1860.0	
	JUN	3.5	.5	3.9	2.2	- .9	4.4	.0	1858.9	
	JUL	1.7	.5	8.3	6.5	- 1.7	2.7	.0	1856.5	5.4
	AUG	.6	.4	9.4	7.6	.0	2.7	.0	1856.5	9.2
	SEP	.8	.3	5.0	3.3	.0	2.7	.0	1856.5	4.5
	OCT	.1	.2	.0	.0	- .1	2.6	.0	1856.3	
	NOV	.2	.1	.0	.0	.1	2.7	.0	1856.5	.0
	DEC	.2	.1	.0	.0	.1	2.8	.0	1856.7	
	TOTAL	13.1	3.2	29.6	21.8	- .6	.0	.0		
Most Probable	JAN	.8	.0	.0	.0	.8	4.2	.0	1858.7	
	FEB	1.7	.1	.0	.0	1.6	5.8	.0	1860.5	
	MAR	2.1	.1	.0	.0	2.0	7.8	.0	1862.5	
	APR	2.9	.3	.0	.0	2.6	10.4	.0	1864.8	
	MAY	4.2	.4	.8	.7	3.0	13.4	.0	1867.0	
	JUN	10.0	.6	1.0	.8	8.4	21.8	.0	1872.1	
	JUL	4.5	1.0	7.5	6.0	- 4.0	17.8	.0	1869.8	
	AUG	3.2	.7	7.5	6.0	- 5.0	12.8	.0	1866.6	
	SEP	2.4	.5	2.2	1.5	- .3	12.5	.0	1866.3	
	OCT	1.0	.4	.0	.0	.6	13.1	.0	1866.8	
	NOV	1.0	.2	.0	.0	.8	13.9	.0	1867.3	
	DEC	.9	.1	.0	.0	.8	14.7	.0	1867.9	
	TOTAL	34.7	4.4	19.0	15.0	11.3	.0	.0		
Reas. Maximum	JAN	2.2	.0	.0	.0	2.2	5.6	.0	1860.3	
	FEB	3.3	.0	.0	.0	3.3	8.9	.0	1863.5	
	MAR	4.1	.1	.0	.0	4.0	12.9	.0	1866.6	
	APR	6.5	.1	.0	.0	6.4	19.3	.0	1870.7	
	MAY	14.1	.3	.0	.4	13.8	33.1	.0	1877.6	
	JUN	25.9	.2	.0	.5	25.7	58.8	.0	1887.1	
	JUL	17.2	1.6	3.8	3.7	11.8	70.6	.0	1890.6	
	AUG	12.9	1.2	3.9	3.7	5.6	76.2	2.2	1892.1	
	SEP	9.6	1.2	.3	.9	.0	76.2	8.1	1892.1	
	OCT	5.6	.9	.0	.0	.0	76.2	4.7	1892.1	
	NOV	3.8	.3	.0	.0	.0	76.2	3.5	1892.1	
	DEC	2.8	.2	.0	.0	.0	76.2	2.6	1892.1	
	TOTAL	108.0	6.1	8.0	9.2	72.8	.0	21.1		

[1] BASED ON 7,000 ACRES TO BE IRRIGATED IN 1972.

TABLE 3
WACONDA LAKE
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	MONTH	UNDEPL. INFLOW	CORR.FOR UPSTR. DEPL.	DEPL. INFLOW	NET EVAP. AF	TOTAL RELEASE REQ. [1]	RES. CHANGE	RES.CONT. AT END OF MONTH	RES. SPILL	RES.ELEV. AT END OF MONTH
REAS. MINIMUM	JAN	1.8	- .5	1.3	.5	.1	.7	104.2	.0	1441.9
	FEB	3.2	- 1.7	1.5	.6	.1	.8	105.0	.0	1442.0
	MAR	4.4	- 2.7	1.7	1.1	.1	.5	105.5	.0	1442.1
	APR	5.3	- 3.4	1.9	2.7	.1	- .9	104.6	.0	1442.0
	MAY	8.0	- .6	7.4	2.7	.1	4.6	109.2	.0	1442.6
	JUN	15.1	- 3.3	11.8	4.2	.2	7.4	116.6	.0	1443.6
	JUL	11.1	5.3	16.4	5.4	.3	10.7	127.3	.0	1444.9
	AUG	6.0	8.7	14.7	6.0	.4	8.3	135.6	.0	1445.9
	SEP	4.5	4.2	8.7	4.5	.2	4.0	139.6	.0	1446.3
	OCT	2.0	- .3	1.7	3.3	.2	- 1.8	137.8	.0	1446.1
	NOV	1.9	- .5	1.4	1.8	.1	- .5	137.3	.0	1446.1
	DEC	2.2	- .5	1.7	.8	.1	.8	138.1	.0	1446.2
	TOTAL	65.5	4.7	70.2	33.6	2.0	34.6	.0	.0	
MOST PROBABLE	JAN	4.4	- 1.6	2.8	.3	.1	2.4	105.9	.0	1442.2
	FEB	6.3	- 3.5	2.8	.4	.1	2.3	108.2	.0	1442.5
	MAR	7.5	- 4.2	3.3	.5	.1	2.7	110.9	.0	1442.8
	APR	11.6	- 5.6	6.0	1.8	.1	4.1	115.0	.0	1443.4
	MAY	27.5	- 7.5	20.0	2.0	.1	17.9	132.9	.0	1445.6
	JUN	49.0	- 19.1	29.9	2.5	.1	27.3	160.2	.0	1448.5
	JUL	24.1	- 2.2	21.9	5.0	.2	16.7	176.9	.0	1450.2
	AUG	13.0	1.5	14.5	3.9	.2	10.4	187.3	.0	1451.2
	SEP	13.8	- 2.3	11.5	3.6	.2	7.7	195.0	.0	1451.9
	OCT	6.0	- 2.3	3.7	3.0	.1	.6	195.6	.0	1452.0
	NOV	4.8	- 2.2	2.6	1.7	.1	.8	196.4	.0	1452.1
	DEC	5.0	- 1.8	3.2	.7	.1	2.4	198.8	.0	1452.3
	TOTAL	173.0	- 50.8	122.2	25.4	1.5	95.3	.0	.0	
REAS. MAXIMUM	JAN	9.5	- 4.2	5.3	.2	.1	5.0	108.5	.0	1442.5
	FEB	15.5	- 5.9	9.6	.1	.1	9.4	117.9	.0	1443.7
	MAR	19.0	- 7.4	11.6	.2	.1	11.3	129.2	.0	1445.1
	APR	36.4	- 11.7	24.7	1.0	.1	23.6	152.8	.0	1447.8
	MAY	56.6	- 29.3	27.3	.7	.1	26.5	179.3	.0	1450.5
	JUN	165.9	- 45.3	120.6	- .2	.1	59.8	239.1	60.9	1455.7
	JUL	69.8	- 19.4	50.4	4.7	.1	.0	239.1	45.6	1455.7
	AUG	41.8	- 11.8	30.0	3.4	.1	.0	239.1	26.5	1455.7
	SEP	53.5	- 3.3	50.2	2.4	.1	.0	239.1	47.7	1455.7
	OCT	28.5	- 1.9	26.6	2.5	.1	.0	239.1	24.0	1455.7
	NOV	14.9	- .7	14.2	1.0	.1	.0	239.1	13.1	1455.7
	DEC	9.6	- .4	9.2	.4	.1	.0	239.1	8.7	1455.7
	TOTAL	521.0	-141.3	379.7	16.4	1.2	135.6	.0	226.5	

[1] INCLUDES RELEASE TO CITY OF BELOIT, KANSAS.

TABLE 3
CEDAR BLUFF RESERVOIR AND CEDAR BLUFF CANAL
OPERATION ESTIMATES - 1972
(UNITS IN 1,000 ACRE-FEET)

	MONTH	HIST. INFLOW	NET EVAP. AF	CANAL REQ.[1]	FISH HATCHERY REQ.	TOTAL RELEASE REQ. [2]	RES. CHANGE	RES.CONT. AT END OF MONTH	RES. SPILL	RES.ELEV. AT END OF MONTH
REAS. MINIMUM	JAN	.3	.4	.0	.3	.5	- .6	97.6	.0	2128.2
	FEB	.6	.5	.0	.2	.4	- .3	97.3	.0	2128.1
	MAR	.8	.9	.0	.4	.6	- .7	96.6	.0	2128.0
	APR	1.1	1.9	.0	.2	.4	- 1.2	95.4	.0	2127.7
	MAY	2.1	1.8	1.8	.4	2.4	- 2.1	93.3	.0	2127.2
	JUN	4.0	2.7	1.8	.3	2.3	- 1.0	92.3	.0	2126.9
	JUL	2.6	3.0	5.6	.3	6.1	- 6.5	85.8	.0	2125.3
	AUG	1.5	2.8	5.6	.3	6.4	- 7.7	78.1	.0	2123.3
	SEP	.8	1.9	2.8	.3	4.0	- 5.1	73.0	.0	2121.8
	OCT	.4	1.4	1.0	.3	1.7	- 2.7	70.3	.0	2121.0
	NOV	.4	.8	.0	.2	.4	- .8	69.5	.0	2120.8
	DEC	.4	.4	.0	.2	.4	- .4	69.1	.0	2120.6
	TOTAL	15.0	18.5	18.6	3.4	25.6	- 29.1	.0	.0	
MOST PROBABLE	JAN	.7	.4	.0	.3	.5	- .2	98.0	.0	2128.3
	FEB	1.2	.4	.0	.2	.4	.4	98.4	.0	2128.4
	MAR	1.6	.6	.0	.4	.6	.4	98.8	.0	2128.5
	APR	2.7	1.4	.0	.2	.4	.9	99.7	.0	2128.7
	MAY	5.4	1.2	.7	.4	1.3	2.9	102.6	.0	2129.4
	JUN	10.6	1.6	.7	.3	1.2	7.8	110.4	.0	2131.1
	JUL	8.0	2.9	4.5	.3	5.0	.1	110.5	.0	2131.1
	AUG	4.6	2.3	5.3	.3	5.9	- 3.6	106.9	.0	2130.3
	SEP	4.4	1.7	1.3	.3	1.9	.8	107.7	.0	2130.5
	OCT	1.5	1.4	.7	.3	1.2	- 1.1	106.6	.0	2130.3
	NOV	1.1	.9	.0	.2	.4	- .2	106.4	.0	2130.2
	DEC	.8	.5	.0	.2	.4	- .1	106.3	.0	2130.2
	TOTAL	42.6	15.3	13.2	3.4	19.2	8.1	.0	.0	
REAS. MAXIMUM	JAN	2.0	.3	.0	.3	.5	1.2	99.4	.0	2128.6
	FEB	2.5	.3	.0	.2	.4	1.8	101.2	.0	2129.1
	MAR	3.3	.4	.0	.4	.6	2.3	103.5	.0	2129.6
	APR	6.7	.9	.0	.2	.4	5.4	108.9	.0	2130.8
	MAY	22.3	.8	.4	.4	1.0	20.5	129.4	.0	2134.9
	JUN	37.4	.6	.4	.3	.9	35.9	165.3	.0	2141.0
	JUL	20.2	2.9	3.0	.3	3.5	13.8	179.1	.0	2143.1
	AUG	21.7	2.4	3.4	.3	3.9	6.0	185.1	9.4	2144.0
	SEP	12.2	2.2	.8	.3	1.3	.0	185.1	8.7	2144.0
	OCT	7.1	1.5	.4	.3	.9	.0	185.1	4.7	2144.0
	NOV	2.6	.9	.0	.2	.4	.0	185.1	1.3	2144.0
	DEC	2.1	.5	.0	.2	.4	.0	185.1	1.2	2144.0
	TOTAL	140.1	13.7	8.4	3.4	14.2	86.9	.0	25.3	

[1] BASED ON 6,000 ACRES TO BE IRRIGATED IN 1972.
[2] INCLUDES RELEASES TO CITY OF RUSSELL, KANSAS.

TABLE 4
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

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	39,000	6,192,000
1964	182,000	6,374,000
1965	60,000	6,434,000
1966	1,658,000	8,092,000
1967	3,539,000	11,631,000
1969	14,000	11,645,000
1971	**64,000**	**11,709,000**

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**

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**

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**

WACONDA

Year	Damages Prevented	Cumulative Total
1968	$ 280,000	$ 280,000
1969	606,000	886,000
1971	**9,000**	**895,000**

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**

PROJECT TOTALS

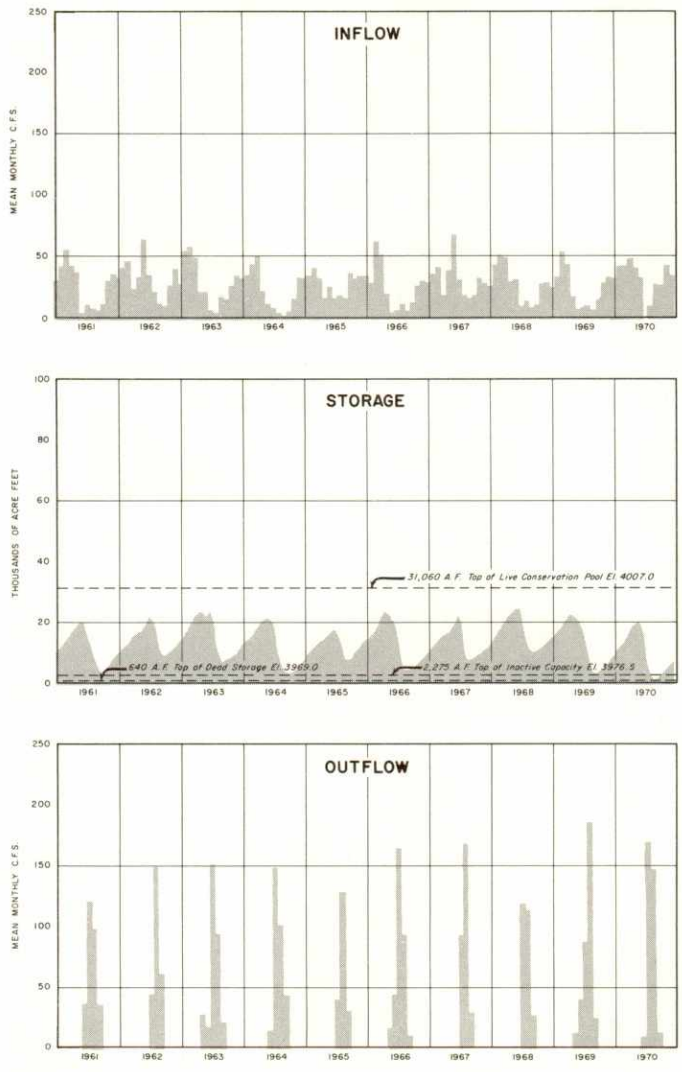
Year	Damages Prevented	Cumulative Total
1951	$1,124,000	$1,124,000
1953	135,000	1,259,000
1955	357,000	1,616,000
1956	123,000	1,739,000
1957	8,109,000	9,848,000
1958	953,000	10,801,000
1960	9,800,000	20,601,000
1961	523,000	21,124,000
1962	241,000	21,365,000
1964	300,000	21,665,000
1965	1,772,000	23,437,000
1966	1,790,000	25,227,000
1967	5,179,000	30,406,000
1968	326,000	30,732,000
1969	832,000	31,564,000
1971	**96,000**	**31,660,000**

TABLE 5
OTHER USES AT FEDERALLY CONSTRUCTED STORAGE AND DIVERSION DAMS
NIOBRARA, LOWER PLATTE AND KANSAS RIVER BASINS
During 1971
Annual Totals

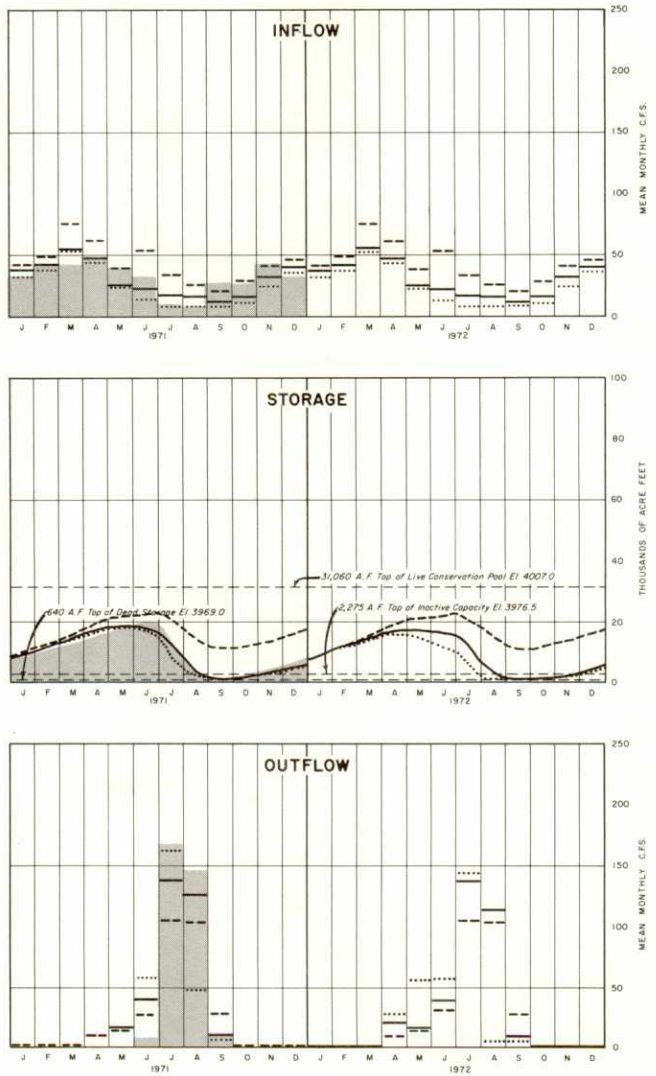
Features	Visitors	Cars In Area	Water Craft	Sport Fish Caught	Season Take Ducks	Season Take Geese
Colorado						
Bonny Reservoir	253,506	85,681	5,532	6,500	2,600	156
Kansas						
Norton Reservoir	100,388	38,768	2,070	40,000	350	45
Almena Diversion Dam	1,465	310	0	219	10	0
Lovewell Reservoir	172,839	41,869	3,075	18,000	300	80
Kirwin Reservoir	229,620	76,827	8,075	118,000	233	374
Webster Reservoir	104,802	35,970	305	4,000	310	75
Woodston Diversion Dam	1,460	785	0	75	0	0
Waconda Lake	341,933	90,205	550	40,000	1,750	125
Cedar Bluff Reservoir	154,579	45,515	305	8,000	300	200
Nebraska						
Box Butte Reservoir	32,500	10,000	3,335	3,980	110	6
Merritt Reservoir	48,350	15,200	2,990	24,195	290	4
Milburn Diversion Dam	1,190	850	0	3,180	Not Reported	
Arcadia Diversion Dam	16,000	5,180	0	18,680	75	4
Sherman Reservoir	144,100	56,500	19,000	50,000	520	16
Swanson Lake	145,330	41,328	4,600	146,442	395	18
Enders Reservoir	22,665	6,476	1,126	12,861	290	21
Hugh Butler Lake	195,443	55,841	9,014	95,284	232	6
Harry Strunk Lake	70,724	20,207	2,117	47,172	185	12
Harlan County Reservoir	958,700	311,149	20,000	185,000	475	450
TOTAL REPORTED	2,995,594	938,661	82,094	821,588	8,415	1,592

Visitors = Total visitor-days which includes fishing, hunting, boating, skiing, camping, picnicking and sightseeing.
Water Craft = Boating days which includes rentals, inboards, outboards, rowboats and sailboats.

