Floods of October 1954 in the Chicago Area Illinois and Indiana

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1370-B

Prepared in cooperation with the States of Illinois and Indiana

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By WARREN S. DANIELS *and* MALCOLM D. HALE

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Warren S. Daniels
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PREFACE

This report on the floods of October 1954 in the Chicago area, Illinois and Indiana, was prepared by the U. S. Geological Survey, Water Resources Division, C. G. Paulsen, chief, under the general direction of J. V. B. Wells, chief, Surface Water Branch.

Basic records of stage and discharge were collected in cooperation with the following agencies: Illinois Department of Public Works and Buildings, Division of Waterways; Illinois Department of Registration and Education, Water Survey Division; Department of Highways, Cook County, Ill. Indiana Flood Control and Water Resources Commission; and Indiana Department of Conservation, Division of Water Resources.

The flood profile data were furnished by the Illinois Division of Waterways and by the Corps of Engineers.

The records of stage and discharge were collected and computed under the direction of J. H. Morgan, district engineer, Champaign, Ill., and D. M. Corbett, district engineer, Indianapolis, Ind.

The Illinois part of the report was prepared by W. S. Daniels, the Indiana part by M. D. Hale, each being assisted by personnel in his respective district. The short section on flood frequency was prepared by the special studies unit of the Champaign district, W. D. Mitchell, in charge.

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FLOODS OF OCTOBER 1954 IN THE CHICAGO AREA, ILLINOIS AND INDIANA

By Warren S. Daniels and Malcolm D. Hale

ABSTRACT

The floods of October 9-11, 1954 in the Chicago area of Illinois and Indiana were the greatest in the history of the region. The 24-hour rainfall of 5.63 inches on October 9-10 and the 48-hour total rainfall of 6.72 inches were the greatest recorded at the Chicago Weather Bureau station in 69 and 84 years respectively. Unofficial measurements in the southern suburbs of the city indicate that nearly 11 inches of rain fell in 48 hours.

These intense rainfalls on the flat areas of the Little Calumet, Kankakee, and Chicago Rivers caused the streams to overflow their banks flooding heavily industrialized and densely populated parts of the city. Slow drainage of flood waters in large areas along these rivers resulted in a prolonged period of inundation. On the Kankakee River at Shelby, Ind., the crest of the flood occurred 17 days after the rain.

The flow of South Branch Chicago River has been diverted by locks into the Des Plaines River since 1900. The elevation at the mouth of the South Branch is held usually about 3 feet below lake level. During the flood the river rose about 3.4 feet above lake level. To relieve flooding, the lock gates were opened allowing the river to discharge into the lake for the first time in 54 years.

Notable rates of discharge occurred in the Des Plaines River basin, where Long Run had a unit discharge of 152 cfs per square mile from a drainage area of 20.8 square miles, and Flag Creek had 80.2 cfs per square mile from a drainage area of 16.2 square miles.

Flood damages in Chicago and its suburbs have been estimated by the U. S. Weather Bureau to be about $25 million.

Included herein, for the Chicago area in Illinois and Indiana are general descriptions of the floods, an isohyetal map showing the amounts and areal distribution of the storm rainfall, detailed stage and discharge data at 49 gaging stations, peak discharges at 4 miscellaneous sites, and water-surface elevations at 1 lake site. Flood-crest stages collected by other agencies are also presented.

INTRODUCTION

The greatest flood in the history of Chicago resulted from heavy showers and thunderstorms from October 9 to 11, 1954. The 24-hour rainfall on October 9 and 10 was the greatest in 69 years, and the 48-hour total was the greatest in the 84-year record of the Chicago weather station. The storms and floods extended into Indiana where previous records were broken. At 24 gaging stations in the area, peak discharges exceeded previously recorded maxima.

Occurring in a region that is densely populated and highly industrialized, the floods caused unprecedented damage. A dozen or more persons were killed in accidents indirectly associated with the storms and floods.

Data presented in this report include records of stage and discharge at 49 gaging stations, records of stage at 1 lake station, and peak discharges at 4 miscellaneous sites in Illinois and Indiana.

