

TEXAS WATER DEVELOPMENT BOARD

REPORT 3

HYDROLOGIC STUDIES OF SMALL WATERSHEDS
DEEP CREEK, COLORADO RIVER BASIN
TEXAS, 1951-61

By

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Prepared by the U. S. Geological Survey
in cooperation with the
Texas Water Development Board
and the
U.S. Soil Conservation Service

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FOREWORD

On September 1, 1965 the Texas Water Commission (formerly, before February 1962, the State Board of Water Engineers) experienced a far reaching realignment of functions and personnel, directed toward the increased emphasis needed for planning and developing Texas' water resources and for administering water-rights.

Realigned and concentrated in the Texas Water Development Board were the investigative, planning, development, research, financing, and supporting functions, including the reports review and publication functions. The name Texas Water Commission was changed to Texas Water Rights Commission, and responsibility for functions relating to water-rights administration was vested therein.

For the reader's convenience, references in this report have been altered, where necessary, to reflect the current (post September 1, 1965) assignment of responsibility for the function mentioned. In other words credit for a function performed by the Texas Water Commission before the September 1, 1965 realignment generally will be given in this report either to the Water Development Board or to the Water Rights Commission, depending on which agency now has responsibility for that function.

Texas Water Development Board



John J. Vandertulip
Chief Engineer

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HYDROLOGIC STUDIES OF SMALL WATERSHEDS
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ABSTRACT

A study was made of the inflow, consumption, and outflow for a group of six small floodwater-retarding structures in two contiguous watersheds, 8.3 and 43.9 square miles in area, near Brownwood for the period 1955-61. During this period annual rainfall varied from 9.52 inches in 1956 to 31.58 inches in 1958 as compared to the long-term average annual rainfall of 27.55 inches at Brownwood, Texas.

The inflow to the pools is compared with the flow at two stream-gaging stations a short distance below the pools. A summary of the rainfall-runoff data for the water years 1955-61 for all pools is presented. A total of 168 inches of rain fell on the 8.3 square mile study area and 179 inches fell on the 43.9 square mile study area. Of this rainfall 30,100 acre-feet entered the pools, of which 2,300 acre-feet was rainfall on the pool surface, and 27,800 acre-feet entered the pools as runoff. Outflow from the pools was 22,700 acre-feet. Net gain in storage during the period was 250 acre-feet. Total gross consumption of storage in the pools was 7,150 acre-feet.

Each floodwater-retarding structure effectively controlled all floodflows originating above it during the period of record. The maximum floodflow occurred as a result of the storm of May 17-18, 1955, when 4.8 inches of rain fell in about 10 hours.

A rain-gage density study indicated that 5 rain gages installed over the study area would have provided data within 7 percent of the weighted mean rainfall provided by the existing 15 rain gages. As few as 2 rain gages would have provided data within 11 percent of that provided by the 15 rain gages.

HYDROLOGIC STUDIES OF SMALL WATERSHEDS
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INTRODUCTION

History of the Statewide Small Watershed Project

The Flood Control Act of 1936^{1/} as amended^{2/} and supplemented,^{3/} authorized the U.S. Department of Agriculture to construct floodwater-retarding structures. This act^{4/} provided that "...Federal investigations of watersheds and measures for run-off and water-flow retardation and soil-erosion prevention on watersheds shall be under the jurisdiction of and shall be prosecuted by the Department of Agriculture...." Department of Agriculture survey reports were submitted to Congress under the authority of this act and in 1944, 11 nationwide pilot watersheds were authorized. Subsequent legislation, Public Law 566, has further expanded the scope of this program.

As a result of the Flood Control Act of 1936 and subsequent legislation, the Soil Conservation Service of the U.S. Department of Agriculture is investigating a large part of Texas. Each area investigated is subdivided into small watersheds usually consisting of one creek large enough to cause damaging floods, and its tributaries. This creek is then investigated as to the proper methods to use in accordance with the legislation. Many of the watersheds investigated require the building of floodwater-retarding structures. The function of a floodwater-retarding structure is to help control floodflows from a small part of a watershed (Figure 1).

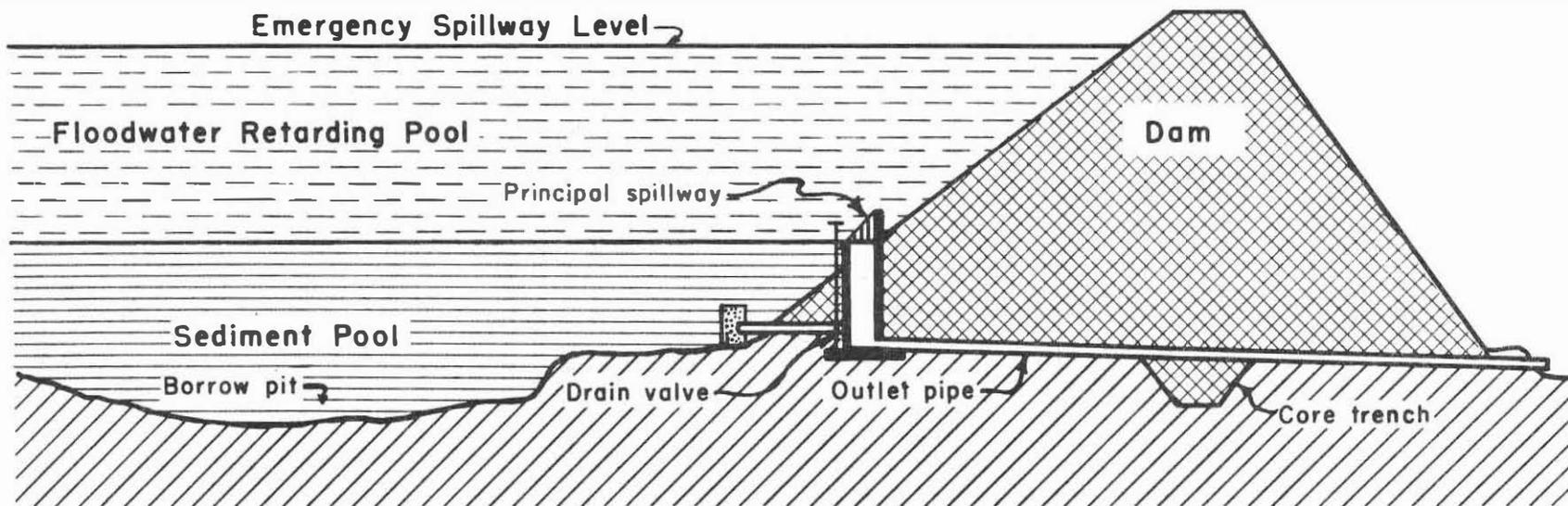
As of September 30, 1963, approximately 763 floodwater-retarding structures had been built in Texas. These partly control flow from an area of about 3,170 square miles. According to reports of the U.S. Study Commission-Texas (1962) and the U.S. Soil Conservation Service (1963) a total of 3,438 structures have been found physically and economically feasible for installation in Texas. Thus, only about 22 percent of feasible structures had been built at the end of the water year 1963.

^{1/} 49 Stat. 1570 (1936), 33 U.S.C. § 701a (1959).

^{2/} 58 Stat. 889 (1944), 33 U.S.C. § 701a-1 (1959).

^{3/} Watershed Protection and Flood Prevention Act, 68 Stat. 666 (1954), 16 U.S.C. §§ 1001-03 (1959), as amended, 75 Stat. 408 (1961), 16 U.S.C. § 1002 (Supp. III, 1963).

^{4/} 58 Stat. 889 (1944), 33 U.S.C. § 701a-1 (1959).



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Figure 1

Section of Typical Floodwater-Retarding Structure With Outlet Works

U. S. Geological Survey in cooperation with the Texas Water Development Board and the U. S. Soil Conservation Service

This watershed-development program will have varying but important effects on the natural surface and ground-water resources of river basins, especially where a large number of the floodwater-retarding structures are built. Therefore, a need has developed for basic hydrologic data of small watersheds that may be used to compare the hydrology under natural conditions with the hydrology under developed conditions (after the floodwater-retarding structures have been built). Specifically it is essential that hydrologic studies determine the extent to which floodwater-retarding structures affect the yield and mode of occurrence of natural water supplies.

Hydrologic investigations of small watersheds were started in Texas in 1951 and are now being made on 11 areas in the State to provide needed data and analyses (Figure 2). The U.S. Soil Conservation Service, Texas Water Development Board, San Antonio River Authority, city of Dallas, and the Tarrant County Water Control and Improvement District No. 1 are cooperating with the U.S. Geological Survey in these investigations. The 11 study areas were chosen on a statewide basis to sample watersheds having different conditions of rainfall, topography, geology, and soils. Hydrologic data will be available for "before and after" analyses of streamflow and rainfall records on four of the study areas (North, Little Elm, Pin Oak, and Mukewater Creeks). A summary of the development of floodwater-retarding structures on each study area as of September 30, 1961 is shown in Table 1.

The broad purpose of the statewide investigations is to collect sufficient data to make as many hydrologic interpretations as possible.

Specific objectives to which these studies are directed are:

1. To obtain the basic hydrologic data on small watersheds needed to satisfy the broad purpose.
2. To obtain basic data which will aid in determining the net effect of floodwater-retarding structures on the regimen of streamflow at downstream points.
3. To determine the effect of the impoundments on the underlying ground-water reservoir.
4. To determine the effect of the structures on the sediment yield of the basin and to determine the trap efficiency of the structures.
5. To develop computation techniques that will give more accurate estimates of runoff resulting from a given amount of rainfall on small watersheds.
6. To develop relationships between maximum rates of runoff and rainfall in small watersheds that will enable more accurate design of small storm-drainage structures.
7. To check the applicability of flood-routing procedures and techniques for small watersheds.
8. To determine the minimum instrumentation necessary for making reliable estimates of total storm inflow to the structures.

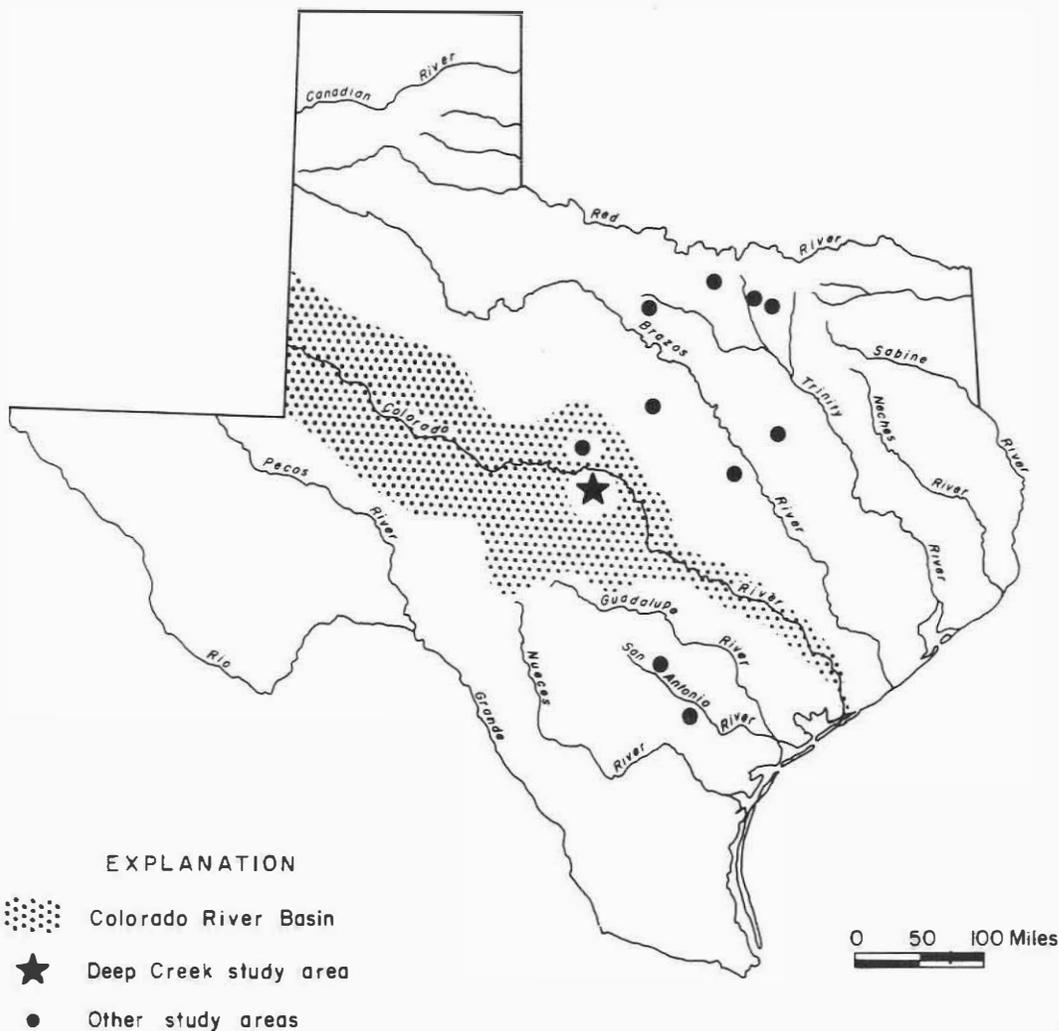


Figure 2
 Map of Texas Showing the Location of Deep Creek Study Area
 and Other Small Watershed Study Areas
 U S Geological Survey in cooperation with the Texas Water Development Board
 and the U.S. Soil Conservation Service

Table 1.--Small watershed study areas as of September 30, 1961

Watershed	Drainage area above stream-gaging station (sq mi)	Date hydrologic data collection began	Floodwater-retarding structures above stream-gaging station	Period the structures were built
<u>Trinity River Basin:</u>				
North Creek near Jacksboro	21.6	Aug. 1956	None	-
Elm Fork Trinity River near Muenster	46.0	July 1956	11	1954-57
Little Elm Creek near Aubrey	75.5	June 1956	None	-
Honey Creek near McKinney	39.0	July 1951	12	1951-57
Pin Oak Creek near Hubbard	17.6	Sept. 1956	None	-
<u>Brazos River Basin:</u>				
Green Creek near Alexander	45.5	Oct. 1954	8	1954-56
Cow Bayou near Mooreville	79.6	Sept. 1954	9	1955-58
<u>Colorado River Basin:</u>				
Deep Creek near Mercury	43.9	June 1951	5	1951-53
Mukewater Creek near Trickham	70.0	Aug. 1951	5	1961
<u>San Antonio River Basin:</u>				
Calaveras Creek near Elmendorf	77.2	Aug. 1954	9	1954-58
Escondido Creek at Kenedy	72.4	July 1954	10	1954-58

Note.--Dry Prong Deep Creek near Mercury and Dry Escondido Creek near Kenedy are not included in the above table.

9. To determine the quality of the water as to its suitability for possible uses and its flocculating characteristics as they affect the sediment-trap efficiency of the pools.

The degree of attainment of each of the above enumerated objectives is discussed in the last section of this report entitled "Evaluations and Recommendations Concerning the Statewide Small Watershed Studies."

To provide adequate hydrologic sampling, it is essential that periodic evaluation reports on the hydrology of each study area be prepared to insure that the basic hydrologic data-collection program is sufficient to meet the purposes of the statewide investigation. The Deep Creek report is one of these periodic evaluations.

Purpose and Scope of This Report

The primary purpose of this report is to present data on and analyses of the hydrologic characteristics of the Deep Creek study area. A second purpose is to review the existing data-collection and processing program.

This report, in keeping with these purposes:

1. Presents a compilation of data through September 1961, grouped in such a manner as to define factors included in the hydrologic cycle.
2. Examines the data being collected insofar as quantity and quality are concerned.
3. Recommends the type and amount of data to be collected on the small watersheds not yet instrumented.

The data are presented on the basis of the "water year," which ends on September 30 and is designated by the calendar year in which it ends. Thus, the year that ended September 30, 1959, is called "the 1959 water year." A glossary of symbols and terms is presented starting on page 53.

This is the third in a series of reports on hydrology of small-watershed projects, the first and second being "Honey Creek Basin, Texas, 1953-59," and "Elm Fork Trinity River Basin, Texas, 1956-60," respectively, both by Gilbert and others (1962). Since the general purposes are the same, parts of this report are patterned after the Honey Creek report.

Period of Study

Collection of data for this report began June 26, 1951, at the Dry Prong Deep Creek near Mercury stream-gaging station. The structures were being constructed during the period 1951-53; however, no gages were installed at sites 1, 2, 4, and 5 prior to September 21, 1954. Data were collected at all sites during the water years 1955-61 and the report deals primarily with this period. All surface-water data collected are summarized in Tables 14 and 15 at the end of this report.

DESCRIPTION OF STUDY AREA

Location and General Features

Deep Creek watershed has a drainage area of 71.6 square miles, of which 52.2 square miles is in the Deep Creek study area and upstream from two subarea stream-gaging stations, Deep Creek and Dry Prong Deep Creek near Mercury. The basin is elongated with a length-width ratio of about 4:1, the length being about 16 miles.

Deep Creek rises about 2 miles east of Rochelle, in McCulloch County, and flows in a northeasterly direction for about 16 miles, where it empties into the Colorado River (Figure 3). The principal tributary is Dry Prong Deep Creek.

The topography varies from gentle slopes in the valley to a steep escarpment with maximum slopes of 50 percent along the west, south, and southeast sides of the watershed. Local relief ranges from 50 feet on the east divide to 150 feet on the west divide. Elevations above mean sea level range from about 1,280 feet at the mouth to about 1,750 feet in the headwater area.

Long-term mean annual rainfall is 27.55 inches at Brownwood, about 25 miles north of the study area. Rainfall is normally greatest during the spring and fall. Approximately 70 percent of the annual rainfall generally occurs from April to October.

Geologic Features

By H. N. McGill

Pennsylvanian rocks and their soil derivatives crop out in approximately 80 percent of the watershed. The rocks are almost equally divided between formations of the Strawn and Canyon Groups. At and near the watershed divide in the southern and eastern parts of the watershed, the Middle Pennsylvanian Strawn Group and Upper Pennsylvanian Canyon Group are overlain by outliers of the Lower Cretaceous Trinity Group.

The Strawn Group underlies the northern and central parts of the watershed. It is composed mostly of alternating beds of shale and limestone conformable in dip to the beds of the overlying Canyon Group. Most of the six floodwater-retarding structures are located on outcrops of the relatively impermeable beds of the Strawn Group.

Thick limestone beds separated by shale and some sandstone beds make up the Canyon Group. The Group crops out in the south-central and western parts of the watershed. Exposures of the Palo Pinto Limestone and Graford Formation of the Canyon Group show a gentle dip to the northwest. Above the contact with the underlying Strawn Group, the limestone beds form a steep escarpment.

The Trinity Group is composed of sand, friable sandstone, and chalky limestone. The beds are nearly horizontal. The sandstone is easily eroded and moderately permeable but none of the floodwater-retarding structures are on these rocks.

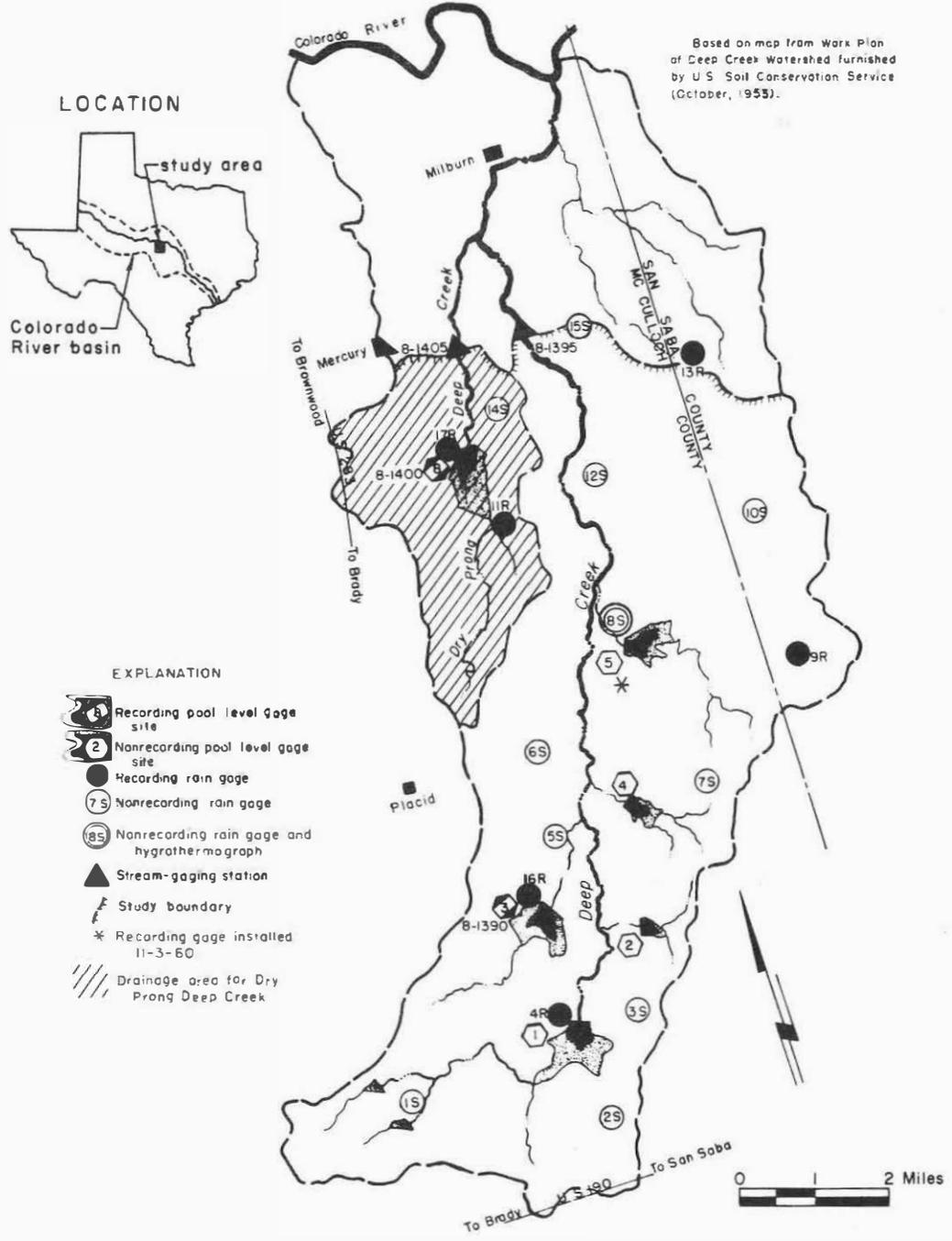


Figure 3
 Map of Deep Creek Study Area Showing Locations of Floodwater-Retarding Structures and Hydrologic Instrument Installations

U.S. Geological Survey in cooperation with the Texas Water Development Board and the U.S. Soil Conservation Service

Thus, the rocks on which the floodwater-retarding structures rest are relatively impermeable and very little seepage into or out of the pools is to be expected.

Farm Ponds

Farm ponds have been built throughout the study area. They are of various sizes and will have a unique effect upon the rainfall-runoff relationship of Deep Creek watershed because no other watershed will have the same number and size.

The U.S. Soil Conservation Service (written communication, 1962) provided a list of farm ponds in the Deep Creek watershed together with information as to their location, size, capacity, and area. These are small ponds built for stock water by the farmer, usually with technical assistance from the Soil Conservation Service. Table 2 contains the pertinent data concerning these ponds. Figure 4 shows the approximate location of the farm ponds in the Deep Creek study area. All data concerning the farm ponds was furnished by the Soil Conservation Service. These ponds undoubtedly affect the rainfall-runoff relation to some extent; however, because most of them were built prior to the start of the flood-retarding program, their effects probably are not significant for the purposes of this study.

Soil and Water Conservation Treatment Measures

For many years the U.S. Soil Conservation Service has had a land-treatment and flood-retarding treatment program. However, in 1946 a program to accelerate the application of land-treatment measures was initiated by the Soil Conservation Service. Technical assistance from the Soil Conservation Service was made available to the farmer for several years to get application of needed land-treatment measures in balance with the structural phase of the program.

Land Treatment

By H. N. McGill

Progress in the application of land-treatment measures has been recorded at the end of each year. Separate records have been kept by the Soil Conservation Service for the drainage areas of structures 3 and 8 and for the entire Deep Creek watershed. The following table is an estimate, by land-treatment practice, of the total need, the amount applied as of December 1961, and the remaining need of the Deep Creek watershed.

Table 2.--Farm ponds in the Deep Creek study area^{1/}

Location	Number of ponds	Pond data			
		Drainage area above ponds (acres)	Surface area (acres)	Capacity (acre-feet)	Percent of drainage area above site
Above site 1	22	1,650	14	53	28
2	7	190	6	20	38
3	7	380	5	27	17
4	7	310	3	14	40
5	20	980	25	95	29
Total above sites 1-5	63	3,500	53	209	27
Within uncontrolled area above Deep Creek stream-gaging station	85	3,560	56	255	23
Total above Deep Creek stream-gaging station	148	7,060	109	464	25
Above site 8	17	820	14	69	30
Within uncontrolled area above Dry Prong Deep Creek stream-gaging station	20	290	3	20	11
Total above Dry Prong Deep Creek stream-gaging station	37	1,110	17	89	21

^{1/} Data in this table furnished by U.S. Soil Conservation Service.

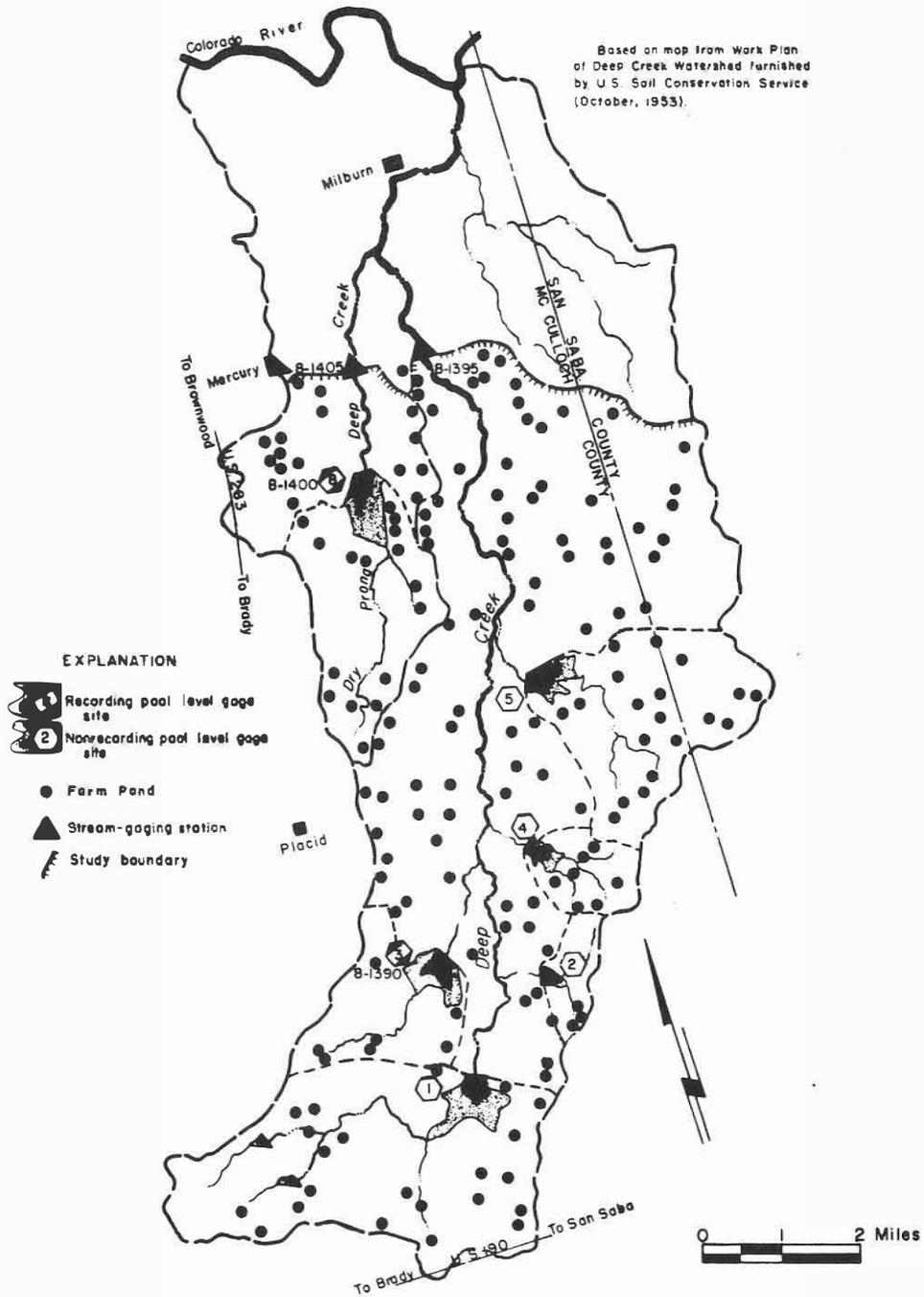


Figure 4
Map of Deep Creek Study Area Showing
Approximate Locations of Farm Ponds

U.S. Geological Survey in cooperation with the Texas Water
Development Board and the U.S. Soil Conservation Service

Land treatment	Unit	Total need ^{1/}	Applied as of Dec. 31, 1961	Remaining need
Contour farming	Acres	7,872	4,138	3,734
Cover cropping	Acres	3,934	405	3,529
Rotation hay and pasture	Acres	2,520	1,679	841
Crop residue utilization	Acres	9,909	2,693	7,216
Brush control	Acres	15,264	6,981	8,283
Deferred grazing	Acres	23,199	10,669	12,530
Proper use	Acres	34,266	14,750	19,516
Range seeding	Acres	586	474	112
Wildlife area improvement	Acres	309	63	246
Diversion construction	Miles	17	13	4
Improved water application	Acres	500	109	391
Irrigation water management	Acres	500	179	321
Land leveling	Acres	500	90	410
Laterals	Miles	5	4	1
Pond construction	Number	120	98	22
Terracing	Miles	286	132	154
Waterway development	Acres	77	26	51

^{1/} Total need at time work plan was developed.

It is expected that additional land-treatment practices will be applied in the future, but that no more than 80 percent of the needed practices will be attained.

Floodwater-Retarding Structures

Six floodwater-retarding structures have been completed in the study area. Five lie in the subarea above the stream-gaging station, Deep Creek near Mercury; they have a combined floodwater-retarding capacity of 5,140 acre-feet and control 19.9 square miles, or approximately 45 percent of the 43.9 square mile drainage area above the stream-gaging station. The remaining structure (site 8) is in the subarea above the stream-gaging station, Dry Prong Deep Creek near Mercury. It has a floodwater-retarding capacity of 1,200 acre-feet and controls 4.32 square miles, or 52 percent of the 8.31 square mile drainage area above the stream-gaging station. Dry Prong Deep Creek enters Deep Creek approximately $1\frac{1}{2}$ miles downstream from the stream-gaging station. Figure 3 shows the location of floodwater-retarding structures in the study area.

Also included in the flood-control program are 3.1 miles of floodwater diversions and 5.2 miles of floodway. The floodwater diversions are located above sites 3, 4, 5, and 8, and divert, into the pools, runoff which would normally bypass them, thereby increasing the natural drainage of the pools. The floodway is designed to restrict floodflows to relatively narrow limits. It is located on Dry Prong Deep Creek below site 8. The floodwater diversions and the floodway were built prior to the beginning of the data-collection program.

Table 3 contains a summary of the physical data for each of the six floodwater-retarding structures in the study area.

Table 3.--Floodwater-retarding structure data, Deep Creek study area

Site number	Drainage area (sq mi)	Date dam completed	Date station established	Datum of gage, feet above mean sea level	Emergency spillway			Principal spillway		Controlled 8" opening		Pipe through dam (inches)	Range of staff gages	Range of crest stage gages
					Width (ft)	Gage height (ft)	Content ^{1/} (ac-ft)	Gage height (ft)	Content ^{2/} (ac-ft)	Gage height of invert (ft)	Content (ac-ft)			
1	9.19	Aug. 6, 1952	Sept. 21, 1954	1,540	200	36.0	2,887	18.50	242	7.0	8	22	13.7-40.7	17.0-40.7
2	.79	Nov. 13, 1953	do	1,530	50	22.0	260	11.00	25	3.5	1.0	12	3.4-27.2	10.2-27.2
3	3.42	do	Oct. 1, 1953 ^{3/}	1,500.00	250	22.0	925	13.00	149	5.5	14.7	17	4.3-26.3	None
4	1.22	Nov. 12, 1953	Sept. 21, 1954	1,490	100	29.0	377	14.00	32	4.5	.5	12	13.6-33.9	10.2-33.9
5	5.27	Aug. 1953	Sept. 21, 1954 ^{3/}	1,441.56	300	25.7	1,321	10.00	163	0	0	17	6.8-30.5	6.9-29.0
8	4.32	Dec. 13, 1951	Feb. 1, 1952 ^{3/}	1,377.13	200	24.0	1,410	9.00	215	-1.0	16.0	21	2.0-29.0	None
Total	24.21	-	-	-	-	-	7,180	-	826	-	40.2	-	-	-

^{1/} Total capacity.

^{2/} Sediment-pool capacity; the capacity up to the principal spillway.

Detention-pool capacity is the capacity between principal spillway and emergency spillway.

^{3/} Continuous water-stage recorder. Sites 3 and 8 installed when stations were established; site 5 installed Nov. 3, 1960.

DATA-COLLECTION PROGRAM

Equipment

Data for this report consist of rainfall records at 17 points; continuous pool-stage records at 3 floodwater-retarding pools, and weekly pool-stage readings for the other 3 floodwater-retarding pools; continuous records of stream-flow on Deep Creek and Dry Prong Deep Creek below all floodwater-retarding pools; wind-movement and water-temperature records at 2 floodwater-retarding pools; and air temperature, humidity, and climatological data records near site 5 (Figure 3). A quality-of-water data-collection program was begun in October 1961.

Fifteen rain gages were installed in September 1953, and were located in accordance with U.S. Weather Bureau procedures to provide the best geometric coverage of the study area (Figure 3). Four of the 15 are USWB^S 8-inch recording rain gages and 11 are USWB 8-inch nonrecording rain gages. An 8-inch tipping-bucket recording rain gage (17-R) was installed at site 8 on August 19, 1958, and one (16-R) at site 3 on September 15, 1959. Gages were serviced and rainfall measured weekly by employees of the U.S. Soil Conservation Service. Table 12 (p. 56) is a summary of rainfall for the Deep Creek study area for the period October 1953 to September 1961. Prior to October 1953, rainfall records at Placid (Figure 3) were used.

The continuous pool-recording gages for sites 3, 5, and 8 are adjusted so that gage heights can be determined from the charts to the nearest 0.01 foot. Time can be determined from the charts to the nearest 5 minutes. The stream-flow recorders have the same gage-height scale as the pool recorders; however, time can be determined only to the nearest 10 minutes.

A recording hygrothermograph (Figure 5) was installed near site 5 on May 12, 1960, along with a Young screened evaporation pan (data from the evaporation pan are not included in this report). Recording thermographs and anemometers were installed on the pool at sites 3 and 5 (Figure 6) in January 1960.

Since there are two continuous stream-gaging stations, use of the equipment for the drainage areas of each will be described separately.

Dry Prong Deep Creek Drainage Area Equipment

Rainfall Data

Records from one recording and three nonrecording rain gages were used to define the rainfall over the area.

^S U.S. Weather Bureau.

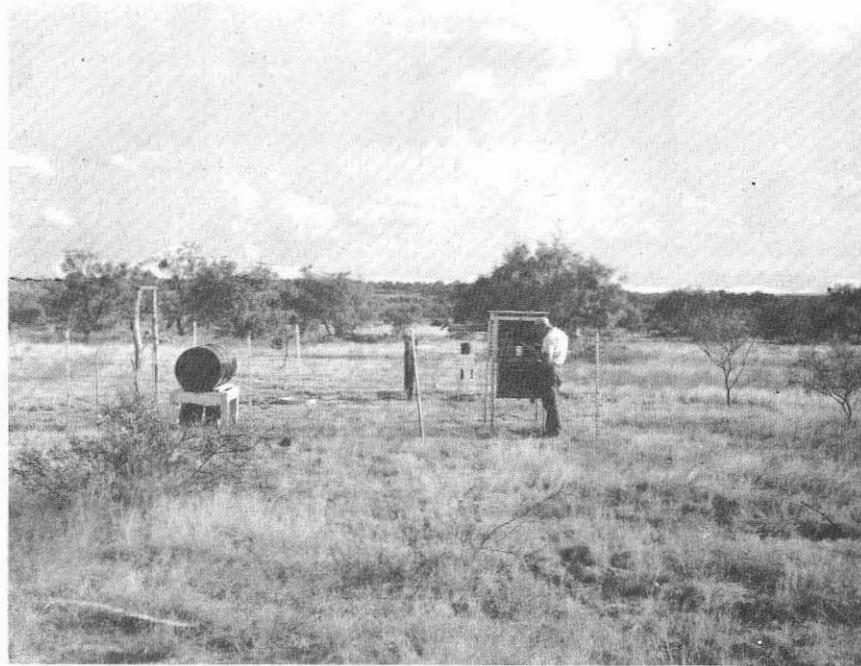
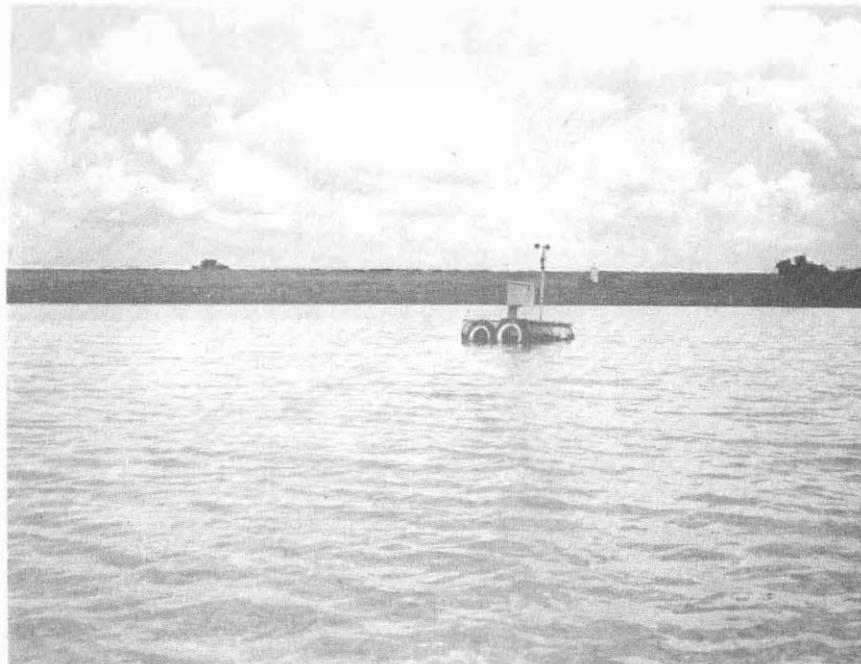


Figure 5
Climatological Instruments, Including Young Screened
Evaporation Pan, Rain Gage, and Hygrothermograph



A. Thermograph and instruments for recording wind speed



B. Anemometer and instrument shelter mounted on raft

Figure 6
Raft With Climatological Instruments

Runoff and Pool Contents

A continuous water-stage recorder is operated on the pool at site 8. Data recorded are used to compute contents, surface area, inflow, and outflow. Records began February 1, 1952.

A continuous water-stage recorder at the Dry Prong Deep Creek near Mercury stream-gaging station records the outflow from site 8 plus the runoff from the uncontrolled area between site 8 and the gaging station. Streamflow records began June 26, 1951.

Deep Creek Drainage Area Equipment

Rainfall Data

Records from 4 recording and 11 nonrecording rain gages were used to determine the rainfall on the study area. Locations are shown on Figure 3.