BOX BUTTE RESERVOIR
HISTORICAL OPERATION



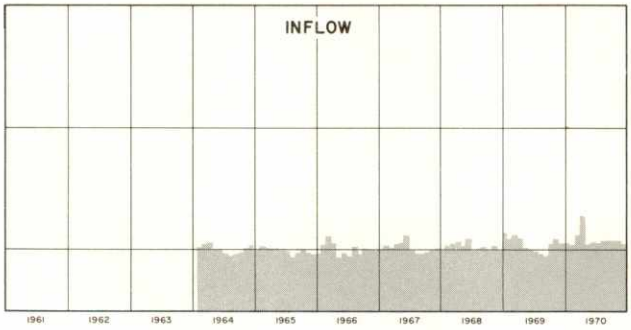
BOX BUTTE RESERVOIR
OPERATING PLANS

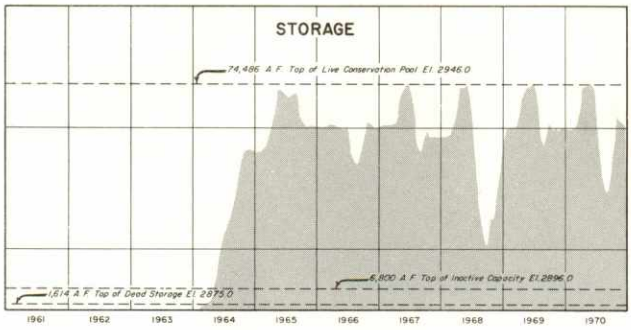


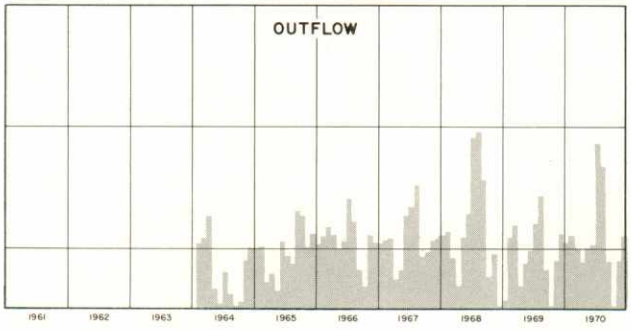
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 1

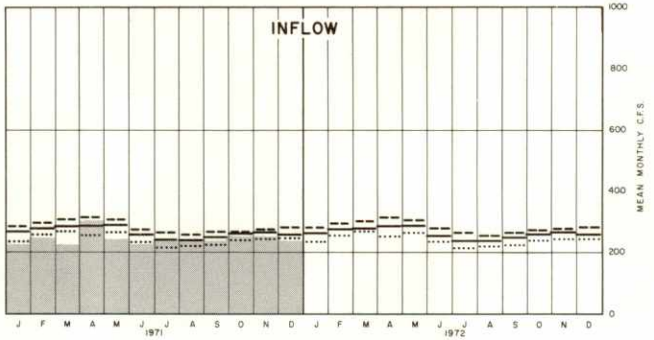
MERRITT RESERVOIR
HISTORICAL OPERATION

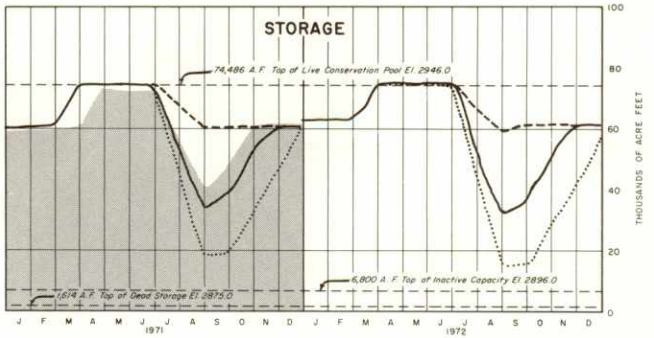


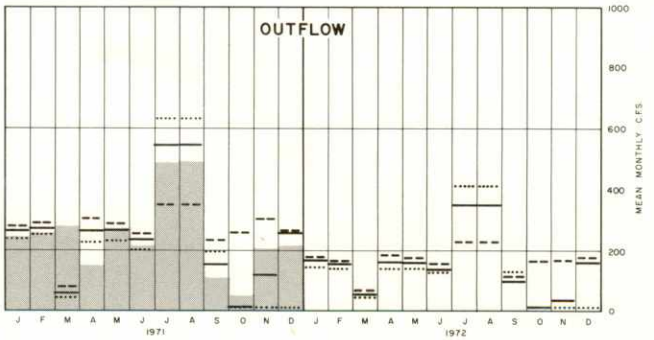




MERRITT RESERVOIR
OPERATING PLANS







MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 2

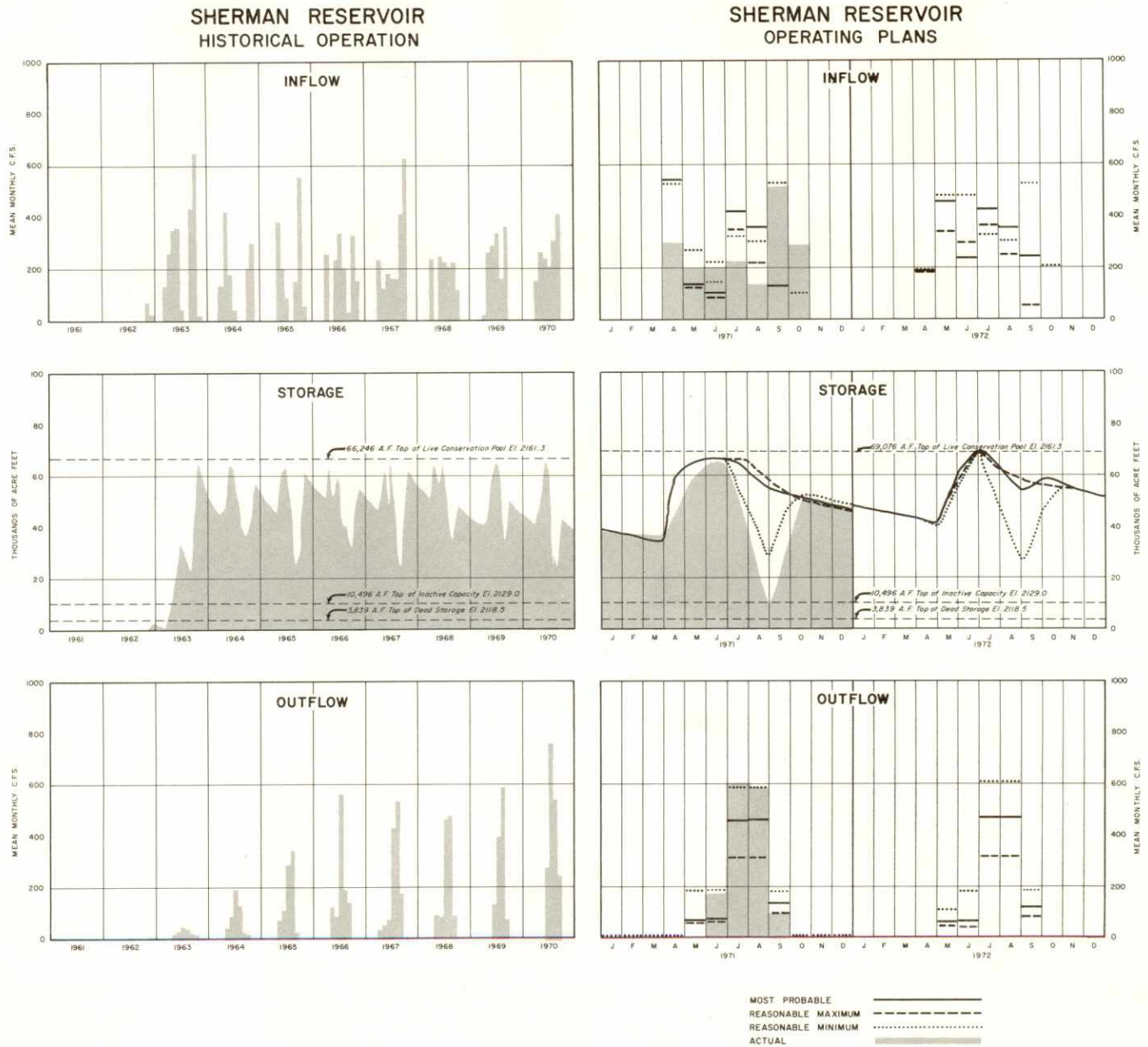

SHERMAN RESERVOIR
HISTORICAL OPERATION
SHERMAN RESERVOIR
OPERATING PLANS
INFLOW
STORAGE
OUTFLOW
MEAN MONTHLY C.F.S.
THOUSANDS OF ACRE FEET
66,246 A.F. Top of Live Conservation Pool El. 2161.3
10,496 A.F. Top of Inactive Capacity El. 2129.0
3,839 A.F. Top of Dead Storage El. 2118.5
69,076 A.F. Top of Live Conservation Pool El. 2161.3
10,496 A.F. Top of Inactive Capacity El. 2129.0
3,839 A.F. Top of Dead Storage El. 2116.5
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
J F M A M J J A S O N D
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 3

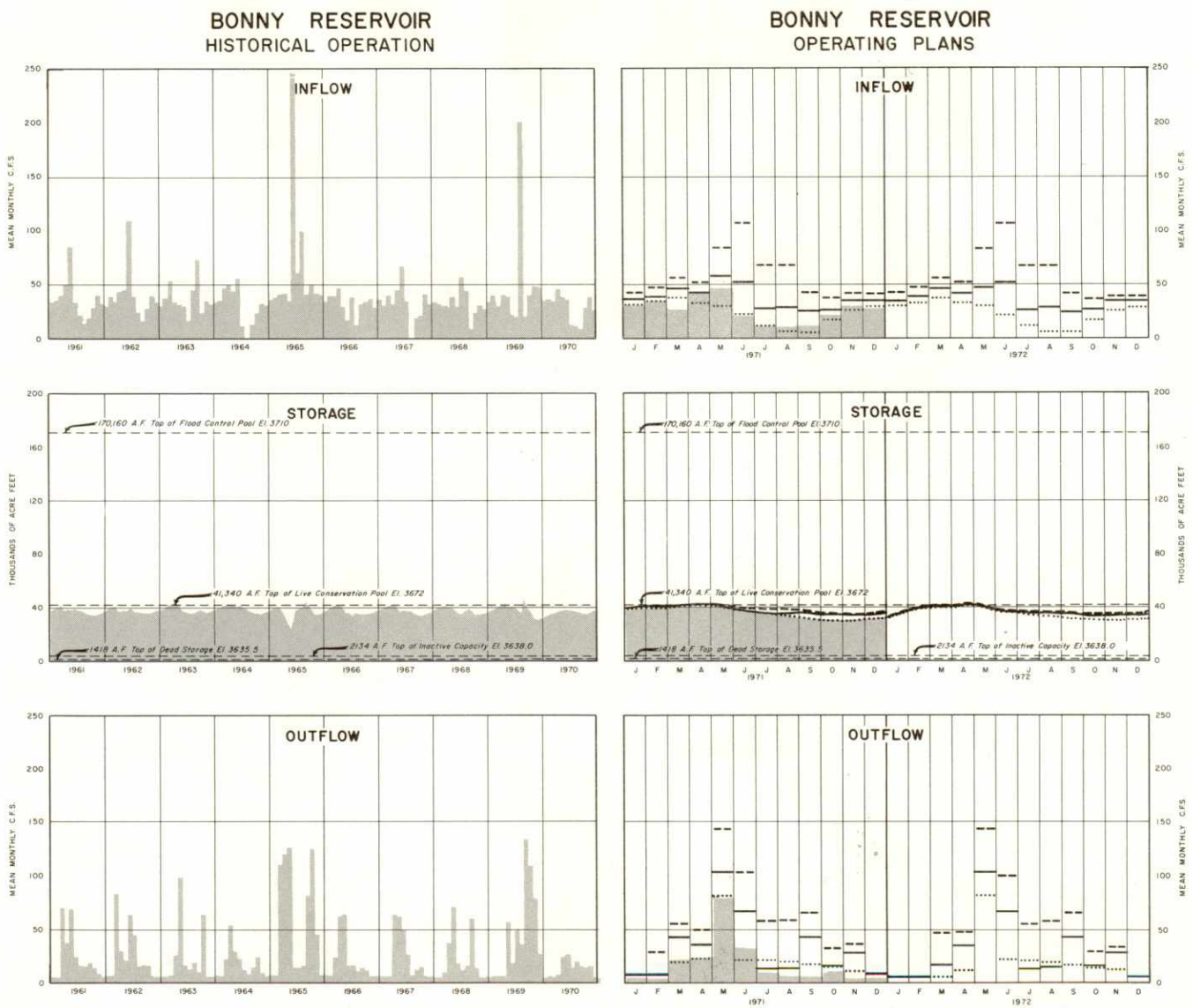

BONNY RESERVOIR
HISTORICAL OPERATION
BONNY RESERVOIR
OPERATING PLANS
INFLOW
INFLOW
MEAN MONTHLY C.F.S.
STORAGE
STORAGE
THOUSANDS OF ACRE FEET
170,160 A.F. Top of Flood Control Pool El. 3710
41,340 A.F. Top of Live Conservation Pool El. 3672
1418 A.F. Top of Dead Storage El. 3635.5
2134 A.F. Top of Inactive Capacity El. 3638.0
OUTFLOW
OUTFLOW
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 4