GENERAL DESCRIPTION OF FLOODS

Location

The area associated with the floods discussed in this report is centered about Chicago, the Nation's second largest city, and the southern tip of Lake Michigan, including parts of northwestern Indiana and northeastern Illinois. It extends about 140 miles east and west, from South Bend and Plymouth, Ind., to Ottawa, Ill., and about 90 miles north and south from the north edge of Cook County (Chicago metropolitan area) to Kankakee, Ill. Much of the region in each State is densely populated and highly industrialized. Figure 30 is a map showing the general area of flooding.

A narrow belt of heavy rainfall and high runoff in Illinois extended from Chicago to the Mississippi River in the vicinity of Rock Island, Ill., and Muscatine, Iowa. West of the Fox River basin the floods were not severe and damage was comparatively small. This area farther west has, therefore, been considered outside the scope of this report.

The streams affected by the storm and flood include (a) all those tributaries to Lake Michigan in Illinois and Indiana, lying in a relatively narrow area along the lakeshore; (b) the headwaters of the Kankakee River in Indiana; (c) the entire Des Plaines River basin, and in the Du Page and Fox River basins, which are tributaries of the Illinois River on the north side.

Figure 30. --Map showing area covered by this report.

Figure 31 is a map of northeastern Illinois and northwestern Indiana showing flood-determination points. As 26 gaging stations are operated in Cook County, figure 32 has been drawn to show that area in greater detail.

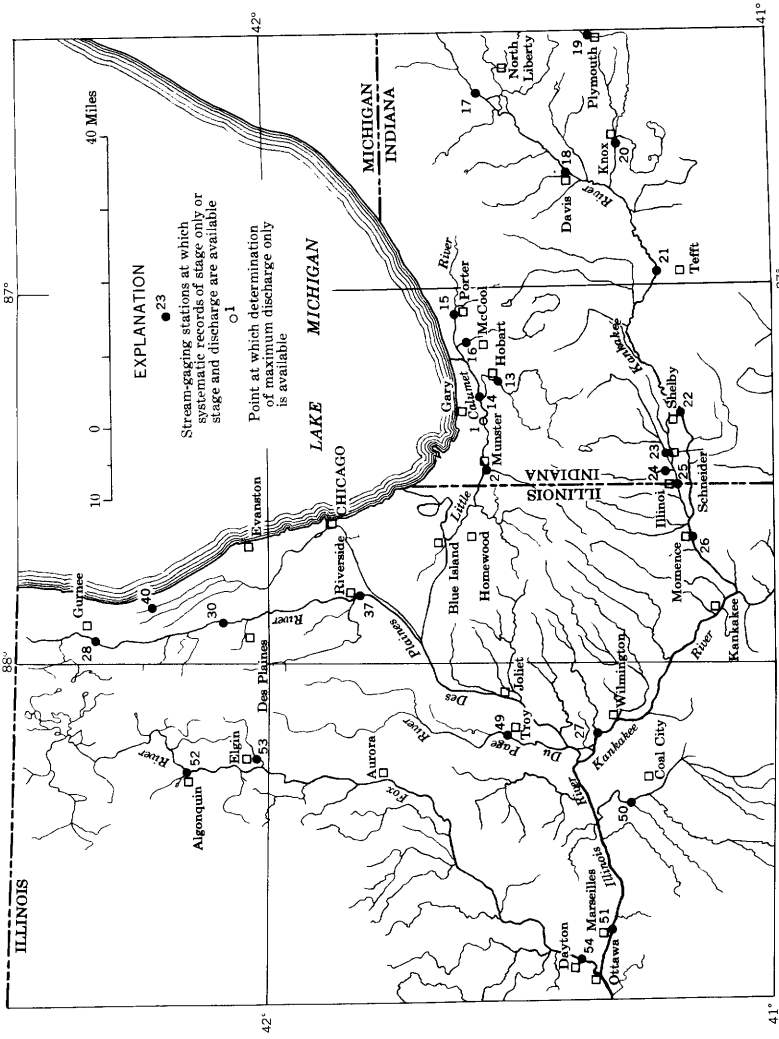

Figure 31. --Map of flood area showing location of flood-determination points.