Runoff and Pool Contents

A continuous water-stage recorder is operated at site 3. Records are used to compute contents, surface area, inflow, and outflow. Records began December 1, 1953. Weekly readings of staff gages and maximum stage gages by U.S. Soil Conservation Service personnel at each of the remaining four floodwater-retarding pools provide data from which surface area, contents, and outflow can be determined. Records began at these sites September 21, 1954. A continuous water-stage recorder was installed at site 5 on November 3, 1960.

A continuous water-stage recorder at the stream-gaging station, Deep Creek near Mercury, affords a record of integrated runoff from the five floodwater-retarding structures and the uncontrolled area downstream from the structures. Records at this gage began November 25, 1953.

Quality of Water in Pools

By M. W. Flugrath

Although water in the existing pools is used for livestock, the suitability of that water gives an idea of what kind of water is available for future consideration.

The chemical quality of the water determines its suitability for possible uses and its flocculating characteristics as they affect the sediment trap efficiency of pools. Low sodium concentration in proportion to calcium concentration aids flocculation of clay particles. Flocculation results in the formation of larger particles which fall to the bottom of the reservoir. Thus, a reservoir is a more effective sediment trap if the water is low in sodium. A program for the collection and chemical analysis of samples of the surface water of the Deep Creek study area was begun in October 1961.

Water samples were collected for chemical analysis at each of six sites during October 1961. Site 3 was re-sampled in November and December 1961. Results of the analyses are given in Table 4. They indicate the general chemical character of surface-water runoff from the study area.

The highest concentration of dissolved solids found in the nine samples collected was 208 ppm (parts per million), which is less than half the maximum limit of 500 ppm shown in the U.S. Public Health Service Drinking Water Standards (1962, p. 7). Chloride concentrations ranged from 5.0 to 42 ppm, and sulfate from 6.8 to 35 ppm, compared with 250 ppm shown for each of these constituents by the Drinking Water Standards. Nitrate concentrations ranged from 0.0 to 3.0 ppm, and fluoride from 0.3 to 0.5 ppm, well below the limits shown by the Public Health Service.

Hardness (principally caused by calcium and magnesium) is commonly recognized by the increased quantity of soap required to produce lather. Hardness contributes to the formation of scale in boilers and pipes. The calcium bicarbonate type water of the Deep Creek study area is classified as moderately hard to hard.

A low sodium concentration and a low dissolved-solids concentration are factors considered of prime importance in irrigation water. The concentrations in all samples collected were low enough to classify the water as excellent for irrigation (U.S. Salinity Laboratory Staff, 1954, p. 1-160).

The water in the Deep Creek study area is of good quality. It is used principally for livestock, but is chemically suitable for domestic and public water supply, and for irrigation.

Sedimentation in Pools

By H. N. McGill

Sedimentation rate is one of the factors that must be estimated using existing design criteria. These design criteria in turn are assembled from field data of geologically, topographically, and hydrologically similar watersheds. It is important to the Soil Conservation Service that the design criteria for sedimentation rates be verified as often as feasible. Therefore, the Soil Conservation Service has set a schedule to conduct a sedimentation survey at sites 3 and 5 every 5 years and after major storms. The first sedimentation survey at site 5 was made in 1961. Because this site had not had a continuous water-stage gage from the beginning of record (1953), no original sediment-storage-capacity (Figure 1) survey was run. The original sediment capacity was, therefore, computed by reconstructing a topographic map based upon the thickness of the sediment on various ranges as of 1961.

The 1961 survey showed that site 5 originally had 238 acre-feet of sediment storage and that 30.5 acre-feet of sediment had been deposited during the 8 years after storage began. This 30.5 acre-feet in 8 years is equivalent to an annual sedimentation rate of 0.76 acre-foot per square mile of drainage area. If the 238 acre-feet of sediment storage space was entirely filled at the end of 50 years (the design life of the sediment-storage capacity), it must gain sediment at an average annual rate of 0.93 acre-foot per square mile. The actual sedimentation rate, therefore, is 0.17 acre-foot per year less than the designed rate.

Table 4.--Chemical analyses of pools in the Deep Creek study area

Analytical results in parts per million except as indicated

Date of collection	Contents (ac-ft)	Silica (SiO ₂)	Cal- cium (Ca)	Mag- ne- sium (Mg)	So- dium (Na)	Po- tas- sium (K)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Fluo- ride (F)	Ni- trate (NO ₃)	Dissolved solids (calculated)		Hardness as CaCO ₃		Per- cent so- dium	So- dium adsorp- tion ratio	Specific conduct- ance (micro- mhos at 25° C)	pH
												Parts per mil- lion	Tons per acre- foot	Cal- cium, magne- sium	Non- carbon- ate				
SITE NO. 1																			
Oct. 4, 1961-----	142	5.9	40	7.2	12		128	19	21	0.4	1.0	170	0.23	129	24	17	0.5	297	7.3
SITE NO. 2																			
Oct. 4, 1961-----	12	3.7	34	3.6	6.0	3.8	102	16	12	0.5	0.8	142	0.19	100	16	11	0.3	233	7.2
SITE NO. 3																			
Oct. 4, 1961-----	78	6.2	39	6.7	18		107	15	42	0.4	1.0	181	0.25	125	37	24	0.7	331	7.3
Oct. 10-----	97	5.3	36	6.0	15		100	14	35	.4	.8	162	.22	114	33	22	.6	304	6.7
Nov. 8-----	88	4.3	38	6.7	16		107	16	37	.4	.0	171	.23	122	35	22	.6	323	7.0
Dec. 6-----	84	3.3	41	6.9	16		114	17	38	.4	.8	179	.24	131	37	21	.6	335	7.0
SITE NO. 4																			
Oct. 4, 1961-----	19	13	48	6.8	15		131	35	25	0.4	0.5	208	0.28	148	40	18	0.5	348	7.3
SITE NO. 5																			
Oct. 4, 1961-----	106	6.7	40	6.9	14		121	27	22	0.3	0.2	193	0.26	128	29	20	0.5	309	7.4
SITE NO. 8																			
Oct. 13, 1961-----	114	6.6	22	1.9	4.3	5.1	71	6.8	5.0	0.3	3.0	90	0.12	63	4	12	0.2	153	6.5

a Residue on evaporation at 180°C.

One reason for the slower rate of sedimentation for site 5 could be the diversion structure upstream from the site. The diversion structure diverts floodwater and some sediment into the sediment pool of site 5. It had a capacity of about 15 acre-feet when constructed. Based upon the 1961 survey, the storage capacity had been depleted by 26 percent. As the capacity decreases, more sediment will be diverted to, and be deposited in, the sediment pool of site 5. As a result, it is anticipated that the average annual rate of deposition will approach the design figure of 0.93 acre-foot per square mile per year.

Two sediment surveys were made at site 3; one in 1953 before the first storage began, and one in 1960. The original survey showed 149 acre-feet of sediment-storage capacity available. The 1960 survey showed that 24.1 acre-feet of sediment had been deposited during the 7 years after storage began. This is equivalent to an annual sedimentation rate of 1.04 acre-feet per square mile. The design average annual sedimentation rate (using 149 acre-feet in 50 years) was 0.84 acre-foot per square mile. The actual annual sedimentation rate, therefore, is 0.20 acre-foot per square mile greater than the design rate. With additional land treatment, the present annual sedimentation rate should be reduced.

Sedimentation in the two pools is proceeding close to anticipated rates. Sedimentation rate is lagging design rate at site 5, but is ahead at site 3. However, at both sites sedimentation rates are expected to approach the design rates in later years.

WATER-BUDGET ANALYSES

In a water-budget analysis, gains are equated to losses and to changes in storage within the study area.

Two budgets are made; one accounting for the inflow, outflow, consumption, and changes in storage at each of the six pools, and the other accounting for the inflow, outflow, and consumption at each of the eight subareas.

Water gains consist of all rainfall on the area (there is little or no spring flow), and a complete water budget accounts for its subsequent disposition. The Deep Creek study area is controlled inadequately and instrumented insufficiently to measure every factor affecting runoff into the streams. The difference between measured rainfall and runoff is considered together and called "consumption" for each subarea.

Some of the factors affecting surface-water consumption at the pools can be isolated and evaluated. These factors will be dealt with in the water budget for the pools.

Water Budget for Pools

The budget equation for determining the runoff into the pools is discussed in this section. To evaluate the water budget of an area each factor that influences the budget must be isolated and the magnitude of that factor determined. The basic equation is

$$Q_1 = Q_0 + C \pm \Delta S, \quad (1)$$

where Q_i is total inflow, including rainfall on the pool surface (gain),
 Q_o is outflow through outlet works (loss),
 C is consumption (loss), and
 ΔS is the indicated change in pool contents (gain or loss).

Equation 1 is solved for Q_i by measurement or estimate of the right-hand terms.

The annual summary of the factors of the water budget for the pools for sites 1-5 and site 8 for water years 1953-61 is contained in Table 5. The monthly and the annual water budget summaries are contained in Tables 14 and 15, respectively.

The following sections are devoted to the measurements, computations, and analyses of the factors of the water budget for the pools. Because total inflow (Q_i) is computed from the other factors, those factors will be discussed first.

Outflow From Structures

Stage-discharge rating curves were derived for the uncontrolled outlets (drop-inlet type principal spillways) at sites 3 and 8. These ratings were drawn on the basis of current-meter measurements of the outflow made at various heads on the outlet structure. The hydraulic characteristics of this type of outlet afford a relatively reliable rating as long as it remains free of drift and debris. Only minor trouble was experienced from drift and debris during the period of study. (See Figure 1.)

Stage-discharge ratings for the uncontrolled outlets at the other four sites were estimated on the basis of observed changes in contents of the pools during periods of little or no inflow, defined ratings at other sites, and known hydraulic parameters affecting flow.

Outflow for sites 3 and 8 was computed by obtaining daily gage heights from the recorder chart and applying them to the stage-discharge ratings. For those sites for which only weekly readings were available, daily gage heights were estimated from a graph drawn using the weekly gage readings, peak marks, and reference to weather records and the recorded graph at site 3. Estimated daily gage heights were then applied to the respective stage-discharge rating to obtain outflow for each site.

The stage-discharge ratings for sites 3 and 8 should be well within an accuracy range of 5 to 10 percent, while those for the other four sites should be no more than 15 percent in error. These ratings apply only to the uncontrolled drop outlets which discharge floodwater and do not include flow through controlled drains or over emergency spillways. As there was no flow over the emergency spillways no ratings were computed. Flow through the controlled drains caused by the opening of the valve was computed from the additional loss in storage. Table 14 shows outflow from each structure by months; Table 15 shows outflow by years.

The effect of the retarding structures on water yield and flood peaks at points a short distance below the retarding structure can be determined by studying data contained in Tables 12, 13, 14, and 15. These tables show rainfall-runoff relations, outflow from the pools, or flow by the Deep Creek a-stream-gaging station below sites 1-5 and flow by the Dry Prong Deep Creek

Table 5.--Annual summary of water budget for pools for 1953-61

Water year	Location	Consumption (ac-ft)	Outflow (ac-ft)	Change in pool content (ac-ft)	Total inflow (ac-ft)	Natural ^y runoff		Rainfall (inches)
						(ac-ft)	(inches)	
1953	Site 8	192	390	-80	502	466	2.02	18.93
1954	Site 3	71	380	-8	443	433	2.37	16.14
	Site 8	190	715	-48	857	823	3.57	18.43
1955	Sites 1-5	945	6,533	+612	8,090	7,860	7.40	30.46
	Site 8	194	1,696	+132	2,022	1,960	8.52	29.94
1956	Sites 1-5	883	228	-305	806	736	.70	9.00
	Site 8	186	71	-23	234	215	.93	9.80
1957	Sites 1-5	857	6,019	+119	6,995	6,770	6.37	27.47
	Site 8	177	1,238	-69	1,346	1,300	5.64	24.11
1958	Sites 1-5	868	2,621	-117	3,372	3,040	2.87	32.22
	Site 8	165	580	+29	774	710	3.07	30.14
1959	Sites 1-5	725	768	+13	1,506	1,330	1.26	23.61
	Site 8	157	220	+25	402	366	1.59	21.06
1960	Sites 1-5	866	810	-4	1,672	1,410	1.32	28.36
	Site 8	160	668	-93	735	680	2.95	24.72
1961	Sites 1-5	825	850	-13	1,662	1,380	1.30	30.28
	Site 8	132	358	-58	432	377	1.64	27.98

^y Adjusted for the effects of rainfall directly on the pools.

stream-gaging station below site 8. In a watershed that does not have flood-water-retarding structures, there is a certain amount of natural flow that may not reach distant downstream water supply points because of overbank and channel storage, evaporation, and evapotranspiration. While the structures may prevent much of this loss of water due to overbank flooding, the prolonged release of floodwater subjects it to more opportunity for evaporation and evapotranspiration loss within the channel. Hydrologic data obtained in this study do not permit an evaluation of whether the structures, by virtue of their change in the flow pattern of floodwater past the structures, afford more or less transmission losses downstream. The effect of the pools on distant downstream water supplies definitely cannot be less than the quantities taken from the retarding pools by evaporation, evapotranspiration, seepage, and diversions for beneficial uses in the vicinity of the pool. This minimum amount can be determined from the tables.

Change in Pool Content

The monthly change in pool content was computed for each site as a part of the water budget equation.

Pool stages for sites 3 and 8, and for site 5 after the recording gage was installed, were picked from the recorder charts. For sites 1, 2, and 4, and for 5 prior to recording gage installation, pool stages were obtained from the estimated graph based on weekly pool-stage readings, and crest-stage gage readings as described in the section "Outflow From Structures." These stages were then converted to contents in acre-feet through use of stage-contents tables prepared for each site.

Area-capacity data for each site were furnished by the Soil Conservation Service. The tables represent the original pool contents, and no adjustment was made for reduction in storage from sediment deposited during the period covered by this report. As most of the sediment was deposited below the stage used to compute most of the inflow to the pools, failure to revise the original capacity tables will not introduce significant error in change-of-contents figures. Table 14 shows the monthly change in contents for each site. Table 15 shows the annual change in contents for each site.

Consumption

Consumption (C) was obtained at each pool by noting the fall in stage during periods of no inflow or outflow, then assuming that the same rate of consumption occurred during periods of inflow or outflow. This would not be a valid assumption for sites with long periods of inflow or outflow. However, these periods were extremely short in the Deep Creek study area and any error introduced by the assumption should be small.

Data collected during the period of study were not of such a nature as to permit the separation of seepage and evaporation. Therefore, no attempt was made to present any breakdown of the consumption figure. A mass-transfer curve (Marciano and Harbeck, 1954, p. 46-70) was drawn for site 3 which indicated little or no seepage, but no correlation was found between site 3 and the remaining sites. The section of "Geologic Features" indicates the study area is not conducive to seepage.

Inflow

Total Inflow

Total inflow into the pool (Q_1) was computed for each site by substituting values in the water budget equation 1. This equation is repeated here.

$$Q_1 = Q_0 + C \pm \Delta S, \quad (1)$$

This method of computing total inflow differed somewhat with the method used for the Honey Creek studies (Gilbert and others, 1962).

Inflow for the Honey Creek study area was computed using graphs similar to the ones used to compute outflow for this report. However, since the outflow, consumption, and change-in-content values were computed first for this report, it was more expedient to compute inflow as the algebraic sum of the other factors in the water budget equation. (See the section "Comparison of Two Methods of Computing Inflow.")

Total inflow (Q_1), as computed to this point, represents all water that enters the pool in any form. No adjustment for rainfall on the water surface or pool area has been made as yet.

Table 14 shows monthly total inflow for each site; Table 15 shows annual total inflow for each site.

Adjusted Runoff

In order to show what probably would have happened had the structures not been in place, computed inflow was adjusted for the effect of rainfall on the pool.

Adjustments for this effect were made by the following relation:

$$Q_a = (Q_1 - R_p) \frac{A}{A - A_p}, \quad (2)$$

where Q_a is natural runoff in acre-feet,

Q_1 is total inflow from equation 1 in acre-feet (includes rainfall on pool),

R_p is rainfall on the pool in acre-feet,

A is the drainage area at the site in acres, and

A_p is mean surface area of pool in acres during rainfall.

Natural runoff (Q_a) was computed for each site by substituting values in equation 2.

Monthly and yearly rainfall on the pools and adjusted inflow are contained in Tables 14 and 15, respectively.

During the 7-year period, the average annual natural runoff to the five floodwater-retarding structures was 3,360 acre-feet or 169 acre-feet per square mile. It varied from a minimum monthly inflow of zero in August 1957 to a maximum of 4,450 acre-feet (4.19 inches) in May 1955, and from zero for several months at site 8 to 1,170 acre-feet (5.08 inches) in May 1955. The maximum

inflow for a 2-month period occurred in April and May 1957 when 5,620 acre-feet (5.29 inches) ran off the subareas above sites 1-5, and 1,120 acre-feet (4.78 inches) ran off the subarea above site 8. Annual rainfall on the combined pools varied from 4.2 percent of the total inflow in 1955 to 17.9 percent in 1961. In 1961 annual rainfall on the individual pools varied from 10.5 to 32 percent of the total inflow.

Subarea Consumption

The water budget of an area, as presented here, shows only subarea consumption and does not attempt to separate the various factors which make up a detailed water budget as was done for the pools. The budget is presented here in its simplest form:

$$C = R - Q_a, \quad (3)$$

where C is the consumption by the subarea,
R is rainfall (gain) on the subarea, and
Q_a is natural runoff from the subarea in inches.

A subarea is defined as the area above any runoff-gaging station. Of the eight subareas in the Deep Creek study area, six are above floodwater-retarding sites, and two are above stream-gaging stations.

Mean rainfall on the subarea was computed for the water budget by weighting the point rainfalls for that subarea by the Thiessen method. Runoff (Q_a) was obtained by converting the inflow for the sites and discharge for the stream-gaging stations to inches of runoff. Consumption was obtained by subtracting runoff from rainfall.

Rainfall, runoff, and consumption for the subareas above individual gaging stations are shown by months in Table 14 and by years in Table 15.

Inflow to site 5 is influenced by a floodwater-diversion dam on an adjoining tributary. This dam diverts runoff into the pool which would have normally bypassed site 5. The dam creates a small pool of about 15 acre-feet capacity upstream from site 5. For several days following heavy runoff there is sustained inflow to site 5. The extent to which this upstream pool increases consumption is not known, but probably is small.

Table 6 shows rainfall and runoff for the period of record. Figure 7 shows the monthly accumulation of flow at the Deep Creek stream-gaging station, as well as runoff from the subareas above sites 1-5.

Runoff for the years that approached the average-annual rainfall varied greatly. In 1955, with 29.80 inches of rainfall, 7.01 inches ran off the subarea above the Deep Creek stream-gaging station, as compared to 7.40 inches from above sites 1-5. In sharp contrast to this, 30.31 inches of rain fell in 1961 and only 0.83 inch ran off the area above the stream-gaging station, as compared to 1.30 inches from above sites 1-5. This is a demonstration of the principle that rainfall distribution in time and space is an important factor to consider in determining the volume of runoff to be expected from a given amount of rainfall.

Table 6.--Annual rainfall and runoff, in inches, for water years 1955-61

Subarea	1955		1956		1957		1958		1959		1960		1961		Total	
	Rainfall	Runoff														
Above site 1	30.50	6.82	9.06	0.84	28.12	5.98	32.46	2.64	23.02	1.51	27.83	1.49	29.65	1.55	180.6	20.8
Above site 2	29.64	7.82	9.43	.77	27.36	8.31	32.48	2.77	23.77	1.94	28.56	1.95	31.08	.84	182.3	24.4
Above site 3	31.24	7.31	9.47	.34	28.57	5.76	32.40	2.83	24.13	1.54	28.39	1.66	30.83	1.38	185.0	20.8
Above site 4	28.21	7.14	8.27	1.03	26.32	5.79	30.94	2.07	24.53	1.79	30.66	1.49	31.46	2.62	180.4	21.9
Above site 5	30.54	8.56	9.33	.57	25.90	7.32	32.32	3.50	24.13	.39	28.71	.75	30.65	.59	181.6	21.7
Combined above sites 1-5	30.46	7.40	9.00	.70	27.47	6.37	32.22	2.87	23.61	1.26	28.36	1.32	30.28	1.30	181.4	21.2
Above Deep Creek stream-gaging station	29.80	7.01	9.52	.49	26.61	4.85	31.58	2.58	23.42	.98	27.41	1.41	30.31	.83	178.6	18.2
Above site 8	29.94	8.52	9.80	.93	24.11	5.64	30.14	3.07	21.06	1.59	24.72	2.95	27.98	1.64	167.8	24.3
Above Dry Prong Deep Creek stream-gaging station	29.53	7.00	10.02	.70	23.99	3.74	29.81	1.81	21.54	.90	24.64	2.34	28.72	1.38	168.2	17.9

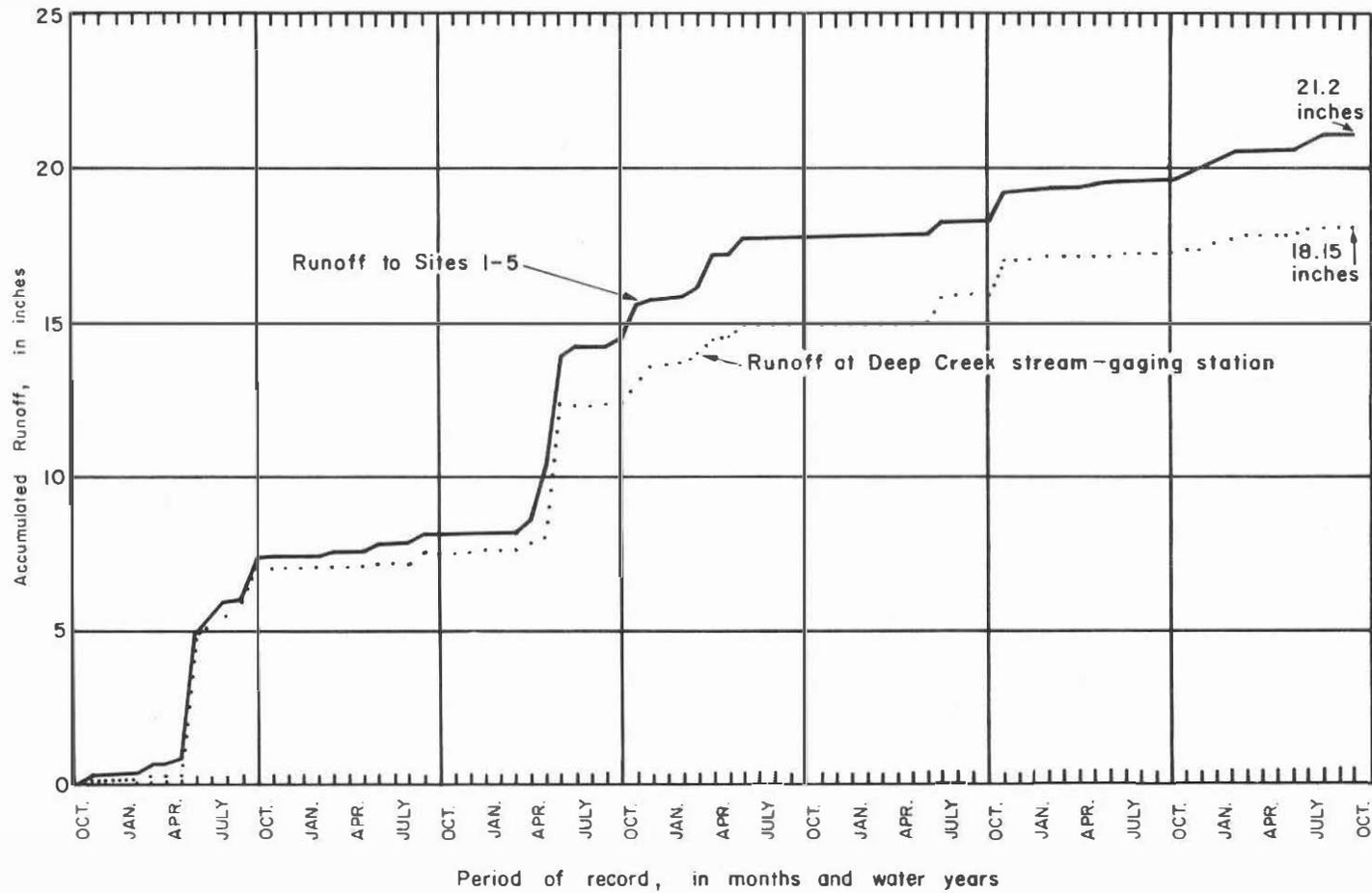


Figure 7

Mass Diagram of Runoff From Drainage Area Above Sites 1-5 and From Drainage Area Above the Deep Creek Stream-Gaging Station, October 1954 to September 1961

U. S. Geological Survey in cooperation with the Texas Water Development Board and the U. S. Soil Conservation Service

OTHER ANALYSES AND COMPARISONS

Comparison of Two Methods of Computing Inflow

One of the purposes of this study was to review the existing data collection and processing program. One factor of data processing that can be partly checked by two methods is the inflow computations.

A comparison was made between the results of the "budget" method as used in this report, and the "graph" method. In the graph method indicated inflow is computed by obtaining changes in storage from the stage graph. This storage is then added to any outflow to obtain total inflow.

The inflow computed by the two methods was compared at sites 3 and 8 for the entire period of record. The results of the comparison are shown in Table 7. The difference between period values computed by the two methods was only 4.3 percent at site 3, and 3.9 percent at site 8, well within the limits of error of the measurements. The essential difference in the two methods is that the budget method permits computation of total consumption during periods of inflow, whereas the graph method does not. The neglect of this computation factor yields inflow values which are a few percent too low.

At sites 3 and 8, neglect of evaporation and evapotranspiration affected inflow computations by the graph method less than 3 percent on an 8-year average, and varied from 0 to 10 percent for individual years. (See Table 7.)

Measurement and Computation of Rainfall

Annual rainfall for the period of record (1954-61) varied from 9.52 inches in 1956 to 31.58 inches in 1958, as compared to the long-term average of 27.55 inches at Brownwood, 23 miles north of the study area. Figure 8 shows the 3-year moving average on the Deep Creek study area for the period of record, the 3-year moving average for Brownwood, and the long-term average annual rainfall at Brownwood.

The year 1957, with a rainfall of 26.61 inches on the Deep Creek study area, marked the end of an extended period of drought. Sixty-one percent of this rainfall (16.18 inches) came during the period March to May, and caused 98 percent of the annual runoff. As a comparison, 30.31 inches fell in 1961, but the rains were so distributed that the maximum 3-month rainfall (13.27 inches) was 44 percent of the total rainfall and caused 33 percent of the runoff for the year.

There is no long-term stream-gaging station in the vicinity of Deep Creek that could be used to compare historical runoff relative to the runoff experienced during the period of record for this report. Also, it is difficult to correlate rainfall with runoff using the relatively short period of available record. However, Figure 8 shows the 3-year average of 1954-56 to be extremely low in rainfall relative to the 73-year period of record. This 3-year moving average was low in spite of an above-average rainfall for 1955. On the other hand, beginning in 1957 the 3-year moving average began to build up. The period of study, therefore, is fairly representative of the annual range in rainfall on this area.

Table 7.--Comparison of inflow computations by the "budget" method and the "graph" method at sites 3 and 8

Year	INFLOW (acre-feet)									
	Site 3					Site 8				
	Budget		From rain	Graph		Budget		From rain	Graph	
	Total	Natural runoff		Total	Less rain	Total	Natural runoff		Total	Less rain
1953	-	-	-	-	-	502	466	40	474	434
1954	442	433	11	444	433	856	823	42	850	808
1955	1,400	1,330	90	1,380	1,290	2,020	1,960	80	2,030	1,950
1956	79	61	18	70	52	234	215	21	230	209
1957	1,110	1,050	80	1,090	1,010	1,350	1,300	70	1,330	1,260
1958	606	516	100	572	472	774	710	73	746	673
1959	327	281	49	316	267	402	366	40	381	341
1960	374	303	76	364	288	735	680	64	720	656
1961	327	252	79	312	233	432	377	59	423	364
Total	4,665	4,226	503	4,548	4,045	7,305	6,897	489	7,184	6,695

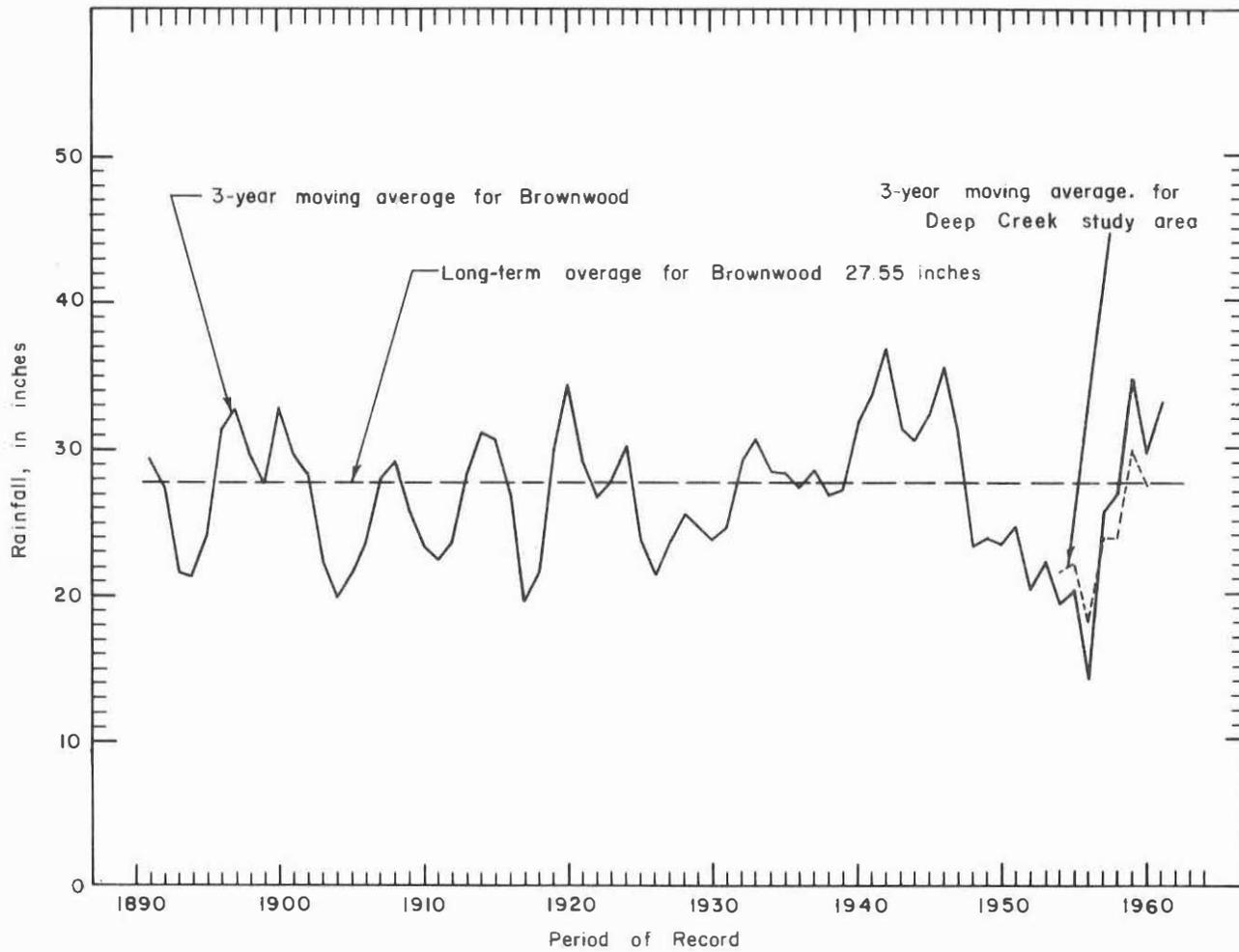


Figure 8

Comparison of 3-Year Moving Average Rainfall of Deep Creek Study Area With the Long-Term Average and the 3-Year Moving Average Rainfall at Brownwood, Texas

U.S. Geological Survey in cooperation with the Texas Water Development Board and the U.S. Soil Conservation Service

Although many analyses are possible concerning the measured rainfall given in Table 12 and computed rainfall, only two are contained herein. One, the rain-gage density needed to determine total rainfall; the other, a comparison of the Thiessen method of weighting rainfall with the average rainfall.

In this report a storm is defined as a period of rainfall separated, in general, by a minimum of 6 hours from the occurrence of other rainfall. As the rain gages are serviced weekly and more than one storm is frequently represented by the week's "catch," it was necessary to distribute this "catch" to separate storm periods. This distribution for the nonrecording rain gages was made on the basis of the storm rainfall occurring at the nearest recording gage. Any error introduced by this procedure is considered negligible.

Rain Gage Density Study

A study was made to evaluate the density of the rain gages in operation during the period covered by this report, as compared to what would constitute a minimum density required to determine total rainfall on the watershed. This study involved five simple correlations, in each of which the average storm rainfall, as indicated by 15 rain gages, was plotted as the independent variable (abscissa) and the average storm rainfall for the following combination of gages was plotted as the dependent variable (ordinate): 4R, 11R; 6S, 10S; 4R, 9R, 11R; 4R, 9R, 11R, 13R; and 4R, 6S, 9R, 11R, 13R. All storms which showed an average basin rainfall of 0.4 inch or more were plotted. There were 134 storms selected on this basis (Table 13). A typical correlation is shown on Figure 9.

There was a higher degree of correlation than expected between the average of the several combinations of 2 to 5 rain gages and the overall average of the 15 rain gages.

Thus, good coverage of total rainfall for runoff-producing storms can be obtained on this watershed from fewer rain gages than are now in operation. However, fewer rain gages would not have supplied the information needed to determine precipitation on the surfaces of individual ponds.

A comparison of the results of rain-gage density studies in the Deep Creek and Honey Creek areas is given in the following table.

Rain gages at Deep Creek	Standard error of estimate ^{1/}	
	Deep Creek study (percent)	Honey Creek study (percent)
4R, 11R	+11, -10	+13, -11
6S, 10S	+10, - 9	+12, -11
4R, 9R, 11R	+11, -10	(*)
4R, 9R, 11R, 13R	+ 9, - 8	+ 8, - 7
4R, 6S, 9R, 11R, 13R	+ 7, - 6	(*)

* No comparison made.

^{1/} Standard error of estimate if the rain gages noted are used rather than 15 rain gages in Deep Creek and 14 rain gages in Honey Creek.

Note.--Rain gages used in Honey Creek are not shown but were located in the same relative positions as those in Deep Creek.

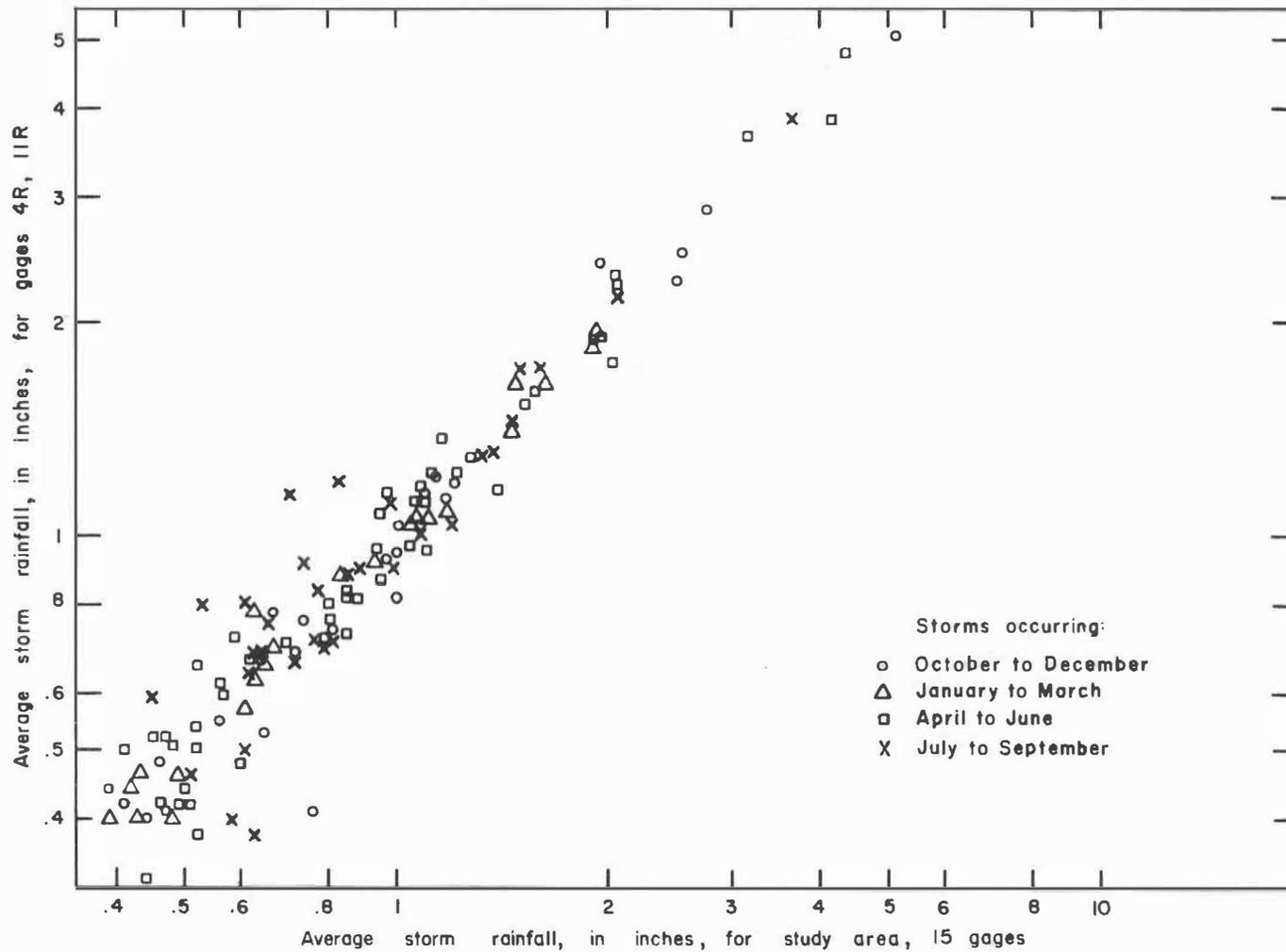


Figure 9

Correlation of Concurrent Storm Rainfall, 2 Gages (4R, IIR) and 15 Gages

U.S. Geological Survey in cooperation with the Texas Water Development Board and the U.S. Soil Conservation Service

The standard error of estimate shows that two-thirds of all storms over the Deep Creek watershed as averaged for two gages (4R, 11R) should plot within 11 percent above or 10 percent below the average of all 15 gages. For the Honey Creek studies, two-thirds of all storms as averaged for two rain gages located in the same relative position as 4R and 11R should plot within 13 percent above and 11 percent below the average of 14 gages. Thus, the results show correlations comparable to those obtained for the Honey Creek area, although a much greater scatter had been expected in the more arid climate at Deep Creek.

An example of how this analysis was made is shown on Figure 9. Note that each storm was designated by one of four symbols, depending upon the quarter year in which the storm occurred. The following table summarizes the distribution, by quarters, of the 134 storms in the period 1955-61.

Quarter	Number of storms	Percent
October-December	31	23
January-March	21	16
April-June	52	39
July-September	30	22
Total	134	100

The correlations show that the July-September period had the most scatter due to more widely scattered thunderstorms. The April-June period was a close second in the amount of scatter.

Thiessen's Method for Weighting Rainfall Compared With Average Rainfall

The rainfall for each subarea and for the entire study area was computed using the Thiessen weighting method. Various opinions have been expressed as to the need of using this method for determining mean rainfall. Some believe that this method is necessary to obtain a higher degree of accuracy, while others believe the use of an arithmetic average of rainfall totals for the individual gages would be just as accurate.