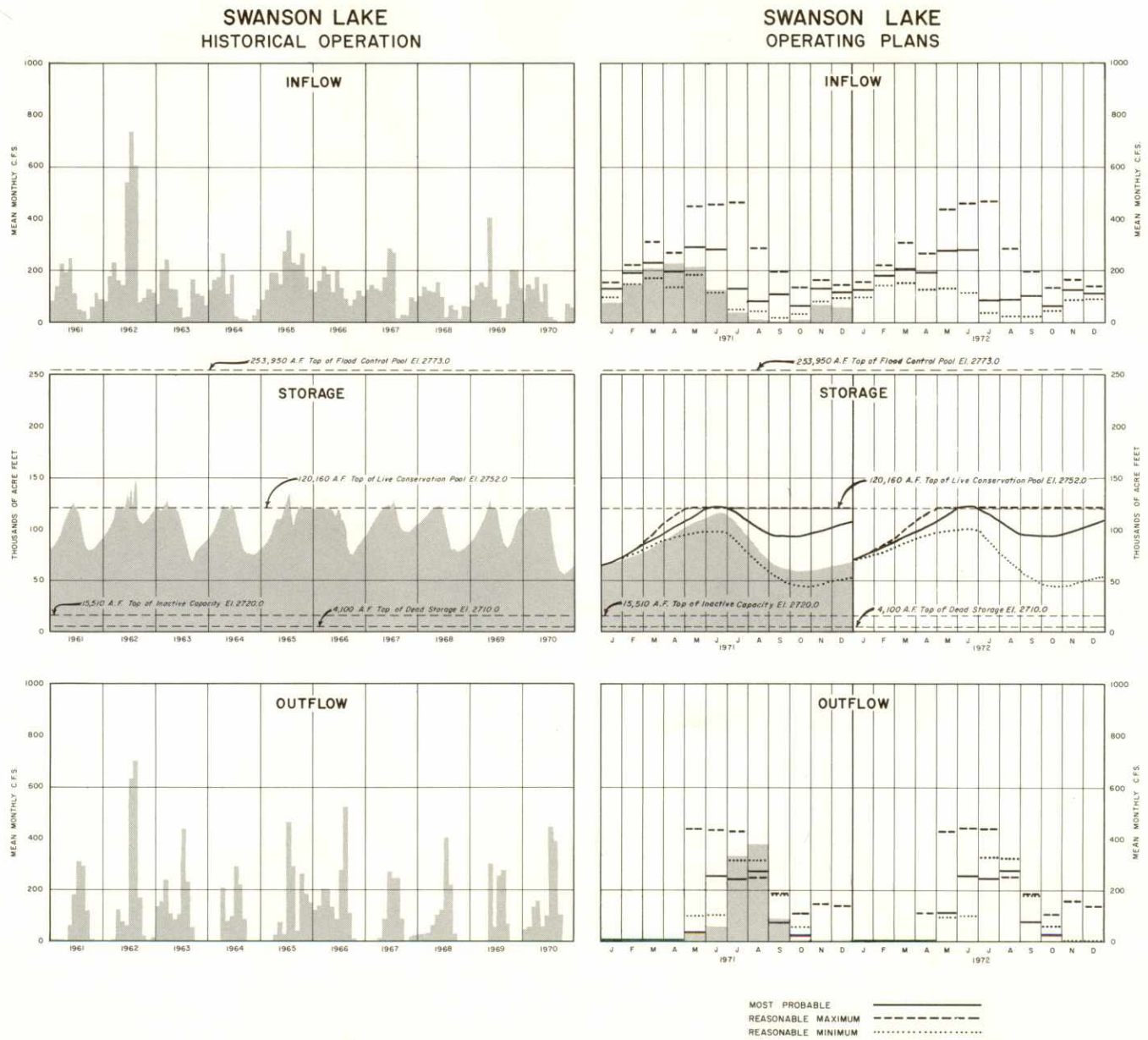
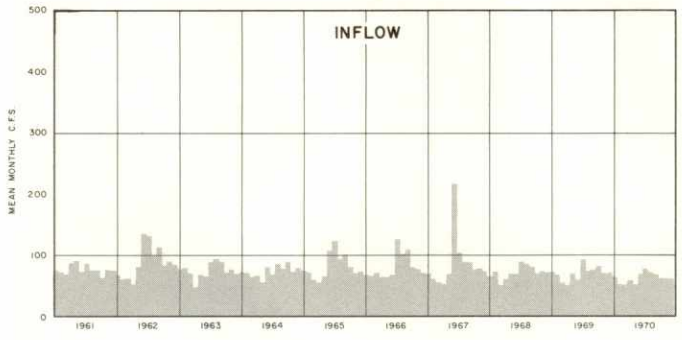
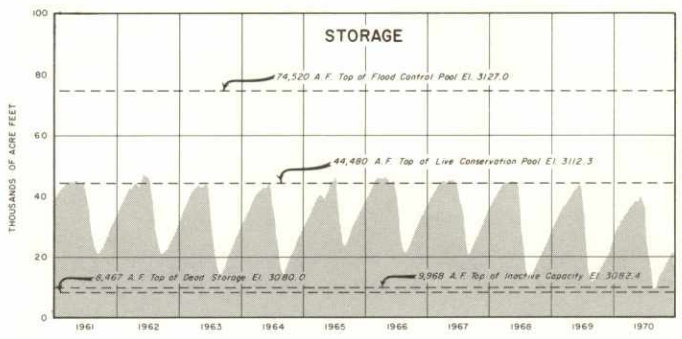
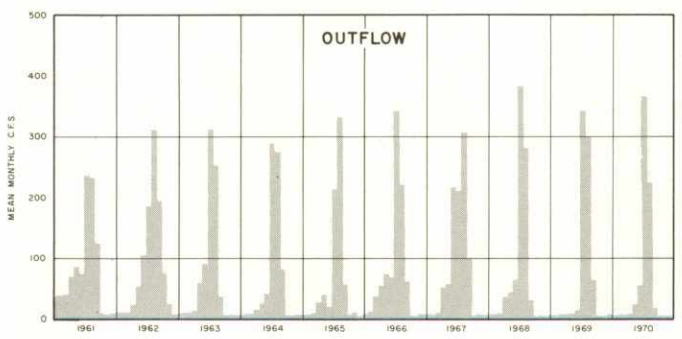

SWANSON LAKE
HISTORICAL OPERATION
SWANSON LAKE
OPERATING PLANS
INFLOW
STORAGE
OUTFLOW
MEAN MONTHLY C.F.S.
THOUSANDS OF ACRE FEET
253,950 A.F. Top of Flood Control Pool El. 2773.0
120,160 A.F. Top of Live Conservation Pool El. 2752.0
15,510 A.F. Top of Inactive Capacity El. 2720.0
4,100 A.F. Top of Dead Storage El. 2710.0
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 5

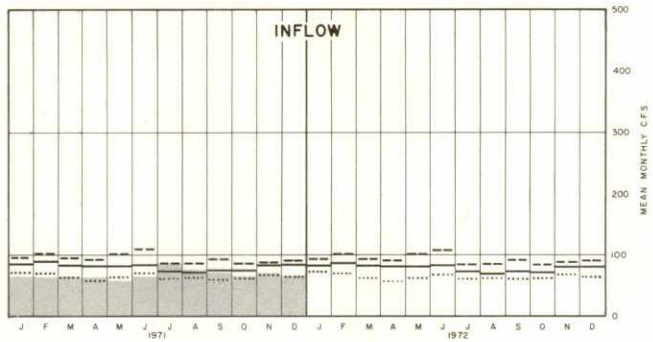
ENDERS RESERVOIR
HISTORICAL OPERATION

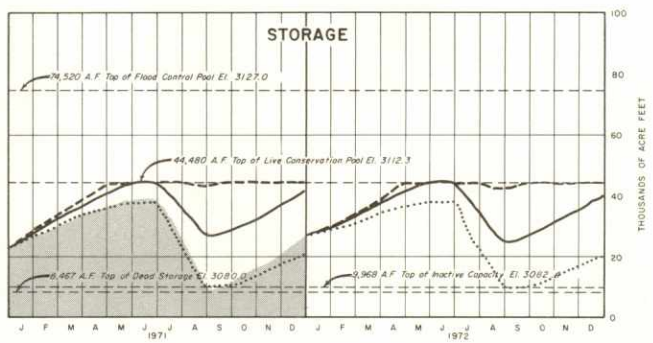


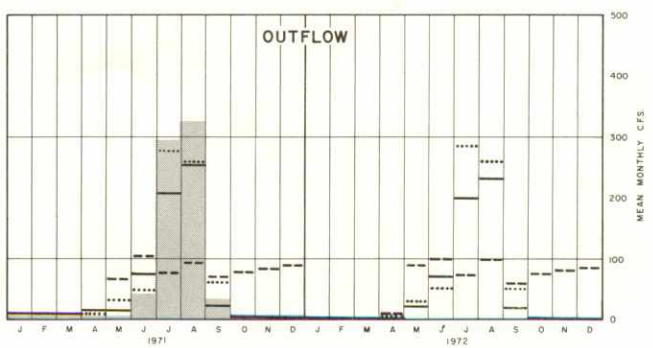




ENDERS RESERVOIR
OPERATING PLANS

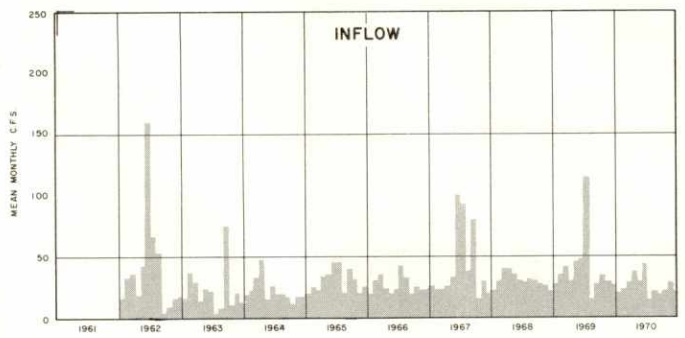


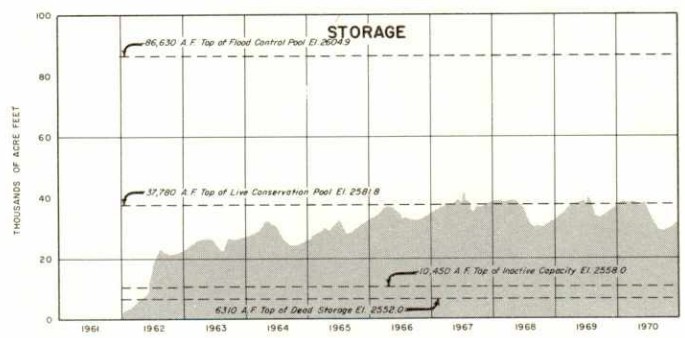


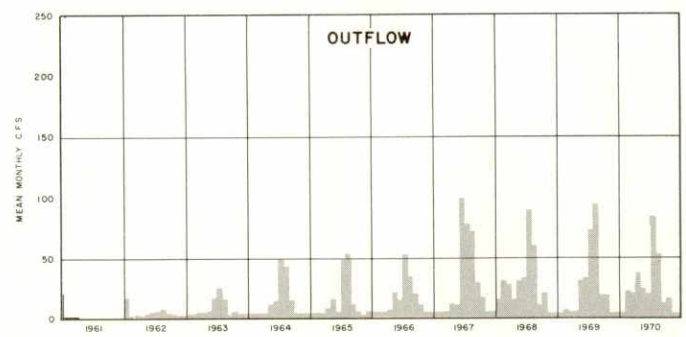


MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

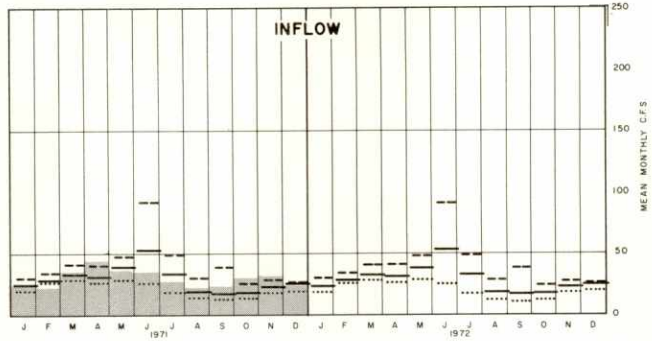
HUGH BUTLER LAKE
HISTORICAL OPERATION

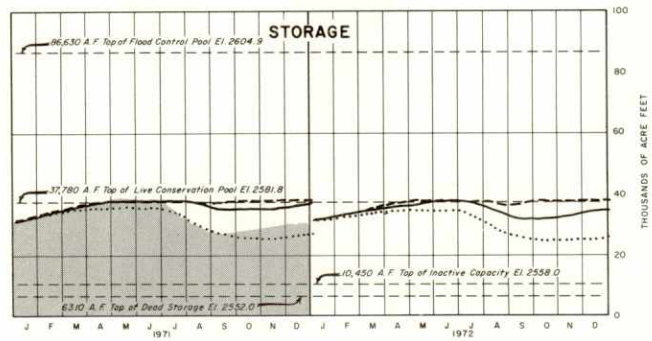


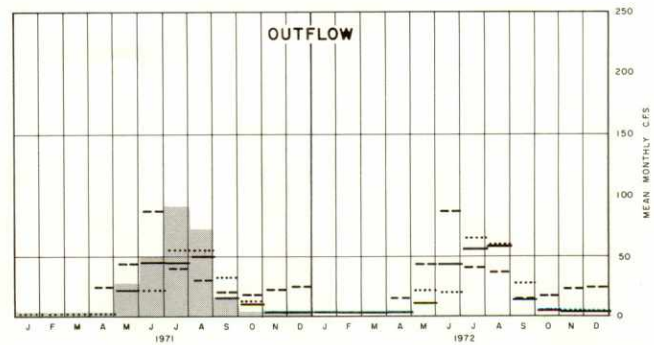




HUGH BUTLER LAKE
OPERATING PLANS



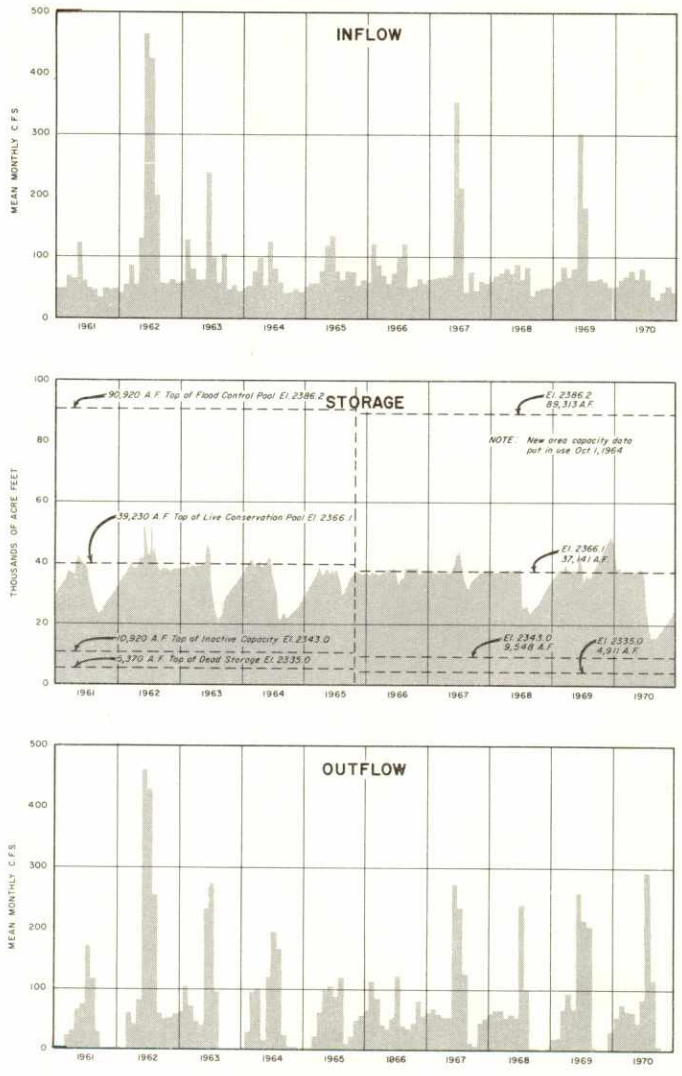




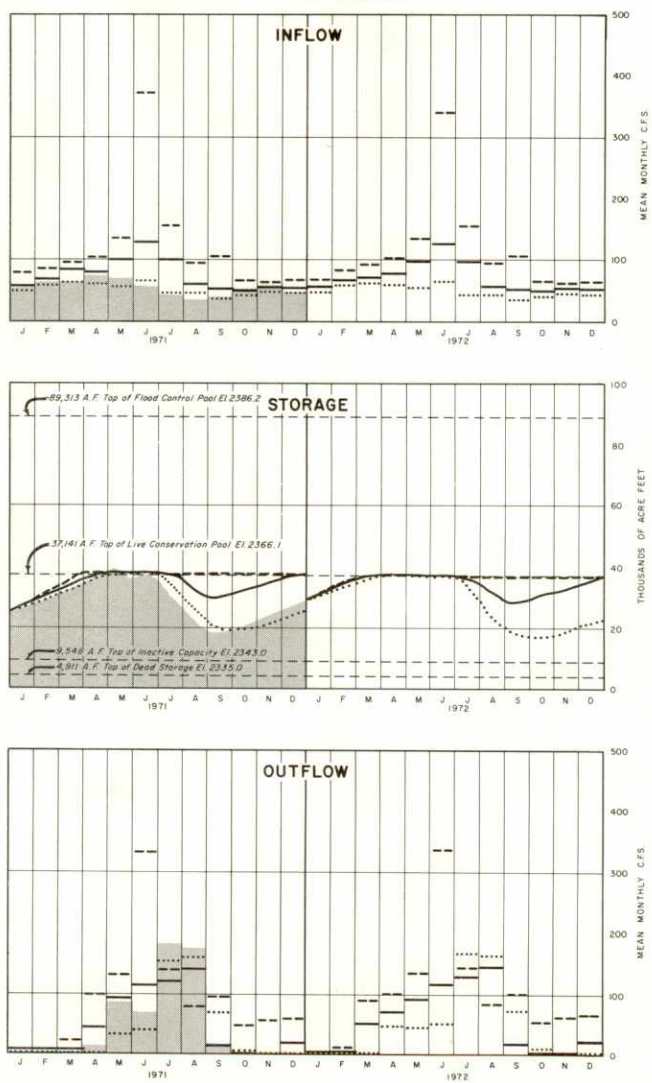
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 7

HARRY STRUNK LAKE
HISTORICAL OPERATION



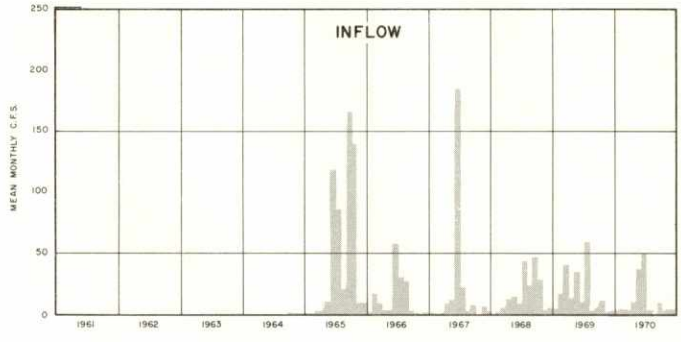
HARRY STRUNK LAKE
OPERATING PLANS

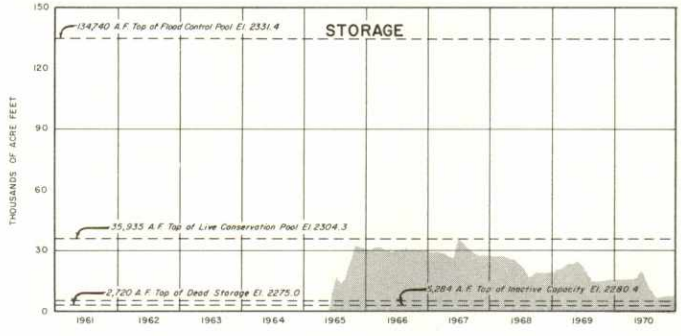


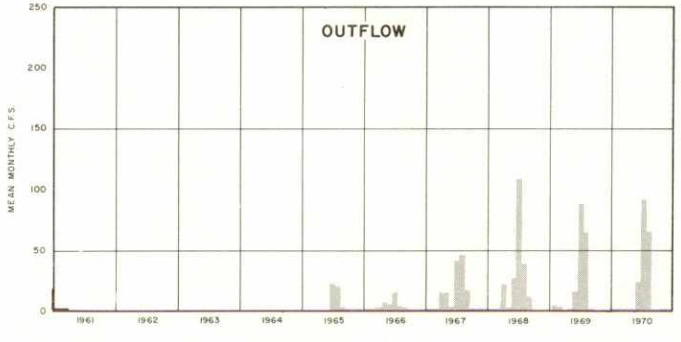
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 8