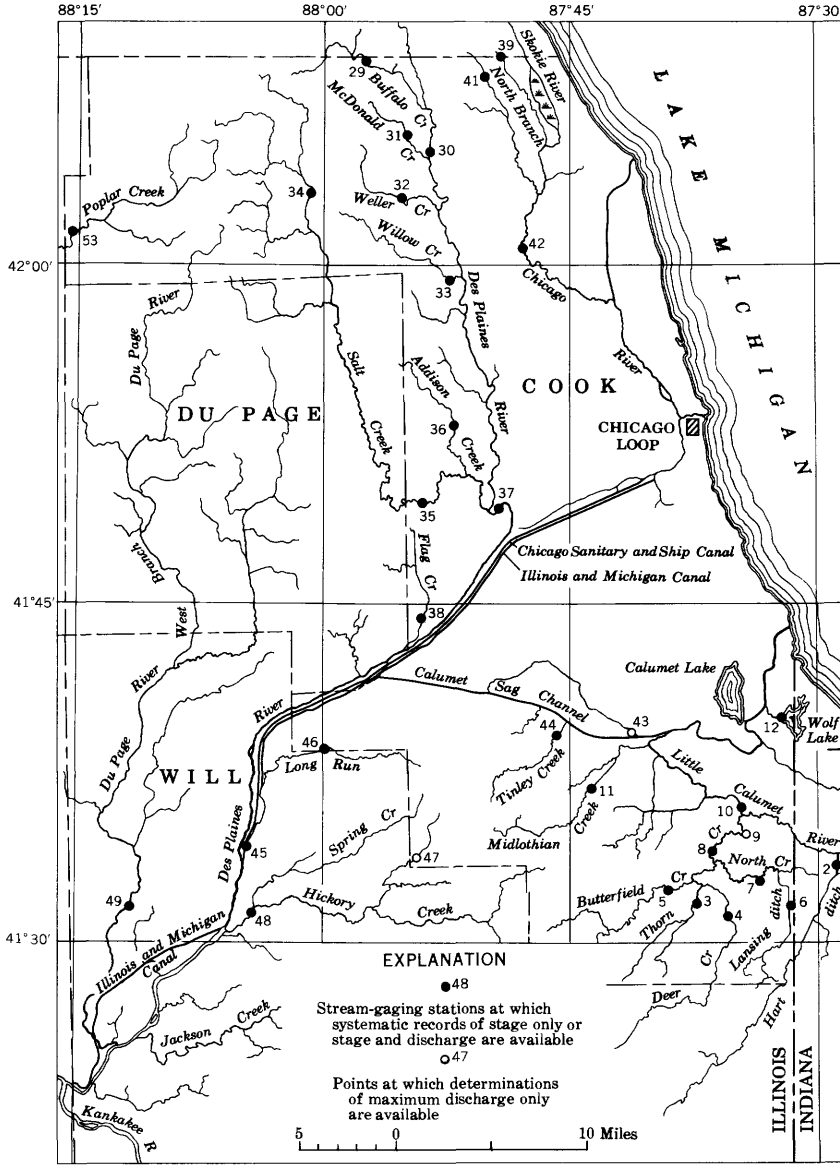

Figure 32. --Map of Chicago area, Cook County and environs, showing location of flood-determination points.