To compare the two methods, monthly rainfall totals were computed by each method for the areas above the Deep Creek stream-gaging station and above site 1. The Thiessen factors are approximately the same weight for the stream-gaging station, whereas the factors for site 1 are 0.478 for rain gage one, 0.353 for rain gage two, 0.050 for rain gage three, and 0.119 for rain gage four. Table 8 shows the comparison of rainfall above the stream-gaging station as computed by each method. Table 9 shows the same comparison for site 1.

The monthly, annual, and 8-year total differences, shown in Tables 8 and 9, are insignificant insofar as the relative accuracy of either method is concerned.

Table 8.--Comparison of Thiessen weighted mean rainfall (W.M.R.) and average rainfall for the Deep Creek stream-gaging station

Year	Method	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Annual
1954	W.M.R.	8.34	0.38	0.21	0.22	0.14	0.26	2.82	1.96	0.33	0.22	0.05	0.71	15.64
	Average	8.30	.40	.22	.21	.15	.26	2.80	2.09	.37	.28	.05	.65	15.78
1955	W.M.R.	3.25	.90	.11	.98	1.51	.21	1.25	9.26	3.26	2.44	1.75	4.88	29.80
	Average	3.31	.98	.12	.97	1.51	.22	1.19	9.13	3.15	2.48	1.89	5.10	30.05
1956	W.M.R.	.12	.61	0	.61	1.23	.03	.57	2.92	0	1.11	2.10	.22	9.52
	Average	.12	.59	0	.62	1.19	.03	.54	3.09	0	1.06	2.14	.22	9.60
1957	W.M.R.	1.88	.48	1.37	.76	.91	2.84	5.73	8.40	1.02	.21	.03	2.98	26.61
	Average	1.93	.49	1.36	.72	.89	2.84	5.44	8.23	1.04	.21	.05	2.74	25.94
1958	W.M.R.	5.10	4.32	.70	3.28	2.87	2.64	1.56	4.17	1.81	.95	1.42	2.76	31.44
	Average	5.08	4.36	.70	3.18	2.82	2.59	1.58	4.05	1.84	.88	1.53	2.67	31.28
1959	W.M.R.	2.74	1.34	.50	0	1.31	.08	1.81	3.20	7.02	2.75	1.00	1.67	23.42
	Average	2.53	1.35	.50	0	1.29	.08	1.71	3.15	6.88	2.81	1.02	1.66	22.98
1960	W.M.R.	7.76	.54	3.33	1.88	1.35	.54	1.86	1.69	.67	2.60	3.25	1.94	27.41
	Average	7.72	.55	3.42	1.86	1.31	.54	1.80	1.62	.66	2.40	3.02	1.96	26.86
1961	W.M.R.	3.74	.46	4.68	3.12	2.56	.46	.19	1.96	7.20	4.11	.02	1.81	30.31
	Average	3.61	.48	4.60	3.11	2.63	.46	.17	1.99	6.95	4.25	.03	1.91	30.19
8-year totals	W.M.R.	32.93	9.03	10.90	10.85	11.88	7.06	15.79	33.56	21.31	14.39	9.62	16.97	194.15
	Average	32.60	9.20	10.92	10.67	11.79	7.02	15.23	33.35	20.89	14.37	9.73	16.91	192.68
	Deviation	-.33	+1.17	+0.02	-.18	-.09	-.04	-.56	-.21	-.42	-.02	+1.11	-.06	-1.47
	Percent	-1.0	+1.9	+0.2	-1.7	-0.8	-0.6	-3.5	-0.6	-2.0	-0.1	+1.1	-0.4	-0.8

Table 9.--Comparison of Thiessen weighted mean rainfall (W.M.R.) and average rainfall for site 1

Year	Method	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Annual
1954	W.M.R.	7.96	0.34	0.21	0.21	0.03	0.24	2.66	1.92	0.15	0.06	0.05	0.58	14.41
	Average	8.39	.34	.27	.22	.04	.30	2.55	1.97	.14	.05	.06	.75	15.08
1955	W.M.R.	3.48	.85	.10	1.08	1.72	.22	1.49	8.95	3.64	2.61	.98	5.40	30.52
	Average	3.58	.90	.14	1.09	1.66	.22	1.57	9.20	3.74	2.41	1.06	5.25	30.82
1956	W.M.R.	.09	.60	0	.50	1.26	.03	.67	3.13	0	1.19	1.32	.26	9.05
	Average	.10	.64	0	.53	1.27	.03	.65	3.10	0	1.26	1.41	.32	9.31
1957	W.M.R.	1.69	.44	1.28	.79	1.02	2.98	6.21	8.04	.99	.11	.03	4.54	28.12
	Average	1.76	.44	1.29	.77	.92	2.92	6.34	8.42	.89	.20	.02	4.04	28.01
1958	W.M.R.	5.84	3.52	.73	3.28	3.07	2.42	1.34	5.06	1.83	1.32	.92	3.13	32.46
	Average	5.86	3.62	.67	3.26	3.00	2.33	1.40	5.18	1.78	1.34	.85	3.38	32.67
1959	W.M.R.	2.44	1.27	.49	0	1.25	.07	2.01	3.01	7.50	2.22	.97	1.79	23.02
	Average	2.62	1.26	.50	0	1.31	.08	1.98	2.95	7.49	2.12	.98	1.88	23.17
1960	W.M.R.	8.08	.52	3.14	1.96	1.51	.48	2.15	1.86	.94	3.02	2.49	1.68	27.83
	Average	8.00	.52	3.11	1.94	1.49	.48	2.22	1.73	.93	3.34	2.41	1.70	27.87
1961	W.M.R.	4.62	.47	3.91	2.91	2.36	.43	.28	1.63	6.78	4.57	0	1.69	29.65
	Average	4.51	.49	4.42	3.02	2.36	.48	.25	1.64	7.04	4.42	0	1.60	30.23
8-year totals	W.M.R.	34.20	8.01	9.86	10.73	12.22	6.87	16.81	33.60	21.83	15.10	6.76	19.07	195.06
	Average	34.82	8.21	10.40	10.83	12.05	6.84	16.96	34.19	22.01	15.14	6.79	18.92	197.16
	Deviation	+.62	+.20	+.54	+.10	-.17	-.03	+.15	+.59	+.18	+.04	+.03	-.15	+2.10
	Percent	+1.8	+2.5	+5.5	+0.9	-1.4	-0.4	+0.9	+1.8	+0.8	+0.3	+0.4	-0.8	+1.1

Storm Runoff

The duration, amount, and the maximum increments for 15, 30, and 60-minute rainfall intervals for the 134 storms exceeding 0.4 inch rainfall are shown in Table 13. The resulting runoff from the area above sites 3 and 8 is also shown. The column entitled "Natural runoff" was derived from "Total inflow" values in the same manner as the comparable entries in Table 14.

Detailed analyses were made for several of the larger storms for each year. Rainfall and runoff for all recording stations were subdivided according to time so that rainfall-runoff hydrographs could be drawn. Figures 10 and 11 show examples of the inflow and outflow computations and the weighted precipitation records prepared for each storm. Table 13 indicates by a footnote all storms which have been subdivided in this manner. Rainfall-runoff hydrographs were then drawn for each of these storms. All of these data for each storm are available upon request at the U.S. Geological Survey district office, Austin, Texas.

Many special studies and analyses could be made using the monthly and annual water budget factors summarized in Tables 12, 14, and 15, and the storm rainfall-runoff data in Table 13. To facilitate such studies and analyses, storms in Table 13 are numbered for easy reference. For example, when one study area is being analyzed for rainfall-runoff relationships, there are certain factors that remain relatively unchanged. Topography, geology, slope, shape, size, and ground cover (seasonally at least) are some of the factors. Assuming these factors to be constants, the effect of other factors affecting the rainfall-runoff relationship could be investigated. Antecedent rainfall, intensity, overall length of the storm, and time of year are some of the factors to be considered. A combination of these factors could be programmed for a computer. By establishing coefficients for these factors, different study areas could then be used for the size, shape, etc., factors.

Channel Losses

Considerable interest has been shown in the water transmission losses in stream channels, and particularly as they relate to changes by man of the flow patterns of streams. The Deep Creek area is suited to the study of such losses because (1) the outflow at each site can be determined to within 15 percent; (2) rainfall over the area is mostly from thunderstorms of short duration with consequent relatively brief times of runoff concentration; and (3) there is no base runoff in the channels below the sites.

Table 10 compares the combined discharge of sites 1-5 with the flow at the Deep Creek stream-gaging station during selected periods of no direct runoff, and Table 11 presents a similar comparison of the discharge from site 8 with the flow at Dry Prong Deep Creek stream-gaging station.

Table 10 indicates that channel percent loss varies considerably when the discharge is small but is generally above 20 percent. When there is a large discharge from the structures the percentage of loss reduces rapidly.

Table 11 lists daily releases from site 8 along with flow at the stream-gaging station. More controlled data are contained in Table 11 than in Table 10. Site 8, located 1.7 miles upstream, is the only structure above the stream-gaging station. The landowner opened the manually controlled valve at various

Reservoir Deep Creek subwatershed No. 3 near Placid, Tex.

Drainage Area 2.42 sq. mi. Storm Period Jan. 4-5, 1960

Date	Time	Time Int. (mins.)	Gage Height (ft.)	Storage (ac.ft.)	Change in Storage		Outflow (c.f.s.)		Total inflow c.f.s.	Runoff		
					ac.ft.	c.f.s.	at ind. time	Mean		In./hr.	In.	Acc. In.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Jan 4	12:01 a.m.	-	12.93	146.10	-	-	0	-	-	-	-	-
1960	5 pm	1,020	12.94	146.50	+0.40	+0.3	0	0	0.3	0	0	0
	12 pm	420	12.98	148.09	+1.59	+2.8	0	0	2.8	.001	.007	.007
								0	24.247			
								0	1.0			
Jan 5	2 am	120	13.00	148.89	+0.80	+4.8	0	0	4.8	.004	.004	.011
	5	180	13.08	152.12	+3.23	+13.0	.6	.3	13	.006	.018	.029
	11	360	13.54	171.55	+19.43	+39.2	10.1	5.4	45	.020	.120	.149
	12 m	60	13.63	175.52	+3.97	+48.0	12.8	11.4	59	.027	.027	.176
	1 pm		13.68	177.75	+2.23	+27.0	14.4	13.6	41	.019	.019	.195
	2		13.71	179.09	+1.34	+6.2	15.3	14.2	31	.014	.014	.209
	3		13.72	179.55	+0.46	+5.6	15.7	15.5	21	.010	.010	.219
	4	60	13.71	179.09	-0.46	-5.6	15.3	15.5	9.9	.004	.004	.223
	8	240	13.65	176.41	-2.68	-8.1	13.4	14.4	6.3	.003	.012	.235
	12 pm	240	13.58	173.30	-3.11	-9.4	11.2	12.3	2.9	.001	.004	.239
								14.210.9	24.517.3			
								8.8	22			
Comp. by												
Check by												

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Figure 10

Storm Subdivided for Runoff

U. S. Geological Survey in cooperation with the Texas Water Development Board and the U. S. Soil Conservation Service

Table 10.--Comparison of flow at the Deep Creek stream-gaging station with outflow from sites 1-5

Period	Outflow in acre-feet							Stream-flow station	Percent loss
	Site 1	Site 2	Site 3	Site 4	Site 5	Total			
Feb. 5-9, 1955	50	0	0	0	0	50	38	24	
May 20-25, 1955	825	113	330	123	428	1,810	1,728	4.5	
June 10-14, 1955	14	0	12	0	42	68	53	22	
July 20-23, 1955	8.9	0	6.1	3.6	16	35	35	0	
Sept. 28 to Oct. 1, 1955	12	0	5.4	0	122	139	100	29	
Mar. 22-26, 1957	20	0	0	0	6.5	26.5	13.3	50	
Feb. 26-28, 1958	18	0	3.6	.8	11	33	25.6	22	
Mar. 13-16, 1958	17	0	.4	0	4.8	22	7.7	65	
May 20-23, 1958	39	0	2.2	.2	.8	49	38	22	
June 29 to July 3, 1959	50	0	.2	6.7	0	57	38	33	
June 19-24, 1961	85	5.6	0	8.5	.8	100	79	21	

Table 11.--Comparison of outflow from site 8 with flow at Dry Prong Deep Creek stream-gaging station

Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)	Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)
Period of outflow from runoff:				Periods of releases--continued			
Oct. 6, 1953	51	48		July 30, 1954	1.4	0	
7	48	46		Aug. 16	.9	0	
8	46	46		17	1.3	0	
9	40	40		19	.9	0	
10	13	15		20	.9	0	
11	3.2	3.2		Sept. 6	1.6	0	
12	1.2	1.0		7	.5	0	
13	.6	.4		Period of outflow from runoff:			
14	.4	.2		Feb. 5, 1955	2.1	1.5	
15	.2	.1		6	1.0	.7	
16	.2	0		7	.6	.2	
Total	203.8	199.9		8	.4	0	
Periods of releases:				9	.1	.1	
Mar. 18, 1954	.3	0		Total	4.2	2.5	
19	.3	0		Periods of releases:			
20	1.0	0		Mar. 25, 1955	.9	0	
21	1.0	0		28	.4	0	
22	1.0	0		29	1.3	0	
23	1.0	0		30	.4	0	
24	1.0	0		Apr. 15	1.6	0	
25	.8	0		16	.8	0	
26	.7	0		18	1.1	0	
June 8	.4	0		27	1.1	0	
9	.7	0		29	1.2	0	
10	1.2	0		30	.4	0	
11	.4	0		May 2	1.1	0	
21	.8	0		3	1.1	0	
23	.8	0		4	1.2	0	
24	1.3	0		5	.5	0	
25	.4	0		13	1.0	0	
26	1.0	0		14	.3	0	
28	.8	0		Periods of outflow from runoff:			
July 5	1.2	0		May 20, 1955	55	50	
6	.3	0		21	54	50	
12	.7	0		22	53	49	
13	1.2	0		23	52	48	
14	1.4	0		24	50	47	
15	1.2	0					
27	1.3	0					
28	1.2	0					
29	1.4	0					

Table 11.--Comparison of outflow from site 8 with flow at Dry Prong Deep Creek stream-gaging station--continued

Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)	Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)
Periods of outflow from runoff--continued				Periods of releases--continued			
May 25, 1955	49	46		Aug. 31, 1955	1.0	0	
Total	313	290		Sept. 1	1.2	0	
May 27, 1955	43	41		2	.8	0	
28	12	16		3	.7	0	
29	2.4	3.1		5	.8	0	
30	.7	.9		6	.5	0	
31	.1	.6		Dec. 3	.6	0	
June 1	0	.3		6	.3	0	
Total	58.2	61.9		7	.6	0	
Periods of releases:				8	.6	0	
July 7, 1955	.3	0		9	.6	0	
8	.9	0		10	.6	0	
9	1.1	0		12	.6	0	
11	1.1	0		13	.3	0	
12	.4	0		14	.4	0	
Period of outflow from runoff:				Mar. 5, 1956	.6	0	
July 19, 1955	1.5	.8		6	.7	0	
20	.6	.1		8	.6	0	
21	.3	0		9	.4	0	
22	.1	0		16	.5	0	
Total	2.5	.9		19	1.1	0	
Periods of releases:				20	1.0	0	
Aug. 1, 1955	1.0	0		21	.7	0	
2	.8	0		Apr. 15	.4	0	
3	.9	0		16	.3	0	
4	.7	0		28	.7	0	
5	1.0	0		29	.4	0	
6	.9	0		June 4	1.3	0	
8	1.0	0		5	1.3	0	
9	1.3	0		6	.8	0	
11	.8	0		7	1.2	0	
17	.4	0		8	.8	0	
18	1.0	0		9	.7	0	
19	.3	0		11	1.2	0	
22	.9	0		12	.4	0	
23	1.1	0		14	1.2	0	
				15	1.1	0	
				22	1.1	0	
				23	.8	0	
				25	1.3	0	
				26	1.2	0	
				27	.9	0	
				28	.5	0	

Table 11.--Comparison of outflow from site 8 with flow at Dry Prong Deep Creek stream-gaging station--continued

Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)	Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)
Periods of releases--continued				Periods of outflow from runoff--continued			
June 29, 1956	0.9	0		May 23, 1958	0.1	0.1	
July 2	.9	0		Total	2.1	3.0	
3	.8	0		Periods of releases:			
5	.6	0		July 19, 1958	1.1	0	18
23	1.0	0		20	2.0	.8	
24	1.3	0		Total	3.1	.8	
25	.6	0		Period of outflow from runoff:			
28	1.0	0		Aug. 14, 1958	1.6	0	
Period of outflow from runoff:				15	0	.1	18
Mar. 21, 1956	19	18		Total	1.6	.1	
22	5.0	3.8		Period of outflow from runoff:			
23	2.2	.9		Oct. 26, 1958	1.5	0	17
24	.7	.4		27	.9	1.3	
25	.3	.1		Total	2.4	1.3	
26	.1	0		Periods of releases:			
Total	27.3	23.2		July 23, 1957	.8	0	
Periods of releases:				24	.7	0	
July 23, 1957	.8	0		25	1.1	0	
24	.7	0		26	1.4	0	
25	1.1	0		27	.3	0	
26	1.4	0		Aug. 5	.8	0	
27	.3	0		6	1.0	0	
Aug. 5	.8	0		7	.8	0	
6	1.0	0		16	1.3	0	
7	.8	0		17	1.1	0	
16	1.3	0		Periods of outflow from runoff:			
17	1.1	0		Mar. 13, 1958	.5	.3	
Periods of outflow from runoff:				14	.4	.2	
Mar. 13, 1958	.5	.3		15	.2	.2	
14	.4	.2		16	.1	.1	
15	.2	.2		Total	1.2	.8	
16	.1	.1		Periods of releases:			
Total	1.2	.8		Apr. 3, 1959	1.4	0	19
Periods of releases:				4	1.3	1.2	
July 23, 1957	.8	0		5	0	.1	
24	.7	0		Total	2.7	1.3	
25	1.1	0		Periods of releases:			
26	1.4	0		Dec. 23, 1958	.7	0	17
27	.3	0		24	1.7	1.1	
Aug. 5	.8	0		25	0	.2	
6	1.0	0		Total	2.4	1.3	
7	.8	0		Periods of releases:			
16	1.3	0		Feb. 21, 1959	.5	0	17
17	1.1	0		22	1.6	1.0	
Periods of outflow from runoff:				23	0	.2	
Mar. 13, 1958	.5	.3		Total	2.1	1.2	
14	.4	.2		Periods of releases:			
15	.2	.2		Apr. 3, 1959	1.4	0	19
16	.1	.1		4	1.3	1.2	
Total	1.2	.8		5	0	.1	
Periods of releases:				Total	2.7	1.3	
July 23, 1957	.8	0		Periods of releases:			
24	.7	0		May 5, 1959	.4	0	17
25	1.1	0		6	1.6	.5	
26	1.4	0		7	0	.2	
27	.3	0		Total	2.0	.7	
Aug. 5	.8	0		Periods of releases:			
6	1.0	0		July 23, 1957	.8	0	
7	.8	0		24	.7	0	
16	1.3	0		25	1.1	0	
17	1.1	0		26	1.4	0	
Periods of outflow from runoff:				27	.3	0	
Mar. 13, 1958	.5	.3		Aug. 5	.8	0	
14	.4	.2		6	1.0	0	
15	.2	.2		7	.8	0	
16	.1	.1		16	1.3	0	
Total	1.2	.8		17	1.1	0	
Periods of releases:				Periods of outflow from runoff:			
July 23, 1957	.8	0		Mar. 13, 1958	.5	.3	
24	.7	0		14	.4	.2	
25	1.1	0		15	.2	.2	
26	1.4	0		16	.1	.1	
27	.3	0		Total	1.2	.8	
Aug. 5	.8	0		Periods of releases:			
6	1.0	0		Apr. 3, 1959	1.4	0	19
7	.8	0		4	1.3	1.2	
16	1.3	0		5	0	.1	
17	1.1	0		Total	2.7	1.3	
Periods of outflow from runoff:				Periods of releases:			
Mar. 13, 1958	.5	.3		Dec. 23, 1958	.7	0	17
14	.4	.2		24	1.7	1.1	
15	.2	.2		25	0	.2	
16	.1	.1		Total	2.4	1.3	
Total	1.2	.8		Periods of releases:			
Periods of releases:				Feb. 21, 1959	.5	0	17
July 23, 1957	.8	0		22	1.6	1.0	
24	.7	0		23	0	.2	
25	1.1	0		Total	2.1	1.2	
26	1.4	0		Periods of releases:			
27	.3	0		Apr. 3, 1959	1.4	0	19
Aug. 5	.8	0		4	1.3	1.2	
6	1.0	0		5	0	.1	
7	.8	0		Total	2.7	1.3	
16	1.3	0		Periods of releases:			
17	1.1	0		May 5, 1959	.4	0	17
Periods of outflow from runoff:				6	1.6	.5	
Mar. 13, 1958	.5	.3		7	0	.2	
14	.4	.2		Total	2.0	.7	
15	.2	.2		Periods of releases:			
16	.1	.1		July 23, 1957	.8	0	
Total	1.2	.8		24	.7	0	
Periods of releases:				25	1.1	0	
July 23, 1957	.8	0		26	1.4	0	
24	.7	0		27	.3	0	
25	1.1	0		Aug. 5	.8	0	
26	1.4	0		6	1.0	0	
27	.3	0		7	.8	0	
Aug. 5	.8	0		16	1.3	0	
6	1.0	0		17	1.1	0	
7	.8	0		Periods of outflow from runoff:			
16	1.3	0		Mar. 13, 1958	.5	.3	
17	1.1	0		14	.4	.2	
Periods of outflow from runoff:				15	.2	.2	
Mar. 13, 1958	.5	.3		16	.1	.1	
14	.4	.2		Total	1.2	.8	
15	.2	.2		Periods of releases:			
16	.1	.1		Apr. 3, 1959	1.4	0	19
Total	1.2	.8		4	1.3	1.2	
Periods of releases:				5	0	.1	
July 23, 1957	.8	0		Total	2.7	1.3	
24	.7	0		Periods of releases:			
25	1.1	0		May 5, 1959	.4	0	17
26	1.4	0		6	1.6	.5	
27	.3	0		7	0	.2	
Aug. 5	.8	0		Total	2.0	.7	
6	1.0	0		Periods of releases:			
7	.8	0		July 23, 1957	.8	0	
16	1.3	0		24	.7	0	
17	1.1	0		25	1.1	0	
Periods of outflow from runoff:				26	1.4	0	
Mar. 13, 1958	.5	.3		27	.3	0	
14	.4	.2		Aug. 5	.8	0	
15	.2	.2		6	1.0	0	
16	.1	.1		7	.8	0	
Total	1.2	.8		16	1.3	0	
Periods of releases:				17	1.1	0	
July 23, 1957	.8	0		Periods of outflow from runoff:			
24	.7	0		Mar. 13, 1958	.5	.3	
25	1.1	0		14	.4	.2	
26	1.4	0		15	.2	.2	
27	.3	0		16	.1	.1	
Aug. 5	.8	0		Total	1.2	.8	
6	1.0	0		Periods of releases:			
7	.8	0		Apr. 3, 1959	1.4	0	19
16	1.3	0		4	1.3	1.2	
17	1.1	0		5	0	.1	
Periods of outflow from runoff:				Total	2.7	1.3	
Mar. 13, 1958	.5	.3		Periods of releases:			
14	.4	.2		May 5, 1959	.4	0	17
15	.2	.2		6	1.6	.5	
16	.1	.1		7	0	.2	
Total	1.2	.8		Total	2.0	.7	
Periods of releases:				Periods of releases:			
July 23, 1957	.8	0		July 23, 1957	.8	0	
24	.7	0		24	.7	0	
25	1.1	0		25	1.1	0	
26	1.4	0		26	1.4	0	
27	.3	0		27	.3	0	
Aug. 5	.8	0		Aug. 5	.8	0	
6	1.0	0		6	1.0	0	
7	.8	0		7	.8	0	
16	1.3	0		16	1.3	0	
17	1.1	0		17	1.1	0	
Periods of outflow from runoff:				Periods of outflow from runoff:			
Mar. 13, 1958	.5	.3		Mar. 13, 1958	.5	.3	
14	.4	.2		14	.4	.2	
15	.2	.2		15	.2	.2	
16	.1	.1		16	.1	.1	
Total	1.2	.8		Total	1.2	.8	
Periods of releases:				Periods of releases:			
July 23, 1957	.8	0		July 23, 1957	.8	0	
24	.7	0		24	.7	0	
25	1.1	0		25	1.1	0	
26	1.4	0		26	1.4	0	
27	.3	0		27	.3	0	
Aug. 5	.8	0		Aug. 5	.8	0	
6	1.0	0		6	1.0	0	
7	.8	0		7	.8	0	
16	1.3	0		16	1.3	0	
17	1.1	0		17	1.1	0	
Periods of outflow from runoff:				Periods of outflow from runoff:			
Mar. 13, 1958	.5	.3		Mar. 13, 1958	.5	.3	
14	.4	.2		14	.4	.2	
15	.2	.2		15	.2	.2	
16	.1	.1		16	.1	.1	
Total	1.2	.8		Total	1.2	.8	
Periods of releases:				Periods of releases:			
July 23, 1957	.8	0		July 23, 1957	.8	0	
24	.7	0		24	.7	0	
25	1.1	0		25	1.1	0	
26	1.4	0		26	1.4	0	
27	.3	0		27	.3	0	
Aug. 5	.8	0		Aug. 5	.8	0	
6	1.0	0		6	1.0	0	
7	.8	0		7	.8	0	
16	1.3	0		16	1.3	0	
17	1.1	0		17	1.1	0	
Periods of outflow from runoff:				Periods of			

Table 11.--Comparison of outflow from site 8 with flow at Dry Prong Deep Creek stream-gaging station--continued

Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)	Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)
Periods of outflow from runoff:				Periods of releases:			
June 28, 1959	5.8	4.2		Nov. 30, 1959	1.0	0	12
29	2.4	1.6		Dec. 1	1.3	1.5	
30	1.2	.6		Total	2.6	1.5	
July 1	.6	.2		Apr. 16, 1960	.6	0	14
2	.3	0		17	3.0	1.5	
3	.1	0		18	2.4	2.5	
Total	10.4	6.6		19	1.3	1.6	
July 22, 1959	17.6	19		Total	7.3	5.6	
23	4.4	4.3		June 10, 1960	2.2	0	18
24	1.6	1.4		11	1.2	1.4	
25	.8	.6		Total	3.4	1.4	
26	.5	.2		June 30, 1960	.9	0	
27	.1	0		July 1	1.6	.7	19
Total	3.0	2.2		2	0	.1	
Period of releases:				Total	2.5	.8	
Sept. 11, 1959	.8	0	19	Sept. 3-			
12	1.7	.9		12, 1960	9.2	5.9	20
Total	2.5	.9		Apr. 29, 1961	.5	0	14.5
Periods of outflow from runoff:				30	1.5	1.1	
Oct. 5, 1959	47.0	53		May 1	1.8	.9	5.5
6	43.6	50		2	2.8	2.5	
7	17.8	23		3	.7	1.1	
8	3.6	3.9		Total	7.3	5.6	
9	1.1	1.1		Period of outflow from runoff:			
10	.6	.6		June 20, 1961	1.6	1.7	
11	.3	.2		21	.8	.8	
12	.2	.1		22	.4	.3	
Total	65.2	78.9		23	.2	0	
Oct. 16, 1959	1.5	1.4		24	.1	0	
17	.7	.6		Total	3.1	2.8	
18	.5	.1		Period of releases:			
19	.3	0		July 5, 1961	1.9	.5	12
20	.2	0		6	2.7	2.5	
21	.1	0		7	2.7	2.5	
22	.1	0		8	2.7	2.5	
23	0	0					
Total	3.4	2.1					

Table 11.--Comparison of outflow from site 8 with flow at Dry Prong Deep Creek stream-gaging station--continued

Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)	Date	Site 8 (cfs)	Streamflow station (cfs)	Travel time (hrs)
Period of releases--continued							
July 9, 1961	2.6	a/ 2.5					
10	2.6	a/ 2.5					
11	2.6	2.5					
12	2.6	2.7					
13	2.5	2.5					
14	2.5	2.5					
15	2.5	2.5					
16	2.5	a/ 2.5					
17	2.4	a/ 2.5					
18	2.4	2.5					
19	2.4	2.5					
20	2.4	2.2					
21	2.3	2.2					
22	2.3	a/ 2.2					
23	2.3	a/ 2.2					
24	2.3	a/ 2.2					
25	2.3	2.2					
26	2.3	2.2					
27	2.2	2.0					
28	2.2	2.0					
29	2.2	2.0					
30	2.1	1.8					
31	.4	1.8					
Total	62.9	60.7					
Aug. 1, 1961	2.1	1.8					
2	2.0	1.7					
3	2.0	1.7					
4	1.9	1.7					
5	1.8	1.6					
6	1.8	1.6					
7	1.7	1.6					
8	1.6	1.4					
9	1.5	1.4					
10	2.6	1.2					
11	1.6	1.1					
12	1.5	1.0					
13	1.5	.9					
14	1.1	.7					
15	.8	.5					
16	.4	.5					
17	0	.3					
18	0	.1					
Total	25.9	20.8					

a/ Dates of rain - discharge at streamflow station estimated.

times during the year. A record of the amount released was obtained by computing the additional change in content of the pool. The time of travel between the two locations for each release is given for those times when the water reached the downstream gage.

Table 11 also shows flow at both stations when there were periods of uncontrolled outflow from site 8 but no recognizable direct runoff from rainfall below site 8. However, some of the periods listed in Table 11 show that more water flowed by the stream-gaging station than was discharged through the outlet.

Though there were several releases during the period October 1953 to August 1957, no water arrived at the stream-gaging station. However, beginning in July 1958, each release produced flow at the stream-gaging station. There could be several reasons for this, some of which are listed as follows:

1. During the first period (prior to July 1958) the landowner, for the most part, opened and closed the valve on the same day (usually between 6 a.m. and 6 p.m.) so that the period of valve opening was less than the time of travel between stations. Beginning in July 1958, the landowner usually opened the valve and left it open for the entire period of release. This maintained flow in the channel for a sufficient length of time for the water to reach the downstream station.

2. The period beginning in July 1958 is after the heavy rains of 1957-58 (Table 12). This could have caused a rise in ground-water level; thus the stream channel did not require as much water as for the previous years.

3. During the early period of record the landowner used some water for irrigation. Even though the total figure used is relatively small, some of the water released into the channel could have been used for irrigation.

The landowner left the valve open for the period July 5 to August 16, 1961. During this period 176 acre-feet was released, and 162 acre-feet flowed past the stream-gaging station. Only 14 acre-feet, or 8 percent of the release, was lost.

Travel time varied from 5.5 to 20 hours, with the median approximately 18 hours. Travel time was measured from the time the valve was opened to the time the rise began at the stream-gaging station. On April 29, 1961, the travel time was 14.5 hours when the valve was left open. On April 30, 1961, the valve was closed for 13 hours, then opened again. Travel time for this second rise was 5.5 hours. It was noted that it took about 2 hours from the time the valve was closed until the water began receding at the stream-gaging station.

SUMMARY AND CONCLUSIONS

1. Rainfall on the Deep Creek study area varied from an extremely dry year (9.52 inches) in the 1956 water year to a fairly wet year (31.58 inches) in the 1958 water year, compared with the long-term average rainfall of 27.55 inches at Brownwood. This provided a better opportunity to evaluate the effects of the structures than if the period had covered only dry or wet years.

2. The data show that for the period of record the floodwater-retarding structures contained all floodflows into the pools, thereby causing outflow to pass through the municipal spillways designed for this purpose.

3. Sedimentation surveys of two sites, 3 and 5, indicate sedimentation rates slightly above design rate for site 3 and below design rate for site 5. Sedimentation rate at each site is expected to approach the design rate as time passes.

4. Many special studies and analyses could be made using the monthly and annual water budget factors summarized in Tables 12, 14, and 15, and from the duration, amount, and the maximum increments for 15, 30, and 60-minute rainfall intervals for all (134) storms that exceeded 0.4 inch rainfall compiled in Table 13.

5. The water budget factors for the pools include rainfall, inflow, outflow, and consumption. The following table summarizes these factors for water years 1955-61, after all structures were completed and gages were installed at each site.

Summary of water budget for pools

Site	Consumption (acre-feet)	Outflow (acre-feet)	Total inflow* (acre-feet)	Rainfall on pool (acre-feet)	Percent (col. 5/col. 4)	Natural runoff (acre-feet)	Percent (col. 2/col. 7)
1	2,570	8,200	10,870	780	7.2	10,210	25
2	280	814	1,100	90	8.2	1,030	27
3	1,390	2,740	4,220	490	11.6	3,800	37
4	323	1,130	1,510	101	6.7	1,420	23
5	1,410	4,940	6,400	394	6.2	6,080	23
Subtotal	5,970	17,830	24,100	1,860	7.7	23,530	25
8	1,170	4,830	5,940	405	6.8	5,610	21
Total	7,140	22,660	30,040	2,260	7.5	29,140	25

* Total inflow adjusted to simulate runoff that would have occurred in the absence of pools.

6. The water budget factors for the eight subareas include rainfall, runoff, and consumption. The following table summarizes these factors for water years 1955-61.

Summary of water budget of separate areas

Subarea	Rainfall (inches)	Runoff (inches)	Consumption (inches)	Percent (runoff/rainfall)
Above site 1	180.6	20.8	159.8	11.5
Above site 2	182.3	24.4	157.9	13.4
Above site 3	185.0	20.8	164.2	11.2
Above site 4	180.4	21.9	158.5	12.1
Above site 5	181.6	21.7	159.9	11.9
Combined above sites 1-5	181.4	21.2	160.2	11.7
Above Deep Creek stream-gaging station	178.6	18.2	160.4	10.2
Above site 8	167.8	24.3	143.5	14.5
Above Dry Prong Deep Creek stream-gaging station	168.2	17.9	150.3	10.6

7. The runoff that would have flowed past the floodwater-retarding structures, had they not been built, was determined by adjusting for the effect of rainfall directly on the pools. Discharge at the stream-gaging stations cannot be completely adjusted for the effect of the floodwater-retarding structures because the final disposition of the channel losses between the sites and the stream-gaging station cannot be determined with the present instrumentation.

8. A comparison of inflow computation by the "budget" and "graph" methods was made with the following results:

- a. Both the "graph" and "budget" methods agree within limits of error of the measurements.
- b. Computed inflow was less than 3 percent low when consumption was neglected.
- c. Computed inflow was 1.2 percent low when the effect of the pool area was neglected.

9. Total rainfall for the area computed from as few as 2 gages was approximately the same as total rainfall computed from 15 rain gages. The study revealed that the distribution of rainfall total was approximately the same

over the arid area of the Deep Creek watershed as over the more humid area of the Honey Creek watershed.

10. A comparison of Thiessen's method of determining rainfall distribution over an area was made with the arithmetic average. The results indicate no significant differences for monthly and annual averages.

11. A channel loss study showed that transmission losses from the outflow structures to the stream-gaging stations fluctuated greatly. The percentage of loss diminished rapidly when the volume was large or length of release period was long.

EVALUATIONS AND RECOMMENDATIONS CONCERNING THE STATEWIDE SMALL WATERSHED STUDIES

The purpose of this section is to appraise the adequacy of the methodology and instrumentation now in use, and to suggest other methods and additional instrumentation where these seem to be needed, for attaining the nine objectives of the statewide investigation as given in the Introduction.

1. Basin data needed for most purposes concerned with the hydrologic effects of the floodwater-retarding structures are being adequately obtained at sites 3, 5, and 8 in the study area. Sites 3 and 8 are equipped with stilling-well recording gages, and site 5 is equipped with a bubbler gage. Total consumption is computed using incremental changes in the water-surface elevation. Bubbler gages produce a step-stage graph, whereas stilling wells produce a smooth continuous graph, so that small incremental changes in gage heights can be more accurately determined from the latter. It is recommended that stilling wells, rather than bubbler gages, be installed at all future pool installations. Data from the three sites not equipped with recording gages are obtained from weekly staff-gage and crest-stage readings. These data are recognized to be of limited but sufficient accuracy in monthly and annual runoff calculations and in monthly and annual consumption determinations.

Data for the basic water budget equation ($Q_1 = Q_0 \pm \Delta S + C$) have been collected; however, more information is needed relative to the total consumption (C). In order to better separate the factors comprising C, the following recommendation is made.

Investigate the possibility of using the "climatic index" procedure for evaporation at each study area. This procedure was presented in U.S. Weather Bureau Technical Paper 37 (Kohler, Nordenson, and Baker, 1959) from which average monthly values of lake evaporation could be computed using the air temperature, dew point, solar radiation, and wind movement. If this procedure can be established, it would provide a method of separating evaporation from evapotranspiration. Thus, another item can be investigated in the water budget. Also, evaporation computations could be extended back throughout the period of record at each study area with more accuracy than with pan coefficients.

Capacity tables which have been developed from 2-foot contour maps give the needed accuracy for contents. For those pools in study areas where 2-foot contours are not available, it is recommended that topographic surveys be made.

In order to distinguish evapotranspiration from bank storage, it is recommended that periodic inspections be made of the extent of wetted area around the periphery of the pools in each study area. This can also be accomplished by boring small holes at desired intervals and inspecting for depth to water table. This may explain, to a large extent, the reason the consumption, as determined for the Deep Creek study area, is so much higher than the average annual lake evaporation in this area.

Sufficient hydrologic data are being obtained at the stream-gaging stations to show discharge from the study area. However, more data are needed to ascertain channel losses.

2. The data obtained thus far limit the extent to which a determination can be made of the net effect of the floodwater-retarding structures on volume and rate of streamflow at downstream points. With the present instrumentation and methodology, such effects can be accurately determined only at the damsites.

To determine the effects the floodwater-retarding structures have on downstream volume of runoff, it is essential first to obtain data on channel or transmission losses. It is recommended that a continuous stream-gaging station be established on the main channel of Deep Creek within the study area far enough upstream from the existing stream-gaging station so as to have no more than one-half the uncontrolled drainage area above it. This stream-gaging station would provide not only data for channel losses, but also data useful in checking the applicability of flood-routing techniques (objective 7) and in determining the flood-attenuation effects of the structures at downstream points. It is further recommended that a control study area (a contiguous area if possible) be equipped for a better determination at the effects of floodwater-retarding structures. This control study area should be located near the Deep Creek watershed and contain as few man-made structures as possible. Runoff from both areas could be compared to see if the effects of the structures could be determined.

3. The geology of the area is such that there is little possibility of seepage. Except for site 5, this report indicates little or no seepage at the floodwater-retarding structures. Ground-water studies have not been made in connection with this investigation. It is recommended that periodic inspections be made of the main channel downstream from the floodwater-retarding structures to determine whether the channel remains moist during periods of no rain. Depths to moisture and to the water table below the stream channel should be measured in shallow dug or bored holes if possible.

4. The sediment yield from different parts of the study area appears to be significantly different, as shown by the sedimentation surveys at sites 3 and 5. Site 3 is collecting sediment at a more rapid rate than it was designed for, and site 5 is collecting sediment at a slower rate. However, the sedimentation rate at either site is within practical limits and no recommendations are made for additional work.

5. Instrumentation at sites 3, 5, and 8 is sufficient to provide accurate estimates of runoff resulting from a given amount of rainfall for each watershed. It is recommended that future reports investigate rainfall-runoff relations in greater detail. Some suggested avenues of investigation are:

- a. Unit hydrographs: There is a possibility that unit hydrographs for small areas can be combined to permit runoff estimations for large areas.
- b. Coaxial relation similar to that suggested by M. A. Kohler and R. K. Linsley, Jr. (1951) and expanded by R. K. Linsley, Jr., M. A. Kohler, and J. L. H. Paulhus (1958).
- c. Multiple correlation by programming for a computer.