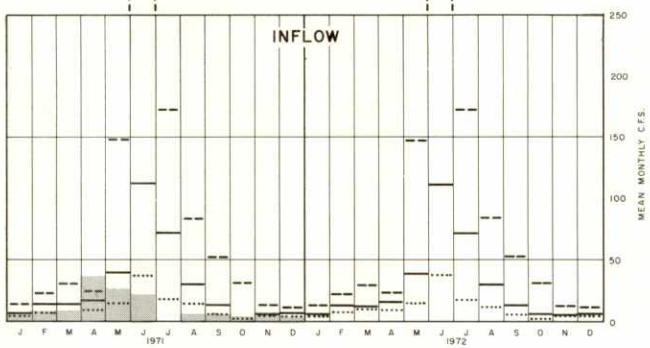
NORTON RESERVOIR
HISTORICAL OPERATION

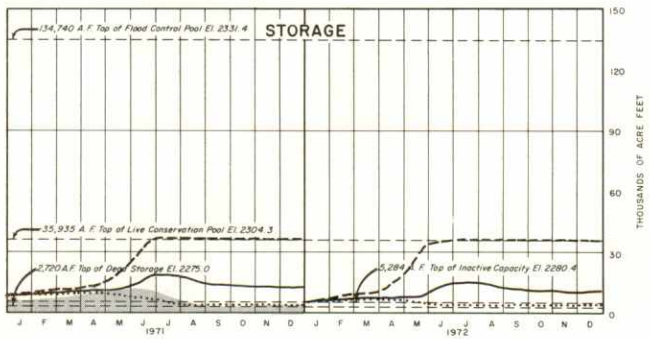


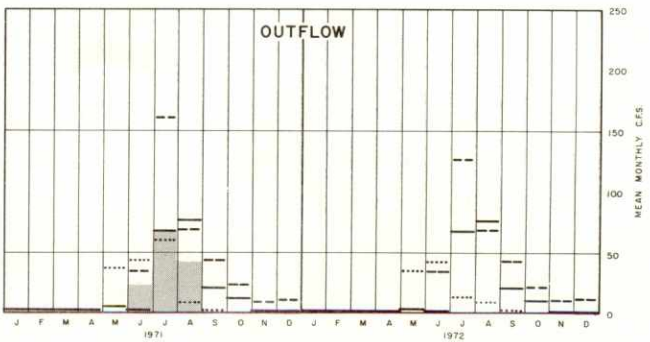




NORTON RESERVOIR
OPERATING PLANS







MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 9

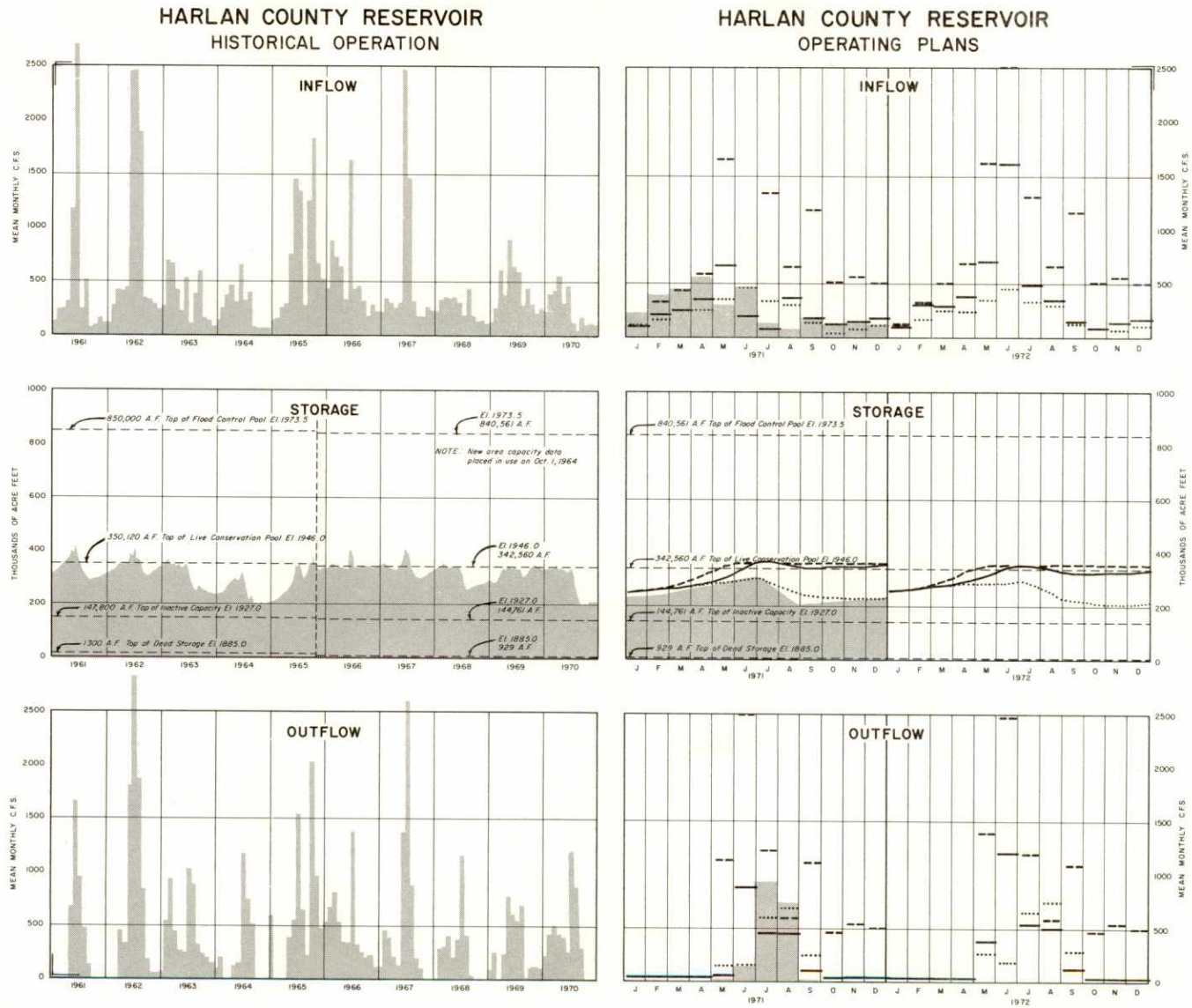
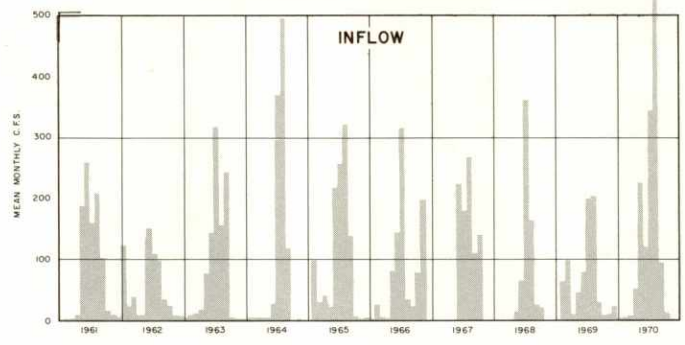
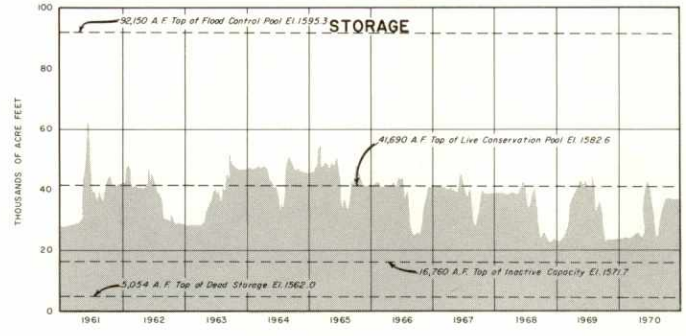
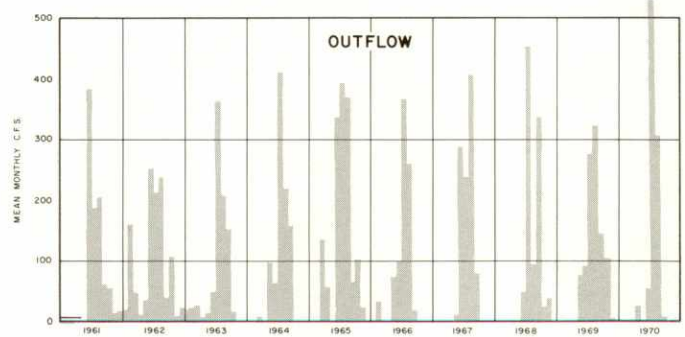

HARLAN COUNTY RESERVOIR
HISTORICAL OPERATION
HARLAN COUNTY RESERVOIR
OPERATING PLANS
INFLOW
STORAGE
OUTFLOW
MEAN MONTHLY C.F.S.
THOUSANDS OF ACRE FEET
850,000 A.F. Top of Flood Control Pool El. 1973.5
El. 1973.5
840,561 A.F.
NOTE: New area capacity data placed in use on Oct. 1, 1964
350,120 A.F. Top of Live Conservation Pool El. 1946.0
El. 1946.0
342,560 A.F.
147,800 A.F. Top of Inactive Capacity El. 1927.0
El. 1927.0
144,761 A.F.
1300 A.F. Top of Dead Storage El. 1885.0
El. 1885.0
929 A.F.
840,561 A.F. Top of Flood Control Pool El. 1973.5
342,560 A.F. Top of Live Conservation Pool El. 1946.0
144,761 A.F. Top of Inactive Capacity El. 1927.0
929 A.F. Top of Dead Storage El. 1885.0
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 10

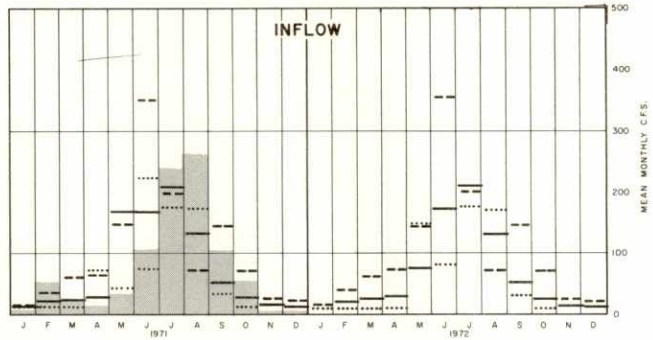
LOVEWELL RESERVOIR
HISTORICAL OPERATION

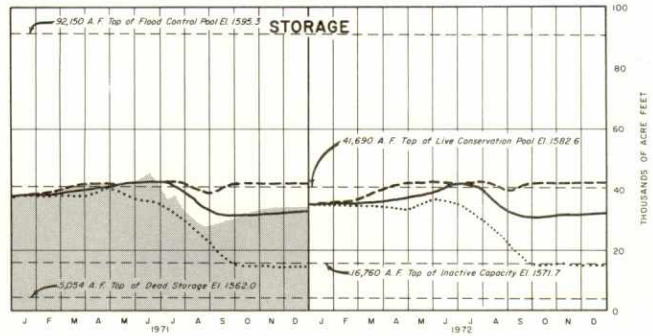


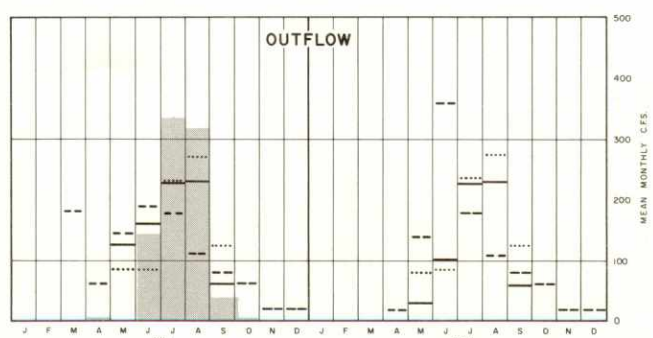




LOVEWELL RESERVOIR
OPERATING PLANS



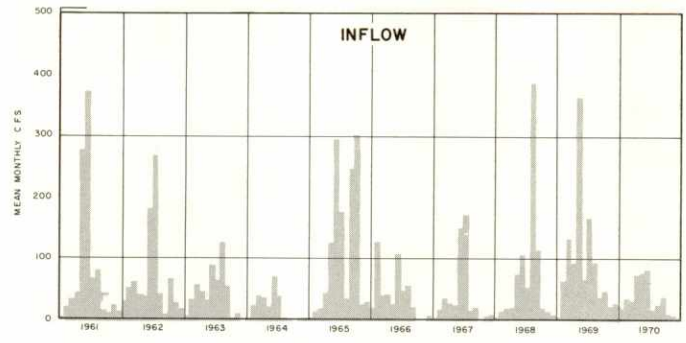


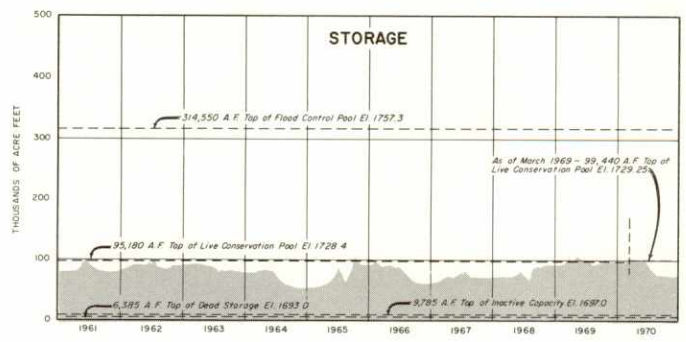


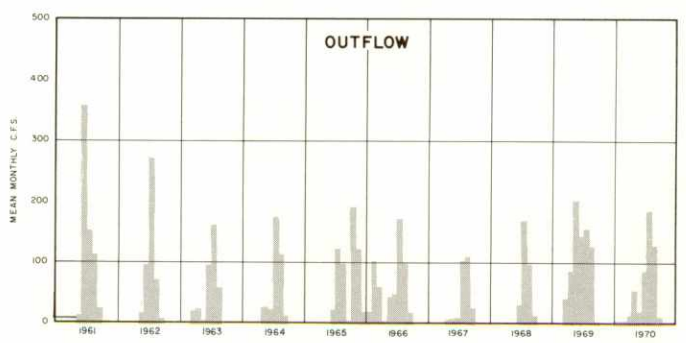
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 11