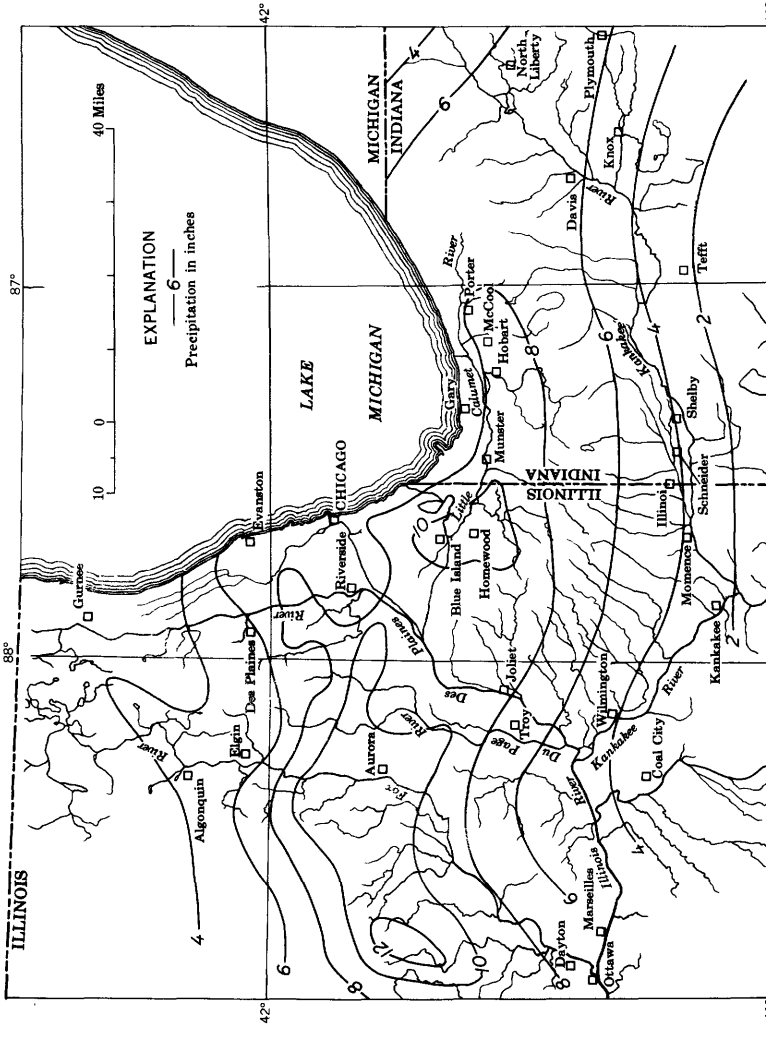

Figure 33. --Isohyetal map, October 9 to 11, 1954.

Precipitation 1/

Heavy showers and thunderstorms developed in the Chicago area on the evening of October 9, 1954, and lasted for 48 hours. After an all-night deluge during the night of October 9 and the morning of October 10, there was a brief respite. However, on the afternoon of October 10, a line of heavy squally thunderstorms moved across the area releasing more rain on the already flooded city. A small tornado was reported near Homewood, Ill., followed by high winds eastward into the northern Indiana area. On the afternoon of October 11 a brief period of heavy showers occurred in the city again, and as much as 2 inches of rain fell on the south side of Chicago in a 2-hour period.

Chicago's official 5.63 inches of rain in 24 hours on October 9-10 was surpassed only by 6.19 inches on August 2-3, 1885, and greatly exceeded the next highest 24-hour amount on record, 4.34 inches on August 11-12, 1908. The 6.72 inches in 48 hours, October 9-11, 1954 set a new record for that period. Reliable unofficial measurements from some of Chicago's southern suburbs indicated that a total of nearly 10 inches fell in 30 hours, and nearly 11 inches in a 48-hour period. Figure 33 is an isohyetal map showing the total rainfall in the area during October 9-11, 1954.

Little Calumet River Basin

The Little Calumet River basin is very flat, and storm drainage has long been recognized as a problem. Not only did the Little Calumet River overflow its banks to flood extensive areas, but inundation was severe along all the tributary streams in southern Cook County, Ill. It was reported that every house in the village of Midlothian was surrounded by water, temporarily marooning 4,400 families. The industrial city of Harvey, Ill., 22 miles south of Chicago, was almost completely inundated south of the Grand Trunk railway embankment, including the main business district. Steel plants and oil refineries in Blue Island were damaged. Other towns, in which heavy damage occurred, were Palos Park, Worth, Oak Lawn, Alsip, Crestwood, Robbins, Posen, Markham, Hazel Crest, Garden Homes, and Homewood (figs. 34-36).

The experience of Geological Survey engineers in traveling to gaging stations in this area was described as frustrating, because of the many flooded and impassable highways. An ordinary 15-minute drive became a 2-hour search for an open road. The great

1/ Abstracted from Weekly Weather and Crop Bulletin, National Summary for week ending Nov. 8, 1954, U. S. Weather Bureau.

Figure 34. --View of flooding of Highway 45 and State Highway 83 near Palos Park, Ill., just south of Calumet Sag Channel, October 1954. Photograph by Chicago Sun Times.

concentration of railways about Chicago has resulted in construction of hundreds of underpasses to avoid grade crossings. Many of these underpasses filled with water and were closed for days after the streams had receded. No complete count is available, but at least 57 underpasses were closed in Cook County. A summary of road conditions on October 11 by the Cook County Highway Department listed 67 points as being under water and blocked to traffic.