6. When one study area is being analyzed for rainfall-runoff relationships, there are certain factors that remain relatively unchanged. Topography, geology, slope, shape, size, and ground cover (seasonally at least) are some of the factors. Assuming these factors to be constants, a study of the effect of other factors affecting the rainfall-runoff relationship could be initiated. Antecedent rainfall, intensity, overall length of the storm, and time of year are some of the factors to be considered. A combination of these factors could be programmed for a computer. By establishing coefficients for these factors, different study areas could then be used for the size, shape, etc., factors.

Data in this report provide several factors for consideration, and can be used as a springboard to further studies.

7. Adequate data are not available from this investigation to check the applicability of flood-routing procedures and techniques for small streams. The establishment of the stream-gaging station recommended in item 2 above would provide some data for this purpose; however, the establishment of a network of crest-stage gages, supplemented with flood hydrograph data from temporary recording stream gages on tributary streams would be necessary to fully meet this objective.

In order to have more data concerning transmission losses, it is recommended that seepage runs be made in the reaches between the floodwater-retarding structures and the stream-gaging stations during periods of no direct runoff when reservoirs are discharging.

8. Studies indicate that practically the same amount of total rainfall over the area could have been computed with fewer rain gages. It is recommended that for future study areas, where only total rainfall over the area is needed, fewer rain gages be installed. It is further recommended that if fewer rain gages are installed, they be standard U.S. Weather Bureau recording rain gages. The timing of a storm is as important as the quantity insofar as unit hydrographs and other rainfall-runoff relations are concerned.

9. There was little opportunity to obtain water samples of floodflows during the time between the initiation of the quality-of-water data-collection program and the time this report was prepared. However, it is recommended that the program remain in effect at least until floodflows can be sampled.

GLOSSARY

Letter Symbols

- A Drainage area (see "terms" below).
A_p Mean surface area of pool in acres during periods of rainfall.
C Consumption (see "terms" below).
Q_a Natural runoff (see "terms" below).
Q_i Total inflow into a pool in acre-feet.
Q_o Outflow through designed outlet works.
R Rainfall in inches.
R_p Rainfall on the pool in acre-feet.
ΔS (delta S) Indicated change in pool contents.

Terms

Acre-feet (acre-ft).--A term used in measuring the volume of water, equal to the quantity of water required to cover 1 acre 1 foot in depth, or 43,560 cubic feet.

Base runoff.--Sustained or fair weather runoff.

Consumption (acre-ft or in.).--That part of the total identified water that does not appear as outflow or runoff. For the pools it includes evaporation, evapotranspiration, seepage, and other depletions; for each subarea it is rainfall minus runoff.

Contents (acre-ft).--The volume of water in a pool. Volume is computed on the basis of a level pool and does not include bank storage.

Cubic feet per second (cfs).--A rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

Cfs-day.--The volume of water represented by a flow of 1 cubic foot per second for 24 hours. It equals 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons.

Drainage area (square miles or acres).--Area drained by a stream at a specific location, measured in a horizontal plane, which is so enclosed by a topographic divide that direct surface runoff from rainfall normally would drain by gravity into the stream above the specified point.

Natural runoff (acre-ft or in.).--Runoff above a floodwater-retarding structure, adjusted for rainfall on the pool surface and for the effect of the surface area of the pool (see equation 2, page 26).

Parts per million (ppm).--A unit for expressing concentration, by weight, of chemical constituents or sediment. Parts per million of chemical constituents is computed as one million times the ratio of the weight of constituents to the weight of the solution. Parts per million of sediment is computed as one million times the ratio of the dry weight of sediment to the weight of water-sediment mixture.

Runoff (acre-ft).--The total volume of water from an area discharged through surface streams during the designated period.

Runoff (in.).--The depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment.--Fragmental material that originates mostly from rocks and is transported by, suspended in, or deposited from water or air, or is accumulated in beds by other natural agencies.

Subarea (acres or square miles).--That area that has been designated for detailed analyses or special study. One subarea can be composed of several smaller subareas. The Deep Creek study area is composed of subareas above each floodwater-retarding structure and subareas above each stream-gaging station.

Water budget.--An accounting of water gains and losses in a subarea.

Water year.--The 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends. Thus, the year ending September 30, 1961, is called the "1961 water year."

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Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
		Rain gages installed in September 1953																
1953																		
Oct.	3-4	5.97	6.95	7.68	7.21	7.63	7.90	7.20	7.81	7.30	7.44	7.70	6.40	5.80	7.52	6.60		
	23	.73	1.40	.92	1.12	.82	.97	.67	.67	.64	.66	.50	.53	.50	.59	.44		
	30-31	.37	.40	.39	.41	.37	.42	.39	.44	.41	.41	.43	.42	.31	.48	.50		
Monthly Totals		7.07	8.75	8.99	8.74	8.82	9.29	8.26	8.92	8.35	8.51	8.63	7.35	6.61	8.59	7.54		
Nov.	3	.29	.23	.30	.22	.20	.39	.29	.28	.28	.39	.26	.37	.30	.38	.31		
	19	.07	.08	.09	.10	.07	.10	.06	.11	.10	.04	.18	.16	.04	.15	.12		
Monthly Totals		0.36	0.31	0.39	0.32	0.27	0.49	0.35	0.39	0.38	0.43	0.44	0.53	0.34	0.53	0.43		
Dec.	2	.06	.04	.18	.17	0	0	.01	.03	.21	.03	.27	.01	.12	0	.02		
	19	.05	.03	.04	.07	.05	.06	.06	.08	.10	.08	.12	.10	.09	.04	.11		
	27	.09	.09	.10	.15	.07	.07	.04	.10	.10	.08	.10	.06	.05	0	.02		
Monthly Totals		0.20	0.16	0.32	0.39	0.12	0.13	0.11	0.21	0.41	0.19	0.49	0.17	0.26	0.04	0.15		
1953 CALENDAR YEAR TOTALS		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1954																		
Jan.	13	.07	.06	.06	.10	.05	.06	.06	.06	.10	.08	.10	.06	.10	.06	.09		
	17	.13	.13	.11	.20	.10	.12	.12	.13	.20	.17	.20	.13	.10	.13	.10		
Monthly Totals		0.20	0.19	0.17	0.30	0.15	0.18	0.18	0.19	0.30	0.25	0.30	0.19	0.20	0.19	0.19		
Feb.	2	.02	.02	.06	.08	.17	.18	.17	.15	.19	.20	.30	.20	.18	.14	.17		
Monthly Totals		0.02	0.02	0.06	0.08	0.17	0.18	0.17	0.15	0.19	0.20	0.30	0.20	0.18	0.14	0.17		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1954																	
Mar. 4	0.20	0.19	0.30	0.40	0.17	0.23	0.17	0.20	0.50	0.20	0.30	0.14	0.28	0.12	0.16		
24	0	0	0	.10	0	0	0	0	.10	0	.09	0	.09	0	0		
Monthly Totals	0.20	0.19	0.30	0.50	0.17	0.23	0.17	0.20	0.60	0.20	0.39	0.14	0.37	0.12	0.16		
Apr. 7	.66	.35	.07	.08	T	.05	T	.03	.05	T	.15	.15	.10	.15	.15		
12	.06	T	T	.09	.03	.12	T	.02	.10	T	.12	T	.08	.07	.06		
15	T	T	T	.04	T	.05	T	.13	.05	T	.30	.18	.09	T	.10		
22-23	.31	.30	.25	.20	.28	.30	T	.39	.90	.49	.40	.36	.22	.15	.32		
27	.50	.66	.85	.95	.93	1.10	.90	.98	1.10	1.00	.98	.98	1.20	.92	1.09		
30	1.32	1.15	1.06	1.30	1.28	1.19	1.28	1.73	1.85	1.50	1.30	1.08	1.30	.99	.93		
Monthly Totals	2.85	2.46	2.23	2.66	2.52	2.81	2.18	3.28	4.05	2.99	3.25	2.75	2.99	2.28	2.65		
May 2	.40	.35	.32	.40	.40	.36	.39	.14	.15	.12	.20	.16	.20	.15	.14		
6	.09	.12	.12	.12	.12	.17	.18	.24	.20	.16	.30	.26	.30	.39	.53		
11	.70	.83	.89	.98	.84	.86	1.14	1.06	1.30	.97	1.60	1.52	1.28	1.70	1.88		
18	.12	.09	.10	.07	.09	.10	.09	.07	T	T	.09	T	T	.09	T		
23-24	.50	.63	.54	.50	.38	.42	.35	.33	.30	.32	.32	.34	.18	.31	.27		
Monthly Totals	1.81	2.02	1.97	2.07	1.83	1.91	2.15	1.84	1.95	1.57	2.51	2.28	1.96	2.64	2.82		
June 8	.01	.02	.03	.02	.06	.24	.08	.40	.12	.28	.40	.48	.31	.55	.47		
21	0	0	0	0	0	0	0	.13	.30	.17	0	0	.03	0	T		
27	.15	.11	.05	.15	.07	.09	.12	.27	0	T	.40	0	0	.03	0		
Monthly Totals	0.16	0.13	0.08	0.17	0.13	0.33	0.20	0.80	0.42	0.45	0.80	0.48	0.34	0.58	0.47		
July 7	0	0	0	0	0	0	0	0	0	0	.19	0	0	0	0		
31	.04	.09	T	.08	.24	.29	T	.30	.18	.26	.60	.73	.40	.45	.33		
Monthly Totals	0.04	0.09	0	0.08	0.24	0.29	0	0.30	0.18	0.26	0.79	0.73	0.40	0.45	0.33		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1954																	
Aug. 22	0	0	0	0	0	0	0.12	0	0.11	0.08	0	0	0	0	0		
30	.02	.07	.05	.10	0	0	T	T	.05	0	.09	.05	0	0	0		
Monthly Totals	0.02	0.07	0.05	0.10	0	0	0.12	0	0.16	0.08	0.09	0.05	0	0	0		
Sept. 6	0	.17	T	.40	0	0	T	0	0	0	0	0	0	0	0		
7	0	.16	.30	.18	.48	.45	.09	.65	.65	.05	.25	0	0	0	0		
20	T	T	T	.09	T	.02	T	0	0	0	0	0	0	.03	T		
30	.32	.37	.56	.45	.59	.54	.34	.31	.30	.41	.40	.37	.15	.39	.35		
Monthly Totals	0.32	0.70	0.86	1.12	1.07	1.01	0.43	0.96	0.95	0.46	0.65	0.37	0.15	0.42	0.35		
1954 WATER YEAR TOTALS	13.23	15.19	15.37	16.83	15.49	16.85	14.20	17.24	17.78	15.51	18.55	15.19	13.80	15.98	15.26		
Oct. 1	.27	.31	.47	.35	.50	.45	.29	.47	.60	.61	.50	.54	.55	.57	.52		
5	.62	.59	.69	.57	.72	.67	.43	.20	.30	.26	.23	.26	.40	.21	.33		
23	.45	.39	.38	.45	.40	.51	.41	.51	.40	.48	.50	.57	.40	.55	.44		
27	2.21	1.96	2.28	2.35	1.57	1.79	1.55	1.57	1.90	1.68	2.50	2.18	1.90	1.95	1.99		
Monthly Totals	3.55	3.25	3.82	3.72	3.19	3.42	2.68	2.75	3.20	3.03	3.73	3.55	3.25	3.28	3.28		
Nov. 4	.10	.05	.06	.15	.13	.17	.14	.16	.15	.15	.60	.42	.25	.62	.66		
14	.58	.96	.82	.90	.85	.73	.61	.65	.75	.57	.48	.83	.70	.62	.76		
Monthly Totals	0.68	1.01	0.88	1.05	0.98	0.90	0.75	0.81	0.90	0.72	1.08	1.25	0.95	1.24	1.42		
Dec. 28	.05	.09	.09	.35	.04	.08	.18	.09	.05	.14	.15	.12	.07	.10	.14		
Monthly Totals	0.05	0.09	0.09	0.35	0.04	0.08	0.18	0.09	0.05	0.14	0.15	0.12	0.07	0.10	0.14		
1954 CALENDAR YEAR TOTALS	9.88	10.32	10.46	12.50	10.49	11.34	9.09	11.37	12.79	10.24	13.95	12.06	10.86	11.44	11.98		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1955																		
Jan.	8-9	0.37	0.36	0.36	0.48	0.30	0.45	0.35	0.34	0.40	0.38	0.38	0.36	0.31	0.33	0.31		
	14	.15	.15	.15	.15	.12	.15	.14	.11	.12	.10	.20	.17	.10	.19	.11		
	15	.45	.45	.45	.45	.35	.45	.41	.37	.40	.35	.30	.26	.30	.28	.33		
	17	.10	.09	.10	.10	.08	.10	.09	.09	.10	.09	.08	.07	.10	.08	.11		
Monthly Totals		1.07	1.05	1.06	1.18	0.85	1.15	0.99	0.91	1.02	0.92	0.96	0.86	0.81	0.88	0.86		
Feb.	3	.86	.69	.69	.80	.63	.74	.68	.48	.45	.41	.75	.62	.49	.70	.50		
	4	.97	.78	.77	.90	.71	.83	.77	.99	.92	.83	.85	.71	.86	.80	.87		
	5	.03	.04	.02	.06	.02	.04	.01	.01	.08	.03	.08	.03	.05	.01	.04		
	19	T	T	T	.05	T	T	T	T	.03	T	.03	T	T	T	T		
Monthly Totals		1.86	1.51	1.48	1.81	1.36	1.61	1.46	1.48	1.48	1.27	1.71	1.36	1.40	1.51	1.41		
Mar.	19	.26	.18	.22	.22	.23	.31	.20	.17	.18	.25	.30	.26	.18	.23	.14		
Monthly Totals		0.26	0.18	0.22	0.22	0.23	0.31	0.20	0.17	0.18	0.25	0.30	0.26	0.18	0.23	0.14		
Apr.	9	.62	1.41	1.35	.77	.76	.69	.66	.91	.90	.63	.68	.73	.55	.59	.55		
	20	.51	.55	.47	.60	.47	.49	.49	.53	.78	.35	.40	T	.15	.17	.15		
Monthly Totals		1.13	1.96	1.82	1.37	1.23	1.18	1.15	1.44	1.68	0.98	1.08	0.73	0.70	0.76	0.70		
May	9	.19	.11	.11	.10	.04	.04	.18	.03	.09	.02	.05	.04	.04	.03	.04		
	10	.62	.86	.70	.67	.43	.50	.48	.77	1.84	1.37	.86	.56	.88	.74	.65		
	11	.31	.42	.34	.33	.21	.25	.24	.14	.33	.25	.54	.35	.62	.47	.46		
	17	4.22	4.44	4.67	4.90	4.39	5.30	5.35	4.43	5.00	3.53	4.68	3.86	3.28	4.02	3.67		
	18-19	3.05	3.21	3.39	3.55	3.18	3.84	3.87	3.72	4.20	2.96	3.07	2.53	2.12	2.63	2.37		
	22	.01	.02	.05	T	.02	.02	.04	.05	.07	.08	T	.08	.15	.04	.11		
	26	.18	.08	.08	.17	.23	.30	.37	.41	.18	.35	.43	.37	.41	.49	.43		
Monthly Totals		8.58	9.14	9.34	9.72	8.50	10.25	10.53	9.55	11.71	8.56	9.63	7.79	7.50	8.42	7.73		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1955																		
June	4	0.58	0.34	0.38	0.55	0.47	0.46	0.35	0.54	0.41	0.42	0.50	0.46	0.55	0.49	0.58		
	5	1.37	.80	.89	1.30	1.10	1.08	.82	1.21	.93	.96	1.00	.93	.60	.98	.63		
	7	.68	.40	.43	.64	.54	.53	.41	.08	.06	.07	.39	.36	.35	.39	.37		
	8-9	.03	.82	.62	.70	.63	.22	.59	.70	.70	.55	.75	.70	.50	.67	.67		
	15	.51	.52	.28	.50	.37	.47	.27	.37	.60	.23	0	0	0	0	0		
	20	.24	.24	.13	.23	.17	.21	.12	.14	.22	.08	.20	.21	.20	.24	.19		
	29	.05	.48	.58	.67	.21	.25	.30	.27	.15	.19	.20	.20	.15	.10	.26		
Monthly Totals		3.46	3.60	3.31	4.59	3.49	3.22	2.86	3.31	3.07	2.50	3.04	2.86	2.35	2.87	2.69		
July	12	0	0	0	0	0	0	0	T	.07	.57	.05	.06	.06	0	.06		
	16	.85	.71	.51	.71	.51	.57	.68	.51	.41	.61	.71	.98	1.55	.88	1.87		
	17	.39	.32	.23	.32	.23	.26	.31	.45	.36	.54	.25	.34	.26	.31	.31		
	17-18	1.12	.93	.66	.93	.67	.74	.89	1.33	1.08	1.61	1.07	1.47	1.07	1.33	1.29		
	18	.36	.30	.21	.30	.21	.24	.28	.06	.05	.08	.03	.04	0	.04	0		
	23	.06	.28	.19	.25	0	.04	.06	0	.10	0	0	0	0	0	0		
Monthly Totals		2.78	2.54	1.80	2.51	1.62	1.85	2.22	2.35	2.07	3.41	2.11	2.89	2.94	2.56	3.53		
Aug.	1	0	0	0	0	.03	.22	0	.28	0	.20	.07	.11	.05	.03	.01		
	9	.13	.44	.28	.42	.13	.17	.36	.09	.10	.10	.09	.11	.57	.10	1.11		
	11	.05	.19	.12	.18	.06	.08	.15	.33	.35	.35	.85	.99	.40	.99	.78		
	19	.21	.22	.32	.18	.11	.12	.32	.07	.21	.08	.10	.10	.30	.02	.71		
	20	0	0	0	0	0	0	0	.42	1.21	.46	0	0	0	0	0		
	28	0	0	0	0	0	0	0	0	0	0	.13	.51	.34	.38	.59		
	29	.14	.50	.32	.20	.71	1.28	.25	0	0	0	0	0	0	0	0		
	30	.04	.15	.10	.06	.21	.39	.08	.68	.74	1.21	.17	.67	.67	.49	1.16		
Monthly Totals		0.57	1.50	1.14	1.04	1.25	2.26	1.16	1.87	2.61	2.40	1.41	2.49	2.33	2.01	4.36		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1955																	
Sept. 10	2.43	1.54	1.35	1.33	1.60	0.63	0.40	0.10	0.10	0.05	0.03	0.02	T	0	0		
23	2.95	3.27	3.39	3.20	2.53	2.59	3.03	3.45	3.88	4.05	4.54	4.72	4.33	5.02	4.44		
24	.21	.30	.31	.29	.23	.24	.27	.17	.19	.20	.22	.23	1.30	.24	1.33		
26	.02	.14	.15	.05	.06	.04	.33	.16	.45	1.11	.02	.38	1.58	.15	1.06		
Monthly Totals	5.67	5.25	5.20	4.87	4.42	3.50	4.03	3.88	4.62	5.41	4.81	5.35	7.21	5.41	6.83		
1955 WATER YEAR TOTALS	29.66	31.08	30.16	32.43	27.16	29.73	28.21	28.61	32.59	29.59	30.01	29.51	29.69	29.27	33.09		
Oct. 6	.05	.12	.09	.13	.39	.10	.07	.03	.05	.01	.13	.27	.10	.14	.05		
Monthly Totals	0.05	0.12	0.09	0.13	0.39	0.10	0.07	0.03	0.05	0.01	0.13	0.27	0.10	0.14	0.05		
Nov. 8	.18	.33	.30	.30	.18	.19	.30	.18	.28	.22	.12	.15	.12	.09	.08		
30	.31	.37	.31	.48	.44	.46	.32	.32	.53	.36	.40	.41	.30	.47	.37		
Monthly Totals	0.49	0.70	0.61	0.78	0.62	0.65	0.62	0.50	0.81	0.58	0.52	0.56	0.42	0.56	0.45		
Dec.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Monthly Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1955 CALENDAR YEAR TOTALS	25.92	27.55	26.07	28.22	23.96	26.08	25.29	25.49	29.30	26.29	25.70	25.42	25.94	25.35	28.75		
1956																	
Jan. 17-18	.18	.18	.23	.18	.17	.20	.18	.19	.22	.28	.21	.24	.24	.21	.19		
19	.18	.18	.23	.18	.17	.20	.18	.21	.25	.32	.15	.17	.21	.15	.17		
21	.13	.13	.17	.14	.14	.16	.14	.21	.24	.30	.27	.30	.39	.28	.32		
Monthly Totals	0.49	0.49	0.63	0.50	0.48	0.56	0.50	0.61	0.71	0.90	0.63	0.71	0.84	0.64	0.68		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number															
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R
1956																	
Feb.	1	0.10	0.14	0.17	0.14	0.11	0.14	0.15	0.12	0.11	0.14	0.13	0.18	0.14	0.11	0.10	
	8-9	1.20	1.05	1.20	1.09	.95	1.11	1.18	1.24	1.03	1.12	.99	1.10	.86	.93	.91	
Monthly Totals		1.30	1.19	1.37	1.23	1.06	1.25	1.33	1.36	1.14	1.26	1.12	1.28	1.00	1.04	1.01	
Mar.	12	.02	.03	.04	.03	.03	.03	.04	.03	.04	.04	.02	.04	.04	.02	.02	
Monthly Totals		0.02	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.04	0.02	0.04	0.04	0.02	0.02	
Apr.	5	.21	.17	.14	.12	.08	.10	.12	.05	.10	.07	.05	.09	.05	.01	.01	
	14	.07	.09	.07	.11	.07	.07	.07	.08	.11	.05	.05	.03	0	.04	.10	
	20-21	.30	.27	.28	.25	.20	.21	.36	.23	.25	.26	.20	.23	.18	.22	.22	
	29	.13	.13	.13	.12	.10	.13	.14	.18	.13	.14	.08	.15	.21	.12	.15	
Monthly Totals		0.71	0.66	0.62	0.60	0.45	0.51	0.69	0.54	0.59	0.52	0.38	0.50	0.44	0.39	0.48	
May	1	.88	1.65	1.27	.87	.74	.85	.53	.84	.78	.90	.59	.64	.54	.96	.65	
	1	0	0	0	0	0	0	0	.17	.16	.18	.69	.76	.77	1.12	.93	
	2	.45	.83	.64	.44	.37	.43	.27	.42	.31	.45	.40	.44	.37	.65	.45	
	14	0	0	0	0	0	0	0	0	.10	0	.10	0	T	0	0	
	23-24	1.32	1.45	1.20	1.38	1.20	1.35	1.00	1.50	1.48	1.51	1.70	1.90	2.32	1.68	1.90	
Monthly Totals		2.65	3.93	3.11	2.69	2.31	2.63	1.80	2.93	2.83	3.04	3.48	3.74	4.00	4.41	3.93	
June		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Monthly Totals		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1956																		
July	3	0.55	0.69	0.72	0.73	0.77	0.61	0.20	0.20	0.40	0.08	0.30	0.10	0.20	0.21	0.03		
	6	.38	.47	.49	.50	.53	.42	0	0	0	0	0	0	0	0	0		
	9	0	0	0	0	0	0	0	0	.55	.27	0	0	T	0	0		
	20	.15	.10	.11	.13	.91	.90	.16	.58	.25	.38	.48	.60	.30	.75	.66		
Monthly Totals		1.08	1.26	1.32	1.36	2.21	1.93	0.36	0.78	1.20	0.73	0.78	0.70	0.50	0.96	0.69		
Aug.	19	0	.21	.11	.05	.02	.14	.03	.48	T	.51	.20	.88	1.00	.19	.15		
	28	.80	.97	.92	1.20	1.56	1.52	1.97	1.18	1.31	1.25	2.22	1.94	2.24	1.86	1.71		
	29	.28	.35	.33	.43	.56	.55	.71	.71	.78	.75	0	0	0	0	0		
Monthly Totals		1.08	1.53	1.36	1.68	2.14	2.21	2.71	2.37	2.09	2.51	2.42	2.82	3.24	2.05	1.86		
Sept.	25	.16	.30	.30	.50	.08	.10	.15	.26	.25	.18	.30	.09	.40	.11	.08		
Monthly Totals		0.16	0.30	0.30	0.50	0.08	0.10	0.15	0.26	0.25	0.18	0.30	0.09	0.40	0.11	0.08		
1956 WATER																		
YEAR TOTALS		8.03	10.21	9.45	9.50	9.77	9.97	8.27	9.41	9.71	9.77	9.15	10.00	10.98	9.68	9.25		
Oct.	15	.80	.69	.75	.67	.85	.96	.70	.60	.80	.85	.78	.64	.97	.75	1.02		
	18	.25	.28	.68	.56	.62	.32	.87	.37	.30	.36	.35	.40	.70	.60	.92		
	30	.71	.55	.49	.60	.59	.68	.51	.68	.56	.69	.75	.68	.72	.66	.63		
Monthly Totals		1.76	1.52	1.92	1.83	2.06	1.96	2.08	1.65	1.66	1.90	1.88	1.72	2.39	2.01	2.57		
Nov.	2	.12	.11	.12	.11	.07	.13	.10	.10	.10	.10	.12	.17	.13	.15	.14		
	4	.33	.31	.35	.32	.19	.38	.31	.44	.45	.46	.30	.42	.45	.39	.47		
Monthly Totals		0.45	0.42	0.47	0.43	0.26	0.51	0.41	0.54	0.55	0.56	0.42	0.59	0.58	0.54	0.61		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1956 Dec. 8	0.02	0.03	0.03	0.05	0.02	0.06	0.02	0.03	0.03	0.02	0.02	0.03	0.03	0.02	0.02		
18-19	1.21	1.31	1.26	1.25	1.23	1.52	1.22	1.37	1.32	1.41	1.36	1.43	1.35	1.32	1.35		
Monthly Totals	1.23	1.34	1.29	1.30	1.25	1.58	1.24	1.40	1.35	1.43	1.38	1.46	1.38	1.34	1.37		
1956 CALENDAR YEAR TOTALS	10.93	12.67	12.43	12.15	12.33	13.27	11.31	12.47	12.41	13.07	12.18	12.94	13.97	12.87	13.30		
1957 Jan. 3	.18	.15	.14	.13	.15	.17	.15	.19	.15	.18	.12	.19	.15	.17	.17		
23	.38	.43	.41	.37	.32	.39	.36	.36	.39	.40	.30	.37	.32	.29	.29		
26	.07	.08	.08	.07	.06	.07	.07	.07	.08	.08	.04	.05	.06	.04	.05		
30-31	.19	.14	.14	.11	.13	.18	.15	.16	.12	.15	.06	.16	.13	.14	.13		
Monthly Totals	0.82	0.80	0.77	0.68	0.66	0.81	0.73	0.78	0.74	0.81	0.52	0.77	0.66	0.64	0.64		
Feb. 16	.36	.26	.24	.26	.28	.28	.24	.32	.30	.34	.40	.43	.31	.43	.36		
17-18	.49	.35	.33	.36	.39	.38	.34	.35	.33	.38	.32	.34	.33	.34	.38		
19	.21	.15	.13	.15	.16	.16	.14	.10	.10	.11	.04	.04	.03	.04	.04		
23-24	.09	.19	.11	.02	.07	.09	.10	.11	.12	.15	.02	.12	.06	.11	.14		
Monthly Totals	1.15	0.95	0.81	0.79	0.90	0.91	0.82	0.88	0.85	0.98	0.78	0.93	0.73	0.92	0.92		
Mar. 10	.53	.49	.43	.44	.37	.38	.39	.34	.44	.35	.49	.42	.45	.56	.41		
17	.65	.52	.41	.36	.23	.27	.43	.32	.51	.21	.45	.37	.39	.84	.49		
20	.11	.11	.11	.13	.14	.12	.14	.09	.12	.09	.13	.14	.14	.12	.10		
20	1.20	1.28	1.22	1.47	1.64	1.37	1.59	1.35	1.83	1.42	1.13	1.24	1.37	1.06	.94		
27	.08	.08	.09	.09	.07	.07	.08	.02	.02	.02	.16	.17	.08	.18	.11		
31	.46	.45	.48	.51	.37	.39	.43	.50	.43	.41	.36	.39	.31	.42	.45		
Monthly Totals	3.03	2.93	2.74	3.00	2.82	2.60	3.06	2.62	3.35	2.50	2.72	2.73	2.74	3.18	2.50		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1957																		
Apr.	3	0.21	0.17	0.16	0.12	0.21	0.34	0.15	0.21	0.10	0.09	0.30	0.21	0.10	0.29	0.21		
	12-13	.08	.07	.06	.04	.06	.07	.05	.09	.04	.07	.06	.08	.04	.08	.08		
	19	.65	.52	.51	.60	.59	.46	.46	.55	.60	.44	.65	.59	.38	.78	.63		
	19	.91	.73	.72	.84	.83	.65	.65	.46	.50	.36	.35	.31	.29	.42	.48		
	22-23	1.06	1.01	1.05	1.21	1.41	1.19	1.01	1.60	1.40	1.34	1.25	1.33	1.22	1.16	1.10		
	24	.57	.54	.56	.65	.75	.64	.54	.44	.38	.36	.42	.45	.61	.39	.56		
	26	.96	.91	.95	1.10	1.28	1.08	.92	1.07	.93	.88	1.15	1.23	1.22	1.07	1.10		
	28	.68	.65	.68	.78	.90	.75	.65	.35	.31	.29	.24	.26	.20	.22	.18		
	29	1.06	1.01	1.05	1.21	1.41	1.19	1.01	.15	.13	.12	.07	.07	0	.06	0		
	30	.15	.20	.61	.33	.20	.32	.45	.48	.18	.09	.04	.03	0	.04	0		
Monthly Totals		6.33	5.81	6.35	6.88	7.64	6.69	5.89	5.40	4.57	4.04	4.53	4.56	4.06	4.51	4.34		
May	3	.30	.38	1.16	.63	.39	.62	.85	.65	.24	.12	.75	.48	.20	.80	.23		
	4	.05	.07	.20	.11	.07	.11	.15	0	0	0	.13	.08	.03	.14	.04		
	9	1.26	1.47	1.48	1.42	1.28	1.12	1.36	.82	1.09	.97	.83	.82	1.02	.78	.79		
	11	.94	1.08	1.10	1.05	.94	.82	1.01	.78	1.03	.91	.62	.61	.72	.58	.56		
	12	1.54	1.79	1.81	1.73	1.56	1.36	1.66	1.52	2.02	1.79	1.46	1.44	1.49	1.39	1.16		
	13	.71	.82	.83	.80	.72	.63	.77	.59	.78	.69	.62	.61	.77	.58	.60		
	15	.10	.08	.08	.11	.17	.17	.15	.14	.12	.14	.08	.11	.05	.08	.05		
	17-18	1.30	1.02	1.10	1.46	2.20	2.25	1.97	2.45	2.16	2.42	2.04	2.67	2.84	2.09	2.69		
	23	.48	.47	.48	.32	.43	.38	.31	.42	.17	.26	.19	.34	.22	.20	.29		
	25	0	0	0	0	0	0	0	.35	.14	.22	.11	.20	.22	.12	.29		
	26-27	.48	.48	.49	.33	.43	.39	.32	.77	.31	.48	.20	.36	.06	.21	.07		
	31	.47	.61	.57	.53	.44	.48	.55	.22	.25	.33	.42	.46	.43	.51	.45		
Monthly Totals		7.63	8.27	9.30	8.49	8.63	8.33	9.10	8.71	8.31	8.33	7.45	8.18	8.05	7.48	7.22		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1957																	
June 1	0.20	0.26	0.25	0.23	0.19	0.21	0.24	0.47	0.52	0.70	0.53	0.59	0.43	0.65	0.45		
2	.18	.23	.21	.20	.17	.18	.20	.28	.31	.41	.34	.38	.48	.41	.49		
4-5	.56	.06	.09	.18	.21	.13	.15	.37	.15	.07	.09	.03	.02	0	0		
12	.15	.20	.16	.15	.08	.10	.08	.09	.20	.15	.12	.11	.10	.08	.12		
23	.10	.06	.02	.06	.20	.43	.06	.10	0	0	.06	0	0	.05	.05		
Monthly Totals	1.19	0.81	0.73	0.82	0.85	1.05	0.73	1.31	1.18	1.33	1.14	1.11	1.03	1.19	1.11		
July 21-22	.04	.08	.04	.05	.18	.05	.07	.09	.97	.41	.07	.08	.07	.16	.17		
25	0	.02	.30	.28	0	0	0	0	0	0	0	0	0	0	0		
Monthly Totals	0.04	0.10	0.34	0.33	0.18	0.05	0.07	0.09	0.97	0.41	0.07	0.08	0.07	0.16	0.17		
Aug. 5	.06	0	0	T	0	0	0	.06	0	0	.10	.04	0	.20	.22		
Monthly Totals	0.06	0	0	T	0	0	0	0.06	0	0	0.10	0.04	0	0.20	0.22		
Sept. 3	2.48	1.22	.95	1.15	.75	.56	.40	.54	.25	.42	.68	.63	.42	.42	.28		
6-7	.14	.14	.08	.29	.06	.03	.02	.05	0	0	0	0	0	0	0		
11	1.65	1.15	.92	1.00	.97	.86	.90	.74	1.03	.84	.80	.60	.63	.66	.66		
21-22	1.00	1.23	.99	1.45	1.50	1.19	.82	.80	1.10	1.05	.77	.74	.84	.65	.62		
25	.10	.07	.07	.10	.07	.07	.06	.05	0	.04	.12	.05	0	.07	.05		
Monthly Totals	5.37	3.81	3.01	3.99	3.35	2.71	2.20	2.18	2.38	2.35	2.37	2.02	1.89	1.80	1.61		
1957 WATER YEAR TOTALS	29.06	26.76	27.73	28.54	28.60	27.20	26.33	25.62	25.91	24.64	23.36	24.19	23.58	23.97	23.28		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1957																		
Oct.	13	3.49	3.83	3.65	3.65	3.29	2.70	3.53	2.71	3.49	3.37	1.91	2.05	2.16	1.70	1.69		
	14	1.10	1.21	1.15	1.15	1.04	.85	1.11	1.05	1.35	1.30	1.27	1.37	1.13	1.13	.88		
	15	.60	.66	.63	.63	.57	.47	.61	.61	.78	.76	.43	.46	.83	.38	.65		
	21	.37	.52	.39	.40	.41	.36	.33	.45	.40	.37	.33	.28	.37	.39	.53		
	22	0	0	0	0	0	0	0	0	0	0	.20	.17	.15	.23	.22		
Monthly Totals		5.56	6.22	5.82	5.83	5.31	4.38	5.58	4.82	6.02	5.80	4.14	4.33	4.64	3.83	3.97		
Nov.	1	.11	.13	.12	.12	.21	.22	.18	.14	.13	.12	.22	.22	.10	.19	.08		
	2	.18	.22	.21	.21	.38	.39	.31	1.65	1.57	1.47	1.44	1.43	1.24	1.26	1.04		
	3	.25	.31	.28	.29	.52	.53	.42	.24	.23	.22	.39	.39	.60	.34	.50		
	4	.25	.30	.27	.28	.50	.52	.41	.26	.25	.23	.21	.21	.16	.18	.14		
	5	.42	.49	.46	.44	.72	.73	.62	.64	.61	.58	.51	.51	.59	.45	.49		
	6-9	.17	.18	.19	.13	.12	.11	.15	.07	.07	.07	.10	.12	.09	.11	.08		
	10	.47	.50	.51	.36	.34	.31	.40	.33	.32	.34	.26	.30	.30	.29	.27		
	11	.32	.33	.34	.24	.22	.20	.27	.24	.23	.25	.20	.23	.28	.23	.26		
	21-22	.13	.18	.18	.19	.18	.18	.14	.21	.21	.20	.18	.21	.17	.18	.13		
	23-24	.09	.13	.12	.13	.12	.12	.09	.16	.16	.15	.18	.21	.17	.18	.13		
	24	.81	1.13	1.11	1.18	1.09	1.11	.84	1.16	1.17	1.10	1.12	1.29	1.26	1.11	.99		
Monthly Totals		3.20	3.90	3.79	3.57	4.40	4.42	3.83	5.10	4.95	4.73	4.81	5.12	4.96	4.52	4.11		
Dec.	6	.33	.32	.30	.30	.30	.32	.28	.34	.30	.32	.40	.37	.32	.38	.43		
	24	.22	.11	.12	.12	.17	.14	.11	.08	.06	.09	.16	.20	.16	.21	.20		
	25	.33	.17	.17	.18	.26	.21	.16	.27	.20	.31	.18	.23	.18	.23	.22		
Monthly Totals		0.88	0.60	0.59	0.60	0.73	0.67	0.55	0.69	0.56	0.72	0.74	0.80	0.66	0.82	0.85		
1957 CALENDAR YEAR TOTALS		35.26	34.20	35.35	36.44	35.47	32.62	34.53	35.09	33.88	32.00	29.37	30.67	29.49	29.25	27.66		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1958																		
Jan.	4-5	1.25	1.15	1.07	1.20	1.27	1.14	1.12	1.12	1.13	1.11	0.91	1.20	1.04	0.96	1.00		
	12	.47	.70	.74	.68	.60	.80	.68	.64	.66	.68	.58	.66	.60	.51	.44		
	18	.25	.24	.22	.19	.30	.25	.22	.25	.26	.25	.19	.23	.22	.24	.20		
	22-23	1.24	1.19	1.18	1.12	1.25	1.20	1.30	1.22	1.21	1.23	1.03	1.15	1.08	1.15	1.21		
	29	.06	.04	.05	0	.06	.03	.03	.04	0	.04	0	.03	0	0	0		
Monthly Totals		3.27	3.32	3.26	3.19	3.48	3.42	3.35	3.27	3.26	3.31	2.71	3.27	2.94	2.86	2.85		
Feb.	9-11	.07	.07	.05	.06	.08	.03	.04	.03	.03	.07	.02	.09	.09	.05	.04		
	12	.03	.06	.07	.02	.02	.04	.05	.07	.05	.11	T	.10	.05	.04	.06		
	20	.19	.20	.18	.19	.21	.17	.16	.09	.10	.10	.11	.12	.05	.11	.04		
	21	.77	.79	.71	.75	.81	.66	.62	.61	.66	.63	.66	.71	.53	.64	.48		
	22	1.99	2.03	1.85	1.94	2.10	1.73	1.62	1.88	2.05	1.97	1.78	1.93	2.16	1.74	1.95		
Monthly Totals		3.05	3.15	2.86	2.96	3.22	2.63	2.49	2.68	2.89	2.88	2.57	2.95	2.88	2.58	2.57		
Mar.	1	.46	.46	.45	.41	.52	.46	.40	.50	.48	.51	.40	.56	.50	.47	.56		
	4-5	.14	.07	.07	.14	.18	.13	.13	.10	.07	.10	.17	.16	.09	.18	.08		
	6	1.15	.56	.57	1.16	1.46	1.10	1.11	1.15	.80	1.15	.67	.62	.94	.71	.86		
	6-7	.08	.04	.04	.08	.10	.08	.08	.37	.26	.37	.41	.37	.28	.44	.26		
	12	.25	.19	.20	.22	.24	.22	.16	.24	.18	.21	.22	.25	.15	.23	.27		
	18	.33	.32	.32	.32	.34	.30	.28	.31	.30	.31	.26	.37	.32	.33	.32		
	25	.33	.33	.32	.32	.34	.30	.28	.28	.28	.28	.18	.25	.32	.23	.31		
	28	0	T	0	0	.02	T	T	.05	0	.04	0	.08	T	.08	.09		
Monthly Totals		2.74	1.97	1.97	2.65	3.20	2.59	2.44	3.00	2.37	2.97	2.31	2.66	2.60	2.67	2.75		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1958																	
Apr. 8	0.13	0.20	0.20	0.12	0.17	0.16	0.21	0.20	0.21	0.26	0.19	0.23	0.16	0.19	0.14		
13	.47	.73	.75	.45	.64	.58	.79	.58	.60	.74	.50	.61	.58	.49	.50		
17	.25	.36	.30	.33	.31	.32	.32	.24	.24	.22	.18	.19	.19	.20	.23		
23	.15	.22	.18	.20	.19	.19	.19	.33	.32	.30	.57	.61	.51	.65	.60		
29-30	.11	.15	.15	.13	.10	.10	.14	.10	.15	.12	.28	.30	.37	.28	.33		
Monthly Totals	1.11	1.66	1.58	1.23	1.41	1.35	1.65	1.45	1.52	1.64	1.72	1.94	1.81	1.81	1.80		
May 1	.08	.10	.11	.09	.07	.07	.09	.03	.05	.04	.04	.04	.04	.04	.03		
2	.37	.49	.50	.43	.35	.35	.45	.57	.90	.71	.23	.25	.37	.23	.33		
2-3	.84	1.09	1.12	.96	.78	.77	1.01	.57	.90	.71	.64	.68	.66	.65	.58		
13	.28	.30	.30	.30	.47	.44	.41	.43	.56	.64	.59	.59	.64	.61	.87		
16	3.04	3.60	3.57	2.92	1.70	1.86	2.82	1.86	1.21	1.44	1.63	1.70	1.26	1.38	1.02		
19	.04	.04	.06	.10	.10	.10	.05	.18	.14	.23	.31	.28	.30	.45	.72		
Monthly Totals	4.65	5.62	5.66	4.80	3.47	3.59	4.83	3.64	3.76	3.77	3.44	3.54	3.27	3.36	3.55		
June 16	.35	.31	.30	.24	.21	.15	.20	.13	.15	.12	.12	.10	.10	.13	.13		
16-17	.51	.49	.46	.51	.49	.39	.59	.47	.78	.58	.48	.49	.71	.42	.44		
21-22	1.02	.99	.93	1.03	.99	.80	1.20	.86	1.43	1.05	1.40	1.45	1.65	1.21	1.01		
Monthly Totals	1.88	1.79	1.69	1.78	1.69	1.34	1.99	1.46	2.36	1.75	2.00	2.04	2.46	1.76	1.58		
July 6	0	.03	.07	.08	0	0	.04	.01	.18	.15	0	0	.10	.01	.03		
22	1.25	1.28	1.07	1.60	1.00	.75	1.04	.73	.65	.37	.78	.48	.40	.67	.45		
Monthly Totals	1.25	1.31	1.14	1.68	1.00	0.75	1.08	0.74	0.83	0.52	0.78	0.48	0.50	0.68	0.48		