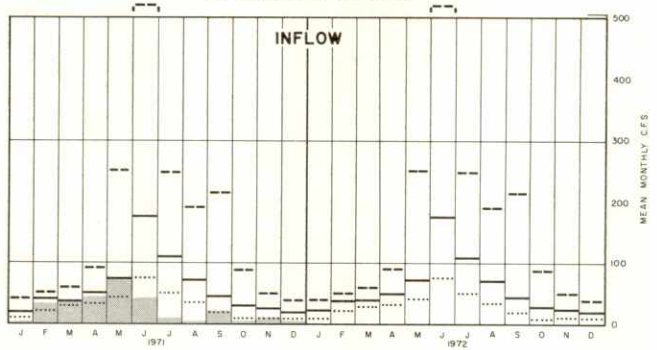
KIRWIN RESERVOIR
HISTORICAL OPERATION

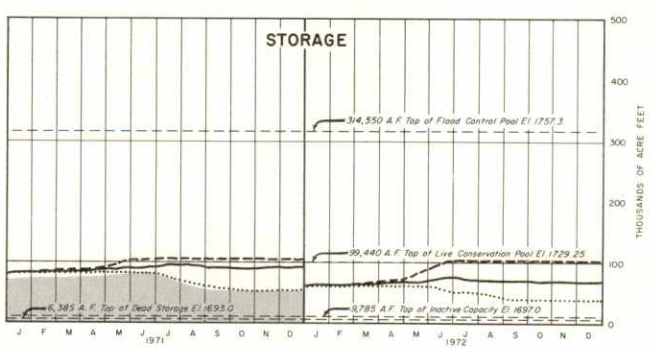


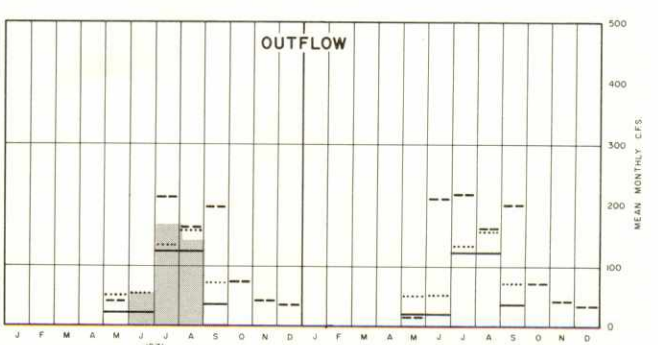




KIRWIN RESERVOIR
OPERATING PLANS

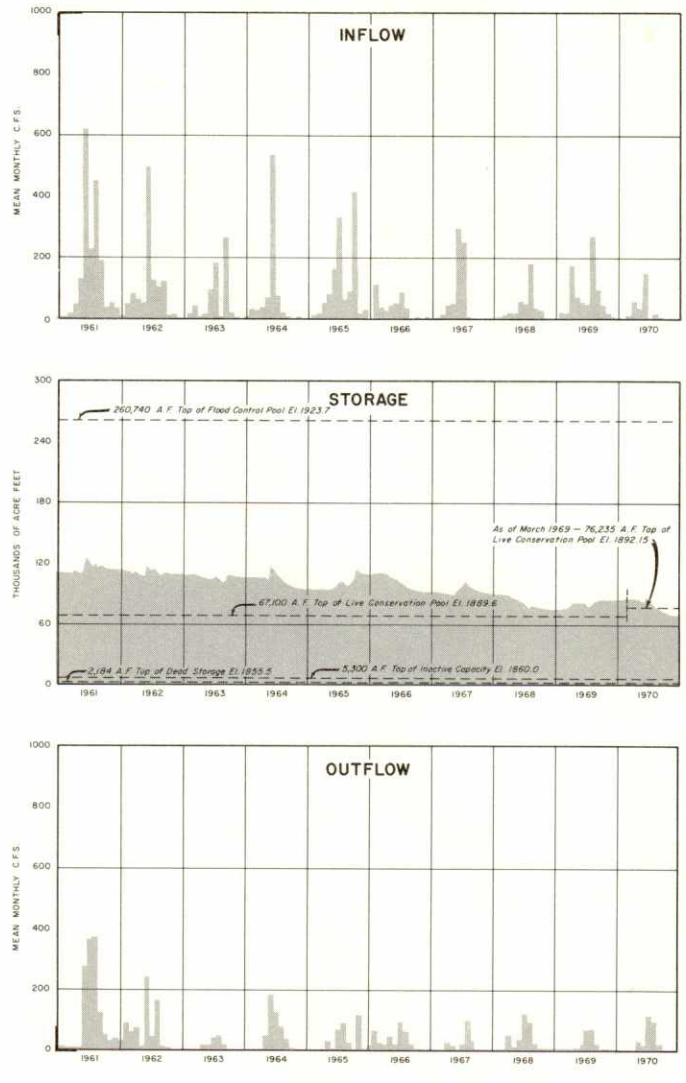




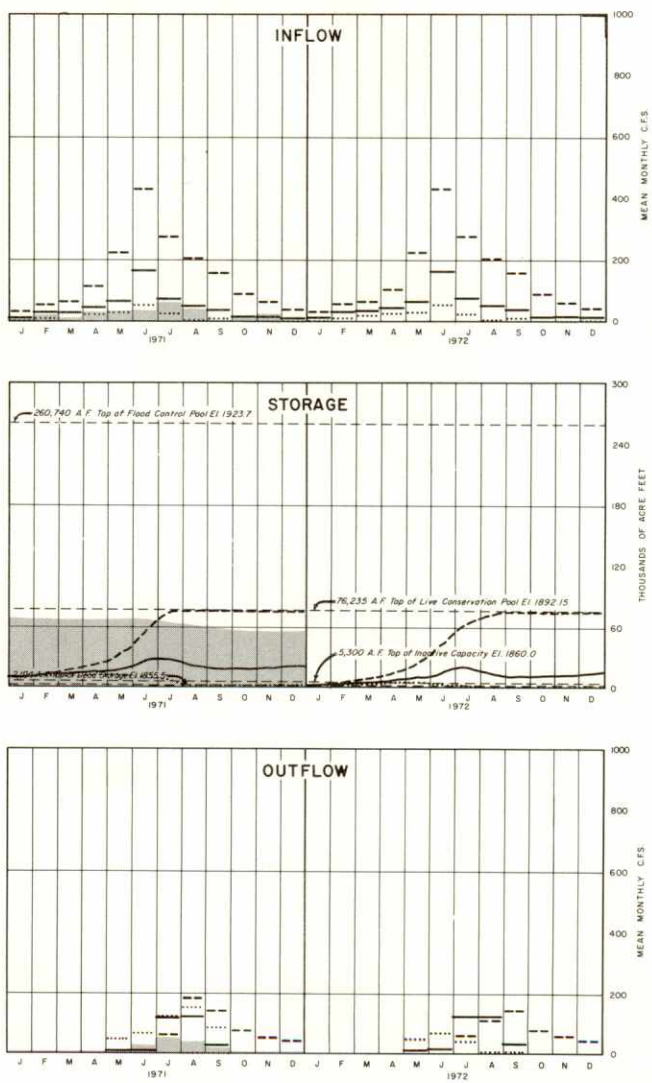


MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

WEBSTER RESERVOIR
HISTORICAL OPERATION



WEBSTER RESERVOIR
OPERATING PLANS



MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 13

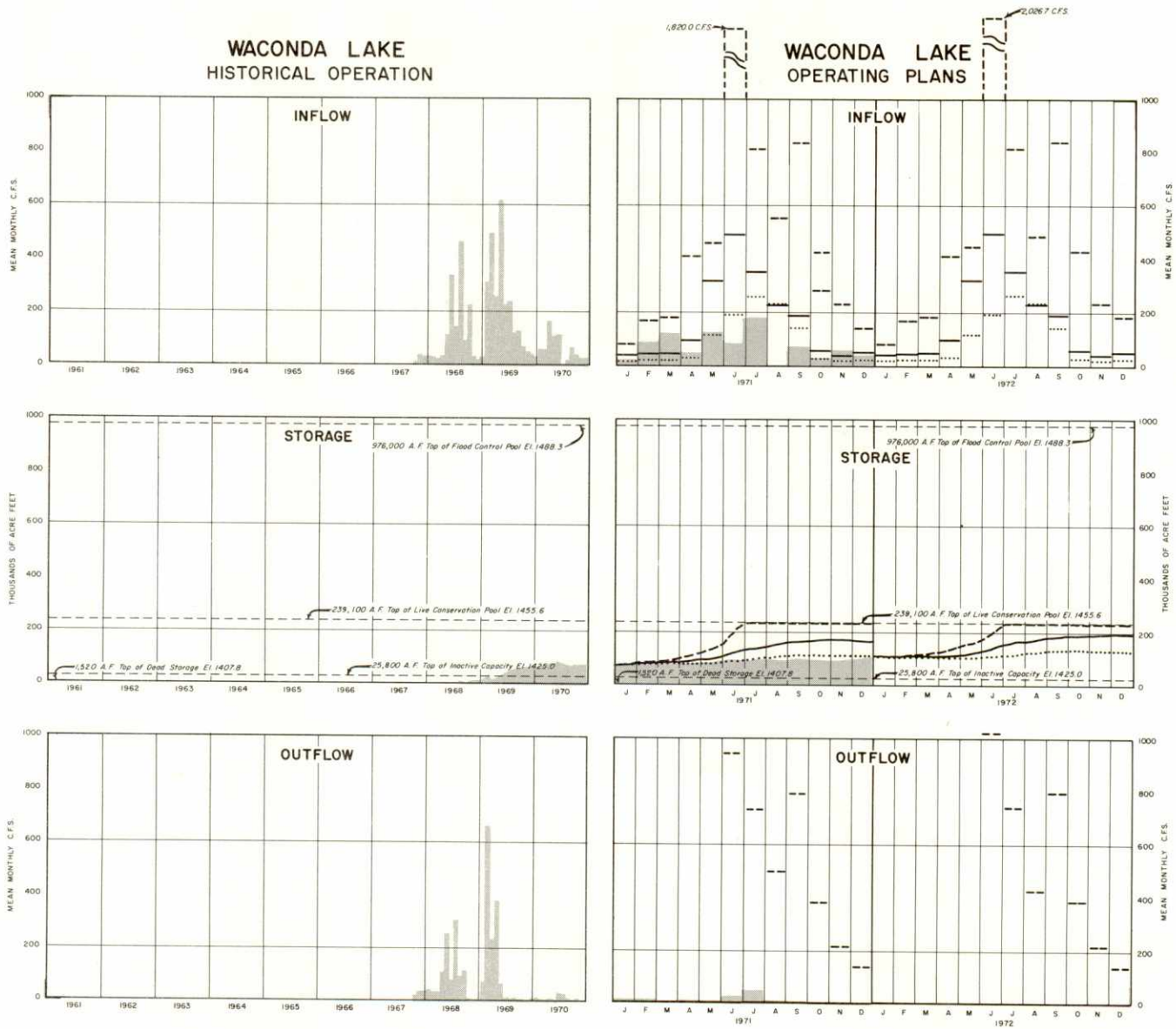

WACONDA LAKE
HISTORICAL OPERATION
INFLOW
MEAN MONTHLY C.F.S.
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
STORAGE
THOUSANDS OF ACRE FEET
976,000 A.F. Top of Flood Control Pool El. 1488.3
239,100 A.F. Top of Live Conservation Pool El. 1455.6
1,520 A.F. Top of Dead Storage El. 1407.8
25,800 A.F. Top of Inactive Capacity El. 1425.0
OUTFLOW
MEAN MONTHLY C.F.S.
WACONDA LAKE
OPERATING PLANS
1,820.0 C.F.S.
2,026.7 C.F.S.
INFLOW
MEAN MONTHLY C.F.S.
J F M A M J J A S O N D J F M A M J J A S O N D
1971
1972
STORAGE
THOUSANDS OF ACRE FEET
976,000 A.F. Top of Flood Control Pool El. 1488.3
239,100 A.F. Top of Live Conservation Pool El. 1455.6
1,520 A.F. Top of Dead Storage El. 1407.8
25,800 A.F. Top of Inactive Capacity El. 1425.0
OUTFLOW
MEAN MONTHLY C.F.S.
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 14

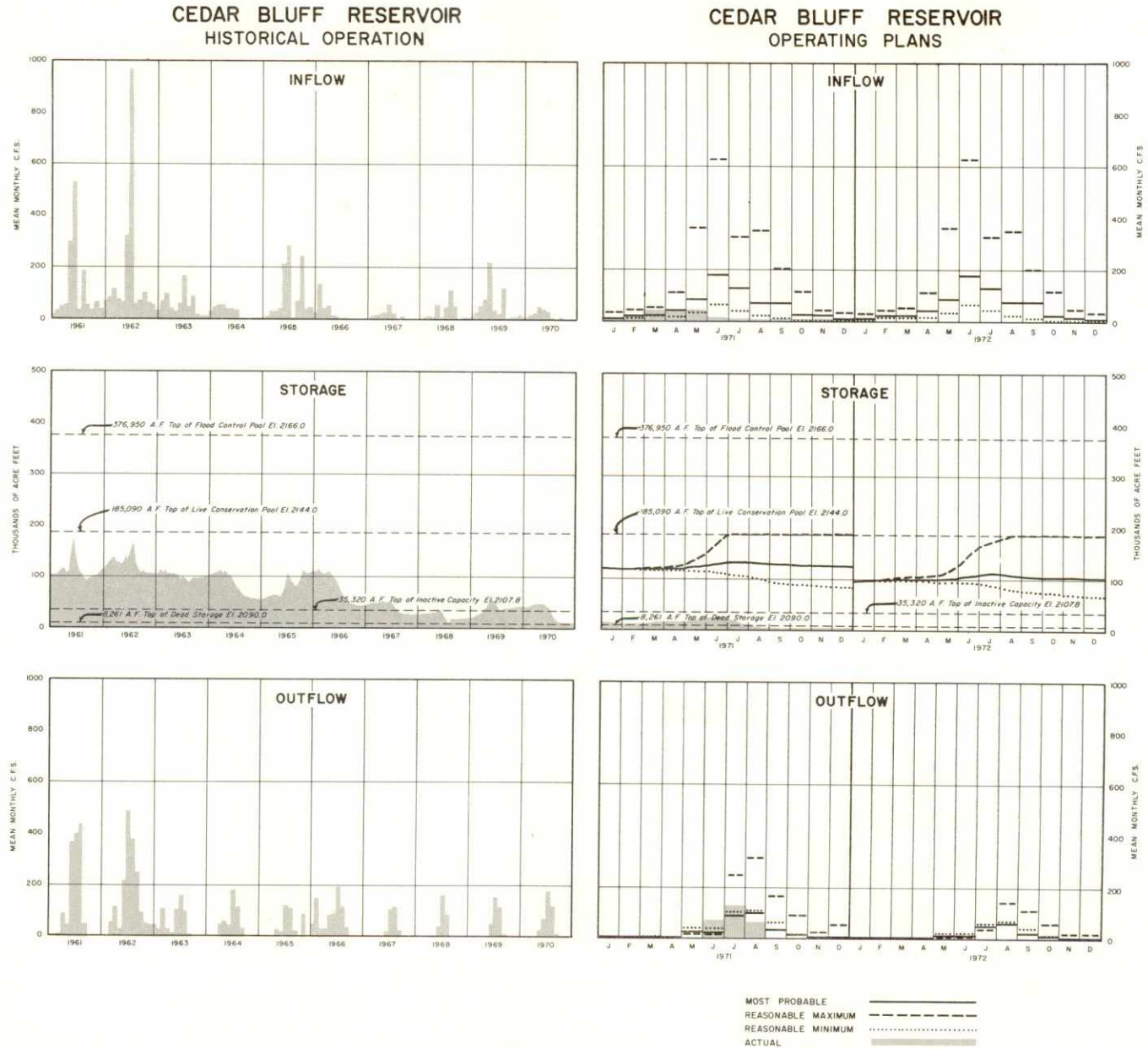

CEDAR BLUFF RESERVOIR
HISTORICAL OPERATION
CEDAR BLUFF RESERVOIR
OPERATING PLANS
INFLOW
STORAGE
OUTFLOW
MEAN MONTHLY C.F.S.
THOUSANDS OF ACRE FEET
376,950 A.F. Top of Flood Control Pool El. 2166.0
185,090 A.F. Top of Live Conservation Pool El. 2144.0
35,320 A.F. Top of Inactive Capacity El. 2107.8
8,261 A.F. Top of Dead Storage El. 2090.0
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
MOST PROBABLE
REASONABLE MAXIMUM
REASONABLE MINIMUM
ACTUAL

Exhibit 15

CANAL DIVERSIONS AND ACRES IRRIGATED

All Districts in Niobrara, Lower Platte and Kansas River Basins

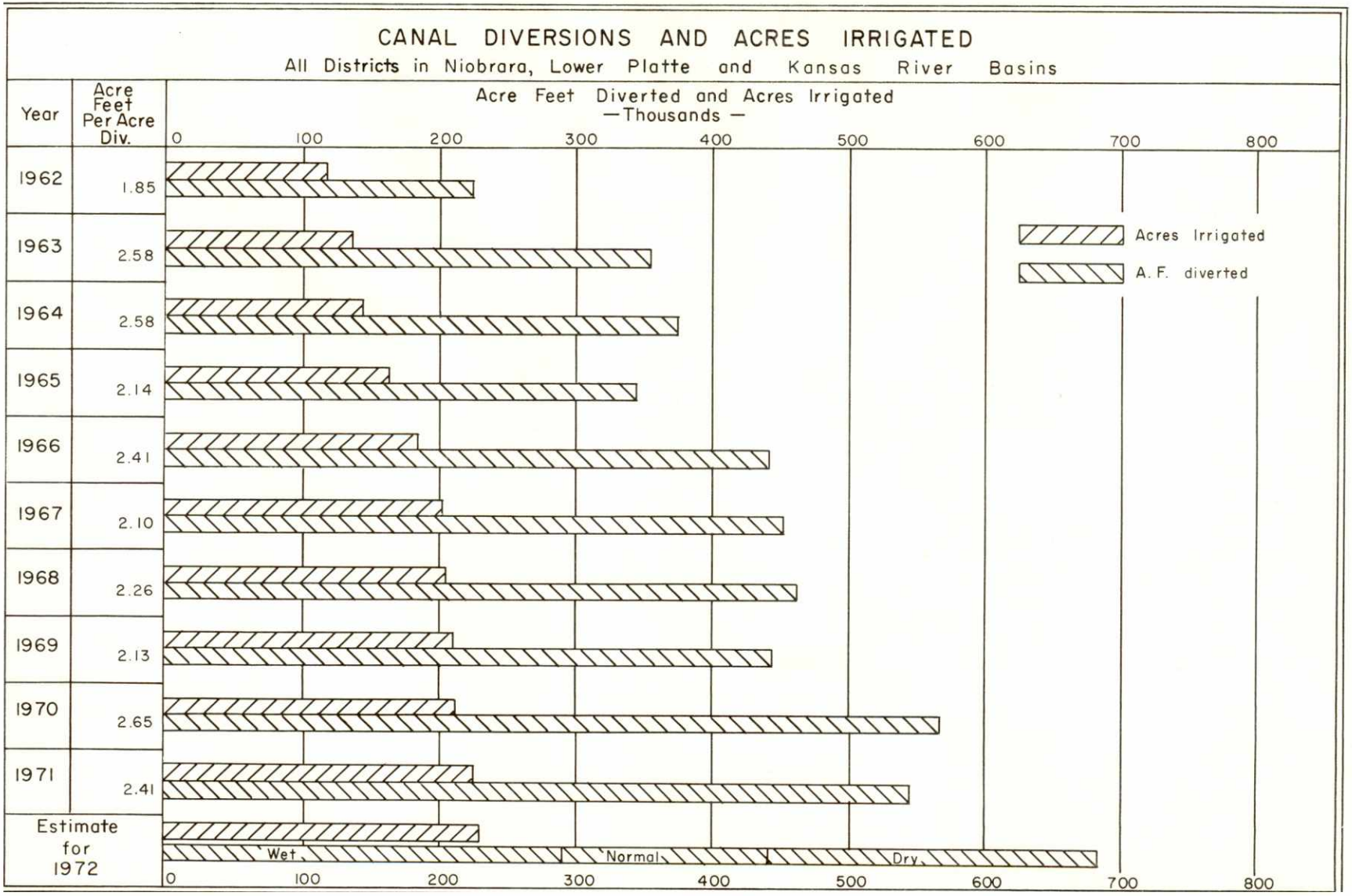


Exhibit 16

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Mirage Flats Irrigation District

