

# FLOOD PLAIN INFORMATION

## CHERRY CREEK

### CHERRY CREEK LAKE THROUGH FRANKTOWN, COLORADO



PREPARED FOR  
ARAPAHOE COUNTY, DOUGLAS COUNTY,  
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT,  
COLORADO WATER CONSERVATION BOARD

BY

DEPARTMENT OF THE ARMY, OMAHA DISTRICT, CORPS OF ENGINEERS, 68102

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## PAST FLOODS

### SUMMARY OF HISTORICAL FLOODS

Several floods have occurred on Cherry Creek in the study area. Tables 3 and 4 show data collected at the Franktown and Parker gaging stations operated by the U. S. Geological Survey.

Table 3<sup>1/</sup>  
Annual Peak Discharges<sup>1/</sup> for Cherry Creek  
Near Franktown, Colorado<sup>2/</sup>

<u>Date</u>	<u>Discharge</u> (c.f.s.)
6 June 1940	2,000
13 July 1941	4,700
13 March 1942	3,620
*	
5 August 1945	9,170
*	
7 August 1954	2,620
5 August 1955	790
31 July 1956	3,380
30 July 1957	5,380
24 March 1960	2,340
31 July 1961	3,410
21 August 1965	1,800
18 July 1966	2,250
6 May 1973	4,670

<sup>1/</sup> Only those years having a peak discharge of 2,000 c.f.s. or greater are indicated except for years inserted to show peak discharge relationships between Franktown and Melvin.

<sup>2/</sup> From U.S.G.S. Gaging Station on right bank 2.2 miles south of Franktown.

\* Not a continuous record.

Table 4  
Annual Peak Discharges<sup>1/</sup> for Cherry Creek  
Near Melvin, Colorado<sup>2/</sup>

<u>Date</u>	<u>Discharge</u> (c.f.s.)
3 August 1933 *	34,000
6 June 1940	1,760
6 Sept 1940	4,500
14 July 1941	2,390
13 March 1942	1,530
5 August 1945	10,700
18 July 1946	17,600
5 August 1955	4,510
31 July 1956	5,310
26 July 1957	9,950
31 July 1957	3,480
18 July 1958	5,290
24 March 1960 *	2,720
31 July 1961	5,600
3 August 1963	10,800
16 June 1965	39,900

<sup>1/</sup> Only those years having a peak discharge of 4,000 c.f.s. or greater are indicated except for years inserted to show peak discharge relationships between Franktown and Melvin.

<sup>2/</sup> From U.S.G.S. Gaging Station near right bank of Arapahoe Road bridge, 6 miles northwest of Parker.

\* Not a continuous record.

FLOOD RECORDS

Two U. S. Geological Survey stream gaging stations on Cherry Creek record flood data in the study area. These stream gages were described in table 2. Flood accounts are available from local newspapers, the Corps of Engineers, the Soil Conservation Service, and the Colorado Water Conservation Board.

## FLOOD DESCRIPTIONS

The following accounts of flooding on Cherry Creek in the study area are representative of typical floods for which information is available. There have been other floods but little information is available.

July 1912. In 1912, the only Weather Bureau Station in the Cherry Creek basin was located in Denver. Records indicate that 2.08 inches of rain occurred during a 2-hour period on 14 July 1912. The heaviest precipitation occurred between Franktown and a point about 5 miles north of Denver, with the center located near Parker. The rainfall started at about 3 p.m. and continued until approximately 5 p.m. Cherry Creek crested at about 10 p.m. and had a peak discharge of 25,000 cubic feet per second in Denver. The Cherry Creek Flood Commission estimated that runoff occurred from an area of about 200 square miles. Flood damages in the reach between Franktown and the site of the existing Cherry Creek Dam and Reservoir totaled \$554,000.

July 1922. A severe storm centered over the Bayou Gulch basin, a tributary to Cherry Creek, during the afternoon of 28 July 1922. Heavy rainfall was reported to have occurred in an area bounded by lines 3 miles north of Parker, about 4 miles west of Cherry Creek, 1 mile south of Franktown, and by the Douglas County line on the east. Unofficial rainfall amounts varied from 1 inch to 3.5 inches, occurring in about 2 hours. An estimated peak discharge of 8,700 cubic feet per second discharged out of Bayou Gulch. The discharge on Cherry Creek, 3 miles north of Parker, was estimated to be 17,000 cubic feet per second. Although no damages were experienced in Denver, this was considered a major flood for the upstream part of the basin.

August 1933. The storm of 2 and 3 August 1933 occurred over a 175 square mile area upstream from Franktown. Unofficial rainfall amounts varied from 3 to 9 inches and occurred over a 9-hour period between 6 p.m. on 2 August and 3 a.m. on 3 August. The most intense activity of the storm occurred between 9 p.m. and 10 p.m. Waters, in the then existing Castlewood Dam and Reservoir, reached the spillway crest at about 11 p.m. The inflow was estimated at 35,000 cubic feet per second. Water overtopped the crest of the dam and the structure failed at about midnight. The sudden release of water caused a flood wave to move down the valley. The peak discharge is estimated to have ranged from 126,000 cubic feet per second downstream from the dam to about 16,500 cubic feet per second near the South Platte River. The Cherry Creek Flood Commission estimated the damages to be about \$1,000,000; approximately \$200,000 of this total occurred upstream from Denver. This flood caused additional economic effects in the Cherry Creek basin. Loss of the dam cut off water supplies to about 3,000 acres of land. The basin suffered a severe recession and many families moved from the area.

August 1945. A large storm mass moved into southeastern Colorado on 5 August 1945 and extended over the Cherry Creek basin. Unofficial rainfall amounts varied from 2 to 5 inches. Severe flooding occurred along Cherry Creek in the Franktown - Parker area. The gaging station at Melvin recorded a peak discharge of 10,700 cubic feet per second. Total damages were estimated to be \$200,000.

June 1965. On 16 June 1965, a major storm centered over the Plum Creek and Cherry Creek basins. Rainfall amounts, reported by unofficial sources, ranged up to 10 inches. Most of

the rainfall occurred within a 3-hour period. Peak discharges along Cherry Creek were 1,000 cubic feet per second upstream from Franktown, 39,900 cubic feet per second near Melvin, and 58,000 cubic feet per second at Cherry Creek dam. An estimated peak flow of 14,100 cubic feet per second discharged from Piney Creek, a right-bank tributary of Cherry Creek. During the evening and night of 16 June, the Cherry Creek reservoir impounded a flood which had a volume of 16,000 acre-feet. Of the 18 small dams constructed by the Soil Conservation Service in the upper Cherry Creek basin between Franktown and Parker, 3 were filled. Two of these were subsequently overtopped and sustained erosion damage. The remaining 15 structures were outside of the area of high intensity rainfall and received only moderate runoff. The heavy runoff caused major flooding along the main stem of Cherry Creek from the vicinity of Franktown to the Cherry Creek reservoir. About 2,720 acres were flooded. Most of the bridges across Cherry Creek were either damaged or destroyed. One life was lost during the flood on Cherry Creek. Flood damages totaled \$1,306,000. Figures 10 through 13 show flooding and flood damages caused by this flood.