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1958																	
Aug. 3	0.05	0.08	0.18	0.14	0.28	0.30	0.17	0.32	0.15	0.20	0.80	0.16	0	0.38	0.14		
17	T	T	0	.20	0	0	0	.14	0	T	0	.03	.05	0	.08		
21	.13	.04	.06	.06	.08	.10	.08	.56	.60	.84	.62	.68	.12	.57	.12		
23-24	1.09	.34	.53	.51	.67	.88	.72	.92	1.00	1.39	1.30	1.43	1.30	1.19	1.24		
Monthly Totals	1.27	0.46	0.77	0.91	1.03	1.28	0.97	1.94	1.75	2.43	2.72	2.30	1.47	2.14	1.58		
Sept. 6	1.25	1.31	1.66	1.20	.85	.79	1.03	.62	.99	.76	.55	.61	.40	.38	.32		
7	.18	.19	.23	.17	.12	.11	.15	.41	.65	.50	.33	.36	.59	.23	.47		
8	0	0	0	0	0	0	0	0	0	0	.08	.09	0	.05	0		
16	.65	.58	.45	.67	1.43	1.03	.30	.84	.27	.40	.62	.50	.39	.76	.45		
19	.23	.40	.50	.25	.23	.35	.27	.29	.30	.23	.22	.41	.22	.45	.85		
25	.26	1.26	1.07	.99	.84	.83	.43	.44	.24	.26	.60	.25	.10	.26	.06		
Monthly Totals	2.57	3.74	3.91	3.28	3.47	3.11	2.18	2.60	2.45	2.15	2.40	2.22	1.70	2.13	2.15		
1958 WATER YEAR TOTALS	31.43	33.74	33.04	32.48	32.41	29.53	30.94	31.39	32.72	32.67	30.34	31.65	29.89	29.16	28.24		
Oct. 2-3	.25	.22	.25	.18	.23	.25	.20	.27	.20	.26	.26	.32	.25	.29	.31		0.3
11-12	.40	.75	.83	.80	.77	.52	.66	.65	.48	.50	.57	.54	.35	.45	.35		.4
14	.23	.30	.31	.25	.41	.32	.31	.36	.20	.35	.21	.31	.15	.23	.35		.17
21	.56	.75	.83	.62	.74	.74	1.27	1.61	2.25	1.07	.20	.27	.20	.17	.10		.1
26	.26	.34	.39	.28	.33	.34	.57	.14	.20	.10	.15	.20	.25	.13	.13		.25
28-29	.40	.42	.42	.44	.41	.36	.60	.37	.40	.42	.34	.41	.38	.38	.40		.35
Monthly Totals	2.10	2.78	3.01	2.57	2.89	2.53	3.61	3.40	3.73	2.70	1.73	2.05	1.58	1.65	1.64		1.57
Nov. 14	.98	1.00	1.00	.92	1.04	.97	.97	1.27	.91	1.19	1.15	1.29	1.15	1.22	1.20		1.20
27-30	.29	.32	.31	.20	.30	.26	.28	.24	.32	.21	.22	.24	.20	.28	.28		.20
Monthly Totals	1.27	1.32	1.31	1.12	1.34	1.23	1.25	1.51	1.23	1.40	1.37	1.53	1.35	1.50	1.48		1.40

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1958																	
Dec. 2	0.28	0.30	0.30	0.28	0.28	0.24	0.26	0.22	0.20	0.21	0.20	0.22	0.12	0.27	0.27		0.20
29	.20	.21	.22	.21	.30	.26	.22	.25	.29	.34	.27	.26	.23	.31	.28		.30
Monthly Totals	0.48	0.51	0.52	0.49	0.58	0.50	0.48	0.47	0.49	0.55	0.47	0.48	0.35	0.58	0.55		0.50
1958 CALENDAR YEAR TOTALS	25.64	27.13	27.68	26.66	26.78	24.32	26.32	26.16	26.64	26.07	24.22	25.46	22.91	23.72	22.98		-
1959																	
Jan.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
Monthly Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
Feb. 2	.22	.24	.28	.26	.26	.28	.29	.30	.33	.37	.25	.37	.37	.25	.29		.30
13-14	.30	.46	.41	.44	.38	.34	.35	.40	.52	.45	.36	.35	.46	.35	.32		.30
19	.29	.29	.27	.29	.28	.27	.30	.29	.30	.33	.37	.39	.39	.33	.34		.3
20	.10	.10	.09	.10	.09	.09	.10	.14	.14	.15	.08	.09	.07	.07	.06		.1
26	.18	.29	.26	.37	.21	.09	.19	.12	.20	.25	.15	.12	.10	.15	.21		.1
Monthly Totals	1.09	1.38	1.31	1.46	1.22	1.07	1.23	1.25	1.49	1.55	1.21	1.32	1.39	1.15	1.22		1.10
Mar. 4	.07	.07	.08	.08	.08	.06	.07	.08	.08	.08	.10	.09	.05	.08	.08		.08
Monthly Totals	0.07	0.07	0.08	0.08	0.08	0.06	0.07	0.08	0.08	0.08	0.10	0.09	0.05	0.08	0.08		0.08
Apr. 8	.11	.10	.10	.11	.10	.09	.10	.13	.14	.12	.10	.11	.06	.11	.07		.1
9	.50	.47	.46	.49	.48	.41	.47	.43	.46	.41	.11	.13	.16	.12	.17		.2
11	1.26	1.19	1.18	1.25	1.22	1.05	1.18	.92	.97	.87	.99	1.14	1.00	1.09	1.09		.95
18-20	.21	.18	.19	.12	.21	.15	.25	.20	.20	.20	.10	.20	.20	T	.06		0
Monthly Totals	2.08	1.94	1.93	1.97	2.01	1.70	2.00	1.68	1.77	1.60	1.30	1.58	1.42	1.32	1.39		1.25

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1959																		
May	1-2	0.84	0.64	0.73	0.73	0.74	0.74	0.70	0.75	0.56	0.70	0.55	0.66	0.60	0.59	0.54		0.40
	5-10	.23	.17	.20	.10	.16	.14	.20	.15	.20	.21	.12	.21	.20	.13	.20		.05
	15	.59	.65	.55	.56	.59	.63	.67	.63	.50	.54	.50	.59	.54	.49	.63		a
	15	.30	.33	.28	.28	.29	.32	.33	.36	.28	.31	.29	.34	.26	.28	.30		.61
	22	1.17	1.10	1.11	1.25	1.68	1.70	1.66	1.30	1.98	1.25	1.08	1.25	1.32	1.46	1.64		1.45
	25	0	0	0	0	0	0	0	.02	T	.03	.05	.05	.09	.08	.09		.05
Monthly Totals		3.13	2.89	2.87	2.92	3.46	3.53	3.56	3.21	3.52	3.04	2.59	3.10	3.01	3.03	3.40		2.56
June	3	2.08	2.71	2.44	2.60	3.98	2.82	2.51	1.36	1.40	1.32	1.22	1.23	.95	1.58	1.16		1.5
	4	.72	.94	.84	.90	1.38	.98	.87	1.19	1.23	1.16	1.02	1.03	1.37	1.32	1.68		1.75
	5-8	T	T	.05	.05	.02	.03	.04	.10	.73	.70	.15	.16	.67	.34	.28		.10
	20	0	0	0	0	0	0	0	.04	.31	.03	0	0	0	0	0		0
	22	.06	.14	.11	.11	.05	.02	T	.01	.07	.01	.11	.03	T	.02	.02		.03
	23-24	1.10	.96	.96	.95	1.06	.88	.74	1.44	1.20	1.14	.99	.75	1.20	.95	1.35		a
	24	.40	.34	.34	.34	.38	.31	.26	0	0	0	.15	.11	0	.14	0		a
	25	.36	.31	.31	.31	.35	.29	.24	.19	.16	.15	.14	.11	.15	.13	.17		a
	26	2.64	2.30	2.30	2.28	2.54	2.12	1.78	1.97	1.65	1.56	2.38	1.81	1.58	2.28	1.78		2.88
Monthly Totals		7.36	7.70	7.35	7.54	9.76	7.45	6.44	6.30	6.75	6.07	6.16	5.23	5.92	6.76	6.44		6.26
July	1-2	.35	0	0	0	.12	.42	.52	.18	.44	.02	0	0	.20	0	.03		0
	9	.04	.02	T	.25	.07	0	T	.02	.20	.04	0	0	0	0	0		0
	19	.26	.45	.47	.14	.37	.31	.53	.49	.32	.61	.85	.64	.72	1.00	.87		1.10
	21	1.97	1.22	1.37	1.93	2.32	2.13	2.15	2.12	1.92	2.50	2.44	2.55	2.18	2.23	2.19		2.24
Monthly Totals		2.62	1.69	1.84	2.32	2.88	2.86	3.20	2.81	2.88	3.17	3.29	3.19	3.10	3.23	3.09		3.34
Aug.	1	.22	0	0	0	.20	T	0	0	0	0	0	0	0	0	0		0
	8	T	0	T	0	.09	.22	0	.50	.52	.27	.40	.77	.16	.95	.95		.70
	31	.79	.88	.97	1.07	.87	.60	.96	.50	.60	.44	.43	.43	.54	.38	.51		.35
Monthly Totals		1.01	0.88	0.97	1.07	1.16	0.88	0.96	1.00	1.12	0.71	0.83	1.20	0.70	1.33	1.46		1.05

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1959 Sept. 8	0	0.02	0.60	T	0.18	0.16	0.08	0.10	0	0	0	0	0	0	0		0
23-24	0	0	0	0	0	0	0	0	0	0	0	.03	0	.60	.14		.30
29	.11	.09	.10	.10	.10	.09	.09	.15	.15	.14	.30	.31	.15	.31	.17		a
30	1.76	1.53	1.60	1.61	1.75	1.52	1.56	1.26	1.26	1.21	1.10	1.16	1.05	1.12	1.17		1.58
Monthly Totals	1.87	1.64	2.30	1.71	2.03	1.77	1.73	1.51	1.41	1.35	1.40	1.50	1.20	2.03	1.48		1.88
1959 WATER YEAR TOTALS	23.08	22.80	23.49	23.25	27.41	23.58	24.53	23.22	24.47	22.22	20.45	21.27	20.07	22.66	22.23		20.99
Oct. 3-4	5.23	4.56	4.75	4.79	5.20	4.51	4.63	5.04	5.04	4.85	5.35	5.63	5.37	5.47	5.97	4.95	5.55
13	3.05	3.12	3.20	2.87	2.47	3.35	2.60	2.45	2.35	2.33	1.73	2.32	2.01	1.80	1.99	2.94	1.65
30-31	.10	.12	.10	.10	.19	.14	.08	.08	.07	.11	.12	.15	.12	.10	.12	.09	0
Monthly Totals	8.38	7.80	8.05	7.76	7.86	8.00	7.31	7.57	7.46	7.29	7.20	8.10	7.50	7.37	8.08	7.98	7.20
Nov. 3	.12	.07	.07	.10	.12	.12	.10	.12	.10	.08	.10	.12	.05	.12	.12	.10	.22
14	.17	.16	.19	.18	.19	.18	.19	.18	.20	.21	.10	.12	.12	.10	.11	.10	.10
15	.26	.23	.28	.27	.28	.26	.29	.27	.30	.31	.30	.38	.30	.28	.27	.25	.16
Monthly Totals	0.55	0.46	0.54	0.55	0.59	0.56	0.58	0.57	0.60	0.60	0.50	0.62	0.47	0.50	0.50	0.45	0.48
Dec. 11	.06	.03	.03	T	.06	.07	.04	.09	.02	.14	.45	.50	.65	.70	.87	.04	.62
14-15	.96	.97	.98	.95	1.12	.94	1.06	1.02	1.10	1.09	.95	1.05	.90	.95	.90	.71	.70
16	.41	.41	.41	.40	.47	.40	.45	.47	.50	.50	.40	.44	.50	.40	.50	.40	.39
17	.56	.56	.56	.55	.64	.54	.61	.49	.53	.53	.55	.60	.58	.55	.58	.47	.47
31	1.17	1.18	1.11	1.13	1.29	1.16	1.07	1.21	1.05	1.22	1.13	1.24	1.20	1.16	1.27	1.10	.90
Monthly Totals	3.16	3.15	3.09	3.03	3.58	3.11	3.23	3.28	3.20	3.48	3.48	3.83	3.83	3.76	4.12	2.72	3.08
1959 CALENDAR YEAR TOTALS	31.32	29.60	30.25	30.33	34.63	30.99	30.31	29.26	30.28	29.04	28.06	29.76	28.59	30.56	31.26	-	28.28

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1960																		
Jan.	4	0.07	0.07	0.07	0.07	0.08	0.07	0.07	0.12	0.10	0.12	0.04	0.04	0.03	0.04	0.03	0.10	-
	4-5	1.67	1.78	1.68	1.70	1.82	1.60	1.58	1.58	1.62	1.50	1.56	1.79	1.55	1.56	1.63	1.70	2.55
	12	.16	.22	.20	.08	.20	.15	.15	.13	.12	.15	.06	.15	.08	.14	.20	.06	.06
Monthly Totals		1.90	2.07	1.95	1.85	2.10	1.82	1.80	1.83	1.84	1.77	1.66	1.98	1.66	1.74	1.86	1.86	2.61
Feb.	2-3	1.19	1.25	1.20	1.14	1.17	1.05	1.12	1.10	.96	1.02	.96	1.05	.85	1.05	1.00	1.00	1.00
	17	.11	.10	.11	.10	.11	.10	.09	.05	.05	.06	.04	.10	.02	.07	.04	.06	.03
	23	.21	.18	.19	.18	.21	.18	.17	.14	.15	.19	.06	.14	.08	.11	.14	.24	.09
Monthly Totals		1.51	1.53	1.50	1.42	1.49	1.33	1.38	1.29	1.16	1.27	1.06	1.29	0.95	1.23	1.18	1.30	1.12
Mar.	2	.13	.15	.20	.10	.15	.14	.18	.17	.16	.26	.11	.26	.15	.15	.16	.06	.09
	24	.08	.08	.07	.08	.08	.08	.08	.05	.05	.06	.10	.13	.15	.11	.12	.12	.13
	25-26	.27	.27	.24	.27	.28	.28	.27	.37	.36	.42	.35	.31	.27	.29	.22	.22	.24
Monthly Totals		0.48	0.50	0.51	0.45	0.51	0.50	0.53	0.59	0.57	0.64	0.46	0.70	0.57	0.55	0.50	0.40	0.46
Apr.	2	.05	.04	.03	.02	.03	.02	.02	T	T	T	0	T	0	0	0	.03	0
	12-13	.06	.07	.06	.05	.02	T	T	T	0	0	0	0	0	T	0	0	0
	25	.15	.06	.15	.15	.22	.22	.20	.35	.34	.40	.27	.40	.40	.35	.45	.17	0
	25	.08	.10	.10	.10	.08	.06	.08	.09	.15	.11	.12	.18	.08	.15	.08	.11	.10
	26	1.02	1.17	1.18	1.20	.90	.73	.94	.63	1.00	.75	.22	.33	.41	.28	.41	.59	.51
	29	.68	.78	.79	.80	.60	.48	.63	.44	.71	.53	.53	.79	.64	.68	.63	.90	.76
Monthly Totals		2.04	2.22	2.31	2.32	1.85	1.51	1.87	1.51	2.20	1.79	1.14	1.70	1.53	1.46	1.57	1.80	1.37

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm		Gage Number																
		1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1960																		
May	15	0.70	0.87	0.70	0.50	0.75	0.65	0.70	0.57	0.65	0.58	0.25	0.26	0.20	0.21	0.17	0.37	0.17
	17	.18	.31	.30	.25	.26	.22	.44	.49	.85	.71	.60	.71	.98	.57	.71	.70	.70
	20	.27	.47	.46	.38	.40	.33	.66	.19	.32	.27	.31	.37	.22	.30	.16	.15	.15
	27	.73	.35	.11	.35	.42	.58	.05	.30	.05	.05	0	0	0	0	0	0	0
	30	0	0	0	0	0	0	0	0	0	0	.18	.11	.14	.26	.20	.09	.18
Monthly Totals		1.88	2.00	1.57	1.48	1.83	1.78	1.85	1.55	1.87	1.61	1.34	1.45	1.54	1.34	1.24	1.31	1.20
June	7	.06	.03	.05	.05	.01	.02	.04	.33	.20	.17	.29	.21	.05	.09	.02	.01	.02
	11	.16	.10	.14	.15	.03	.04	.11	.16	.10	.09	.15	.11	.40	.04	.17	.05	.09
	14	.53	.41	.43	.50	.15	.17	.50	0	.10	0	.05	.03	.10	.08	.16	0	0
	24	.28	.27	.32	.24	.18	.14	.30	.19	.24	.16	.15	.15	.15	.12	.11	.13	.10
Monthly Totals		1.03	0.81	0.94	0.94	0.37	0.37	0.95	0.68	0.64	0.42	0.64	0.50	0.70	0.33	0.46	0.19	0.21
July	14	.60	.82	1.18	1.40	.78	.52	1.62	.49	.89	.42	.20	.10	0	.11	0	1.36	0
	15	.05	.07	.10	.12	.07	.04	.14	.24	.45	.21	.60	.32	.12	.33	.08	.14	.12
	17	.85	1.17	1.67	1.98	1.10	.73	2.29	.06	.11	.05	.30	.16	.59	.17	.40	1.90	.50
	19	.38	.12	.18	.15	.20	.26	.06	.33	.03	.14	.60	.59	.07	.42	.19	.12	.13
	20	1.15	.38	.55	.45	.60	.80	.19	.99	.09	.44	.70	.69	.28	.50	.74	.38	.37
Monthly Totals		3.03	2.56	3.68	4.10	2.75	2.35	4.30	2.11	1.57	1.26	2.40	1.86	1.06	1.53	1.41	3.90	1.12
Aug.	9-10	.56	.53	.45	.42	.67	.70	.66	1.04	1.07	1.00	.90	1.01	.30	1.10	.41	.42	.88
	10	.12	.11	.10	.09	.15	.15	.14	.78	.80	.75	.42	.47	.35	.51	.48	.09	.40
	11	0	0	0	0	0	0	0	.40	.41	.38	.11	.12	.11	.14	.15	0	.10
	15	.78	.74	.62	.58	.93	.96	.91	.49	.50	.47	.42	.47	.30	.51	.41	.58	.42
	19	1.20	.93	1.00	1.42	1.55	.90	3.00	1.53	2.92	1.21	.66	.50	.25	.47	.50	1.73	.40
	28	0	0	0	0	.04	.05	0	.06	0	0	T	0	0	0	0	.10	.10
Monthly Totals		2.66	2.31	2.17	2.51	3.34	2.76	4.71	4.30	5.70	3.81	2.51	2.57	1.31	2.73	1.95	2.92	2.30

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1960																	
Sept. 3	0	0	0	0	0	0	0	0	0	0	0.03	0	0.05	0.02	0.05	0	0
23	1.34	1.16	1.17	1.59	1.58	1.63	1.63	1.66	1.57	1.60	1.87	1.92	1.71	1.92	1.84	1.65	1.70
24	.31	.26	.26	.36	.36	.37	.37	.26	.25	.25	.10	.10	.21	.10	.22	.20	.30
26	.08	.10	.14	.05	.09	.07	.15	0	.05	.15	.05	.09	.08	.11	.10	.02	0
Monthly Totals	1.73	1.52	1.57	2.00	2.03	2.07	2.15	1.92	1.87	2.00	2.05	2.11	2.05	2.15	2.21	1.87	2.00
1960 WATER YEAR TOTALS	28.35	26.93	27.88	28.41	28.30	26.16	30.66	27.20	28.68	25.94	24.44	26.71	23.17	24.69	25.08	26.70	23.15
Oct. 4	.05	0	0	.05	.09	.06	0	.27	.63	.78	.30	.78	1.17	1.03	1.00	0	.6
15-16	1.07	1.26	1.08	1.05	.87	.82	1.17	1.30	1.76	1.10	.81	.70	.38	.69	.53	.9	.5
18	1.36	1.59	1.37	1.33	1.10	1.04	1.48	.74	1.00	.63	.74	.63	.62	.63	.87	.98	.72
28-29	1.88	2.35	2.00	1.62	1.12	.90	1.70	.76	1.56	.78	.76	.76	.65	.70	.62	1.00	.53
Monthly Totals	4.36	5.20	4.45	4.05	3.18	2.82	4.35	3.07	4.95	3.29	2.61	2.87	2.82	3.05	3.02	2.88	2.35
Nov. 8	.06	.09	.08	.03	.04	.03	.02	0	T	T	0	T	0	T	T	0	0
20	.32	.37	.40	.30	.36	.36	.37	.46	.32	.47	.36	.47	.35	.36	.42	.30	.36
21-22	.04	.09	.09	.10	.05	.04	.05	0	.05	T	.08	.08	0	.25	.20	.05	.2
Monthly Totals	0.42	0.55	0.57	0.43	0.45	0.43	0.44	0.46	0.37	0.47	0.44	0.55	0.35	0.61	0.62	0.35	0.56

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1960																	
Dec. 6	0.10	0.21	0.22	0.21	0.23	0.18	0.23	0.14	0.16	0.15	0.10	0.12	0.10	0.09	0.09	0.2	a
7	1.30	2.66	2.86	2.69	2.93	2.34	2.93	2.62	2.99	2.91	2.33	2.67	2.70	2.12	2.35	1.0	a
8	.40	.82	.88	.83	.90	.72	.90	.67	.76	.74	.68	.78	.73	.62	.63	.9	a
9	.07	.15	.16	.15	.16	.13	.16	.11	.13	.13	.14	.16	.17	.13	.15	.5	a
10	.13	.26	.28	.26	.28	.23	.28	.23	.26	.26	.24	.27	.30	.22	.26	.2	3.45
16-17	.04	.05	.04	T	.04	.03	T	.05	T	.02	0	.03	T	T	T	.37	0
28	.24	.20	.20	.20	.24	.22	.23	.15	.12	.15	.10	.12	.17	.10	.15	.1	0
28-29	.09	.08	.08	.08	.09	.09	.09	.17	.14	.17	.29	.34	.25	.30	.22	.14	.3
30	.49	.41	.42	.42	.50	.47	.48	.54	.44	.53	.40	.47	.55	.41	.48	.4	.4
Monthly Totals	2.86	4.84	5.14	4.84	5.37	4.41	5.30	4.68	5.00	5.06	4.28	4.96	4.97	3.99	4.33	3.81	4.15
1960 CALENDAR YEAR TOTALS	23.90	26.11	26.36	26.39	25.27	22.15	29.63	23.99	27.74	23.39	20.59	22.54	19.51	20.71	18.78	22.59	19.55
1961																	
Jan. 6-7	1.47	1.84	1.90	1.84	2.42	1.73	1.77	1.92	1.95	1.97	2.01	2.15	2.17	1.98	2.13	a	1.9
7-8	.63	.79	.82	.79	1.04	.74	.76	.61	.62	.63	.35	.37	.31	.34	.30	2.18	.4
11-12	.09	.08	.09	.02	.13	.11	.09	.14	.10	.15	.23	.27	.25	.40	.42	.05	.3
24	.19	.15	.16	.15	.16	.13	.15	.12	.15	.16	.16	.19	.17	.18	.18	a	.1
25-26	.16	.13	.14	.13	.13	.12	.13	.11	.13	.14	.05	.06	.05	.06	.05	a	.1
28-29	.15	.12	.12	.12	.12	.11	.12	.10	.12	.12	.11	.13	.11	.12	.12	.4	.1
Monthly Totals	2.69	3.11	3.23	3.05	4.00	2.94	3.02	3.00	3.07	3.17	2.91	3.17	3.06	3.08	3.20	2.63	2.9
Feb. 4-5	1.20	1.23	1.31	1.27	1.49	1.27	1.23	1.52	1.20	1.38	2.00	1.67	1.41	1.96	2.26	1.3	2.1
6-8	.40	.42	.44	.43	.51	.43	.42	.36	.28	.32	.40	.33	.09	.39	.14	.26	.21
15-16	.28	.23	.21	.24	.29	.27	.34	.36	.23	.36	.32	.36	.31	.33	.31	.2	.2
20	.52	.41	.39	.44	.53	.50	.61	.55	.35	.54	.47	.54	.49	.48	.49	.6	.5
Monthly Totals	2.40	2.29	2.35	2.38	2.82	2.47	2.60	2.79	2.06	2.60	3.19	2.90	2.30	3.16	3.20	2.36	3.01

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1961																	
Mar. 17	T	T	T	0	T	T	T	0.10	T	0.08	0	0.06	0.03	0.06	0.07	0	0.03
24-27	.03	.04	.04	.02	T	T	T	0	0	0	0	0	0	T	T	.02	0
30	.23	.60	.54	.40	.37	.33	.60	.42	.40	.42	.31	.40	.46	.42	.48	.4	.3
Monthly Totals	0.26	0.64	0.58	0.42	0.37	0.33	0.60	0.52	0.40	0.50	0.31	0.46	0.49	0.48	0.55	0.42	0.33
Apr. 23	T	T	T	T	.03	.02	T	.03	T	T	T	.15	.17	.04	.06	T	.02
28	.25	.35	.23	.18	.17	.18	.16	.13	.20	.08	0	T	0	.03	.02	.1	.05
Monthly Totals	0.25	0.35	0.23	0.18	0.20	0.20	0.16	0.16	0.20	0.08	0	0.15	0.17	0.07	0.08	0.1	0.07
May 6	.76	.70	.78	.74	1.05	1.01	.96	.86	.74	.87	1.00	.91	.97	1.39	1.52	.8	a
8	.27	.25	.28	.26	.37	.36	.34	.30	.26	.31	.33	.30	.20	.46	.31	.3	1.15
19	.31	.27	.22	.31	.27	.28	.23	.25	.25	.20	.22	.22	.12	.18	.18	.2	.2
23	.33	.33	.35	.41	.57	.60	.50	.79	.69	.80	.43	.50	.33	.43	.35	.35	.1
Monthly Totals	1.67	1.55	1.63	1.72	2.26	2.25	2.03	2.20	1.94	2.18	1.98	1.93	1.62	2.46	2.36	1.65	1.45
June 3-4	1.03	.81	.82	1.07	1.09	.83	1.04	.34	.38	.34	.27	.23	.33	.24	.46	.9	.1
5	1.25	.97	1.00	1.29	1.31	1.00	1.26	1.12	1.23	1.12	1.45	1.25	.78	1.26	1.10	1.5	.87
8	.11	.70	1.16	.87	1.11	1.50	1.20	1.54	.80	1.00	1.30	1.24	.30	.88	.55	1.00	.85
15-18	3.95	4.57	4.20	4.35	4.54	3.96	4.95	4.93	4.20	4.28	3.40	4.10	3.90	3.72	3.95	4.22	-
25	T	T	T	T	T	T	T	.05	T	.04	T	.04	T	.06	.07	T	-
Monthly Totals	6.34	7.05	7.18	7.58	8.05	7.29	8.45	7.98	6.61	6.78	6.42	6.86	5.31	6.16	6.13	7.62	-

Table 12.--Summary of rainfall, in inches, for Deep Creek study area, October 1953 to September 1961--Continued

Date of Storm	Gage Number																
	1-S	2-S	3-S	4-R	5-S	6-S	7-S	8-S	9-R	10-S	11-R	12-S	13-R	14-S	15-S	16-R	17-R
1961																	
July 3	0.96	0.91	0.95	0.65	0.72	0.67	0.32	0.62	0.90	0.78	0.75	1.11	0.98	0.83	0.76	-	-
9	.37	.35	.36	.25	.28	.26	.12	.35	.50	.43	.54	.80	2.04	.60	1.58	-	-
9	.17	.16	.16	.11	.12	.11	.06	.23	.33	.29	.27	.40	.29	.30	.22	-	-
16	.34	1.05	1.04	1.08	.60	.72	.33	.36	.52	.34	.10	.14	0	.14	0	-	-
16	.14	.42	.41	.43	.24	.28	.13	.42	.60	.39	.58	.79	1.11	.83	.98	-	-
22	1.04	.73	.50	.68	.89	.55	.82	.46	.50	.55	1.00	1.41	.70	1.36	.58	-	-
23	.87	.62	.41	.57	.75	.46	.69	.72	.79	.86	.20	.28	1.10	.27	.92	-	-
24	.69	.49	.33	.45	.59	.37	.54	.06	.07	.08	.08	.12	0	.11	0	-	-
Monthly Totals	4.58	4.73	4.16	4.22	4.19	3.42	3.01	3.22	4.21	3.72	3.52	5.05	6.22	4.44	5.04	-	-
Aug. 7	T	T	0	0	.04	.04	0	.03	.10	.03	.09	T	.05	.10	T	-	-
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.04	-	-
Monthly Totals	0	0	0	0	0.04	0.04	0	0.03	0.10	0.03	0.09	0	0.05	0.10	0.04	-	-
Sept. 1	.40	T	T	T	.10	.20	T	.36	T	.35	.70	.62	.60	1.09	1.00	-	-
8	0	0	0	T	0	0	0	.08	0	.08	.14	.74	.20	.02	.02	-	-
11-12	1.52	1.46	1.42	1.60	1.95	1.42	1.50	1.42	1.62	1.41	1.28	1.55	1.50	1.11	1.20	1.7	1.24
Monthly Totals	1.92	1.46	1.42	1.60	2.05	1.62	1.50	1.86	1.62	1.84	2.12	2.91	2.30	2.22	2.22	-	-
1961 WATER YEAR TOTALS	27.75	31.77	30.94	30.47	32.98	28.22	31.46	29.97	30.53	29.72	27.87	31.81	29.66	29.82	30.79	-	-

a. Rain gage not recording - see number following for amount measured.

b. Partly estimated.

Table 13.--Storm rainfall and runoff data for sites 3 and 8, water years 1954-61

Number	Date of Storm		SITE 3 (Drainage area, 2,189 acres)										SITE 8 (Drainage area, 2,763 acres)											
			Rainfall					Inflow to pool			Runoff ^a		Rainfall					Inflow to pool			Runoff ^a		Consumption (inches)	
			Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)	Computed natural (inches)	Consumption (inches)	Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)		Computed natural (inches)
					15 min. (inches)	30 min. (inches)	60 min. (inches)									15 min. (inches)	30 min. (inches)	60 min. (inches)						
1	Oct.	3-4, 1953	12.0	7.22	.73	1.48	1.51	388.5	4.9	383.4	384.9	2.11	5.11	12.0	7.73	0.73	1.48	1.51	706.1	17.6	698.5	705.5		3.06
2		23	1.5	1.03	.35	.50	.75	No runoff record	-	-	-	-	-	1.3	.59	.30	.32	.34	1.5	1.4	0	0	0	.59
3		30-31	22.7	.40	.05	.09	.14	No runoff record	-	-	-	-	-	23.5	.43	.07	.09	.12	.8	1.1	0	0	0	.43
4	Apr.	27, 1954	1.0	1.00	.70	.98	1.11	No runoff record	-	-	-	-	-	1.0	1.00	.55	.82	.92	14.7	2.3	12.4	12.5	.054	.91
b5		30	4.0	1.30	.50	.70	.83	No runoff record	-	-	-	-	-	3.0	1.27	.56	.65	.80	44.1	2.9	41.2	41.6	.181	1.19
b6	May	11	8.2	.94	.58	-	-	13.7	1.0	12.7	12.8	.070	.87	8.2	1.46	1.00	1.00	1.00	59.9	3.7	56.2	56.8	.247	1.21
7	Oct.	23	2.7	.44	.07	.10	.16	.2	.2	0	0	0	.44	2.5	.50	.06	.07	.16	.8	.8	0	0	0	.50
b8		27	16.0	2.18	.48	.56	.57	53.0	1.5	51.5	51.7	.283	1.90	16.0	2.36	.58	.92	1.10	121.0	4.4	116.6	117.6	.51	1.85
9	Nov.	14	3.7	.87	.26	.38	.41	22.1	1.2	20.9	21.1	.116	.75	3.5	.53	.10	.15	.20	4.4	1.2	3.2	3.2	.014	.52
b10	Feb.	3, 1955	1.7	.77	.20	.30	.52	10.7	1.0	9.7	9.8	.054	.72	3.0	.75	.31	.46	.60	14.7	1.7	13.0	13.1	.057	.69
b11		4	2.7	.86	.38	.52	.62	35.9	1.4	34.5	34.8	.191	.67	3.0	.85	.20	.35	.53	43.6	2.0	41.6	42.0	.182	.67
12	Apr.	9	6.0	.76	.16	.27	.47	7.3	1.3	6.0	6.1	.033	.73	6.5	.68	.22	.30	.39	1.5	1.6	0	0	0	.68
13		20	3.0	.57	.15	.25	.30	6.1	1.0	5.1	5.1	.028	.54	3.0	.41	.25	.30	.30	.9	.9	0	0	0	.41
b14	May	10	3.3	.62	.13	.21	.29	1.0	1.0	0	0	0	.62	3.7	.79	.27	.43	.57	2.9	1.8	1.1	1.1	.005	.79
b15		17-18	9.2	4.75	1.55	1.65	2.02	384.9	7.6	377.3	380.6	2.09	2.66	10.7	4.82	.80	1.50	2.75	642.0	10.7	631.3	637.5	2.77	2.05
b16		18-19	9.0	3.44	.60	1.05	1.79	386.7	23.6	363.0	377.2	2.07	1.37	8.3	3.18	.77	1.12	1.38	523.3	23.1	500.2	516.3	2.24	.94
b17	June	4	1.7	.54	.30	.39	.40	3.8	1.8	2.0	2.0	.011	.53	1.5	.49	.31	.38	.38	7.5	1.2	6.3	6.4	.028	.46
b18		5	.7	1.26	.80	1.12	1.30	129.7	5.0	124.7	127.0	.696	.56	1.0	1.01	.40	.65	1.00	103.1	2.7	100.4	101.5	.441	.57
19		8-9	.3	.64	.51	.64	.64	29.4	2.1	27.3	27.8	.152	.49	.7	.65	.16	.26	.36	95.2	1.7	93.5	94.6	.411	.24
b20	July	16	9.7	.68	.26	.36	.43	7.2	1.9	5.3	5.4	.030	.65	4.0	.69	.44	.52	.60	8.7	1.6	7.1	7.2	.031	.66
b21		17-18	10.7	.89	.37	.39	.40	35.0	2.7	32.3	32.8	.180	.71	10.7	1.01	.25	.46	.62	30.6	2.4	28.2	28.5	.124	.89
22	Sept.	10	3.1	1.45	.32	.50	.78	43.6	3.8	39.8	40.4	.221	1.23	-	.14	.03	.04	.05	0	.3	0	0	0	.14
b23		23	6.0	3.05	.60	1.10	1.28	184.5	10.1	174.4	177.6	.973	2.08	6.5	4.18	.60	.90	1.60	411.0	9.4	401.6	405.6	1.76	2.42
24	Nov.	30	3.0	.46	.07	.09	.10	1.3	1.3	0	0	0	.46	3.0	.41	.07	.09	.12	.9	1.0	0	0	0	.41
25	Feb.	8-9, 1956	2.0	1.07	.44	.55	.59	13.3	2.6	10.7	10.8	.059	1.01	2.0	1.01	.58	.67	.74	21.6	2.3	19.3	19.5	.085	.93
26	May	1	2.7	.84	.33	.44	.63	2.3	1.5	.8	.8	.004	.84	3.0	1.21	.33	.49	.64	21.0	1.6	19.4	19.6	.085	1.13
27		2	8.0	.43	.11	.14	.24	1.2	.8	.4	.4	.002	.43	7.2	.41	.13	.17	.19	4.3	.9	3.4	3.4	.015	.40
28		23-24	10.5	1.34	.16	.28	.53	8.9	2.1	6.8	6.9	.038	1.30	10.5	1.63	.45	.62	.70	40.9	3.6	37.3	37.7	.164	1.47
b29	Aug.	28	.7	1.25	.88	1.07	1.21	26.5	2.5	24.0	24.1	.132	1.12	3.0	2.08	.65	1.06	1.55	131.9	5.1	126.8	127.8	.555	1.52
30	Oct.	15	7.5	.72	.17	.19	.36	3.8	.9	2.9	2.9	.016	.70	7.5	.81	.17	.23	.50	5.1	1.9	3.2	3.2	.014	.80

Table 13.--Storm rainfall and runoff data for sites 3 and 8, water years 1954-61--Continued