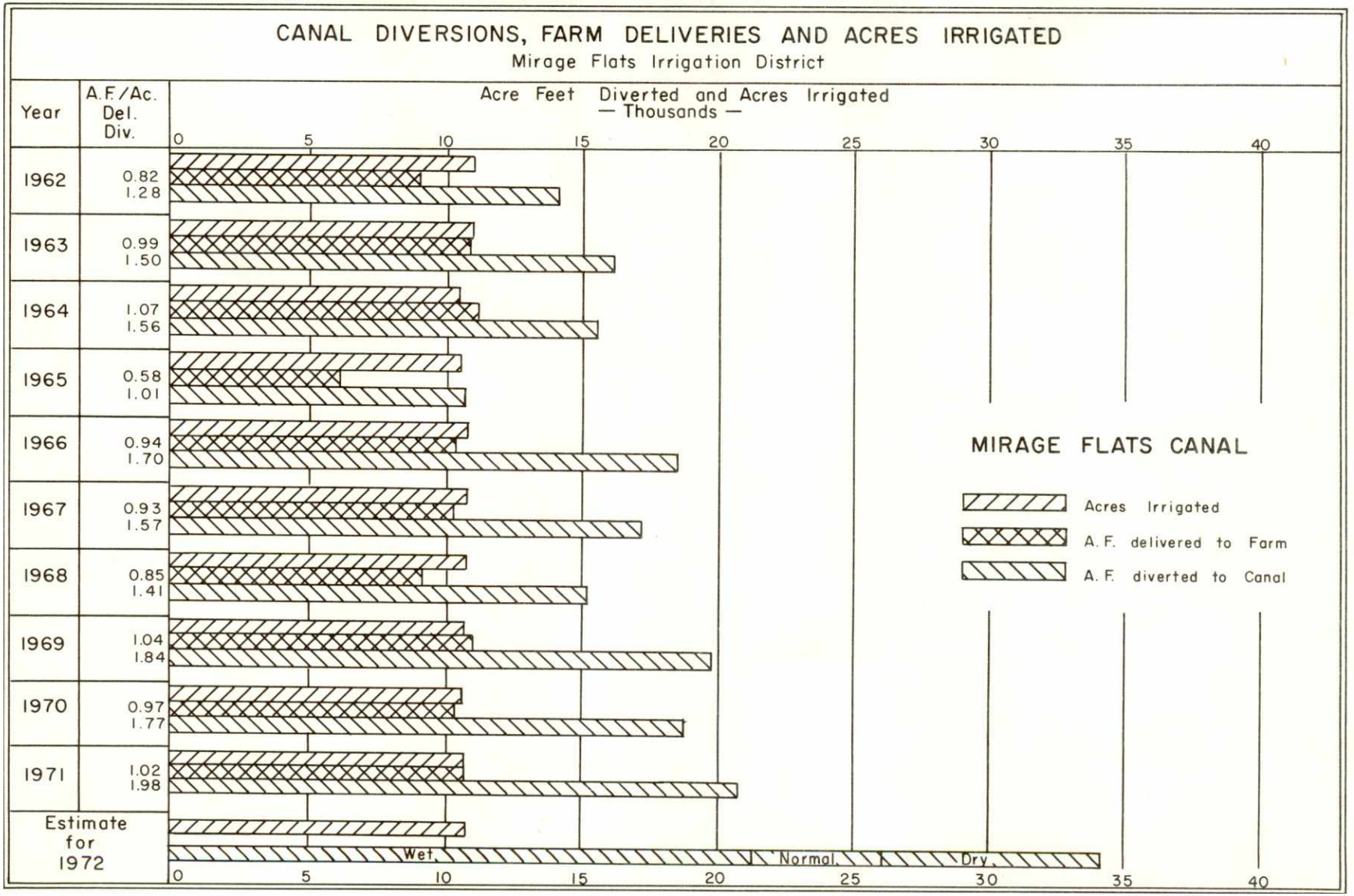
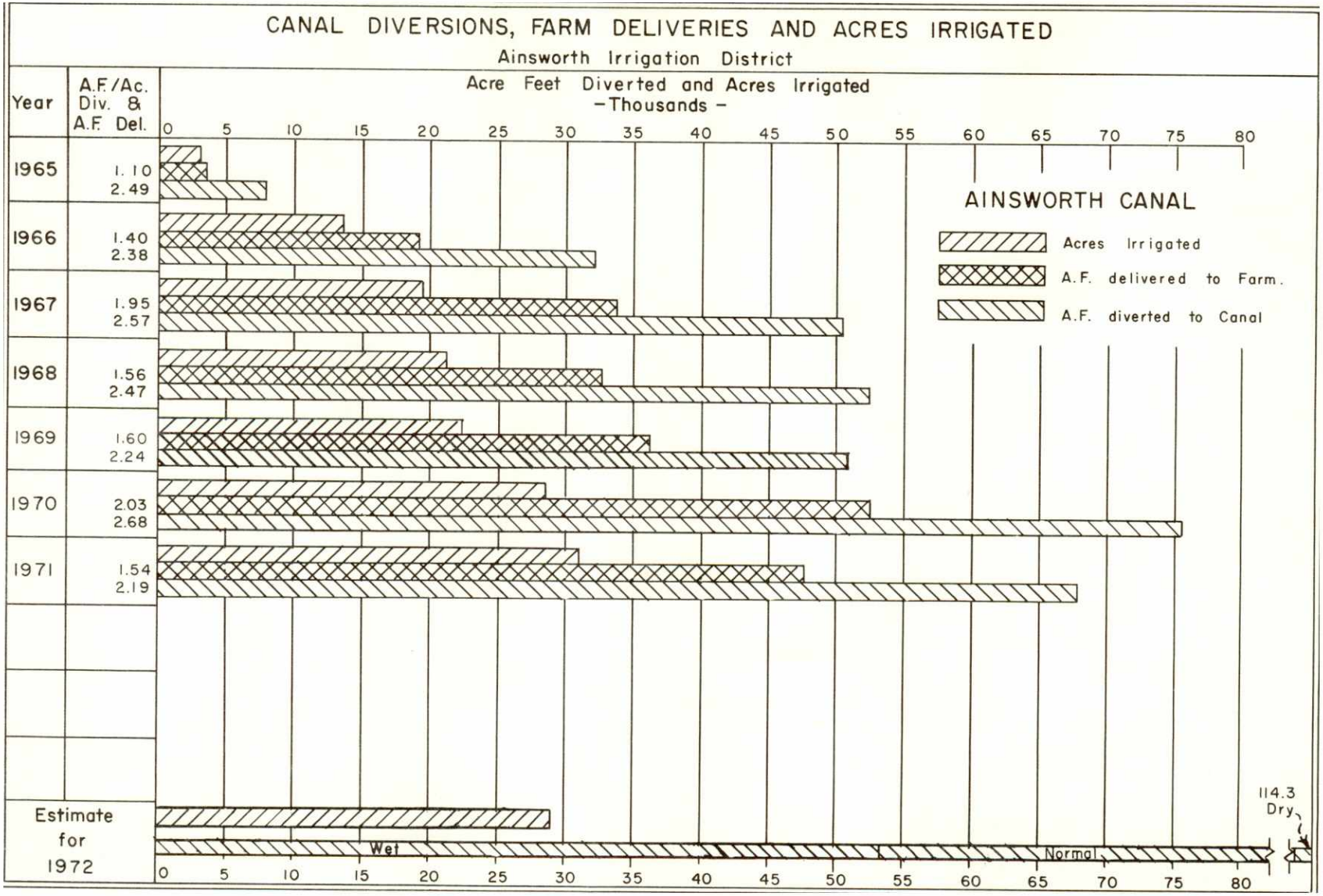


Exhibit 17

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Ainsworth Irrigation District



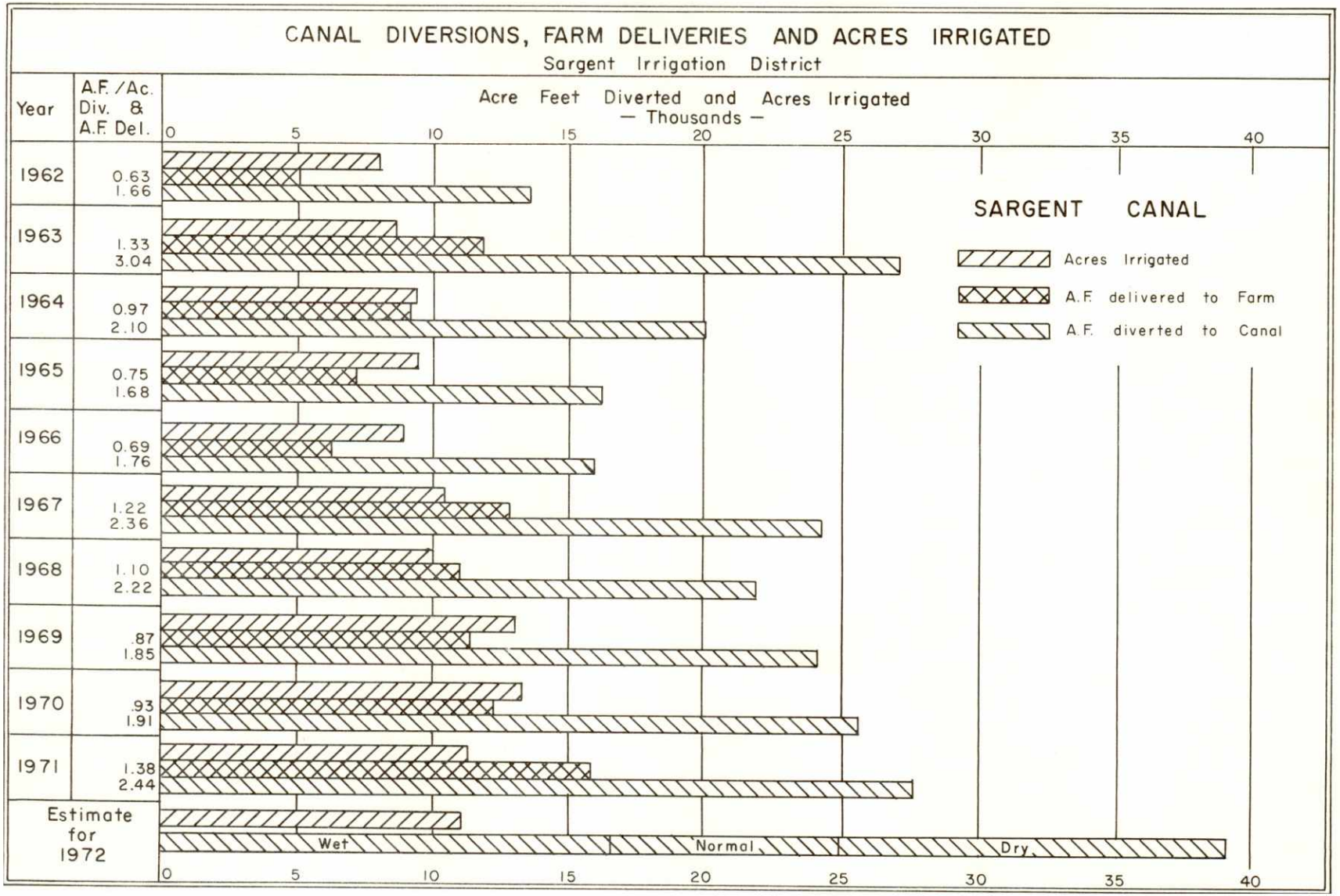
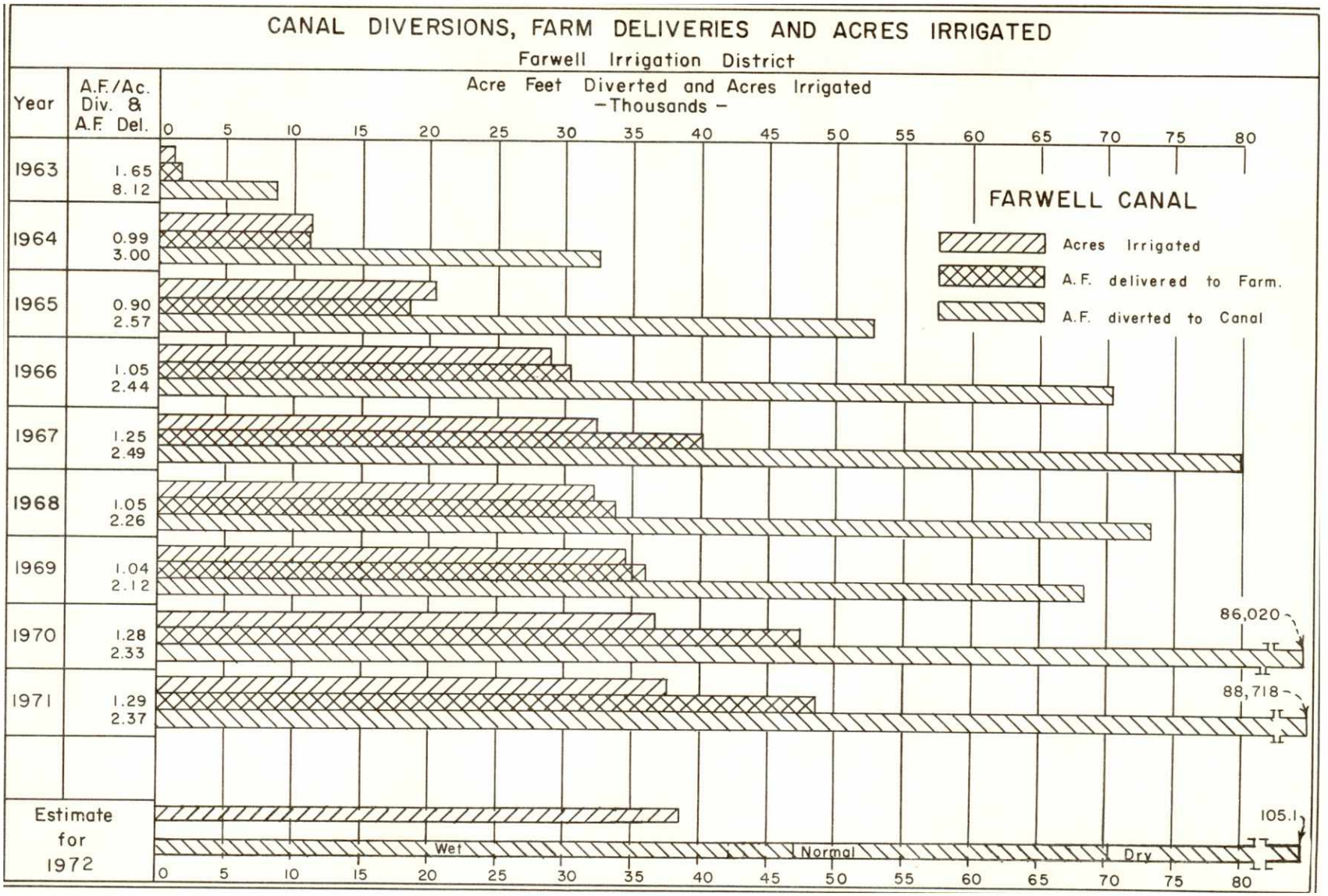

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
Sargent Irrigation District
Year
A.F./Ac. Div. & A.F. Del.
Acre Feet Diverted and Acres Irrigated
— Thousands —
0
5
10
15
20
25
30
35
40
1962
0.63
1.66
1963
1.33
3.04
1964
0.97
2.10
1965
0.75
1.68
1966
0.69
1.76
1967
1.22
2.36
1968
1.10
2.22
1969
.87
1.85
1970
.93
1.91
1971
1.38
2.44
Estimate for 1972
Wet
Normal
Dry
SARGENT CANAL
Acres Irrigated
A.F. delivered to Farm
A.F. diverted to Canal

Exhibit 19

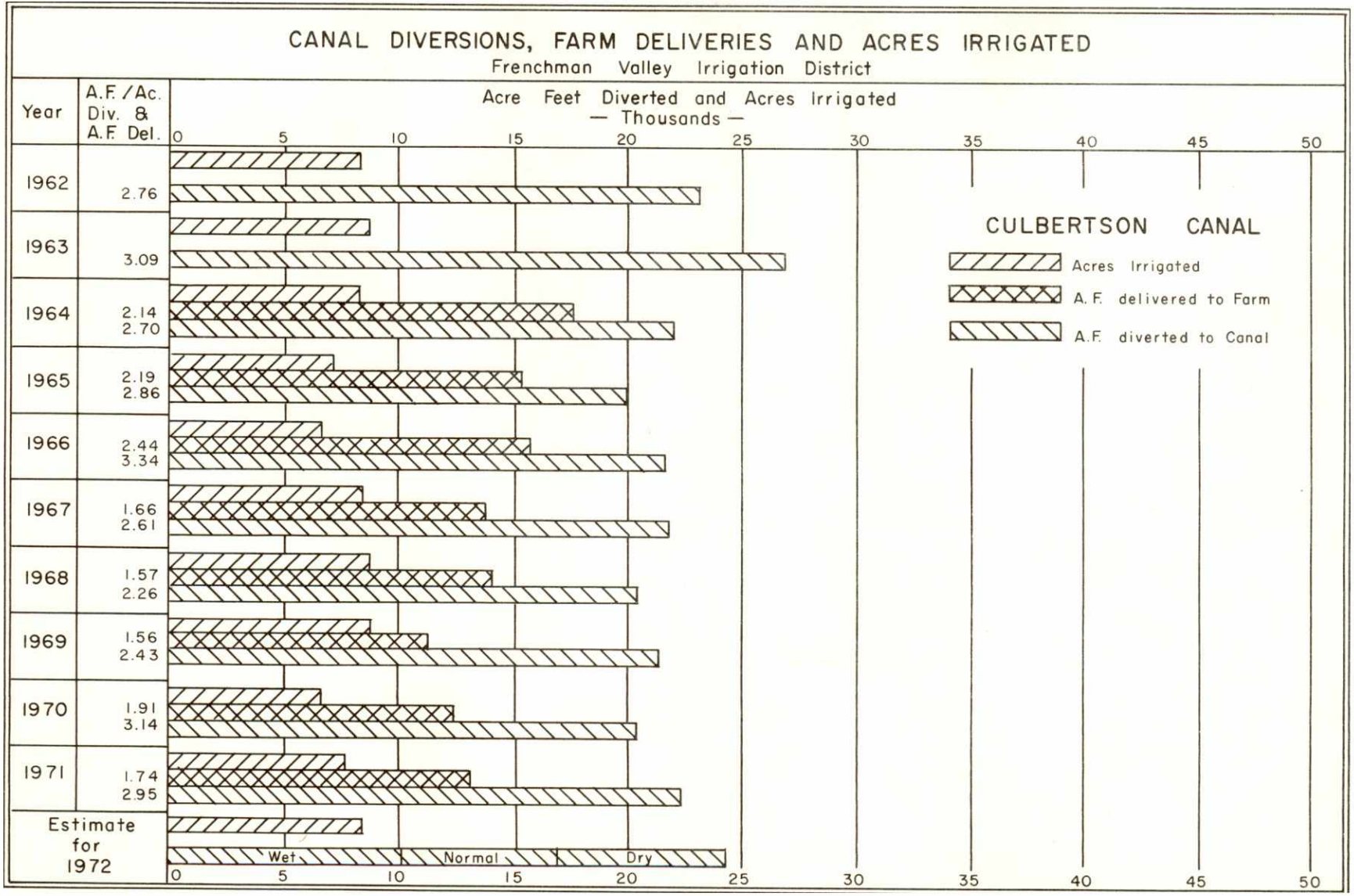
CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Farwell Irrigation District