Figure 35.--Floodwater cascading over street in residential area in the vicinity of 117th Street and Karlov Avenue, Alsip, Ill., October 1954. Photograph by Chicago Sun Times.

Dredging has greatly modified the basin characteristics of the Little Calumet River. During low flow water from that part of the drainage area west of a divide near Georgia Street at Gary, Ind., flows west to Lake Michigan or into the Calumet Sag Channel depending on the operation of locks into the channel; flow from that part east of Georgia Street is east through Burns ditch to Lake Michigan. The Deep River, Salt Creek, and that part of the Little Calumet River east of the mouth of the Deep River all flow into Lake Michigan through Burns ditch.

Figure 36. --Aerial view of inundation of Robbins, Ill., October 1954. Photograph by Chicago American.

During the rising stage of this flood, the flow at the mouth of Hart ditch was both eastward and westward in the Little Calumet River channel. Most of the flow to the east went into storage inundating the large area between Broadway, Gary, Ind., and Hawthorne Drive, Hammond, Ind. A small part of the flow was eastward through Burns ditch to Lake Michigan.

At the time of the peak stage at Grant Street, Gary, Ind., the discharge through a culvert was 244 cfs flowing east. Flood elevations show the dividing point for the flow at the peak stage to be near Calumet Avenue, Hammond, Ind., west of the mouth of Hart ditch.

As the stage of the flood fell the direction of flow near Hart ditch reversed; water discharged from storage and flowed west. Prolonged inundation occurred throughout a large area in the basin.

Kankakee River Basin

Extreme flooding occurred in the upper part of the Kankakee River basin. The Yellow River at Knox, Ind., had a peak discharge 80 percent greater than the previous maximum in 12 years of record. Because of the flat terrain large areas were flooded when the streams overflowed their banks, resulting in some intermingling of flood waters across normal drainage divides. Widespread flooding of the flat terrain resulted in a large volume of storage and a slow-moving flood crest along the main stem of the Kankakee River. At Shelby, Ind., the crest occurred on October 27, 17 days after the rain.

The lower Kankakee River in Illinois flooded only moderately, but the peaks occurred earlier. The gaging station at Momence, Ill., near the Indiana State line, recorded the crest on October 15. Nearer the mouth of the Kankakee River, at the Wilmington station, the peak was recorded on October 12. This progressively earlier cresting is attributed to heavier flood runoff from the tributary area on the right bank between the river and the southern part of Cook County.

Des Plaines River Basin

Northwest and west of Chicago proper the Des Plaines River and tributaries caused considerable damage, although less than the Little Calumet River basin streams caused elsewhere.

Flood stages on Salt and Addison Creeks were higher than previously recorded, although the discharge at Salt Creek at Western

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Spring, Ill., was less than for the March 1948 flood. Newspapers reported 5,000 basements flooded in La Grange and 600 in Western Springs. Thousands of calls for assistance in pumping out cellars were received by fire departments throughout the Chicago area. Because of the potential hazard of having telephone service disrupted, it was necessary to broadcast radio appeals to the public not to call fire departments except for fire emergencies. Higgins Road, the Northwest Highway, and North Road -- all major highways -- were flooded and temporarily closed.

Along the Des Plaines River to the southwest the tributaries were extremely high, and local damage and blocking of roads resulted. The gently rolling and hilly topography differs from that of the flat lowland along the lakeshore. Flag Creek and Long Run had the highest unit runoff determined in the flood area, 80.2 and 152 cfs per square mile, respectively, at the gaging station on each creek. Hickory Creek at Joliet, Ill., did not equal the April 1947 flood peak, and damage was correspondingly less. However, hundreds of basements were flooded, and the American Steel and Wire Co. plant was closed for 2 days.

Chicago River Basin

The Chicago River is formed by the confluence of the North and South Branches, and reaches Lake Michigan just north of the Chicago Loop, heart of the great city. The North Branch Chicago River has its headwaters near Lake Michigan, north of the Cook County line, and outside the heavier storm area. Flood damage was chiefly in the low flat areas of the Skokie Lagoons in Skokie and Evanston, Ill. The Edens Expressway and the Skokie Highway, major routes to the north, were blocked during the flood.