Number	Date of Storm	SITE 3 (Drainage area, 2,189 acres)										SITE 8 (Drainage area, 2,763 acres)											
		Rainfall					Inflow to pool			Runoff ^a		Consumption (inches)	Rainfall					Inflow to pool			Runoff ^a		
		Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)	Computed natural (inches)		Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)	Computed natural (inches)	
				15 min. (inches)	30 min. (inches)	60 min. (inches)									15 min. (inches)	30 min. (inches)	60 min. (inches)						
31	Oct. 18, 1956	0.2	0.55	0.56	0.56	0.56	24.3	0.7	23.6	23.8	0.130	0.42	0.5	0.35	0.20	0.35	0.35	6.0	0.8	5.2	5.3	0.023	0.33
32	30	3.0	.60	.10	.18	.28	2.7	1.1	1.6	1.6	.009	.59	3.0	.72	.10	.20	.30	5.4	1.7	3.7	3.7	.016	.70
33	Dec. 18-19	12.0	1.24	.10	.12	.23	12.2	1.9	10.3	10.4	.057	1.18	20.0	1.39	.18	.23	.33	12.9	3.2	9.7	9.8	.043	1.35
34	Mar. 10, 1957	2.0	.43	.20	.27	.32	.7	.6	.1	.1	0	.43	1.7	.47	.33	.40	.42	5.3	1.1	4.2	4.2	.018	.45
35	17	1.7	.35	.25	.29	.30	12.0	.5	11.5	11.6	.064	.29	2.0	.42	.30	.38	.40	6.7	1.0	5.7	5.8	.025	.40
b 36	20	2.7	1.49	.32	.51	.87	87.9	2.7	85.2	86.1	.471	1.02	3.0	1.17	.21	.37	.68	100	2.8	97.2	98.2	.426	.74
37	31	4.7	.48	.11	.20	.29	1.6	1.6	0	0	0	.48	4.0	.37	.07	.14	.26	2.4	.9	1.5	1.5	.007	.36
38	Apr. 19	3.5	.60	.13	.18	.22	4.9	1.8	3.1	3.2	.018	.58	4.0	.62	.10	.12	.22	4.5	1.5	3.0	3.0	.013	.61
39	19	2.0	.84	.20	.30	.56	49.8	2.7	47.1	47.9	.262	.58	3.0	.41	.05	.10	.11	6.4	1.0	5.4	5.5	.024	.39
40	22-23	3.1	1.24	.42	.58	.79	73.0	3.5	69.5	70.6	.387	.85	3.3	1.24	.63	.81	.92	79.1	3.1	76.0	76.8	.333	.91
41	24	4.0	.67	.36	.37	.40	18.2	2.5	15.7	16.0	.088	.58	3.5	.46	.08	.10	.11	13.5	1.4	12.1	12.3	.053	.41
b 42	26	3.8	1.13	.42	.53	.63	77.5	3.8	73.7	75.1	.412	.72	4.5	1.14	.30	.53	.72	109	2.9	106.1	107.3	.466	.67
43	28	5.2	.80	.26	.31	.40	104.7	2.9	101.8	103.9	.569	.23	5.0	.34	.03	.06	.08	55.9	.9	55.0	55.6	.241	.10
44	May 3	.3	.56	.32	.63	.63	7.1	1.9	5.2	5.3	.029	.53	1.0	.73	.32	.50	.75	27.8	1.8	26.0	26.3	.114	.62
45	9	10.0	1.38	.21	.48	.53	52.8	4.6	48.2	49.1	.269	1.11	10.0	.88	.16	.26	.33	41.7	2.2	39.5	39.9	.173	.71
b 46	11	1.3	1.02	.79	.94	1.00	78.4	3.6	74.8	76.3	.418	.60	.5	.66	.54	.62	.62	69.1	1.7	67.4	68.2	.296	.36
b 47	12	.5	1.68	1.28	1.63	1.73	165.3	6.5	158.8	162.3	.889	.79	.5	1.44	.99	1.46	1.46	266.6	4.5	262.1	265.7	1.15	.29
b 48	13	1.3	.78	.52	.67	.75	78.4	4.4	74.0	76.3	.418	.36	2.0	.62	.37	.49	.56	120.9	3.1	117.8	120.4	.523	.10
b 49	17-18	11.6	1.60	.40	.58	.77	143	6.9	156.1	159.9	.876	.72	11.6	2.08	.53	.95	1.38	306.6	6.9	299.7	304.1	1.32	.76
50	31	1.7	.51	.32	.32	.38	5.4	1.7	3.7	3.8	.021	.49	2.0	.43	.20	.21	.31	1.2	1.1	.1	.1	0	.43
51	Sept. 3	.7	1.15	.74	.95	1.15	17.5	2.1	15.4	15.6	.085	1.07	1.0	.65	.40	.50	.68	1.3	1.4	0	0	0	.65
52	11	3.0	1.03	.44	.50	.65	12.2	2.3	9.9	10.0	.055	.97	3.0	.81	.26	.40	.53	1.8	1.7	.1	.1	0	.81
53	21-22	11.0	1.43	.45	.65	.86	22.7	3.9	18.8	19.0	.104	1.33	9.7	.85	.17	.25	.30	1.4	1.8	0	0	0	.85
b 54	Oct. 13	7.5	3.57	.31	.57	.95	141.7	13.6	127.9	130.6	.716	2.85	7.5	2.06	.25	.45	.63	23.0	4.3	18.7	18.9	.082	1.98
b 55	14	10.0	1.12	.08	.16	.23	40.7	4.7	36.0	36.9	.202	.92	10.0	1.19	.16	.23	.34	29.0	2.6	26.4	26.7	.116	1.07
b 56	15	2.5	.62	.21	.31	.40	28.5	2.5	26.0	26.6	.146	.47	2.0	.44	.17	.24	.30	26.6	1.0	25.6	25.9	.112	.33
57	Nov. 2	.5	.24	.13	.21	.21	1.2	.8	.4	.4	.002	.24	.7	1.24	1.13	1.30	1.44	166.6	3.0	163.6	165.3	.717	.52
58	5	8.0	.50	.05	.10	.11	4.9	1.6	3.3	3.4	.019	.48	8.0	.55	.04	.08	.10	16.3	1.4	14.9	15.1	.066	.48
59	24	7.3	1.14	.06	.10	.20	8.3	3.8	4.5	4.6	.025	1.12	7.7	1.12	.08	.14	.24	24.2	2.8	21.4	21.6	.094	1.03
60	Jan. 4-5, 1958	29.0	1.22	.11	.16	.21	4.6	3.8	.8	.8	.004	1.22	27.3	.95	.02	.04	.07	2.1	2.3	0	0	0	.95
61	12	2.0	.65	.41	.46	.51	7.1	2.1	5.0	5.1	.028	.62	1.7	.62	.20	.30	.32	8.4	1.5	6.9	7.0	.030	.59
62	22-23	13.5	1.15	.08	.10	.20	23.4	3.8	19.6	20.0	.110	1.04	17.0	1.06	.08	.10	.12	40.7	2.6	38.1	38.5	.167	.89

Table 13.--Storm rainfall and runoff data for sites 3 and 8, water years 1954-61--Continued

Number	Date of Storm		SITE 3 (Drainage area, 2,189 acres)										SITE 8 (Drainage area, 2,763 acres)												
			Rainfall					Inflow to pool			Runoff ^a		Rainfall					Inflow to pool			Runoff ^a		Consumption (inches)		
			Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)	Computed natural (inches)	Consumption (inches)	Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)		Computed natural (inches)	
					15 min. (inches)	30 min. (inches)	60 min. (inches)									15 min. (inches)	30 min. (inches)	60 min. (inches)							
63	Feb.	21,	1958	16.0	0.76	0.06	0.07	0.09	3.6	2.5	1.1	1.1	0.006	0.75	16.0	0.66	0.10	0.21	0.26	2.2	1.6	0.6		0.6	0.003
64		22		16.0	1.98	.05	.08	.18	67.8	6.5	61.3	62.4	.342	1.64	16.0	1.77	.06	.11	.21	121.0	4.2	116.8	118.0	.512	1.26
65	Mar.	1		4.5	.44	.08	.10	.14	2.2	1.5	.7	.7	.004	.44	4.0	1.41	.07	.10	.15	4.6	1.0	3.6	3.6	.016	.39
66		6		1.0	1.22	.63	1.10	1.16	73.0	4.1	68.9	70.2	.385	.84	.8	.75	.34	.52	.67	69.1	2.0	67.1	67.9	.295	.45
67	Apr.	13		8.5	.49	.04	.07	.10	1.1	1.5	0	0	0	.49	10.0	.51	.10	.12	.15	1.2	1.2	0	0	0	.51
68	May	2		1.0	.41	.30	.34	.43	1.5	1.2	.3	.3	.002	.41	.5	.25	.13	.23	.23	.6	.6	0	0	0	.25
69		2-3		4.5	.92	.48	.69	.78	9.9	2.8	7.1	7.2	.039	.88	5.0	.66	.32	.42	.52	6.0	1.6	4.4	4.4	.019	.64
70		13		2.0	.33	.10	.11	.12	1.1	1.0	.1	.1	0	.33	1.5	.56	.15	.27	.49	1.8	1.4	.4	.4	.002	.56
71		16		4.0	2.67	.42	.69	1.16	74.4	8.5	65.9	67.1	.368	2.30	5.5	1.67	.36	.57	.87	45.6	4.1	41.5	41.9	.182	1.49
72	June	16-17		6.5	.51	.14	.18	.37	1.4	1.5	0	0	0	.51	8.0	.46	.09	.15	.21	.9	1.1	0	0	0	.46
73		21-22		4.0	1.02	.58	.78	.81	5.9	2.9	3.0	3.0	.015	1.00	3.5	1.28	.54	.81	1.12	4.9	3.1	1.8	1.8	.008	1.27
74	July	22		.8	1.45	.85	1.33	1.60	12.5	3.5	9.0	9.1	.050	1.40	.7	.77	.55	.65	.78	2.2	1.8	.4	.4	.002	.77
75	Aug.	23-24		16.0	.58	.23	.28	.29	1.3	1.2	.1	.1	0	.58	5.0	1.22	.91	.91	.91	14.3	2.7	11.6	11.7	.051	1.17
76	Sept.	6		10.7	1.13	.20	.39	.40	4.3	2.2	1.1	1.1	.006	1.12	13.0	.59	.28	.29	.30	1.3	1.3	0	0	0	.59
77		16		3.5	.83	.25	.26	.32	1.2	1.6	0	0	0	.83	3.5	.70	.29	.30	.31	1.6	1.6	0	0	0	.70
78		25		.8	.91	.65	.90	.92	1.9	1.7	.2	.2	.001	.91	8.0	.64	.40	.42	.44	.8	1.4	0	0	0	.64
79	Oct.	11-12		7.5	.77	.40	.57	.62	2.0	1.4	.6	.6	.003	.77	2.0	.56	.13	.24	.30	1.1	1.2	0	0	0	.56
80		21		.5	.64	.40	.62	.62	1.2	1.2	0	0	0	.64	.5	.30	.12	.20	.20	.3	.7	0	0	0	.30
81	Nov.	14		1.5	.95	.32	.49	.76	4.7	1.6	3.1	3.1	.016	.93	2.0	1.12	.38	.54	.89	5.8	2.4	3.4	3.4	.015	1.10
82	Feb.	13-14,	1959	5.5	.42	.18	.22	.23	.6	.6	0	0	0	.42	2.5	.36	.24	.25	.26	.8	.8	0	0	0	.36
83	Apr.	11		6.5	1.24	.18	.31	.44	2.0	1.4	.6	.6	.003	1.24	6.5	1.00	.19	.24	.40	2.0	1.9	.1	.1	0	1.00
84	May	1-2		2.5	.74	.22	.34	.35	.8	.8	0	0	0	.74	2.5	.59	.11	.17	.22	.7	1.1	0	0	0	.59
85		15		10.0	.57	.22	.26	.43	.5	.6	0	0	0	.57	10.0	.52	.21	.22	.33	.6	.9	0	0	0	.52
86		22		4.0	1.34	.82	.91	1.06	6.5	1.4	5.1	5.1	.026	1.31	4.0	1.20	.69	.78	.85	8.6	2.0	6.6	6.6	.029	1.17
87	June	3		1.5	2.86	2.23	2.45	2.47	128.9	3.1	125.8	126.6	.694	2.17	2.0	1.53	.41	.78	1.02	23.7	2.7	21.0	21.2	.092	1.44
88		4		4.0	.99	.32	.53	.71	21.8	3.5	18.3	18.7	.102	.89	3.0	1.02	.43	.61	.71	68.0	2.1	65.9	66.5	.289	.73
89		23-24		8.1	.98	.12	.14	.28	2.8	3.0	0	0	0	.98	7.7	.97	.10	.14	.30	2.2	2.3	0	0	0	.97
90		26		9.5	2.36	.45	.63	.99	97.8	7.8	90.0	91.7	.503	1.86	13.7	2.33	.40	.65	.85	133.2	5.3	127.9	129.2	.561	1.77
91	July	21		3.0	2.01	.28	.41	.65	24.0	6.2	17.8	18.1	.099	1.91	3.5	2.38	.44	.76	1.19	115.0	5.9	99.1	100.2	.435	1.94
92	Aug.	31		3.1	1.01	.50	.53	.55	3.6	2.8	.8	.8	.004	1.01	3.3	.46	.17	.19	.19	.9	1.1	0	0	0	.46
93	Sept.	30		9.5	1.65	.50	.80	.90	9.0	3.8	5.2	5.3	.029	1.62	10.0	1.18	.28	.44	.53	5.8	2.7	3.1	3.1	.013	1.17
94	Oct.	3-4		23.0	4.90	.40	.48	.75	106.9	13.4	93.5	94.9	.520	4.38	23.0	5.19	.30	.56	.90	403.8	21.8	382.0	389.1	1.69	3.50
95		13		6.5	2.80	.63	.89	1.01	80.7	9.2	71.5	72.8	.399	2.40	7.5	2.04	.42	.50	.68	80.3	5.2	75.1	75.9	.329	1.71

Table 13.--Storm rainfall and runoff data for sites 3 and 8, water years 1954-61--Continued

Number	Date of Storm	SITE 3 (Drainage area, 2,189 acres)										SITE 8 (Drainage area, 2,763 acres)											
		Rainfall					Inflow to pool			Runoff ^a		Consumption (inches)	Rainfall					Inflow to pool			Runoff ^a		
		Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)	Computed natural (inches)		Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)	Computed natural (inches)	Consumption (inches)
				15 min. (inches)	30 min. (inches)	60 min. (inches)									15 min. (inches)	30 min. (inches)	60 min. (inches)						
96	Dec. 14-15, 1959	6.5	0.99	0.18	0.20	0.40	4.0	3.0	1.0	1.0	0.005	0.99	6.5	0.95	0.21	0.26	0.35	7.3	2.3	5.0	5.1	0.022	0.93
97	16	6.0	.42	.07	.09	.11	1.5	1.3	.2	.2	.001	.42	5.7	.40	.08	.10	.17	2.4	1.0	1.4	1.4	.006	.39
98	17	16.7	.57	.04	.08	.12	2.6	1.8	.8	.8	.004	.57	16.0	.55	.04	.08	.16	15.3	1.3	14.0	14.2	.062	.49
99	31	5.0	1.17	.12	.22	.33	12.7	3.6	9.1	9.3	.051	1.12	5.0	1.14	.15	.24	.39	32.3	2.8	29.5	29.8	.129	1.01
b100	Jan. 4-5, 1960	17.0	1.72	.04	.08	.16	46.8	5.8	41.0	41.8	.229	1.49	17.0	1.57	.05	.10	.20	111.0	4.1	106.9	108.1	.469	1.10
101	Feb. 2-3	4.7	1.15	.30	.36	.50	8.9	3.7	5.2	5.3	.029	1.12	4.0	.98	.26	.32	.45	9.9	2.4	7.5	7.6	.033	.95
102	Apr. 26	1.5	1.13	.68	.86	.95	9.9	3.1	6.8	6.9	.038	1.09	1.0	.32	.08	.10	.22	.6	.7	0	0	0	.32
103	29	2.0	.75	.45	.59	.72	5.6	2.1	3.5	3.6	.020	.73	.6	.52	.25	.45	.53	3.5	1.1	2.4	2.4	.010	.51
104	May 15	1.8	.56	.30	.42	.48	8.3	1.5	6.8	6.9	.038	.52	1.0	.32	.18	.23	.25	.7	.7	0	0	0	.32
105	17	1.0	.25	.20	.20	.25	.7	.7	0	0	0	.25	.5	.53	.40	.60	.60	3.6	1.2	2.4	2.4	.010	.52
106	July 14	2.0	1.22	.50	.75	.90	2.2	2.4	0	0	0	1.22	.5	.26	.20	.20	.20	2.6	.5	2.1	2.1	.009	.25
107	17	2.0	1.73	.63	1.16	1.72	11.4	3.4	8.0	8.1	.044	1.69	1.3	.38	.04	.08	.16	.5	.8	0	0	0	.38
108	Aug. 9-10	2.5	.48	.21	.23	.26	.9	.9	0	0	0	.48	2.5	.87	.32	.53	.69	2.3	1.7	.5	.5	.002	.87
109	15	8.0	.66	.03	.06	.10	.7	1.2	0	0	0	.66	4.0	.52	.07	.08	.09	1.0	1.1	0	0	0	.52
110	19	.6	1.43	.65	1.25	1.42	21.8	2.7	19.1	19.3	.106	1.32	1.1	.70	.36	.50	.60	4.0	1.4	2.6	2.6	.011	.69
111	Sept. 23	2.7	1.57	.53	1.03	1.41	10.2	3.2	7.0	7.1	.039	1.53	3.0	1.83	.52	.99	1.41	15.3	3.2	12.1	12.2	.053	1.78
112	Oct. 15-16	2.0	1.01	.36	.46	.73	4.0	1.6	2.4	2.4	.013	1.00	6.7	.81	.28	.40	.60	.8	1.4	0	0	0	.81
113	18	8.0	1.28	.64	.83	.84	12.5	2.3	10.2	10.3	.056	1.22	7.0	.79	.22	.27	.50	8.9	1.4	7.5	7.6	.033	.76
114	28-29	12.0	1.53	.58	.82	1.06	8.1	3.0	5.1	5.2	.028	1.50	11.5	.79	.11	.13	.13	2.0	1.4	.6	.6	.003	.79
b115	Dec. 7	11.5	2.66	.12	.24	.43	33.7	6.3	27.4	27.8	.152	2.51	12.0	2.33	.13	.21	.42	33.3	4.1	29.2	29.4	.128	2.20
b116	8	7.0	.82	.06	.12	.16	13.3	2.3	11.0	11.2	.061	.76	7.0	.67	.03	.06	.09	12.9	1.4	11.5	11.6	.050	.62
117	30	4.1	.44	.06	.09	.12	1.0	1.3	0	0	0	.44	5.0	.41	.07	.13	.19	1.3	.9	.4	.4	.002	.41
b118	Jan. 6-7, 1961	24.0	1.94	.11	.14	.18	25.0	5.9	19.1	19.4	.106	1.83	25.0	1.96	.14	.21	.25	45.5	4.2	41.3	41.7	.181	1.77
b119	7-8	8.5	.83	.06	.11	.20	40.0	2.8	37.2	37.9	.208	.62	8.0	.42	.03	.06	.10	66.9	1.0	65.9	66.6	.289	.13
b120	Feb. 4-5	13.5	1.31	.09	.17	.29	18.0	4.0	14.0	14.2	.078	1.23	14.0	1.86	.20	.30	.54	106.0	4.6	101.4	102.5	.445	1.42
121	20	6.0	.46	.10	.12	.14	1.3	1.4	0	0	0	.46	6.0	.48	.09	.10	.11	3.6	1.2	2.4	2.4	.010	.47
122	May 6	.3	.81	.72	.74	.74	4.1	1.8	2.3	2.3	.013	.80	1.0	1.01	.37	.51	1.00	8.2	2.3	5.9	6.0	.026	.98
123	23	2.5	.44	.06	.07	.19	1.0	.9	.1	.1	.001	.44	2.8	.46	.07	.10	.19	.8	1.0	0	0	0	.46
124	June 3	1.3	1.07	.62	.85	.99	2.1	2.1	0	0	0	1.07	2.0	.37	.08	.10	.17	.5	.8	0	0	0	.37
125	5	1.3	1.29	.68	.70	1.20	30.6	2.6	28.0	28.3	.155	1.13	1.7	1.36	.56	.65	1.17	17.7	3.1	14.6	14.7	.064	1.30
126	8	.5	.87	.58	.87	.87	5.8	2.3	3.5	3.6	.020	.85	1.0	1.33	.42	.62	1.30	25.2	3.1	22.1	22.3	.097	1.23
b127	15-18	65.0	4.37	.20	.26	.40	52.2	12.5	39.7	40.3	.221	4.15	65.0	3.51	.15	.20	.21	60.7	8.7	52.0	52.6	.228	3.28

Table 13.--Storm rainfall and runoff data for sites 3 and 8, water years 1954-61--Continued

Number	Date of Storm	SITE 3 (Drainage area, 2,189 acres)										SITE 8 (Drainage area, 2,763 acres)																			
		Rainfall					Inflow to pool					Runoff ^a					Rainfall					Inflow to pool					Runoff ^a				
		Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)	Computed natural (inches)	Consumption (inches)	Duration (hours)	Amount (inches)	Max. Increment			Total (acre-feet)	From rain on pool (acre-feet)	From area above pool (acre-feet)	Computed natural (acre-feet)	Computed natural (inches)	Consumption (inches)								
				15 min. (inches)	30 min. (inches)	60 min. (inches)									15 min. (inches)	30 min. (inches)	60 min. (inches)														
128	July 3, 1961	2.8	0.68	0.30	0.32	0.36	1.7	2.0	0	0	0	0.68	3.0	0.74	0.20	0.40	0.55	2.7	1.8	0.9	0.9	0.004	0.74								
129	9	.7	.26	.08	.16	.25	.5	.7	0	0	0	.26	2.0	.49	.10	.17	.35	4.0	1.1	2.9	2.9	.013	.48								
130	16	.6	.94	.81	1.03	1.08	.3	2.6	0	0	0	.94	.6	.22	.05	.07	.10	.5	.5	0	0	0	.22								
131	16	.8	.37	.28	.40	.43	1.7	1.0	.7	.7	.004	.37	.8	.53	.35	.50	.58	5.0	1.2	3.8	3.8	.016	.51								
132	22	3.2	.75	.28	.49	.58	3.3	2.1	1.2	1.2	.007	.74	3.5	.92	.35	.69	.80	7.0	1.9	5.1	5.1	.022	.90								
133	23	3.5	.63	.16	.26	.33	10.8	1.8	9.0	9.1	.050	.58	2.0	.25	.09	.13	.14	4.2	.5	3.7	3.7	.017	.23								
134	Sept. 11-12	22.0	1.67	.20	.25	.26	4.4	3.8	.6	.6	.003	1.67	22.0	1.30	.12	.20	.23	2.8	No runoff record			-	-								

a Total inflow adjusted to simulate natural runoff if structure had not been in place.
b Hydrographs of this storm located in Austin District Office of U.S. Geological Survey.

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61

Site number	WATER BUDGET								Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)	
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)			Rain (inches)
Note: Dry Prong Deep Creek stream-gaging station, established June 26, 1951; entire 8.31 sq mi drainage area above station is uncontrolled. Rainfall records at Placid used prior to October 1953.											
JULY 1951											
Dry Prong Deep Creek stream-gaging station	0						0	0	0	-	-
AUGUST 1951											
Dry Prong Deep Creek stream-gaging station	0						0	.06	.06	-	-
SEPTEMBER 1951											
Dry Prong Deep Creek stream-gaging station	0						0	2.18	2.18	-	-
OCTOBER 1951											
Dry Prong Deep Creek stream-gaging station	0						0	.48	.48	-	-
NOVEMBER 1951											
Dry Prong Deep Creek stream-gaging station	0						0	.38	.38	-	-
DECEMBER 1951											
Dry Prong Deep Creek stream-gaging station	0						0	0	0	-	-
Note: Floodwater-retarding structure at site 8, completed Dec. 13, 1951, controls 4.32 sq mi drainage area above the stream-gaging station. Gages not installed on site 8 prior to Feb. 1, 1952.											
JANUARY 1952											
Dry Prong Deep Creek stream-gaging station	0						0	.10	.10	-	-
FEBRUARY 1952											
8	0						0	-	-	-	-
Dry Prong Deep Creek stream-gaging station	0						0	0	0	-	-
MARCH 1952											
8	0						0	.99	-	-	-
Dry Prong Deep Creek stream-gaging station	0						0	.99	.99	-	-

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)	
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)			
APRIL 1952													
8	8.3	0											
Dry Prong Deep Creek stream-gaging station		36		Water surface below limits of gage				-	-	3.80	-		
								0.08	3.80	3.72	-	-	
MAY 1952													
8	28.0	41.5	+66.3	135.8	12.3	123.5	125	.54	5.37	4.83			
Dry Prong Deep Creek stream-gaging station		11						.02	5.37	5.35	-	-	
JUNE 1952													
8	27.8	17.7	-17.3	28.2	2.9	25.3	25.6	.11	1.19	1.08			
Dry Prong Deep Creek stream-gaging station		0						0	1.19	1.19	-	-	
JULY 1952													
8	28.2	0	-26.1	2.1	2.1	0	0	0	.91	.91			
Dry Prong Deep Creek stream-gaging station		0						0	.91	.91	-	-	
AUGUST 1952													
8	27.2	0	-26.4	.8	.8	0	0	0	.36	.36			
Dry Prong Deep Creek stream-gaging station		0						0	.36	.36	-	-	
SEPTEMBER 1952													
8	23.2	175	-65.8	264.0	18.0	246.0	249	1.08	7.60	6.52			
Dry Prong Deep Creek stream-gaging station		41						.09	7.60	7.51	-	-	
OCTOBER 1952													
8	13.8	0	-13.8	0	0	0	0	0	0	0			
Dry Prong Deep Creek stream-gaging station		0						0	0	0	-	-	
NOVEMBER 1952													
8	8.9	176	+21.8	206.7	10.6	196.1	198	.86	4.28	3.42			
Dry Prong Deep Creek stream-gaging station		9.1						.02	4.28	4.26	-	-	
DECEMBER 1952													
8	6.3	44.6	+.3	51.2	5.7	45.5	46.0	.20	.23	.03			
Dry Prong Deep Creek stream-gaging station		0						0	.23	.23	-	-	

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JANUARY 1953												
8	10.3	9.9	-12.3	7.9	0.2	7.7	7.8	0.03	0.10	0.07		
Dry Prong Deep Creek stream-gaging station		0						0	.10	.10	-	-
FEBRUARY 1953												
8	9.2	0	-8.2	1.0	.6	.4	.4	0	.27	.27		
Dry Prong Deep Creek stream-gaging station		0						0	.27	.27	-	-
MARCH 1953												
8	15.0	63.0	+9.7	87.7	5.4	82.3	83.2	.36	2.20	1.84		
Dry Prong Deep Creek stream-gaging station		16						.04	2.20	2.16	-	-
APRIL 1953												
8	19.0	0	-10.2	8.8	3.0	5.8	5.9	.03	1.24	1.21		
Dry Prong Deep Creek stream-gaging station		5.4						.01	1.24	1.23	-	-
MAY 1953												
8	23.7	96.3	+8.7	128.7	7.4	121.3	122	.53	3.02	2.49		
Dry Prong Deep Creek stream-gaging station		97						.22	3.02	2.80	-	-
JUNE 1953												
8	25.4	0	-25.1	.3	.3	0	0	0	0	0		
Dry Prong Deep Creek stream-gaging station		0						0	0	0	-	-
JULY 1953												
8	20.7	0	-22.4	.3	.3	0	0	0	3.51	3.51		
Dry Prong Deep Creek stream-gaging station		0						0	3.51	3.51	-	-
AUGUST 1953												
8	19.8	0	-10.2	9.6	6.7	2.9	2.9	.01	3.02	3.01		
Dry Prong Deep Creek stream-gaging station		20						.04	3.02	2.98	-	-
SEPTEMBER 1953												
8	18.5	0	-18.5	0	0	0	0	0	1.06	1.06		
Dry Prong Deep Creek stream-gaging station		0						0	1.06	1.06	-	-

Note: Deep Creek stream-gaging station, established Oct. 1, 1953, has 43.9 sq mi drainage area of which 19.9 sq mi is controlled by 5 floodwater-retarding structures. Gage installed on site 3, Oct. 1, 1953. Other sites not gaged.

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)	
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)				
OCTOBER 1953														
3	9.2	b/373.0	+3.5	385.7	6.2	379.5	381	2.09	8.66	6.57				
Deep Creek stream-gaging station		4,680						2.01	8.34	6.33	8.41	8.27		
8	13.8	599.0	+80.5	693.3	20.2	673.1	680	2.95	8.75	5.80				
Dry Prong Deep Creek stream-gaging station		980						2.21	8.67	6.46	8.57	8.75		
NOVEMBER 1953														
3	2.1	2.9	-4.8	.2	.2	0	0	0	.31	.31				
Deep Creek stream-gaging station		0						0	.38	.38	.41	.35		
8	8.2	0	-6.0	2.2	1.1	1.1	1.1	0	.45	.45				
Dry Prong Deep Creek stream-gaging station		0						0	.48	.48	.51	.45		
DECEMBER 1953														
3	2.4	0	-2.2	.2	.2	0	0	0	.32	.32				
Deep Creek stream-gaging station		0						0	.21	.21	.19	.25		
8	10.1	0	-8.1	2.0	1.0	1.0	1.0	0	.42	.42				
Dry Prong Deep Creek stream-gaging station		0						0	.27	.27	.13	.42		
JANUARY 1954														
3	1.4	0	-1.2	.2	.2	0	0	0	.30	.30				
Deep Creek stream-gaging station		0						0	.22	.22	.20	.22		
8	4.8	0	-3.4	1.4	.7	.7	.7	0	.28	.28				
Dry Prong Deep Creek stream-gaging station		0						0	.24	.24	.21	.28		
FEBRUARY 1954														
3	2.5	0	-2.5	0	0	0	0	0	.09	.09				
Deep Creek stream-gaging station		0						0	.14	.14	.17	.09		
8	12.3	0	-11.6	.7	.7	0	0	0	.28	.28				
Dry Prong Deep Creek stream-gaging station		0						0	.22	.22	.17	.28		
MARCH 1954														
3	2.7	0	-1.5	1.2	.2	1.0	1.0	0	.41	.41				
Deep Creek stream-gaging station		0						0	.26	.26	.22	.31		
8	14.0	b/8.0	-21.2	.8	.8	0	0	0	.36	.36				
Dry Prong Deep Creek stream-gaging station		0						0	.26	.26	.17	.36		

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)	
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)				
APRIL 1954														
3	2.6	0	+33.4	36.0	1.0	35.0	35.1	0.19	2.68	2.49				
Deep Creek stream-gaging station		626						.27	2.82	2.55	2.92	2.80		
8	12.7	0	+48.5	61.2	7.1	54.1	54.6	.24	3.13	2.89				
Dry Prong Deep Creek stream-gaging station		31						.07	2.82	2.75	2.47	3.13		
MAY 1954														
3	10.7	0	+6.6	17.3	2.3	15.0	15.0	.08	1.97	1.89				
Deep Creek stream-gaging station		291						.12	1.96	1.84	1.98	1.96		
8	18.9	55.8	-3.2	71.5	6.0	65.5	66.2	.29	2.42	2.13				
Dry Prong Deep Creek stream-gaging station		122						.28	2.50	2.22	2.61	2.42		
JUNE 1954														
3	14.5	0	-14.4	.1	.1	0	0	0	.16	.16				
Deep Creek stream-gaging station		0						0	.33	.33	.40	.23		
8	25.4	c/15.7	-39.4	1.7	1.7	0	0	0	.71	.71				
Dry Prong Deep Creek stream-gaging station		.2						0	.66	.66	.62	.71		
JULY 1954														
3	11.9	0	-11.8	.1	.1	0	0	0	.11	.11				
Deep Creek stream-gaging station		0						0	.22	.22	.32	.09		
8	33.3	c/22.3	-44.4	11.2	1.4	9.8	9.9	.04	.85	.81				
Dry Prong Deep Creek stream-gaging station		0						0	.61	.61	.52	.85		
AUGUST 1954														
3	6.8	b/2.5	-9.3	0	0	0	0	0	.07	.07				
Deep Creek stream-gaging station		0						0	.05	.05	.03	.07		
8	21.4	c/8.0	-29.3	.1	.1	0	0	0	.07	.07				
Dry Prong Deep Creek stream-gaging station		0						0	.05	.05	.02	.07		
SEPTEMBER 1954														
3	4.4	b/1.2	-4.2	1.4	.5	.9	.9	0	1.06	1.06				
Deep Creek stream-gaging station		32						.01	.71	.70	.69	.72		
8	15.0	c/6.0	-10.7	10.3	1.2	9.1	9.2	.04	.71	.67				
Dry Prong Deep Creek stream-gaging station		18						0	.59	.59	.46	.71		

Note: Gages installed on sites 1, 2, 4, 5, Sept. 21, 1954.

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total Inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
OCTOBER 1954												
1	4.9	3.8	+200.0	208.7	2.3	206.4	210.0	0.43	3.47	3.04		
2	.3	0	+1.8	2.1	.1	2.0	2.0	.05	3.52	3.47		
3	3.7	0	+50.1	53.8	2.1	51.7	51.9	.28	3.60	3.32		
d/4	.4	0	+4.0	4.4	.1	4.3	4.3	.07	2.68	2.61		
5	7.0	0	+80.0	87.0	2.5	84.5	85.0	.30	2.97	2.67		
Totals	16.3	3.8	+335.9	356.0	7.1	348.9	353.2	.33	3.32	2.99		
Deep Creek stream-gaging station		377						.16	3.25	3.09	3.22	3.32
8	11.9	0	+90.3	102.2	6.6	95.6	96.4	.42	3.66	3.24		
Dry Prong Deep Creek stream-gaging station		44						.10	3.52	3.42	3.37	3.66
NOVEMBER 1954												
1	33.8	13.9	-10.0	37.7	3.7	34.0	34.3	.07	.85	.78		
2	.4	0	+3	.7	.1	.6	.6	.01	.85	.84		
3	11.9	0	+10.4	22.3	1.4	20.9	21.1	.12	1.01	.89		
d/4	.6	0	+5	1.1	.1	1.0	1.0	.02	.75	.73		
5	14.3	0	+2.0	16.3	1.4	14.9	15.0	.05	.84	.79		
Totals	61.0	13.9	+3.2	78.1	6.7	71.4	72.0	.07	.87	.80		
Deep Creek stream-gaging station		105						.04	.90	.86	.95	.87
8	11.9	0	+10.0	21.9	2.4	19.5	19.7	.08	1.05	.97		
Dry Prong Deep Creek stream-gaging station		17						.04	1.13	1.09	1.21	1.05
DECEMBER 1954												
1	22.0	0	-21.0	1.0	.4	.6	.6	0	.10	.10		
2	.3	0	-.3	0	0	0	0	0	.11	.11		
3	10.4	0	-10.0	.4	.4	0	0	0	.27	.27		
d/4	.5	0	-.5	0	0	0	0	0	.18	.18		
5	8.2	0	-8.0	.2	.2	0	0	0	.09	.09		
Totals	41.4	0	-39.8	1.6	1.0	.6	.6	0	.13	.13		
Deep Creek stream-gaging station		0						0	.11	.11	.10	.13
8	9.1	0	-8.8	.3	.3	0	0	0	.14	.14		
Dry Prong Deep Creek stream-gaging station		0						0	.12	.12	.11	.14

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JANUARY 1955												
1	9.8	0	-5.0	4.8	4.4	.4	.4	0	1.08	1.08		
2	.3	0	-.2	.1	.1	0	0	0	1.04	1.04		
3	5.2	0	-3.6	1.6	1.5	.1	.1	0	1.11	1.11		
d/4	.3	0	-.2	.1	.1	0	0	0	.99	.99		
5	7.4	0	-4.0	3.4	1.6	1.8	1.8	.01	.98	.97		
Totals	23.0	0	-13.0	10.0	7.7	2.3	2.3	0	1.05	1.05		
Deep Creek stream-gaging station		0						0	.98	.98	.94	1.05
8	6.8	0	-4.4	2.4	2.3	.1	.1	0	1.00	1.00		
Dry Prong Deep Creek stream-gaging station		0						0	.95	.95	.89	1.00
FEBRUARY 1955												
1	24.1	106.0	+26.0	156.1	7.7	148.4	150.0	.31	1.71	1.40		
2	1.2	0	+3.5	4.7	.2	4.5	4.5	.11	1.47	1.36		
3	11.8	0	+34.3	46.1	2.6	43.5	43.9	.24	1.71	1.47		
d/4	1.1	0	+5.7	6.8	.3	6.5	6.5	.10	1.46	1.36		
5	11.6	0	+22.6	34.2	2.5	31.7	31.9	.11	1.47	1.36		
Totals	49.8	106.0	+92.1	247.9	13.3	234.6	236.8	.22	1.62	1.40		
Deep Creek stream-gaging station		264						.11	1.51	1.40	1.44	1.62
8	8.8	13.7	+38.2	60.7	3.9	56.8	57.2	.25	1.68	1.43		
Dry Prong Deep Creek stream-gaging station		36						.08	1.61	1.53	1.54	1.68
MARCH 1955												
1	32.9	0	-32.0	.9	.9	0	0	0	.22	.22		
2	1.1	0	-1.0	.1	0	.1	.1	0	.21	.21		
3	14.3	0	-13.9	.4	.4	0	0	0	.23	.23		
d/4	1.5	0	-1.5	0	0	0	0	0	.20	.20		
5	13.0	0	-12.6	.4	.3	.1	.1	0	.19	.19		
Totals	62.8	0	-61.0	1.8	1.6	.2	.2	0	.21	.21		
Deep Creek stream-gaging station		0						0	.21	.21	.23	.21
8	14.1	c/4.9	-18.3	.7	.7	0	0	0	.30	.30		
Dry Prong Deep Creek stream-gaging station		0						0	.27	.27	.24	.30

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
APRIL 1955												
1	40.7	93.4	+27.0	161.1	6.2	154.9	156.0	0.32	1.49	1.17		
2	2.4	0	+2.5	4.9	.3	4.6	4.6	.11	1.64	1.53		
d/3	16.6	0	-1.5	15.1	2.5	12.6	12.7	.07	1.39	1.32		
4	2.3	0	+5	2.8	.3	2.5	2.5	.04	1.15	1.11		
5	12.7	0	-6.0	6.7	2.5	4.2	4.2	.05	1.48	1.43		
Totals	74.7	93.4	+22.5	190.6	11.8	178.8	180.0	.17	1.44	1.27		
Deep Creek stream-gaging station		20						.01	1.25	1.24	1.10	1.44
8	18.9	c/11.6	-25.5	5.0	2.5	2.5	2.5	.01	1.09	1.08		
Dry Prong Deep Creek stream-gaging station		0						0	.96	.96	.82	1.09
MAY 1955												
1	80.1	1,610	+59.0	1,749.1	68.3	1,680.8	1,710	3.49	8.95	5.46		
2	7.0	203.0	+16.0	226.0	8.2	217.8	222	5.27	9.66	4.39		
3	37.5	b/664.0	+78.4	779.9	33.8	746.1	761	4.17	9.40	5.23		
d/4	7.7	253.0	+55.0	315.7	7.2	308.5	315	4.84	10.53	5.69		
5	49.5	1,000	+406.0	1,455.5	38.5	1,417.0	1,440	5.13	10.82	5.69		
Totals	181.8	3,730	+614.4	4,526.2	156.0	4,370.2	4,448	4.19	9.65	5.46		
Deep Creek stream-gaging station		10,230						4.40	9.26	4.86	8.93	9.65
8	30.1	b/1,110	+49.1	1,189.2	39.8	1,149.4	1,170	5.08	9.73	4.65		
Dry Prong Deep Creek stream-gaging station		1,860						4.20	8.99	4.79	8.64	9.73
JUNE 1955												
1	47.9	244.0	-44.0	247.9	16.6	231.3	233.0	.48	3.64	3.16		
2	6.0	26.2	-3.7	28.5	1.8	26.7	27.1	.64	3.19	2.55		
3	34.4	168.0	-16.1	186.3	14.7	171.6	175.0	.96	4.29	3.33		
4	6.8	47.6	-2.3	52.1	1.9	50.2	50.7	.78	2.86	2.08		
5	32.4	539.0	-328.0	243.4	8.7	234.7	237.0	.84	3.05	2.21		
Totals	127.5	1,024.8	-394.1	758.2	43.7	714.5	722.8	.68	3.53	2.85		
Deep Creek stream-gaging station		1,850						.80	3.26	2.46	3.03	3.53
8	22.6	b/152.7	-9.3	166.0	7.8	158.2	160	.69	3.07	2.38		
Dry Prong Deep Creek stream-gaging station		321						.72	2.99	2.27	2.90	3.07