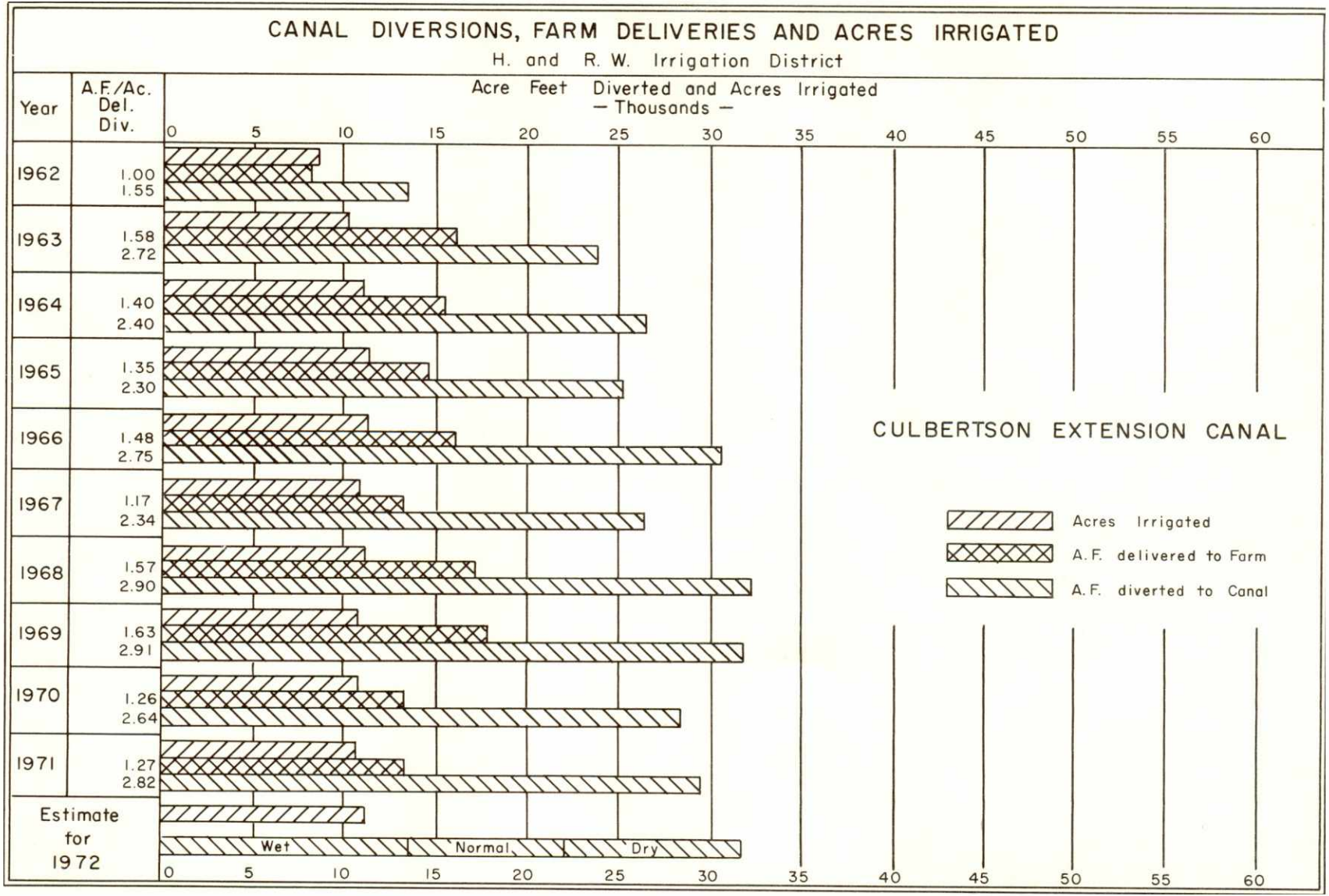
CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Frenchman Valley Irrigation District



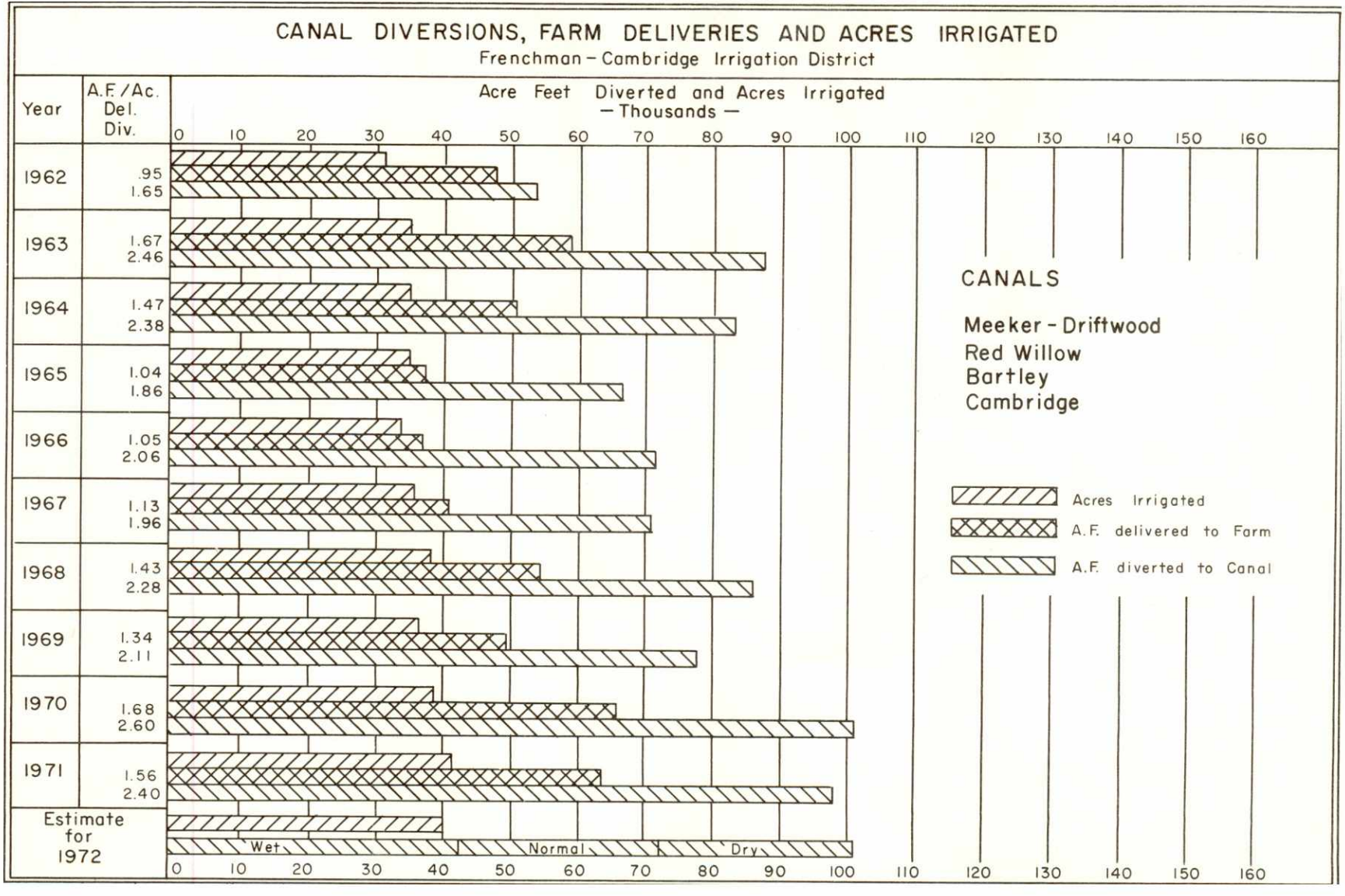
CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

H. and R. W. Irrigation District



CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Frenchman – Cambridge Irrigation District



CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Almena Irrigation District

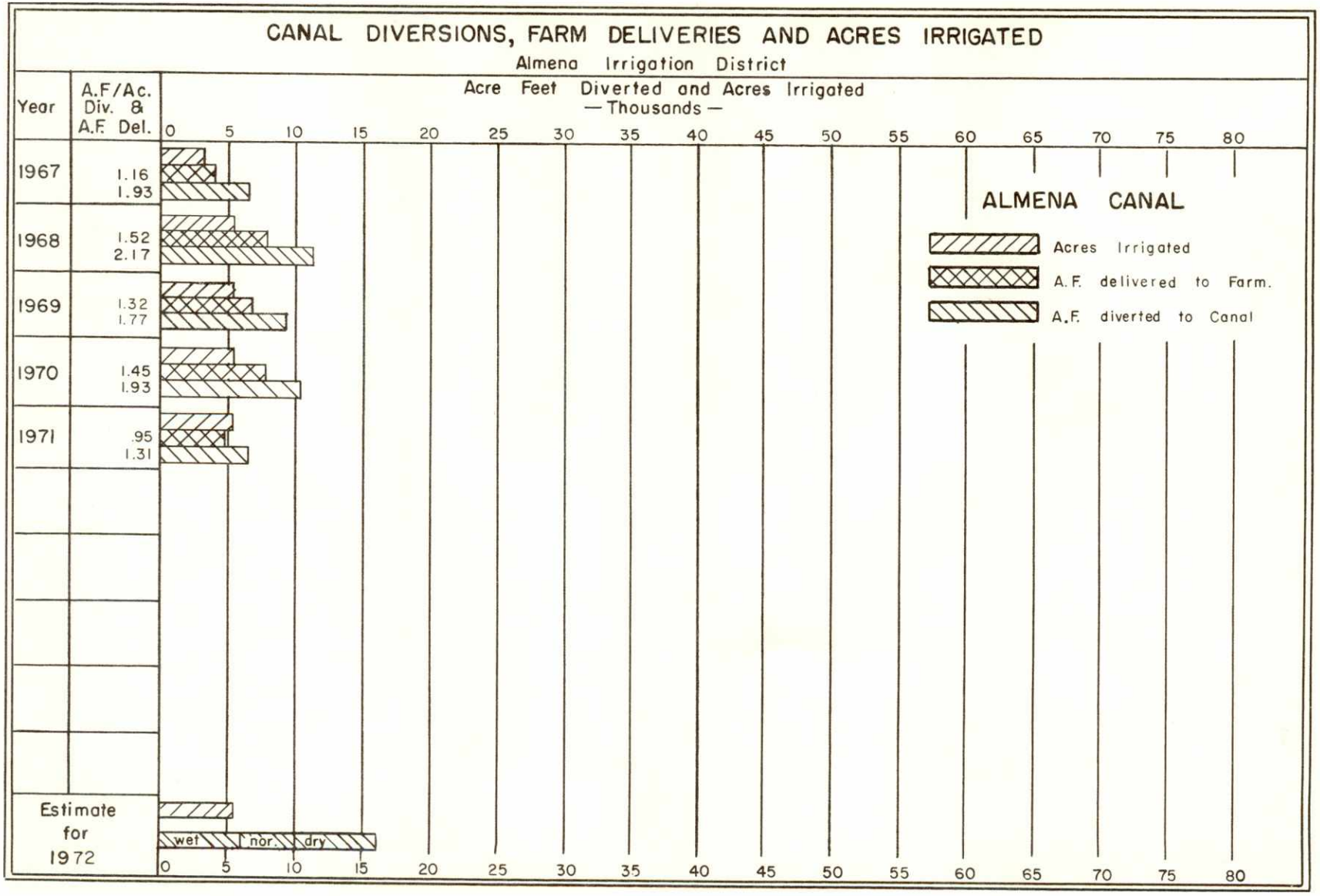


Exhibit 24

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Bostwick Irrigation District in Nebraska

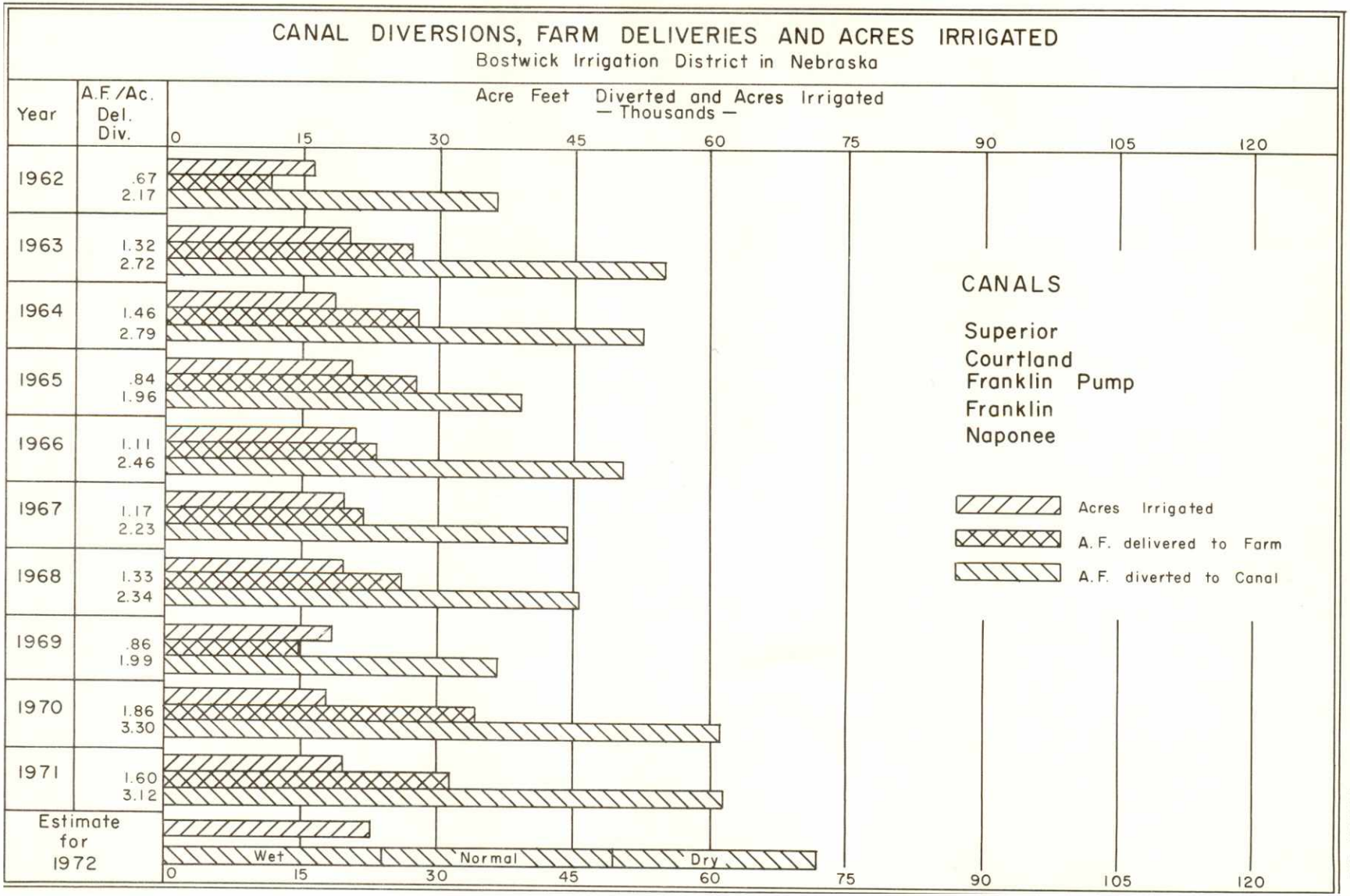


Exhibit 25

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Kansas – Bostwick Irrigation District