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JULY 1955												
1	36.7	112.0	-10.0	138.7	12.2	126.5	128.0	0.26	2.61	2.35		
2	5.3	0	+1.4	6.7	.9	5.8	5.9	.14	1.91	1.77		
3	32.4	18.8	+4.9	56.1	7.1	49.0	49.8	.27	2.34	2.07		
4	7.6	8.1	-1.4	14.3	1.4	12.9	13.0	.20	2.22	2.02		
5	29.4	63.3	0	92.7	5.7	87.0	87.8	.31	2.22	1.91		
Totals	111.4	202.2	-5.1	308.5	27.3	281.2	284.5	.27	2.41	2.14		
Deep Creek stream-gaging station		836						.36	2.44	2.08	2.49	2.41
8	22.3	c/18.5	+3.3	44.1	4.9	39.2	39.6	.17	2.07	1.90		
Dry Prong Deep Creek stream-gaging station		78						.18	2.28	2.10	2.48	2.07
AUGUST 1955												
1	37.8	0	-5.0	32.8	4.2	28.6	28.8	.06	.98	.92		
2	4.0	0	-3.4	.6	.6	0	0	0	1.15	1.15		
3	28.5	0	-25.4	3.1	3.1	0	0	0	1.06	1.06		
4	5.4	0	-3.5	1.9	.7	1.2	1.2	.02	1.16	1.14		
5	22.6	36.6	+9.8	69.0	5.1	63.9	64.5	.23	2.09	1.86		
Totals	98.3	36.6	-27.5	107.4	13.7	93.7	94.5	.09	1.31	1.22		
Deep Creek stream-gaging station		201						.09	1.75	1.66	2.06	1.31
8	20.6	c/26.1	-28.7	18.0	3.7	14.3	14.4	.06	1.58	1.52		
Dry Prong Deep Creek stream-gaging station		25						.06	1.78	1.72	1.91	1.58
SEPTEMBER 1955												
1	37.8	643.0	+21.0	701.8	24.1	677.7	684.0	1.40	5.40	4.00		
2	4.2	50.4	+8.1	62.7	0	62.7	62.7	1.49	4.89	3.40		
3	24.8	b/169.0	+36.6	230.4	15.4	215.0	219.0	1.20	4.83	3.63		
4	4.9	61.3	+4.9	71.1	2.3	68.8	69.4	1.07	4.03	2.96		
5	24.9	399.0	+14.0	437.9	11.4	426.5	430.0	1.53	4.34	2.81		
Totals	96.6	1,322.7	+84.6	1,503.9	53.2	1,450.7	1,465.1	1.38	4.92	3.54		
Deep Creek stream-gaging station		2,420						1.04	4.88	3.84	4.86	4.92
8	16.4	b/359	+35.7	411.1	11.1	400.0	404	1.75	4.57	2.82		
Dry Prong Deep Creek stream-gaging station		721						1.63	4.93	3.30	5.30	4.57

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
OCTOBER 1955												
1	37.4	0	-37.0	0.4	0.4	0	0	0	0.09	0.09		
2	5.4	0	-5.4	0	0	0	0	0	.08	.08		
3	24.3	.4	-21.9	2.8	1.6	1.2	1.2	.01	.18	.17		
4	4.9	0	-4.9	0	0	0	0	0	.07	.07		
5	22.6	37.1	-33.0	26.7	.1	26.6	26.8	.10	.05	0		
Totals	94.6	37.5	-102.2	29.9	2.1	27.8	28.0	.03	.09	.06		
Deep Creek stream-gaging station		8.9						0	.12	.12	0.13	0.09
8	17.5	.6	-17.2	.9	.3	.6	.6	0	.12	.12		
Dry Prong Deep Creek stream-gaging station		0						0	.13	.13	.14	.12
NOVEMBER 1955												
1	28.3	0	-26.0	2.3	2.3	0	0	0	.60	.60		
2	2.4	0	-2.1	.3	.3	0	0	0	.61	.61		
3	15.4	0	-13.3	2.1	2.1	0	0	0	.73	.73		
4	4.1	0	-3.8	.3	.3	0	0	0	.62	.62		
5	16.0	0	-14.4	1.6	1.6	0	0	0	.69	.69		
Totals	66.2	0	-59.6	6.6	6.6	0	0	0	.65	.65		
Deep Creek stream-gaging station		0						0	.61	.61	.57	.65
8	10.8	0	-9.4	1.4	1.3	.1	.1	0	.54	.54		
Dry Prong Deep Creek stream-gaging station		0						0	.55	.55	.55	.54
DECEMBER 1955												
1	17.4	0	-15.0	2.4	0	2.4	2.4	0	0	0		
2	2.4	0	-2.4	0	0	0	0	0	0	0		
3	10.5	0	-9.4	1.1	0	1.1	1.1	.01	0	0		
4	2.2	0	-1.8	.4	0	.4	.4	.01	0	0		
5	11.7	0	-11.0	.7	0	.7	.7	0	0	0		
Totals	44.2	0	-39.6	4.6	0	4.6	4.6	0	0	0		
Deep Creek stream-gaging station		0						0	0	0	0	0
8	8.1	c/8.8	-16.9	0	0	0	0	0	0	0		
Dry Prong Deep Creek stream-gaging station		0						0	0	0	0	0

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)	
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)				
JANUARY 1956														
1	11.7	0	-10.0	1.7	1.7	0	0	0	0.50	0.50				
2	1.1	0	-.9	.2	.2	0	0	0	.60	.60				
3	6.2	0	-5.0	1.2	1.2	0	0	0	.50	.50				
4	2.0	0	-1.8	.2	.2	0	0	0	.50	.50				
5	6.6	0	-5.2	1.4	1.4	0	0	0	.65	.65				
Totals	27.6	0	-22.9	4.7	4.7	0	0	0	.54	.54				
Deep Creek stream-gaging station		0						0	.61	.61	0.66	0.54		
8	5.8	0	-4.4	1.4	1.4	0	0	0	.62	.62				
Dry Prong Deep Creek stream-gaging station		0						0	.63	.63	.64	.62		
FEBRUARY 1956														
1	15.5	0	+20.0	35.5	6.1	29.4	29.6	.06	1.26	1.20				
2	2.0	0	+6.3	8.3	.6	7.7	7.8	.18	1.36	1.18				
3	10.9	0	+4.1	15.0	2.9	12.1	12.3	.07	1.20	1.13				
4	2.6	0	+6.0	8.6	.5	8.1	8.2	.13	1.33	1.20				
5	11.7	0	+27.6	39.3	2.6	36.7	37.0	.13	1.24	1.11				
Totals	42.7	0	+64.0	106.7	12.7	94.0	94.9	.09	1.26	1.17				
Deep Creek stream-gaging station		99						.04	1.23	1.19	1.21	1.26		
8	6.9	0	+15.1	22.0	2.6	19.4	19.6	.08	1.14	1.06				
Dry Prong Deep Creek stream-gaging station		6.7						.02	1.10	1.08	1.06	1.14		
MARCH 1956														
1	29.1	0	-29.0	.1	.1	0	0	0	.03	.03				
2	3.4	0	-3.4	0	0	0	0	0	.04	.04				
3	17.1	0	-17.0	.1	.1	0	0	0	.03	.03				
4	3.0	0	-3.0	0	0	0	0	0	.04	.04				
5	17.1	0	-17.0	.1	.1	0	0	0	.04	.04				
Totals	69.7	0	-69.4	.3	.3	0	0	0	.03	.03				
Deep Creek stream-gaging station		0						0	.03	.03	.03	.03		
8	14.1	c/14.6	-28.7	0	0	0	0	0	.02	.02				
Dry Prong Deep Creek stream-gaging station		0						0	.02	.02	.02	.02		

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
APRIL 1956												
1	29.0	0	-27.0	2.0	2.0	0	0	0	0.68	0.68		
2	3.7	0	-3.4	.3	.3	0	0	0	.64	.64		
3	14.8	0	-13.7	1.1	1.1	0	0	0	.58	.58		
4	3.8	0	-3.5	.3	.3	0	0	0	.69	.69		
5	16.9	0	-15.6	1.3	1.3	0	0	0	.60	.60		
Totals	68.2	0	-63.2	5.0	5.0	0	0	0	.64	.64		
Deep Creek stream-gaging station		0						0	.57	.57	0.52	0.64
8	15.5	c/3.4	-17.0	1.9	.9	1.0	1.0	0	.40	.40		
Dry Prong Deep Creek stream-gaging station		0						0	.40	.40	.39	.40
MAY 1956												
1	49.3	166.0	+113.0	328.3	12.3	316.0	319.0	.65	3.13	2.48		
2	4.8	0	+1.0	5.8	1.1	4.7	4.7	.11	2.76	2.65		
3	18.9	0	-4.3	14.6	4.5	10.1	10.2	.06	2.61	2.55		
4	5.5	0	+1.5	7.0	.8	6.2	6.2	.10	1.80	1.70		
5	22.5	0	-4.8	17.7	5.2	12.5	12.6	.04	2.62	2.58		
Totals	101.0	166.0	+106.4	373.4	23.9	349.5	352.7	.33	2.65	2.32		
Deep Creek stream-gaging station		314						.14	2.99	2.85	3.01	2.65
8	22.0	0	+46.8	68.8	7.4	61.4	62.0	.27	3.33	3.06		
Dry Prong Deep Creek stream-gaging station		212						.48	3.77	3.29	4.22	3.33
JUNE 1956												
1	62.0	0	-62.0	0	0	0	0	0	0	0		
2	4.7	0	-4.7	0	0	0	0	0	0	0		
3	18.6	0	-18.6	0	0	0	0	0	0	0		
4	5.0	0	-5.0	0	0	0	0	0	0	0		
5	24.0	0	-24.0	0	0	0	0	0	0	0		
Totals	114.3	0	-114.3	0	0	0	0	0	0	0		
Deep Creek stream-gaging station		0						0	0	0	0	0
8	24.6	c/33.0	-57.6	0	0	0	0	0	0	0		
Dry Prong Deep Creek stream-gaging station		0						0	0	0	0	0

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)	Rain on uncontrolled area above stream- gaging station(inches)	Rain on controlled area above stream- gaging station(inches)
JULY 1956												
1	44.9	0	-33.0	11.9	4.4	7.5	7.6	0.02	1.19	1.17		
2	3.5	0	-3.0	.5	.3	.2	.2	0	1.06	1.06		
3	13.3	0	-11.4	1.9	1.9	0	0	0	1.51	1.51		
4	4.0	0	-3.2	.8	.1	.7	.7	.01	.36	.35		
5	23.1	0	-21.6	1.5	1.5	0	0	0	.89	.89		
Totals	88.8	0	-72.2	16.6	8.2	8.4	8.5	.01	1.11	1.10		
Deep Creek stream-gaging station		0						0	1.11	1.11	1.12	1.11
8	21.3	11.0	-30.2	2.1	2.1	0	0	0	1.00	1.00		
Dry Prong Deep Creek stream-gaging station		0						0	.96	.96	.92	1.00
AUGUST 1956												
1	34.9	0	+23.0	57.9	3.4	54.5	54.8	.11	1.32	1.21		
2	2.5	0	+18.0	20.5	.5	20.0	20.1	.48	1.87	1.39		
3	11.2	0	+27.1	38.3	2.0	36.3	36.5	.20	1.74	1.54		
4	2.8	7.5	+24.0	34.3	.8	33.5	33.7	.52	2.71	2.19		
5	16.3	0	+71.6	87.9	2.8	85.1	85.5	.30	2.32	2.02		
Totals	67.7	7.5	+163.7	238.9	9.5	229.4	230.6	.22	1.76	1.54		
Deep Creek stream-gaging station		722						.31	2.10	1.79	2.38	1.76
8	18.5	0	+116.7	135.2	4.6	130.6	132	.57	2.37	1.80		
Dry Prong Deep Creek stream-gaging station		92						.21	2.26	2.05	2.13	2.37
SEPTEMBER 1956												
1	45.8	0	-45.0	.8	.8	0	0	0	.26	.26		
2	5.6	0	-5.4	.2	.2	0	0	0	.41	.41		
3	13.6	0	-13.1	.5	.5	0	0	0	.39	.39		
4	6.2	17.1	-6.6	16.7	.1	16.6	16.8	.26	.15	0		
5	26.5	0	-26.0	.5	.5	0	0	0	.23	.23		
Totals	97.7	17.1	-96.1	18.7	2.1	16.6	16.8	.02	.27	.25		
Deep Creek stream-gaging station		3.0						0	.22	.22	.18	.27
8	21.1	0	-20.5	.6	.6	0	0	0	.26	.26		
Dry Prong Deep Creek stream-gaging station		0						0	.20	.20	.15	.26

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)	Rain on uncontrolled area above stream- gaging station(inches)	Rain on controlled area above stream- gaging station(inches)
OCTOBER 1956												
1	20.9	0	+4.0	24.9	4.5	20.4	20.5	0.04	1.69	1.65		
2	4.1	2.0	+4.6	10.7	1.0	9.7	9.8	.23	1.96	1.73		
3	11.1	0	+21.2	32.3	2.8	29.5	29.7	.16	1.87	1.71		
4	4.5	0	+2.8	7.3	1.2	6.1	6.2	.10	2.08	1.98		
5	16.6	0	-11.6	5.0	3.3	1.7	1.7	.01	1.76	1.75		
Totals	57.2	2.0	+21.0	80.2	12.8	67.4	67.9	.06	1.78	1.72		
Deep Creek stream-gaging station		81						.04	1.88	1.84	1.95	1.78
8	17.2	0	+8	18.0	4.4	13.6	13.7	.06	1.90	1.84		
Dry Prong Deep Creek stream-gaging station		23						.05	1.94	1.89	1.98	1.90
NOVEMBER 1956												
1	28.2	0	-27.0	1.2	1.2	0	0	0	.44	.44		
2	3.5	c/.7	-3.9	.3	.3	0	0	0	.45	.45		
3	10.5	0	-9.8	.7	.7	0	0	0	.40	.40		
4	3.8	0	-3.5	.3	.3	0	0	0	.41	.41		
5	11.4	0	-10.4	1.0	1.0	0	0	0	.52	.52		
Totals	57.4	.7	-54.6	3.5	3.5	0	0	0	.45	.45		
Deep Creek stream-gaging station		.8						0	.48	.48	.50	.45
8	11.2	0	-10.2	1.0	1.0	0	0	0	.44	.44		
Dry Prong Deep Creek stream-gaging station		.2						0	.49	.49	.52	.44
DECEMBER 1956												
1	13.2	0	+23.0	36.2	2.8	33.4	33.5	.07	1.28	1.21		
2	2.6	0	0	2.6	.6	2.0	2.0	.05	1.28	1.23		
3	6.6	0	+6.5	13.1	2.0	11.1	11.2	.06	1.28	1.22		
4	3.2	0	+7	3.9	.7	3.2	3.2	.05	1.24	1.19		
5	9.6	0	-4.0	5.6	2.2	3.4	3.4	.01	1.34	1.33		
Totals	35.2	0	+26.2	61.4	8.3	53.1	53.3	.05	1.29	1.24		
Deep Creek stream-gaging station		63						.03	1.37	1.34	1.39	1.29
8	8.9	0	+5.1	14.0	3.3	10.7	10.8	.05	1.42	1.37		
Dry Prong Deep Creek stream-gaging station		11						.02	1.38	1.35	1.35	.48

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JANUARY 1957												
1	18.1	0	-16.0	2.1	2.1	0	0	0	0.79	0.79		
2	2.0	0	-1.4	.6	.4	.2	.2	0	.76	.76		
3	6.2	0	-5.1	1.1	1.1	0	0	0	.68	.68		
4	2.2	0	-1.4	.8	.4	.4	.4	.01	.73	.72		
5	7.2	0	-6.0	1.2	1.2	0	0	0	.75	.75		
Totals	35.7	0	-29.9	5.8	5.2	.6	.6	0	.76	.76		
Deep Creek stream-gaging station		0						0	.74	.74	0.76	0.76
8	6.9	0	-5.6	1.3	1.3	0	0	0	.58	.58		
Dry Prong Deep Creek stream-gaging station		0						0	.60	.60	.62	.58
FEBRUARY 1957												
1	7.1	0	-3.0	4.1	2.6	1.5	1.5	0	1.02	1.02		
2	1.8	0	-1.4	.4	.4	0	0	0	.81	.81		
3	5.3	0	-3.1	2.2	1.3	.9	.9	0	.83	.83		
4	1.8	0	-1.4	.4	.4	0	0	0	.82	.82		
5	4.0	0	-2.0	2.0	1.3	.7	.7	0	.85	.85		
Totals	20.0	0	-10.9	9.1	6.0	3.1	3.1	0	.92	.92		
Deep Creek stream-gaging station		0						0	.91	.91	.89	.92
8	7.0	0	-2.2	4.8	1.9	2.9	2.9	.01	.81	.80		
Dry Prong Deep Creek stream-gaging station		0						0	.86	.86	.89	.81
MARCH 1957												
1	11.3	54.1	+141.0	206.4	8.9	197.5	199.0	.41	2.98	2.57		
2	1.6	0	+6.7	8.3	1.5	6.8	6.9	.16	2.83	2.67		
3	6.9	b/15.4	+79.6	101.9	5.9	96.0	97.1	.53	2.97	2.44		
4	1.9	0	+6.3	8.2	1.8	6.4	6.5	.10	3.06	2.96		
5	8.1	18.8	+90.0	116.9	5.6	111.3	112.0	.40	3.08	2.68		
Totals	29.8	88.3	+323.6	441.7	23.7	418.0	421.5	.40	3.00	2.60		
Deep Creek stream-gaging station		666						.29	2.84	2.55	2.70	3.00
8	6.8	b/74.9	+35.3	117.0	6.4	110.6	112	.49	2.70	2.21		
Dry Prong Deep Creek stream-gaging station		111						.25	2.89	2.64	3.09	2.70

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
APRIL 1957												
1	30.7	902.0	+66.0	998.7	32.7	966.0	976.0	1.99	6.21	4.22		
2	4.0	112.0	+3.5	119.5	4.3	115.2	117.0	2.78	6.23	3.45		
3	21.1	292.0	+37.0	350.1	23.8	326.3	333.0	1.82	7.00	5.18		
4	4.2	87.9	+3.1	95.2	4.1	91.1	92.1	1.41	5.89	4.48		
5	18.9	179.0	+28.4	226.3	13.7	212.6	215.0	.76	5.05	4.29		
Totals	78.9	1,572.9	+138.0	1,789.8	78.6	1,711.2	1,733.1	1.63	6.02	4.39		
Deep Creek stream-gaging station		2,760						1.19	5.73	4.54	5.50	6.02
8	13.9	259.0	+10.0	282.9	12.9	270.0	273	1.18	4.94	3.76		
Dry Prong Deep Creek stream-gaging station		322						.73	4.73	4.00	4.51	4.94
MAY 1957												
1	44.2	1,570.0	-55.0	1,559.2	52.1	1,507.1	1,530	3.12	8.04	4.92		
2	6.1	205.0	-1.8	209.3	7.0	202.3	206	4.89	9.25	4.36		
3	28.9	552.0	-32.6	548.3	32.8	515.5	527	2.89	8.47	5.58		
4	6.3	262.0	-2.4	265.9	7.0	258.9	262	4.02	9.10	5.08		
5	31.7	1,340.0	+3.8	1,375.5	31.7	1,343.8	1,360	4.84	8.59	3.75		
Totals	117.2	3,929.0	-88.0	3,958.2	130.6	3,827.6	3,885	3.66	8.37	4.71		
Deep Creek stream-gaging station		7,630						3.28	8.40	5.12	8.40	8.37
8	19.6	6,850	-7.5	862.1	23.1	839.0	850	3.69	7.62	3.93		
Dry Prong Deep Creek stream-gaging station		1,100						2.49	7.55	5.06	7.49	7.62
JUNE 1957												
1	40.1	23.0	-42.0	21.1	4.6	16.5	16.7	.03	.99	.96		
2	4.5	9.5	-5.6	8.4	.5	7.9	8.0	.19	.73	.54		
3	28.3	.8	-24.0	5.1	2.8	2.3	2.3	.01	.85	.84		
4	4.1	5.0	-3.5	5.6	.5	5.1	5.2	.08	.73	.65		
5	26.7	379.0	-41.8	363.9	3.2	360.7	364.0	1.30	1.11	0		
Totals	103.7	417.3	-116.9	404.1	11.6	392.5	396.2	.37	.97	.60		
Deep Creek stream-gaging station		81						.04	1.02	.98	1.07	.97
8	21.1	35.3	-20.5	35.9	2.8	33.1	33.5	.14	1.12	.98		
Dry Prong Deep Creek stream-gaging station		86						.19	1.15	.96	1.13	1.12

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JULY 1957												
1	60.4	0	-60.0	0.4	0.4	0	0	0	0.11	0.11		
2	5.5	c/.4	-5.8	.1	.1	0	0	0	.27	.27		
3	30.0	0	-29.4	.6	.5	.1	.1	0	.28	.28		
4	6.5	0	-6.5	0	0	0	0	0	.07	.07		
5	32.6	0	-31.4	1.2	1.2	0	0	0	.54	.54		
Totals	135.0	.4	-133.1	2.3	2.2	.1	.1	0	.26	.26		
Deep Creek stream-gaging station		0						0	.21	.21	0.17	0.26
8	26.7	c/8.5	-33.4	1.8	.2	1.6	1.6	.01	.07	.06		
Dry Prong Deep Creek stream-gaging station		0						0	.09	.09	.14	.07
AUGUST 1957												
1	50.1	0	-50.0	.1	.1	0	0	0	.03	.03		
2	4.3	0	-4.3	0	0	0	0	0	0	0		
3	22.1	0	-22.0	.1	.1	0	0	0	0	0		
4	5.0	0	-5.0	0	0	0	0	0	0	0		
5	28.9	0	-28.8	.1	.1	0	0	0	.02	.02		
Totals	110.4	0	-110.1	.3	.3	0	0	0	.02	.02		
Deep Creek stream-gaging station		0						0	.03	.03	.03	.02
8	22.0	9.9	-31.7	.2	.2	0	0	0	.08	.08		
Dry Prong Deep Creek stream-gaging station		0						0	.13	.13	.18	.08
SEPTEMBER 1957												
1	34.4	8.5	+131.0	173.9	16.2	157.7	159.0	.32	4.54	4.22		
2	2.8	0	-1.5	1.3	.9	.4	.4	.01	2.79	2.78		
3	19.6	0	+37.3	56.9	8.2	48.7	49.3	.27	3.94	3.67		
4	3.2	0	-1.0	2.2	.8	1.4	1.4	.02	2.20	2.18		
5	16.7	0	-12.2	4.5	4.1	.4	.4	0	2.29	2.29		
Totals	76.7	8.5	+153.6	238.8	30.2	208.6	210.5	.20	3.63	3.43		
Deep Creek stream-gaging station		0						0	2.98	2.98	2.47	3.63
8	15.7	0	-8.9	6.8	4.8	2.0	2.0	.01	2.43	2.42		
Dry Prong Deep Creek stream-gaging station		0						0	2.18	2.18	1.91	2.43

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
OCTOBER 1957												
1	29.2	434.0	+5.0	468.2	35.9	432.3	438.0	0.89	5.84	4.95		
2	2.8	49.4	+15.0	67.2	2.9	64.3	65.1	1.54	5.76	4.22		
3	19.0	177.0	+34.1	230.1	22.2	207.9	212.0	1.17	5.70	4.53		
4	3.3	30.3	+15.0	48.6	2.7	45.9	46.2	.71	5.58	4.87		
5	16.3	338.0	+82.0	436.3	14.5	421.8	426.0	1.52	5.64	4.12		
Totals	70.6	1,028.7	+151.1	1,250.4	78.2	1,172.2	1,187.3	1.12	5.74	4.62		
Deep Creek stream-gaging station		1,880						.81	5.10	4.29	4.97	5.74
8	12.2	0	+73.1	85.3	8.9	76.4	77.1	.34	4.16	3.82		
Dry Prong Deep Creek stream-gaging station		57						.13	4.04	3.91	3.90	4.16
NOVEMBER 1957												
1	18.7	30.5	+5.0	54.2	16.3	37.9	38.3	.08	3.52	3.44		
2	2.4	0	+8	3.2	2.2	1.0	1.0	.02	3.80	3.78		
3	13.5	14.1	+4.0	31.6	12.3	19.3	19.7	.11	3.72	3.61		
4	2.7	6.0	+1.4	10.1	2.5	7.6	7.7	.12	3.83	3.71		
5	13.7	114.0	0	127.7	13.3	114.4	115.0	.41	5.02	4.61		
Totals	51.0	164.6	+11.2	226.8	46.6	180.2	181.7	.17	3.90	3.73		
Deep Creek stream-gaging station		979						.42	4.32	3.90	4.59	3.90
8	9.1	c/232.0	+13.2	254.3	12.3	242.0	245	1.06	4.73	3.67		
Dry Prong Deep Creek stream-gaging station		311						.70	4.66	3.96	4.59	4.73
DECEMBER 1957												
1	14.9	0	-10.0	4.9	3.2	1.7	1.7	0	.73	.73		
2	1.9	0	-1.6	.3	.3	0	0	0	.58	.58		
3	12.6	0	-10.6	2.0	2.0	0	0	0	.64	.64		
4	3.0	0	-2.1	.9	.4	.5	.5	.01	.55	.54		
5	11.9	1.0	-6.4	6.5	1.5	5.0	5.0	.02	.59	.57		
Totals	44.3	1.0	-30.7	14.6	7.4	7.2	7.2	.01	.66	.65		
Deep Creek stream-gaging station		.4						0	.70	.70	.70	.66
8	7.6	0	-4.2	3.4	1.8	1.6	1.6	.01	.73	.72		
Dry Prong Deep Creek stream-gaging station		0						0	.77	.77	.80	.73

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)	Rain on uncontrolled area above stream- gaging station(inches)	Rain on controlled area above stream- gaging station(inches)
JANUARY 1958												
1	9.8	27.5	+10.0	47.3	14.5	32.8	33.1	0.07	3.28	3.21		
2	1.3	5.8	+1.6	8.7	2.0	6.7	6.8	.16	3.28	3.12		
3	7.0	20.4	+9.4	36.8	10.5	26.3	26.8	.15	3.26	3.11		
4	1.4	.8	+2.1	4.3	2.1	2.2	2.2	.03	3.35	3.32		
5	8.3	25.4	+9.8	43.5	8.2	35.3	35.6	.13	3.29	3.16		
Totals	27.8	79.9	+32.9	140.6	37.3	103.3	104.5	.10	3.28	3.18		
Deep Creek stream-gaging station		290						.12	3.28	3.16	3.27	3.28
8	4.7	c/58.6	-11.9	51.4	6.9	44.5	45.0	.20	2.84	2.64		
Dry Prong Deep Creek stream-gaging station		95						.22	2.85	2.63	2.84	2.84
FEBRUARY 1958												
1	15.4	92.2	+6.0	113.6	13.7	99.9	101.0	.21	3.07	2.86		
2	2.2	4.8	0	7.0	1.7	5.3	5.4	.13	2.76	2.63		
3	9.5	61.9	+1.2	72.6	9.9	62.7	63.8	.35	3.02	2.67		
4	1.9	16.5	0	18.4	1.6	16.8	17.0	.26	2.49	2.23		
5	11.3	82.9	+3.4	97.6	7.7	89.9	90.8	.32	2.75	2.43		
Totals	40.3	258.3	+10.6	309.2	34.6	274.6	278.0	.26	2.93	2.67		
Deep Creek stream-gaging station		773						.33	2.87	2.54	2.83	2.93
8	6.0	b/96.7	+21.2	123.9	6.1	117.8	119	.52	2.58	2.06		
Dry Prong Deep Creek stream-gaging station		123						.28	2.59	2.31	2.58	2.58
MARCH 1958												
1	27.6	229.0	-11.0	245.6	11.2	234.4	237.0	.48	2.42	1.94		
2	3.6	19.2	-.8	22.0	1.3	20.7	21.0	.50	2.10	1.60		
3	19.7	86.9	-4.8	101.8	8.9	92.9	94.6	.52	2.77	2.25		
4	4.0	29.8	0	33.8	1.7	32.1	32.4	.50	2.44	1.94		
5	18.7	228.0	-3.4	243.3	6.9	236.4	239.0	.85	2.55	1.70		
Totals	73.6	592.9	-20.0	646.5	30.0	616.5	624.0	.59	2.50	1.91		
Deep Creek stream-gaging station		1,050						.45	2.64	2.19	2.77	2.50
8	13.3	145.0	-1.5	156.8	6.2	150.6	153	.66	2.37	1.71		
Dry Prong Deep Creek stream-gaging station		145						.33	2.48	2.15	2.60	2.37

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total Inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
APRIL 1958												
1	22.7	0	-16.0	6.7	5.9	.8	.8	0	1.34	1.34		
2	3.3	0	-2.4	.9	.9	0	0	0	1.60	1.60		
3	16.1	0	-12.1	4.0	3.9	.1	.1	0	1.26	1.26		
4	3.4	.8	-1.4	2.8	1.1	1.7	1.7	.03	1.65	1.62		
5	16.0	2.2	-13.0	5.2	3.9	1.3	1.3	0	1.54	1.54		
Totals	61.5	3.0	-44.9	19.6	15.7	3.9	3.9	0	1.41	1.41		
Deep Creek stream-gaging station		0						0	1.56	1.56	1.59	1.41
8	12.5	0	-7.5	5.0	4.0	1.0	1.0	0	1.65	1.65		
Dry Prong Deep Creek stream-gaging station		0						0	1.73	1.73	1.80	1.65
MAY 1958												
1	28.7	341.0	+11.0	380.7	22.5	358.2	361.0	.74	5.06	4.32		
2	3.7	11.7	+1.6	17.0	3.3	13.7	13.9	.33	5.44	5.11		
3	19.8	60.7	+7.4	87.9	14.1	73.8	75.1	.41	4.51	4.10		
4	4.0	17.7	0	21.7	3.1	18.6	18.8	.29	4.83	4.54		
5	18.8	58.3	+3.2	80.3	10.4	69.9	70.6	.25	3.98	3.73		
Totals	75.0	489.4	+23.2	587.6	53.4	534.2	539.4	.51	4.68	4.17		
Deep Creek stream-gaging station		1,010						.43	4.17	3.74	3.79	4.68
8	14.5	40.5	+3.0	58.0	8.5	49.5	50.0	.22	3.47	3.25		
Dry Prong Deep Creek stream-gaging station		61						.14	3.42	3.28	3.38	3.47
JUNE 1958												
1	48.6	0	-37.0	11.6	7.2	4.4	4.4	.01	1.83	1.82		
2	5.3	0	-4.4	.9	.4	.5	.5	.01	1.77	1.76		
3	31.1	0	-19.9	11.2	5.1	6.1	6.2	.03	1.77	1.74		
4	6.7	0	-4.2	2.5	1.2	1.3	1.3	.02	1.99	1.97		
5	28.9	c/3.1	-26.4	5.6	4.7	.9	.9	0	2.05	2.05		
Totals	120.6	3.1	-91.9	31.8	18.6	13.2	13.3	.01	1.88	1.87		
Deep Creek stream-gaging station		2.0						0	1.81	1.81	1.74	1.88
8	23.9	0	-15.4	8.5	4.5	4.0	4.0	.02	1.87	1.85		
Dry Prong Deep Creek stream-gaging station		0						0	1.84	1.84	1.81	1.87

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JULY 1958												
1	51.1	0	-15.0	36.1	4.5	31.6	31.8	0.06	1.32	1.26		
2	6.0	0	-4.7	1.3	.5	.8	.8	.02	1.12	1.10		
3	31.9	0	-17.9	14.0	3.6	10.4	10.5	.06	1.51	1.45		
4	8.1	0	-4.4	3.7	.5	3.2	3.2	.06	1.08	1.02		
5	32.1	0	-30.4	1.7	1.7	0	0	0	.86	.86		
Totals	129.2	0	-72.4	56.8	10.8	46.0	46.3	.04	1.21	1.17		
Deep Creek stream-gaging station		0							.95	.95	0.75	1.21
8	25.8	c/3.9	-27.5	2.2	1.8	.4	.4	0	.77	.77		
Dry Prong Deep Creek stream-gaging station		1.6						0	.73	.73	.70	.77
AUGUST 1958												
1	63.0	0	-60.0	3.0	3.0	0	0	0	.92	.92		
2	3.9	c/.1	-3.7	.3	.3	0	0	0	.82	.82		
3	22.3	0	-20.2	2.1	2.1	0	0	0	.96	.96		
4	4.9	0	-4.5	.4	.4	0	0	0	.97	.97		
5	19.7	0	-16.8	2.9	2.9	0	0	0	1.64	1.64		
Totals	113.8	.1	-105.2	8.7	8.7	0	0	0	1.11	1.11		
Deep Creek stream-gaging station		15						0	1.42	1.41	1.67	1.11
8	19.7	c/3.2	-4.3	18.6	5.5	13.1	13.2	.06	2.44	2.38		
Dry Prong Deep Creek stream-gaging station		3.8						.01	2.34	2.33	2.25	2.44
SEPTEMBER 1958												
1	24.8	0	+31.0	55.8	9.3	46.5	46.8	.10	3.13	3.03		
2	2.6	0	+.8	3.4	1.1	2.3	2.3	.06	3.45	3.39		
3	15.4	0	-3.1	12.3	6.3	6.0	6.1	.03	3.28	3.25		
4	3.0	0	+.5	3.5	.8	2.7	2.7	.04	2.18	2.14		
5	14.8	0	-10.0	4.8	4.0	.8	.8	0	2.41	2.41		
Totals	60.6	0	+19.2	79.8	21.5	58.3	58.7	.06	2.92	2.86		
Deep Creek stream-gaging station		0						0	2.76	2.76	2.63	2.92
8	15.9	0	-9.7	6.2	5.7	.5	.5	0	2.53	2.53		
Dry Prong Deep Creek stream-gaging station		0						0	2.36	2.36	2.18	2.53

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)			
OCTOBER 1958													
1	16.3	0	0	16.3	7.7	8.6	8.7	0.02	2.44	2.42			
2	1.8	0	+5	2.3	1.1	1.2	1.2	.03	3.17	3.14			
3	9.5	0	-3.8	5.7	4.8	.9	.9	0	2.61	2.61			
4	2.0	0	+1.0	3.0	1.4	1.6	1.6	.02	3.61	3.59			
5	9.8	0	+8.0	17.8	5.6	12.2	12.3	.04	3.59	3.55			
Totals	39.4	0	+5.7	45.1	20.6	24.5	24.7	.02	2.87	2.85			
Deep Creek stream-gaging station		0						0	2.74	2.74	2.62	2.87	
8	12.7	c/4.8	-10.1	7.4	4.1	3.3	3.3	.01	1.88	1.87			
Dry Prong Deep Creek stream-gaging station		2.6						.01	1.80	1.79	1.67	1.88	
NOVEMBER 1958													
1	20.0	0	0	20.0	4.1	15.9	16.0	.03	1.27	1.24			
2	1.8	0	-.5	1.3	.4	.9	.9	.02	1.29	1.27			
3	8.5	0	-2.4	6.1	2.0	4.1	4.1	.02	1.18	1.16			
4	2.4	0	0	2.4	.5	1.9	1.9	.03	1.25	1.22			
5	8.1	0	-6.0	2.1	2.1	0	0	0	1.30	1.30			
Totals	40.8	0	-8.9	31.9	9.1	22.8	22.9	.02	1.26	1.24			
Deep Creek stream-gaging station		.4						0	1.34	1.34	1.39	1.26	
8	7.8	0	-1.6	6.2	2.9	3.3	3.3	.01	1.34	1.33			
Dry Prong Deep Creek stream-gaging station		0						0	1.38	1.38	1.48	1.34	
DECEMBER 1958													
1	15.6	0	-14.0	1.6	1.6	0	0	0	.49	.49			
2	1.4	0	-1.2	.2	.2	0	0	0	.51	.51			
3	6.2	0	-5.2	1.0	.9	.1	.1	0	.51	.51			
4	3.2	0	-3.0	.2	.2	0	0	0	.48	.48			
5	6.8	0	-6.0	.8	.8	0	0	0	.49	.49			
Totals	33.2	0	-29.4	3.8	3.7	.1	.1	0	.49	.49			
Deep Creek stream-gaging station		0						0	.50	.50	.50	.49	
8	6.9	c/4.7	-9.9	1.7	1.0	.7	.7	0	.47	.47			
Dry Prong Deep Creek stream-gaging station		2.6						.01	.50	.49	.56	.47	

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)			
JANUARY 1959													
1	13.0	0	-13.0	0	0	0	0	0	0	0	0		
2	1.4	0	-1.4	0	0	0	0	0	0	0	0		
3	5.0	0	-5.0	0	0	0	0	0	0	0	0		
4	1.5	0	-1.5	0	0	0	0	0	0	0	0		
5	7.6	0	-7.6	0	0	0	0	0	0	0	0		
Totals	28.5	0	-28.5	0	0	0	0	0	0	0	0		
Deep Creek stream-gaging station		0						0	0	0	0	0	0
8	5.8	0	-5.8	0	0	0	0	0	0	0	0	0	0
Dry Prong Deep Creek stream-gaging station		0						0	0	0	0	0	0
FEBRUARY 1959													
1	9.7	0	-4.0	5.7	3.6	2.1	2.1	0	1.25	1.25			
2	.7	0	-.3	.4	.4	0	0	0	1.29	1.29			
3	4.3	0	-2.3	2.0	2.0	0	0	0	1.39	1.39			
4	.9	0	-.5	.4	.4	0	0	0	1.23	1.23			
5	5.3	0	-3.4	1.9	1.9	0	0	0	1.38	1.38			
Totals	20.9	0	-10.5	10.4	8.3	2.1	2.1	0	1.31	1.31			
Deep Creek stream-gaging station		0						0	1.31	1.31	1.29	1.31	
8	5.5	3.7	-6.7	2.5	2.5	0	0	0	1.18	1.18			
Dry Prong Deep Creek stream-gaging station		2.4						0	1.17	1.17	1.16	1.18	
MARCH 1959													
1	23.2	0	-23.0	.2	.2	0	0	0	.07	.07			
2	2.4	0	-2.4	0	0	0	0	0	.08	.08			
3	10.6	0	-10.5	.1	.1	0	0	0	.08	.08			
4	3.0	0	-3.0	0	0	0	0	0	.07	.07			
5	9.1	0	-9.0	.1	.1	0	0	0	.08	.08			
Totals	48.3	0	-47.9	.4	.4	0	0	0	.07	.07			
Deep Creek stream-gaging station		0						0	.08	.08	.08	.07	
8	13.7	0	-13.5	.2	.2	0	0	0	.09	.09			
Dry Prong Deep Creek stream-gaging station		0						0	.09	.09	.08	.09	

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
APRIL 1959												
1	21.1	0	+4.0	25.1	5.2	19.9	20.0	0.04	2.01	1.97		
2	1.5	0	-.8	.7	.5	.2	.2	0	1.95	1.95		
3	7.6	0	-4.6	3.0	2.3	.7	.7	0	1.99	1.99		
4	1.9	0	-.8	1.1	.6	.5	.5	.01	2.00	1.99		
5	9.6	0	-5.6	4.0	2.2	1.8	1.8	.01	1.80	1.79		
Totals	41.7	0	-7.8	33.9	10.8	23.1	23.2	.02	1.95	1.93		
Deep Creek stream-gaging station		0						0	1.81	1.81	1.70	1.95
8	11.5	c/5.2	-13.5	3.2	2.6	.6	.6	0	1.38	1.38		
Dry Prong Deep Creek stream-gaging station		2.6						.01	1.33	1.32	1.32	1.38
MAY 1959												
1	30.8	0	+11.0	41.8	7.2	34.6	34.8	.07	3.01	2.94		
2	2.1	0	+.3	2.4	.7	1.7	1.7	.04	3.05	3.01		
3	10.6	0	-.3	10.3	3.2	7.1	7.1	.04	3.05	3.01		
4	2.8	0	+3.8	6.6	1.0	5.6	5.6	.09	3.56	3.47		
5	13.0	0	+2.8	15.8	4.1	11.7	11.7	.04	3.44	3.40		
Totals	59.3	0	+17.6	76.9	16.2	60.7	60.9	.06	3.16	3.10		
Deep Creek stream-gaging station		70						.03	3.20	3.17	3.23	3.16
8	15.1	c/4.1	-5.3	13.9	4.8	9.1	9.2	.04	2.77	2.73		
Dry Prong Deep Creek stream-gaging station		83						.02	2.86	2.84	2.95	2.77
JUNE 1959												
1	39.3	479.0	+146.0	664.3	30.6	633.7	639.0	1.30	7.50	6.20		
2	5.2	53.4	+18.0	76.6	3.1	73.5	74.3	1.76	7.11	5.35		
3	26.6	131.0	+106.4	264.0	19.1	244.9	248.0	1.36	7.99	6.63		
4	5.7	80.7	+17.0	103.4	3.4	100.0	101.0	1.55	6.44	4.89		
5	17.1	0	+51.0	68.1	10.3	57.8	58.1	.21	6.55	6.34		
Totals	93.9	744.1	+338.4	1,176.4	66.5	1,109.9	1,120.4	1.06	7.25	6.19		
Deep Creek stream-gaging station		1,950						.84	7.02	6.18	6.85	7.25
8	17.3	86.7	+132.6	236.6	13.0	223.6	226	.98	6.41	5.43		
Dry Prong Deep Creek stream-gaging station		214						.48	6.51	6.03	6.62	6.41

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)	Rain on uncontrolled area above stream- gaging station(inches)	Rain on controlled area above stream- gaging station(inches)
JULY 1959												
1	53.1	12.9	-31.0	35.0	9.6	25.4	25.6	0.05	2.22	2.17		
2	5.5	0	-1.6	3.9	1.2	2.7	2.7	.06	2.20	2.14		
3	25.0	5.6	-8.7	21.9	7.7	14.2	14.4	.08	2.46	2.38		
4	6.9	.8	-1.4	6.3	2.0	4.3	4.3	.07	3.20	3.13		
5	23.1	c/4.7	0	27.8	5.2	22.6	22.7	.08	2.95	2.87		
Totals	113.6	24.0	-42.7	94.9	25.7	69.2	69.7	.07	2.51	2.44		
Deep Creek stream-gaging station		244						.10	2.75	2.65	2.95	2.51
8	21.5	106.0	-6.4	121.1	3.7	117.4	119	.52	3.21	2.69		
Dry Prong Deep Creek stream-gaging station		161						.36	3.22	2.86	3.24	3.21
AUGUST 1959												
1	50.7	0	-47.0	3.7	3.7	0	0	0	.97	.97		
2	10.4	0	-10.0	.4	.4	0	0	0	.97	.97		
3	26.8	0	-23.7	3.1	3.1	0	0	0	1.08	1.08		
4	14.4	0	-14.0	.4	.4	0	0	0	.96	.96		
5	22.8	0	-21.0	1.8	1.8	0	0	0	1.04	1.04		
Totals	125.1	0	-115.7	9.4	9.4	0	0	0	1.01	1.01		
Deep Creek stream-gaging station		3.2						0	1.00	1.00	.98	1.01
8	21.1	0	-19.0	2.1	2.0	.1	.1	0	.85	.85		
Dry Prong Deep Creek stream-gaging station		1.2						0	.99	.99	1.23	.85
SEPTEMBER 1959												
1	34.6	0	-29.0	5.6	5.6	0	0	0	1.79	1.79		
2	3.4	0	-1.4	2.0	.7	1.3	1.3	.03	2.15	2.12		
3	22.8	0	-13.1	9.7	4.2	5.5	5.6	.03	1.79	1.76		
4	3.2	0	-1.5	1.7	.6	1.1	1.1	.02	1.73	1.71		
5	16.4	0	-12.0	4.4	2.2	2.2	2.2	.01	1.51	1.50		
Totals	80.4	0	-57.0	23.4	13.3	10.1	10.2	.01	1.73	1.72		
Deep Creek stream-gaging station		1.8						0	1.67	1.67	1.63	1.73
8	18.0	c/5.0	-15.7	7.3	3.4	3.9	3.9	.02	1.48	1.46		
Dry Prong Deep Creek stream-gaging station		1.8						0	1.67	1.67	1.90	1.48

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
OCTOBER 1959												
1	24.4	433.0	+84.0	541.4	37.0	504.4	509.0	1.04	8.08	7.04		
2	3.1	42.6	+12.0	57.7	4.2	53.5	54.2	1.29	7.85	6.56		
3	17.4	140.0	+37.9	195.3	23.0	172.3	175.0	.96	7.82	6.86		
4	3.4	34.5	+15.0	52.9	4.6	48.3	48.8	.75	7.31	6.56		
5	15.2	63.3	+91.6	170.1	15.4	154.7	156.0	.56	7.44	6.88		
Totals	63.5	713.4	+240.5	1,017.4	84.2	933.2	943.0	.89	7.81	6.92		
Deep Creek stream-gaging station		2,500						1.08	7.76	6.68	7.72	7.81
8	12.4	437.0	+34.1	483.5	26.2	457.3	464	2.01	7.35	5.34		
Dry Prong Deep Creek stream-gaging station		693						1.57	7.35	5.78	7.35	7.35
NOVEMBER 1959												
1	18.2	0	-16.0	2.2	2.2	0	0	0	.52	.52		
2	3.4	0	-3.1	.3	.3	0	0	0	.55	.55		
3	12.4	0	-10.6	1.8	1.8	0	0	0	.56	.56		
4	3.2	0	-2.8	.4	.4	0	0	0	.58	.58		
5	16.6	0	-15.2	1.4	1.4	0	0	0	.59	.59		
Totals	53.8	0	-47.7	6.1	6.1	0	0	0	.55	.55		
Deep Creek stream-gaging station		0						0	.54	.54	.57	.55
8	9.6	c/2.0	-10.3	1.3	1.3	0	0	0	.51	.51		
Dry Prong Deep Creek stream-gaging station		0						0	.51	.51	.50	.51
DECEMBER 1959												
1	16.4	4.8	+32.0	53.2	12.8	40.4	40.7	.08	3.14	3.06		
2	1.6	0	+1.5	3.1	1.6	1.5	1.5	.04	3.13	3.09		
3	10.2	0	+13.4	23.6	9.6	14.0	14.2	.08	3.15	3.07		
4	2.1	0	+2.8	4.9	1.9	3.0	3.0	.05	3.23	3.18		
5	9.3	0	+6.0	15.3	7.6	7.7	7.8	.03	3.24	3.21		
Totals	39.6	4.8	+55.7	100.1	33.5	66.6	67.2	.06	3.17	3.11		
Deep Creek stream-gaging station		70						.03	3.33	3.30	3.47	3.17
8	7.3	c/17.9	+29.7	54.9	8.3	46.6	47.1	.20	3.41	3.21		
Dry Prong Deep Creek stream-gaging station		45						.10	3.56	3.46	3.71	3.41

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JANUARY 1960												
1	15.3	23.0	-16.0	22.3	9.1	13.2	13.3	0.03	1.96	1.93		
2	2.0	0	+1.6	3.6	1.1	2.5	2.5	.06	1.91	1.85		
3	11.0	43.2	-3.9	50.3	6.4	43.9	44.7	.24	1.91	1.67		
4	2.2	5.8	+1.4	9.4	1.2	8.2	8.3	.13	1.80	1.67		
5	11.2	0	+6.0	17.2	4.6	12.6	12.7	.04	1.83	1.79		
Totals	41.7	72.0	-10.9	102.8	22.4	80.4	81.5	.08	1.90	1.82		
Deep Creek stream-gaging station		439						.19	1.88	1.69	1.87	1.90
8	7.5	135.0	-18.8	123.7	4.4	119.3	121	.52	1.69	1.17		
Dry Prong Deep Creek stream-gaging station		204						.46	1.71	1.25	1.73	1.69
FEBRUARY 1960												
1	17.2	3.8	-5.0	16.0	6.6	9.4	9.5	.02	1.51	1.49		
2	2.6	0	-.8	1.8	.8	1.0	1.0	.02	1.41	1.39		
3	12.3	.8	-3.1	10.0	4.6	5.4	5.5	.03	1.44	1.41		
4	2.5	3.6	0	6.1	.9	5.2	5.3	.08	1.38	1.30		
5	13.1	0	-6.0	7.1	3.1	4.0	4.0	.01	1.25	1.24		
Totals	47.7	8.2	-14.9	41.0	16.0	25.0	25.3	.02	1.42	1.40		
Deep Creek stream-gaging station		17						.01	1.35	1.34	1.31	1.42
8	10.3	7.3	-5.4	12.2	2.7	9.5	9.6	.04	1.11	1.07		
Dry Prong Deep Creek stream-gaging station		15						.03	1.16	1.13	1.20	1.11
MARCH 1960												
1	15.4	0	-11.0	4.4	2.0	2.4	2.4	0	.48	.48		
2	3.3	0	-3.0	.3	.3	0	0	0	.52	.52		
3	12.1	0	-10.7	1.4	1.4	0	0	0	.46	.46		
4	2.0	0	-1.4	.6	.3	.3	.3	0	.53	.53		
5	13.4	0	-12.0	1.4	1.4	0	0	0	.57	.57		
Totals	46.2	0	-38.1	9.1	5.4	2.7	2.7	0	.51	.51		
Deep Creek stream-gaging station		0						0	.54	.54	.57	.51
8	8.4	0	-7.3	1.1	1.1	0	0	0	.47	.47		
Dry Prong Deep Creek stream-gaging station		0						0	.50	.50	.54	.47

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)			
APRIL 1960													
1	29.3	3.6	+32.0	64.9	9.1	55.8	56.3	0.12	2.15	2.03			
2	3.4	0	+ .7	4.1	1.0	3.1	3.1	.07	2.19	2.12			
3	18.6	0	- .4	18.2	6.1	12.1	12.3	.07	2.21	2.14			
4	4.9	0	-1.4	3.5	1.1	2.4	2.4	.04	1.87	1.83			
5	20.3	0	-13.8	6.5	4.3	2.2	3.2	.01	1.95	1.94			
Totals	76.5	3.6	+17.1	97.2	21.6	75.6	77.3	.07	2.09	2.02			
Deep Creek stream-gaging station		.4						0	1.86	1.86	1.71	2.09	
8	13.7	c/14.3	-21.5	6.5	2.8	3.7	3.7	.02	1.21	1.19			
Dry Prong Deep Creek stream-gaging station		19						.04	1.31	1.27	1.40	1.21	
MAY 1960													
1	42.0	1.6	-27.0	16.6	8.1	8.5	8.6	.02	1.86	1.84			
2	4.7	0	-2.1	2.6	.8	1.8	1.8	.04	1.64	1.60			
3	26.9	0	-11.2	15.7	4.4	11.3	11.5	.06	1.58	1.52			
4	5.5	0	-2.1	3.4	1.1	2.3	2.3	.04	1.85	1.81			
5	19.9	0	-15.0	4.9	3.6	1.3	1.3	0	1.78	1.78			
Totals	99.0	1.6	-57.4	43.2	18.0	25.2	25.5	.02	1.78	1.76			
Deep Creek stream-gaging station		22						.01	1.69	1.68	1.61	1.78	
8	17.5	0	-11.5	6.0	3.0	3.0	3.0	.01	1.42	1.41			
Dry Prong Deep Creek stream-gaging station		.2						0	1.38	1.38	1.34	1.42	
JUNE 1960													
1	59.6	0	-56.0	3.6	3.6	0	0	0	.94	.94			
2	5.1	0	-4.7	.4	.4	0	0	0	.94	.94			
3	28.6	0	-26.5	2.1	2.1	0	0	0	.83	.83			
4	6.7	0	-6.2	.5	.5	0	0	0	.95	.95			
5	25.3	0	-24.0	1.3	1.3	0	0	0	.71	.71			
Totals	125.3	0	-117.4	7.9	7.9	0	0	0	.86	.86			
Deep Creek stream-gaging station		0						0	.67	.67	.55	.86	
8	22.8	c/8.6	-29.4	2.0	1.2	.8	.8	0	.55	.55			
Dry Prong Deep Creek stream-gaging station		2.8						.01	.41	.40	.39	.55	

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)			
JULY 1960													
1	47.5	0	+25.0	72.5	9.5	63.0	63.4	0.13	3.02	2.89			
2	5.1	0	+9.1	14.2	1.8	12.4	12.5	.30	3.85	3.55			
3	24.7	0	-6.0	18.7	7.4	11.3	11.4	.06	3.75	3.69			
4	5.8	0	+8.3	14.1	1.9	12.2	12.3	.19	2.30	4.11			
5	23.7	0	-20.0	3.7	3.7	0	0	0	2.32	2.32			
Totals	106.8	0	+16.4	123.2	24.3	98.9	99.6	.09	3.07	2.98			
Deep Creek stream-gaging station		38						.02	2.60	2.58	2.23	3.07	
8	22.0	c/12.8	-21.2	13.6	4.9	8.7	8.8	.04	2.38	2.34			
Dry Prong Deep Creek stream-gaging station		9.7						.02	2.04	2.02	1.70	2.38	
AUGUST 1960													
1	41.0	0	-25.0	16.0	8.9	7.1	7.2	.02	2.49	2.47			
2	6.2	0	-.8	5.4	1.4	4.0	4.0	.10	2.85	2.75			
3	20.3	0	+3.9	24.2	5.0	19.2	19.4	.11	2.69	2.58			
4	7.1	4.4	+2.1	13.6	2.7	10.9	11.0	.17	4.71	4.54			
5	17.6	0	+5.8	23.4	7.1	16.3	16.4	.06	5.08	5.02			
Totals	92.2	4.4	-14.0	82.6	25.1	57.5	58.0	.06	3.36	3.30			
Deep Creek stream-gaging station		126						.05	3.25	3.20	3.14	3.36	
8	15.1	c/7.1	-11.5	10.7	5.2	5.5	5.5	.02	2.56	2.54			
Dry Prong Deep Creek stream-gaging station		15						.03	2.62	2.59	2.69	2.56	
SEPTEMBER 1960													
1	31.7	0	-10.0	21.7	5.3	16.4	16.5	.03	1.68	1.65			
2	4.3	0	-2.2	2.1	.9	1.2	1.2	.03	1.72	1.69			
3	16.4	b/1.5	-5.6	12.3	3.6	8.7	8.8	.05	1.99	1.94			
4	6.1	0	-2.1	4.0	1.2	2.8	2.8	.04	2.15	2.11			
5	15.7	0	-13.0	2.7	2.7	0	0	0	1.95	1.95			
Totals	74.2	1.5	-32.9	42.8	13.7	29.1	29.3	.03	1.84	1.81			
Deep Creek stream-gaging station		68						.03	1.94	1.91	2.02	1.84	
8	13.0	c/26.4	-19.9	19.5	3.3	16.2	16.3	.07	2.06	1.99			
Dry Prong Deep Creek stream-gaging station		29						.07	2.09	2.02	2.13	2.06	

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff a (acre-feet)	Natural runoff a (inches) (computed for site)	Rein (inches)	Study area consumption (inches)		
OCTOBER 1960												
1	21.2	115.0	+103.0	239.2	18.5	220.7	223.0	0.46	4.62	4.16		
2	3.0	0	+4.6	7.6	2.4	5.2	5.3	.13	4.42	4.29		
3	10.3	0	+14.3	24.6	7.0	17.6	17.8	.10	3.89	3.79		
4	3.5	12.5	+3.5	19.5	2.7	16.8	17.0	.26	4.35	4.09		
5	9.2	0	-1.4	7.8	6.0	1.8	1.8	.01	4.32	4.31		
Totals	47.2	127.5	+124.0	298.7	36.6	262.1	264.9	.25	4.39	4.14		
Deep Creek stream-gaging station		93						.04	3.74	3.70	3.21	4.39
8	8.9	0	+7.5	16.4	4.7	11.7	11.8	.05	2.66	2.61		
Dry Prong Deep Creek stream-gaging station		5.8						.01	2.81	2.80	2.96	2.66
NOVEMBER 1960												
1	28.0	5.0	-31.0	2.0	2.0	0	0	0	.47	.47		
2	2.8	0	-2.4	.4	.4	0	0	0	.54	.54		
3	8.8	b/.9	-8.9	.8	.8	0	0	0	.43	.43		
4	3.1	0	-2.8	.3	.3	0	0	0	.44	.44		
5	7.0	0	-6.5	.5	.5	0	0	0	.41	.41		
Totals	49.7	5.9	-51.6	4.0	4.0	0	0	0	.45	.45		
Deep Creek stream-gaging station		1.6						0	.46	.46	.47	.45
8	6.2	0	-5.4	.8	.8	0	0	0	.44	.44		
Dry Prong Deep Creek stream-gaging station		0						0	.51	.51	.58	.44
DECEMBER 1960												
1	11.3	4.2	+10.0	25.5	17.2	8.3	8.4	.02	3.91	3.89		
2	1.6	0	+2.4	4.0	3.0	1.0	1.0	.02	5.18	5.16		
3	6.7	0	+44.0	50.7	12.3	38.4	38.9	.21	4.83	4.62		
4	1.6	.6	+2.1	4.3	3.3	1.0	1.0	.02	5.30	5.28		
5	5.2	0	+20.2	25.4	6.9	18.5	18.6	.07	5.00	4.93		
Totals	26.4	4.8	+78.7	109.9	42.7	67.2	67.9	.06	4.49	4.43		
Deep Creek stream-gaging station		435						.19	4.68	4.49	4.84	4.49
8	4.8	b/2.4	+45.8	53.0	8.1	44.9	45.3	.20	4.30	4.10		
Dry Prong Deep Creek stream-gaging station		35						.08	4.18	4.10	4.06	4.30

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JANUARY 1961												
1	12.2	143.0	0	155.2	14.4	140.8	142.0	0.29	2.91	2.62		
2	1.6	2.2	0	3.8	1.9	1.9	1.9	.04	3.17	3.13		
3	8.0	57.5	+7.0	72.5	10.1	62.4	63.5	.35	3.23	2.88		
4	1.8	57.3	+7.7	59.8	2.1	57.7	58.3	.90	3.02	2.12		
5	6.4	0	+36.5	42.9	5.4	37.5	37.7	.13	3.05	2.92		
Totals	30.0	260.0	+44.2	334.2	33.9	300.3	303.4	.29	3.02	2.73		
Deep Creek stream-gaging station		496						.21	3.12	2.91	3.21	3.02
8	5.3	0	+71.4	76.7	6.4	70.3	71.0	.31	2.92	2.61		
Dry Prong Deep Creek stream-gaging station		37						.08	2.98	2.90	3.05	2.92
FEBRUARY 1961												
1	17.7	57.9	+5.0	80.6	10.7	69.9	70.6	.14	2.36	2.22		
2	2.4	3.0	0	5.4	1.5	3.9	4.0	.10	2.42	2.32		
3	11.8	29.6	-.4	41.0	7.6	33.4	34.0	.19	2.47	2.28		
4	2.6	57.5	0	60.1	1.8	58.3	58.9	.90	2.60	1.70		
5	11.8	10.7	+60.5	83.0	5.2	77.8	78.4	.28	2.37	2.09		
Totals	46.3	158.7	+65.1	270.1	26.8	243.3	245.9	.23	2.40	2.17		
Deep Creek stream-gaging station		255						.11	2.56	2.45	2.69	2.40
8	8.4	123.6	+8.9	140.9	7.7	133.2	135	.59	3.05	2.46		
Dry Prong Deep Creek stream-gaging station		240						.54	3.11	2.57	3.16	3.05
MARCH 1961												
1	23.0	0	-21.0	2.0	1.8	.2	.2	0	.43	.43		
2	3.5	0	-3.2	.3	.3	0	0	0	.59	.59		
3	15.4	0	-13.7	1.7	1.1	.6	.6	0	.40	.40		
4	3.8	.6	0	4.4	.4	4.0	4.0	.06	.60	.54		
5	16.7	2.2	-14.8	4.1	1.2	2.9	2.9	.01	.48	.47		
Totals	62.4	2.8	-52.7	12.5	4.8	7.7	7.7	.01	.45	.44		
Deep Creek stream-gaging station		0						0	.46	.46	.46	.45
8	11.9	0	-11.2	.7	.7	0	0	0	.32	.32		
Dry Prong Deep Creek stream-gaging station		0						0	.38	.38	.45	.32

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)	
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)				
APRIL 1961														
1	37.0	0	-36.0	1.0	1.0	0	0	0	0.28	0.28				
2	4.2	0	-4.1	.1	.1	0	0	0	.21	.21				
3	20.4	0	-19.9	.5	.5	0	0	0	.19	.19				
4	3.6	0	-3.5	.1	.1	0	0	0	.16	.16				
5	23.2	0	-22.8	.4	.4	0	0	0	.18	.18				
Totals	88.4	0	-86.3	2.1	2.1	0	0	0	.23	.23				
Deep Creek stream-gaging station		0						0	.19	.19	0.15	0.23		
8	17.3	c/4.7	-21.9	.1	.1	0	0	0	.04	.04				
Dry Prong Deep Creek stream-gaging station		2.2						0	.05	.05	.06	.04		
MAY 1961														
1	37.9	0	-30.0	7.9	5.9	2.0	2.0	0	1.63	1.63				
2	5.6	0	-3.4	2.2	.8	1.4	1.4	.03	1.74	1.71				
3	20.0	0	-13.3	6.7	4.0	2.7	2.7	.02	1.83	1.81				
4	6.5	0	-5.3	1.2	1.2	0	0	0	2.03	2.03				
5	24.0	0	-19.7	4.3	4.3	0	0	0	2.03	2.03				
Totals	94.0	0	-71.7	22.3	16.2	6.1	6.1	.01	1.80	1.79				
Deep Creek stream-gaging station		5.0						0	1.96	1.96	2.09	1.80		
8	17.7	c/10.5	-15.9	12.3	4.7	7.6	7.7	.03	2.04	2.01				
Dry Prong Deep Creek stream-gaging station		16						.04	2.20	2.16	2.36	2.04		
JUNE 1961														
1	32.7	172.0	+77.0	281.7	29.5	252.2	254.0	.52	6.78	6.26				
2	4.1	12.5	+9.1	25.7	4.1	21.6	21.9	.52	7.52	7.00				
3	20.5	29.0	+44.1	93.6	19.4	74.2	75.3	.41	7.60	7.19				
4	4.8	23.2	+7.4	35.4	5.3	30.1	30.4	.47	8.45	7.98				
5	18.5	0	+18.6	37.1	15.2	21.9	22.1	.08	7.36	7.28				
Totals	80.6	236.7	+156.2	473.5	73.5	400.0	403.7	.38	7.21	6.83				
Deep Creek stream-gaging station		525						.23	7.20	6.97	7.20	7.21		
8	15.8	42.2	+46.3	104.3	15.7	88.6	89.5	.39	6.58	6.19				
Dry Prong Deep Creek stream-gaging station		82						.18	6.40	6.22	6.22	6.58		

Table 14.--Monthly water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
JULY 1961												
1	38.1	32.9	+5.0	76.0	20.2	55.8	56.3	0.12	4.57	4.45		
2	5.0	0	-3.0	2.0	2.0	0	0	0	3.85	3.85		
3	24.7	3.6	+1.4	29.7	12.0	17.7	18.0	.10	4.24	4.14		
4	5.2	0	-2.8	2.4	1.8	.6	.6	.01	3.01	3.00		
5	24.9	0	-17.1	7.8	7.8	0	0	0	3.73	3.73		
Totals	97.9	36.5	-16.5	117.9	43.8	74.1	74.9	.07	4.15	4.08		
Deep Creek stream-gaging station		115						.05	4.11	4.06	4.08	4.15
8	16.8	c/122.8	-117.0	22.6	7.8	14.8	14.9	.06	3.52	3.46		
Dry Prong Deep Creek stream-gaging station		153						.35	3.89	3.54	4.28	3.52
AUGUST 1961												
1	62.0	0	-62.0	0	0	0	0	0	0	0		
2	4.7	c/.4	-5.1	0	0	0	0	0	0	0		
3	26.8	0	-26.8	0	0	0	0	0	.01	.01		
4	5.2	0	-5.2	0	0	0	0	0	0	0		
5	25.7	c/2.8	-28.4	.1	.1	0	0	0	.06	.06		
Totals	124.4	3.2	-127.5	.1	.1	0	0	0	.02	.02		
Deep Creek stream-gaging station		0						0	.02	.02	.03	.02
8	11.9	c/51.4	-63.2	.1	.1	0	0	0	.08	.08		
Dry Prong Deep Creek stream-gaging station		41						.09	.09	0	.10	.08
SEPTEMBER 1961												
1	38.3	.5	-33.0	5.8	5.8	0	0	0	1.69	1.69		
2	3.1	0	-3.0	.1	.1	0	0	0	1.44	1.44		
3	19.6	0	-15.0	4.6	3.8	.8	.8	0	1.71	1.71		
4	3.7	0	-3.0	.7	.7	0	0	0	1.50	1.50		
5	13.2	c/13.4	-21.0	5.6	2.7	2.9	2.9	.01	1.66	1.65		
Totals	77.9	13.9	-75.0	16.8	13.1	3.7	3.7	0	1.67	1.67		
Deep Creek stream-gaging station		0						0	1.81	1.81	1.99	1.67
8	7.5	0	-3.7	3.8	1.9	1.9	1.9	.01	2.03	2.02		
Dry Prong Deep Creek stream-gaging station		.4						.01	2.12	2.11	2.21	2.03

a/ Inflow from area above pools was computed for the pool area by assuming the unit runoff for the area covered by the pool would have been the same as the unit runoff from the area above the sites.

b/ Unidentified outflow added to compensate for total change-in-contents.

c/ Includes known releases.

d/ Estimated on basis of weather records and records for adjacent sites.

Table 15.--Annual water budget summary for Deep Creek study area, water years 1952-61

Site number	WATER BUDGET											Rain on uncontrolled area above stream-gaging station(inches)	Rain on controlled area above stream-gaging station(inches)	
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)				
1952 WATER YEAR														
Dry Prong Deep Creek stream-gaging station		88						0.20	21.18	20.98	-	-		
1952 CALENDAR YEAR														
Dry Prong Deep Creek stream-gaging station		97						.22	24.83	24.61	-	-		
1953 WATER YEAR														
	8	192.6	389.8	-80.2	502.2	40.2	462.0	466	2.02	18.93	16.91			
Dry Prong Deep Creek stream-gaging station		147						.33	18.93	18.60	-	-		
1953 CALENDAR YEAR														
	8	195.7	768.2	-22.1	941.8	46.2	895.6	904	3.92	24.04	20.12			
Dry Prong Deep Creek stream-gaging station		1,120						2.52	23.84	21.32	-	-		
1954 WATER YEAR														
	3	71.2	379.6	-8.4	442.4	11.0	431.4	433	2.37	16.14	13.77			
Deep Creek stream-gaging station		5,630						2.42	15.64	13.22	15.94	15.36		
	8	189.9	714.8	-48.3	856.4	42.0	814.4	823	3.57	18.43	14.86			
Dry Prong Deep Creek stream-gaging station		1,130						2.56	17.37	14.81	16.46	18.43		
1954 CALENDAR YEAR														
	3	83.5	3.7	+45.6	132.8	8.3	124.5	125	.68	11.73	11.05			
Deep Creek stream-gaging station		1,430						.62	10.97	10.35	11.20	10.81		
	8	190.7	115.8	-23.2	283.3	29.0	254.3	257	1.11	13.66	12.55			
Dry Prong Deep Creek stream-gaging station		215						.48	12.72	12.24	11.94	13.66		

Table 15.--Annual water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)	Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
1955 WATER YEAR												
1	408.5	2,826.1	+206.0	3,140.6	151.0	3,289.6	3,335	6.82	30.50	23.68		
2	32.5	279.6	+25.0	337.1	12.3	324.8	330	7.82	29.64	21.82		
3	231.5	1,019.8	+144.2	1,395.5	85.0	1,310.5	1,334	7.31	31.24	23.93		
4	39.1	370.0	+61.2	470.3	14.4	455.9	464	7.14	28.21	21.07		
5	233.0	2,037.9	+175.8	2,446.7	80.4	2,366.3	2,397	8.56	30.54	21.98		
Totals	944.6	6,533.4	+612.2	8,090.2	343.1	7,747.1	7,860	7.40	30.46	23.06		
Deep Creek stream-gaging station		16,300						7.01	29.80	22.79	29.35	30.46
8	193.5	1,696.5	+131.6	2,021.6	86.0	1,935.6	1,964	8.52	29.94	21.42		
Dry Prong Deep Creek stream-gaging station		3,100						7.00	29.53	22.53	29.41	29.94
1955 CALENDAR YEAR												
1	430.9	2,808.4	-41.0	3,198.3	147.3	3,051.0	3,093	6.32	26.77	20.45		
2	41.7	279.6	+13.3	334.6	12.4	322.2	327	7.76	25.85	18.09		
3	255.7	1,020.2	+49.1	1,325.0	84.7	1,240.3	1,264	6.93	27.27	20.34		
4	48.8	370.0	+46.7	465.5	14.5	451.0	459	7.06	25.29	18.23		
5	253.8	2,075.0	+43.4	2,372.2	78.0	2,294.2	2,325	8.31	27.38	19.07		
Totals	1,030.9	6,553.2	+111.5	7,695.6	336.9	7,358.7	7,467	7.03	26.88	19.85		
Deep Creek stream-gaging station		15,830						6.81	26.27	19.46	25.78	26.88
8	197.0	1,705.9	-3.4	1,899.5	78.3	1,821.2	1,848	8.02	25.75	17.73		
Dry Prong Deep Creek stream-gaging station		3,040						6.87	25.44	18.57	25.41	25.75
1956 WATER YEAR												
1	405.3	166.0	-128.0	443.3	33.5	409.8	413	.84	9.06	8.22		
2	41.5	0	-5.4	36.1	3.5	32.6	32.8	.77	9.43	8.66		
3	174.8	.4	-96.5	78.7	17.8	60.9	61.4	.34	9.47	9.13		
4	46.1	24.6	-2.1	68.6	3.1	65.5	66.0	1.03	8.27	7.24		
5	215.0	37.1	-73.4	178.7	17.1	161.6	163	.57	9.33	8.76		
Totals	882.7	228.1	-305.4	805.4	75.0	730.4	736	.70	9.00	8.30		
Deep Creek stream-gaging station		1,150						.49	9.52	9.03	9.81	9.00
8	186.2	71.4	-23.3	234.3	21.2	213.1	215	.93	9.80	8.87		
Dry Prong Deep Creek stream-gaging station		311						.70	10.02	9.32	10.22	9.80

Table 15.--Annual water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET											
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff a (acre-feet)	Natural runoff a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)	Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
1956 CALENDAR YEAR												
1	384.5	166.0	-50.0	500.5	39.3	461.2	465	0.95	11.78	10.83		
2	41.5	2.7	+5.2	49.4	5.1	44.3	44.6	1.05	12.43	11.38		
3	152.8	0	-34.0	118.8	19.7	99.1	99.9	.55	12.11	11.56		
4	46.4	24.6	+8.4	79.4	5.0	74.4	75.0	1.17	11.30	10.13		
5	202.3	0	-41.0	161.3	21.9	139.4	140	.49	12.21	11.72		
Totals	827.5	193.3	-111.4	909.4	91.0	818.4	825	.78	11.78	11.00		
Deep Creek stream-gaging station		1.280						.55	12.52	11.97	12.95	11.78
8	187.1	62.0	+15.9	265.0	28.3	236.7	239	1.04	12.90	11.86		
Dry Prong Deep Creek stream-gaging station		345						.79	13.15	12.36	13.38	12.90
1957 WATER YEAR												
1	358.7	2,557.6	+112.0	3,028.3	128.2	2,900.1	2,936	5.98	28.12	22.14		
2	42.8	329.6	-10.9	361.5	17.0	344.5	350	8.31	27.36	19.05		
3	196.6	860.2	+55.6	1,112.4	82.0	1,030.4	1,051	5.76	28.57	22.81		
4	46.7	354.9	-11.8	389.8	17.2	372.6	377	5.79	26.32	20.53		
5	212.4	1,916.8	-26.0	2,103.2	68.6	2,034.6	2,057	7.32	25.90	18.58		
Totals	857.2	6,019.1	+118.9	6,995.2	313.0	6,682.2	6,771	6.37	27.47	21.10		
Deep Creek stream-gaging station		11,280						4.85	26.61	21.76	25.81	27.47
8	177.0	1,237.6	-68.8	1,345.8	62.3	1,283.5	1,300	5.64	24.11	18.47		
Dry Prong Deep Creek stream-gaging station		1,650						3.74	23.99	20.25	23.86	24.11
1957 CALENDAR YEAR												
1	359.2	3,022.1	+112.0	3,493.3	175.1	3,318.2	3,360	6.84	34.80	27.96		
2	39.7	376.3	+2.6	418.6	20.5	398.1	405	9.59	33.81	24.22		
3	213.5	1,051.3	+65.2	1,330.0	113.0	1,217.0	1,242	6.81	35.08	28.27		
4	44.2	391.2	+2.5	437.9	20.6	417.3	422	6.48	32.56	26.08		
5	216.7	2,369.8	+75.6	2,662.1	91.4	2,570.7	2,598	9.25	33.53	24.28		
Totals	873.3	7,210.7	+257.9	8,341.9	420.6	7,921.3	8,026	7.56	34.25	26.69		
Deep Creek stream-gaging station		14,000						6.02	33.00	26.98	32.23	34.25
8	168.6	1,469.6	+17.6	1,655.8	76.6	1,579.2	1,599	6.93	29.97	23.04		
Dry Prong Deep Creek stream-gaging station		1,990						4.50	29.65	25.15	29.30	29.97

Table 15.--Annual water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
1958 WATER YEAR												
1	354.5	1,154.2	-81.0	1,427.7	147.2	1,280.5	1,294	2.64	32.46	29.82		
2	39.0	91.0	+2.2	132.2	16.9	115.3	117	2.77	32.48	29.71		
3	217.9	421.0	-32.5	606.4	100.9	505.5	516	2.83	32.40	29.57		
4	46.4	101.9	+2.4	150.7	18.1	132.6	134	2.07	30.94	28.87		
5	210.5	852.9	-8.0	1,055.4	79.7	975.7	985	3.50	32.32	28.82		
Totals	868.3	2,621.0	-116.9	3,372.4	362.8	3,009.6	3,044	2.87	32.22	29.35		
Deep Creek stream-gaging station		6,000						2.58	31.58	29.00	31.30	32.22
8	165.2	579.9	+28.5	773.6	72.2	701.4	710	3.07	30.14	27.07		
Dry Prong Deep Creek stream-gaging station		797						1.81	29.81	28.00	29.43	30.14
1958 CALENDAR YEAR												
1	343.6	689.7	-95.0	938.3	105.2	833.1	841	1.72	26.57	24.85		
2	36.9	41.6	-13.2	65.3	13.2	52.1	52.8	1.26	27.31	26.05		
3	197.0	229.9	-71.4	355.5	72.1	283.4	288	1.58	26.64	25.06		
4	45.0	65.6	-13.9	96.7	14.6	82.1	82.8	1.28	26.32	25.04		
5	193.3	399.9	-87.6	505.6	58.9	446.7	451	1.59	26.45	24.86		
Totals	815.8	1,426.7	-281.1	1,961.4	264.0	1,697.4	1,716	1.61	26.54	24.93		
Deep Creek stream-gaging station		3,140						1.35	26.04	24.69	25.55	26.54
8	163.7	357.4	-75.2	445.9	57.2	388.7	393	1.70	24.21	22.51		
Dry Prong Deep Creek stream-gaging station		435						.98	24.02	23.04	23.85	24.21
1959 WATER YEAR												
1	327.4	491.9	0	819.3	79.1	740.2	746	1.51	23.02	21.51		
2	37.6	53.4	+2	90.2	8.7	81.5	82.3	1.94	23.77	21.83		
3	163.5	136.6	+26.8	326.9	49.4	277.5	281	1.54	24.13	22.59		
4	47.9	81.5	-2.9	125.5	10.5	115.0	116	1.79	24.53	22.74		
5	148.7	4.7	-8.8	144.6	36.3	108.3	109	.39	24.13	23.74		
Totals	725.1	768.1	+15.3	1,506.5	184.0	1,322.5	1,334	1.26	23.61	22.35		
Deep Creek stream-gaging station		2,270						.98	23.42	22.44	23.22	23.61
8	156.9	220.2	+25.1	402.2	40.2	362.0	366	1.59	21.06	19.47		
Dry Prong Deep Creek stream-gaging station		396						.90	21.54	20.64	22.21	21.06

Table 15.--Annual water budget summary for Deep Creek study area, water years 1952-61--Continued

Site number	WATER BUDGET										Rain on uncontrolled area above stream-gaging station (inches)	Rain on controlled area above stream-gaging station (inches)
	Pool consumption (acre-feet)	Outflow (acre-feet)	Change in pool content (acre-feet)	Total inflow (acre-feet)	Inflow from rain on pool (acre-feet)	Inflow from area above pool (acre-feet)	Computed natural runoff ^a (acre-feet)	Natural runoff ^a (inches) (computed for site)	Rain (inches)	Study area consumption (inches)		
1959 CALENDAR YEAR												
1	334.5	929.7	+114.0	1,378.2	117.7	1,260.5	1,271	2.58	30.56	27.98		
2	40.7	96.0	+11.8	147.5	13.1	134.4	136	3.22	30.33	27.11		
3	179.3	276.6	+78.9	534.8	76.1	458.7	465	2.55	31.36	28.81		
4	49.0	116.0	+14.1	178.1	15.3	162.8	164	2.54	30.31	27.77		
5	165.1	68.0	+77.6	310.7	52.2	258.5	260	.94	30.02	29.08		
Totals	768.6	1,486.3	+296.4	2,549.3	274.4	2,274.9	2,297	2.17	30.52	28.35		
Deep Creek stream-gaging station		4,840						2.08	30.47	28.39	30.47	30.52
8	158.8	667.6	+100.2	926.6	68.0	858.6	870	3.77	28.64	24.87		
Dry Prong Deep Creek stream-gaging station		1,130						2.56	29.28	26.72	30.06	28.64
1960 WATER YEAR												
1	358.0	469.8	+7.0	834.8	114.2	720.6	727	1.49	27.83	26.34		
2	44.8	42.6	+8.2	95.6	14.6	81.0	81.8	1.95	28.56	26.61		
3	210.9	185.5	-22.8	373.6	75.4	298.2	303	1.66	28.39	26.73		
4	51.5	48.3	+13.6	113.4	17.8	95.6	96.5	1.49	30.66	29.17		
5	201.3	63.3	-9.6	255.0	56.2	198.8	201	.75	28.71	27.96		
Totals	866.5	809.5	-3.6	1,672.4	278.2	1,394.2	1,409	1.32	28.36	27.04		
Deep Creek stream-gaging station		3,280						1.41	27.41	26.00	26.77	28.36
8	159.6	668.4	-93.0	735.0	64.4	670.6	680	2.95	24.72	21.77		
Dry Prong Deep Creek stream-gaging station		1,030						2.34	24.64	22.30	24.68	24.72
1960 CALENDAR YEAR												
1	359.5	156.2	-11.0	504.7	99.9	404.8	408	.85	25.09	24.24		
2	44.1	0	+2.4	46.5	14.3	32.2	32.4	.77	27.17	26.40		
3	196.7	46.4	-14.1	229.0	61.1	167.9	171	.93	26.01	25.08		
4	51.0	26.9	+1.4	79.3	17.2	62.1	62.7	.97	29.63	28.66		
5	181.6	0	-79.7	101.9	45.2	56.7	58.0	.24	27.17	26.93		
Totals	832.9	229.5	-101.0	961.4	237.7	723.7	732	.68	26.16	25.48		
Deep Creek stream-gaging station		1,240						.53	24.66	24.13	23.53	26.16
8	150.2	213.9	-98.6	265.5	42.2	223.3	226	.98	20.85	19.87		
Dry Prong Deep Creek stream-gaging station		336						.76	20.72	19.96	20.72	20.85