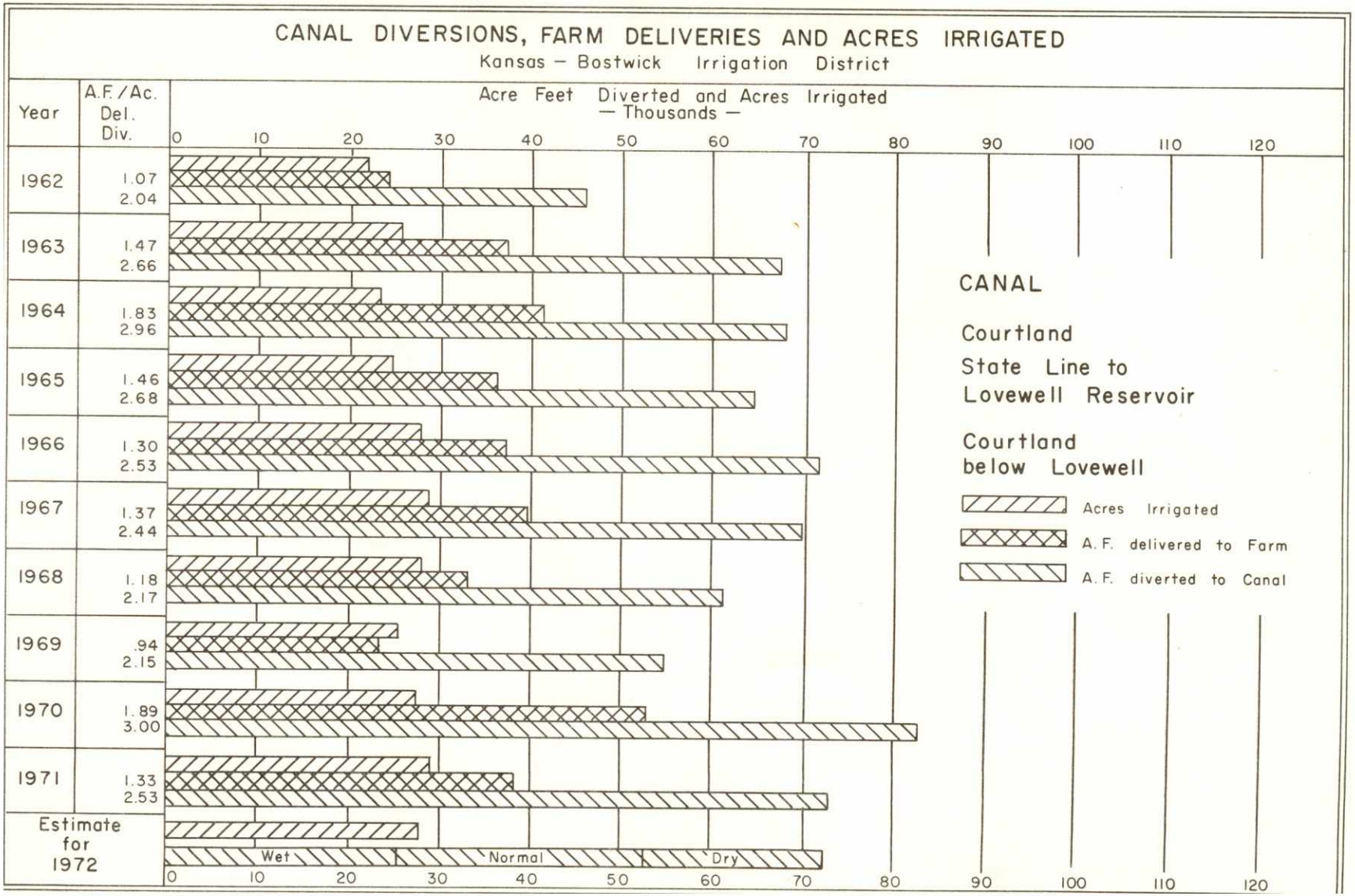


Exhibit 26

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Kirwin Irrigation District

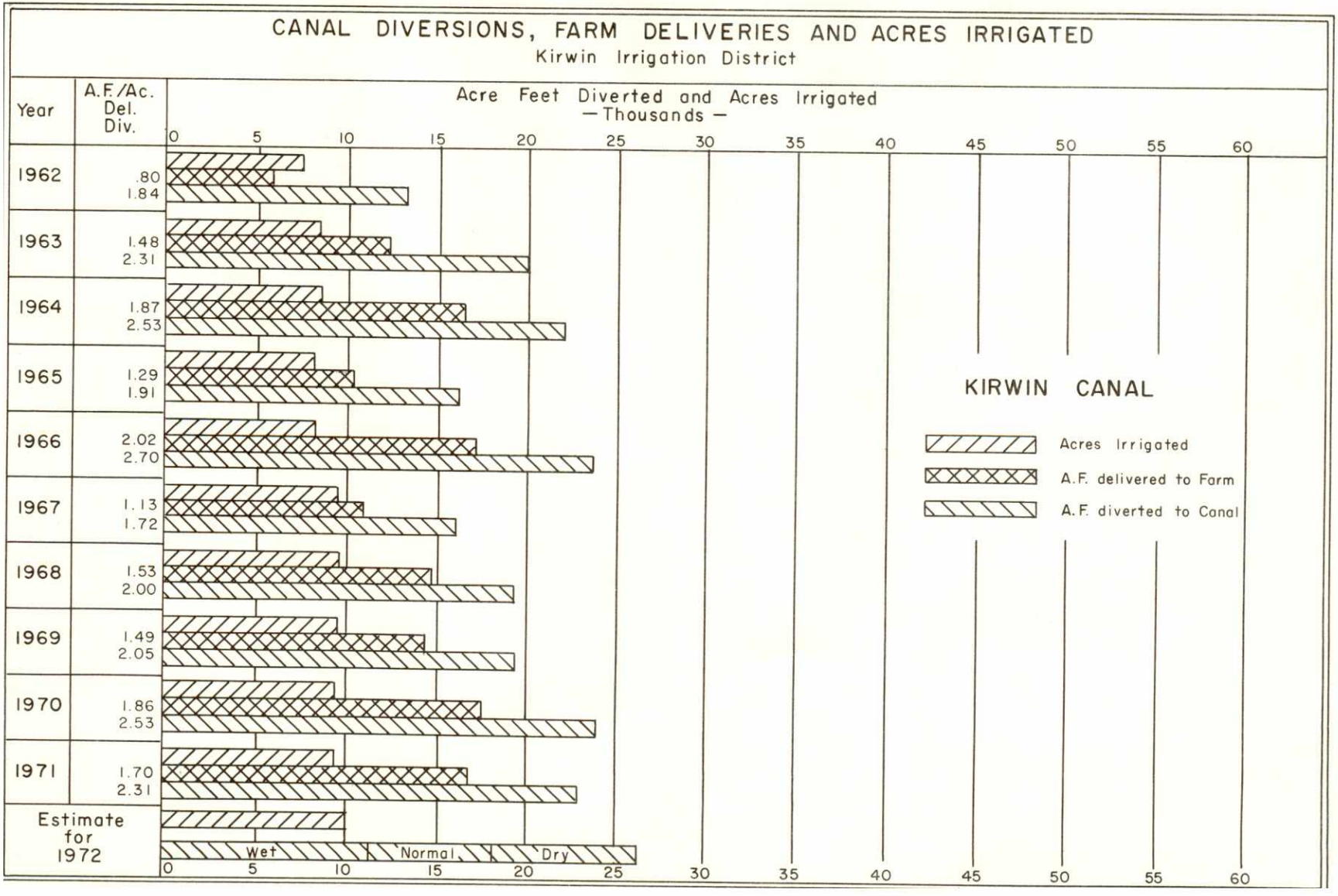


Exhibit 27

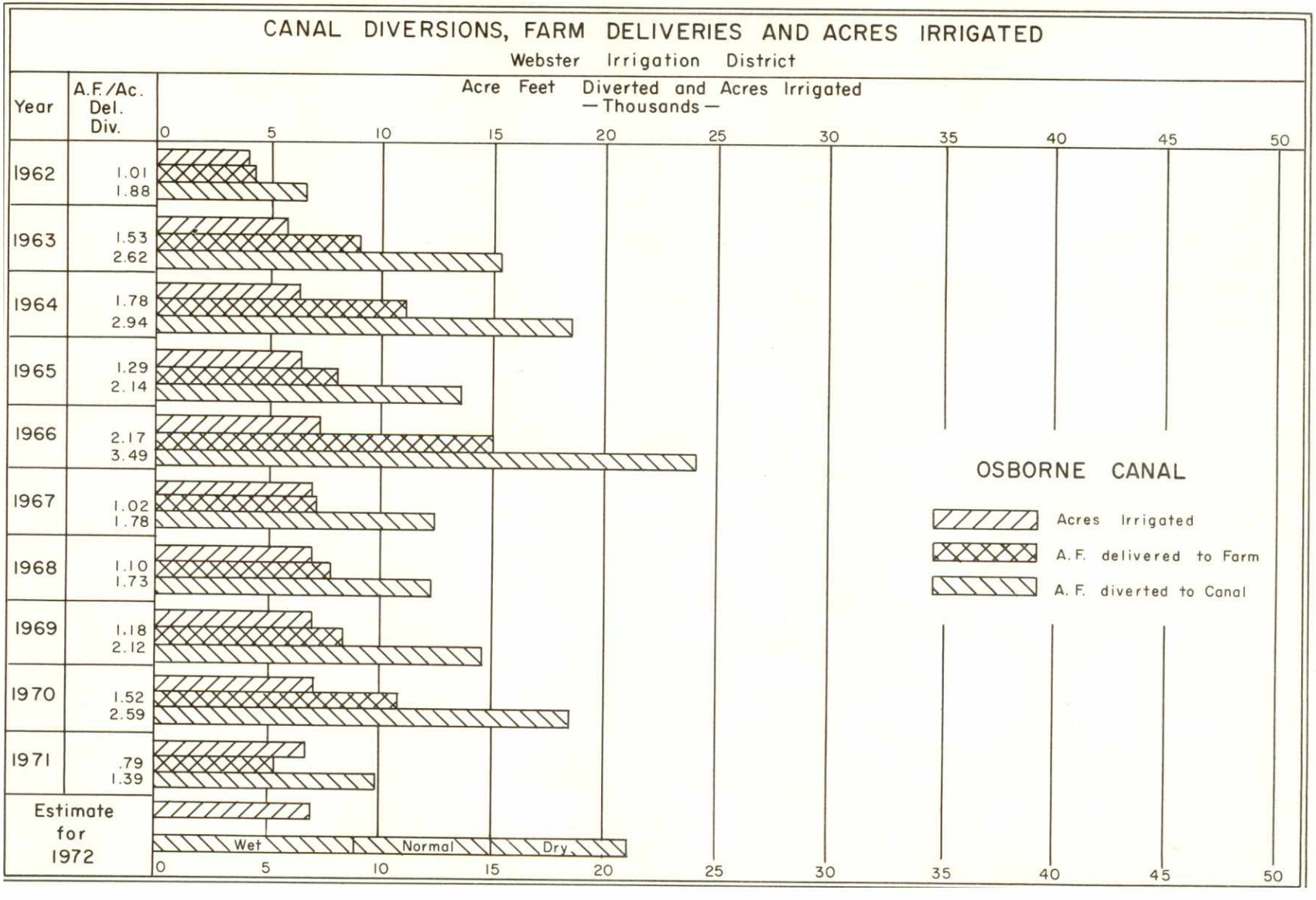

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED
Webster Irrigation District
Year
A.F./Ac. Del. Div.
Acre Feet Diverted and Acres Irrigated
— Thousands —
0 5 10 15 20 25 30 35 40 45 50
1962 1.01 1.88
1963 1.53 2.62
1964 1.78 2.94
1965 1.29 2.14
1966 2.17 3.49
1967 1.02 1.78
1968 1.10 1.73
1969 1.18 2.12
1970 1.52 2.59
1971 .79 1.39
Estimate for 1972
Wet
Normal
Dry
OSBORNE CANAL
Acres Irrigated
A.F. delivered to Farm
A.F. diverted to Canal

Exhibit 28

CANAL DIVERSIONS, FARM DELIVERIES AND ACRES IRRIGATED

Cedar Bluff Irrigation District

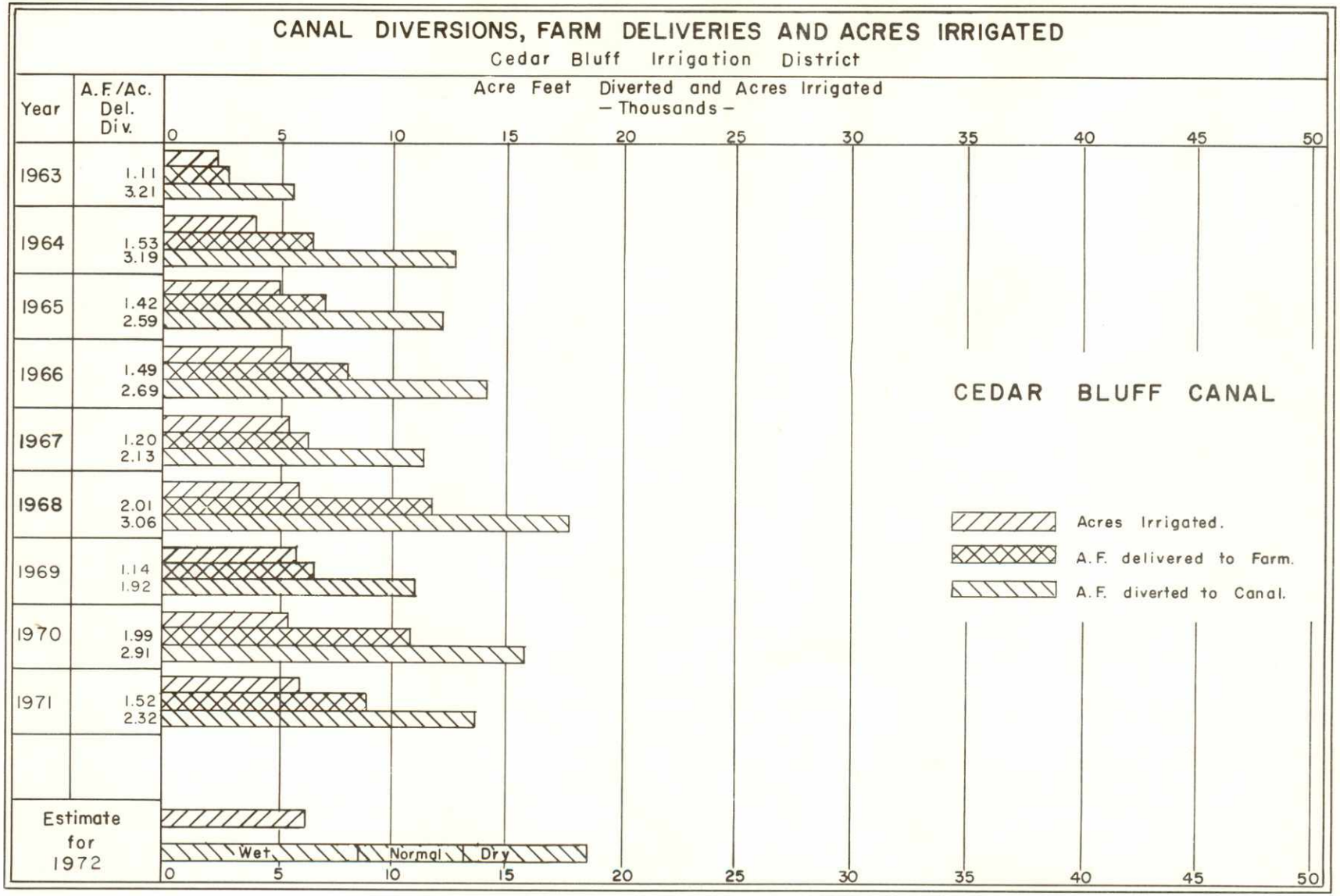
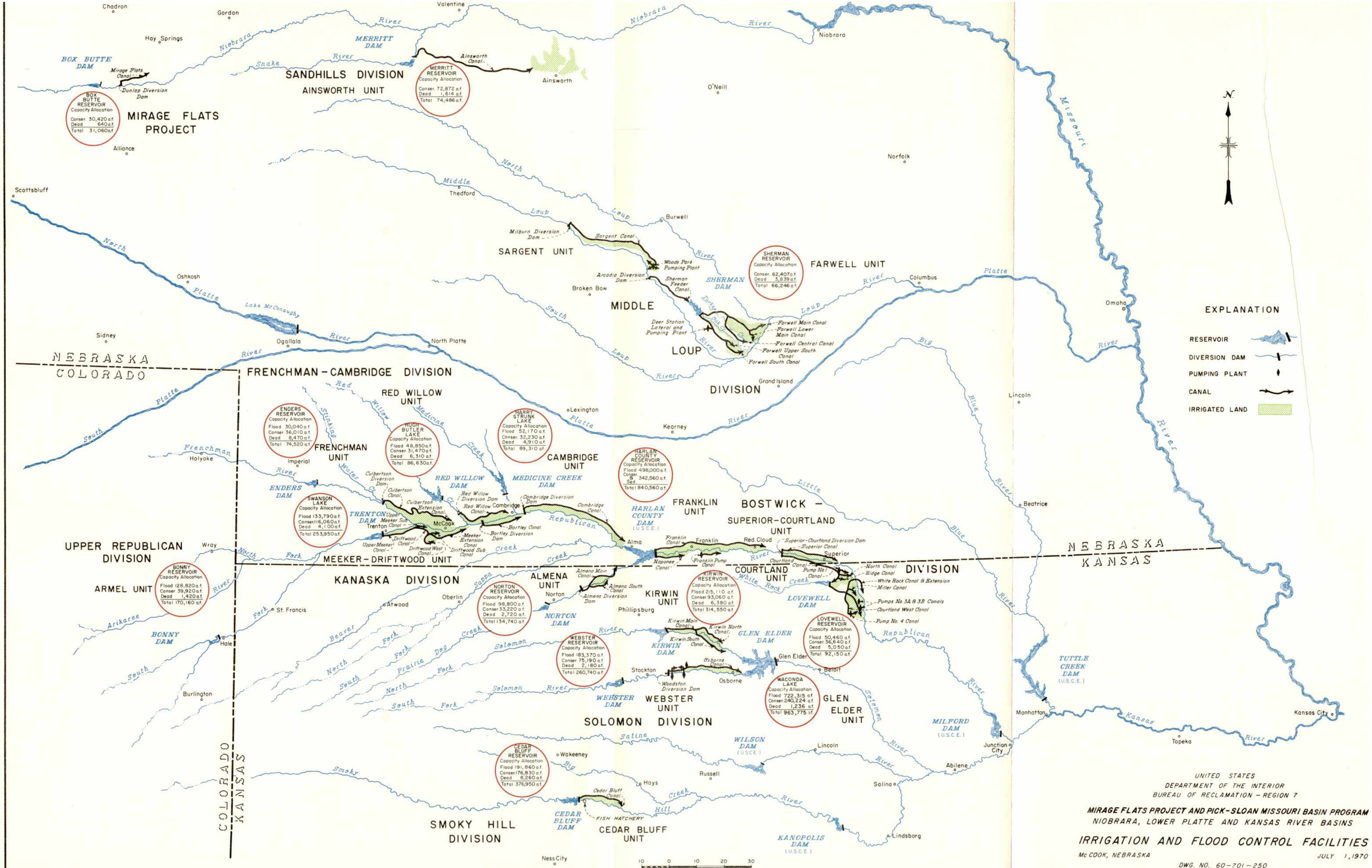


Exhibit 29



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION – REGION 7

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

IRRIGATION AND FLOOD CONTROL FACILITIES

Mc COOK, NEBRASKA JULY 1, 1970

DWG. NO. 60-701-250