The South Branch Chicago River is short and has been developed and used as a navigation channel; it forms part of the Chicago Sanitary and Ship Canal, which diverts water from Lake Michigan to the Des Plaines River at Lockport, Ill., and thence into the Illinois and Mississippi Rivers. Since 1900, when a lock was completed at the mouth of the Chicago River, the flow has been diverted away from the lake into the Des Plaines River; the Chicago River level is usually held about 3 feet below lake level. During this flood the river rose to the highest stage on record, 5.4 feet above Chicago city datum or 585.3 feet above mean sea level, datum of 1929, at the mouth. This was about 3.4 feet higher than lake level at the time.

To relieve the flood, which was causing unprecedented damage and threatening an even greater disaster, the Sanitary District of

Figure 37. --View of flooded railroad tracks near Chicago River at Harrison street, Chicago, Ill., October 1954. Photograph by Chicago Sun Times.

Figure 38. --Floodwater over loading ramps at Union Station, Chicago Ill., October 1954. Photograph by Chicago Tribune.

Chicago ordered the lock gates at the mouth of the river to be opened on October 10, 1954, allowing the river to discharge into Lake Michigan for the first time in 54 years.

Operation of lock gates on October 10, 1954

Opened (p. m.)	Closed (p. m.)
6:25	6:55
7:00	8:31
8:50	9:20
9:35	11:15

The three short periods of closure were for lockage of boats. The Sanitary District of Chicago estimated the total discharge at this point into Lake Michigan to be about 129.6 million cubic feet. About the same time, gates were opened to permit discharge into the lake from the North Shore Channel at Wilmette. The discharge here was estimated to be about 172.8 million cubic feet by the Sanitary District of Chicago. Normally lake water is pumped into the North Shore Channel at Wilmette to flush storm and sanitary sewage from the northern district into the North Branch Chicago River and the Chicago Sanitary and Ship Canal.

As the Chicago water supply is taken from Lake Michigan, possible contamination from the polluted river discharge was a grave threat. Emergency precautions were taken, including hourly sampling of lake water and increased chlorination at pumping stations. The city supply was pronounced safe, but residents in 17 southern and western suburbs depending on well-water supplies were cautioned to boil their drinking water.

Before the peak was reached the Chicago River had overflowed its walled banks and flooded railroad yards and the basements of many buildings (fig. 37). All 29 tracks of the Union Station were covered (fig. 38); water was 10 feet deep in the baggage room. Passengers on trains of the Burlington, Milwaukee, and Pennsylvania Railroads, detrained in railroad yards or at outlying points and continued their way by streetcar or whatever transportation could be improvised. About 40,000 west-suburban commuters were delayed, and through travelers were advised to make telephone inquiry on how and where to make railroad connections. The post office basement was flooded damaging more than 3,000 pieces of parcel-post mail. The Chicago Daily News had 42 feet of water in its basement and subbasement, necessitating the use of facilities of other newspapers for publication on October 11.

Floodwaters from the South Branch Chicago River and the Chicago Sanitary and Ship Canal stopped operation of the two largest electric generating plants of the Commonwealth Edison Co., the Crawford

Figure 39. --Basement and subbasement flooded at Fisk station electric generating plant of the Consolidated Edison Co., October 1954. Photograph by Chicago Tribune.

station on South Pulaski Road and the Fisk station on Cermak Road (fig. 39). Loss of the 350,000 kilowatt output of these plants forced shutdown of many manufacturing establishments and a 50-percent cut in consumption of power over a widespread area including The Loop. As an emergency measure the Illinois Bell Telephone Co. reduced its power demands by ordering diesel generators into operation at exchange buildings. Streetcar operation was not curtailed because the power company was able to furnish adequate power to the Chicago Transit Authority.

Du Page and Fox River Basins

The Du Page River at Troy, Ill., reached a new maximum for the 15-year period of record, by exceeding the flood of March 1948. State Highways 53, 55, and 59 were blocked by high water near Lisle, Warrenville, and Plainfield, Ill., respectively; heavy property damage occurred in each town.

The Fox River, which has its headwaters in Wisconsin and flows through the Fox chain of lakes near the north edge of Illinois, had only a small rise at Algonquin, Ill., downstream from the lakes. From Aurora, Ill., south on the main stream and on the tributaries to the west, the storm caused record-breaking floods. The peak discharge at the gaging station at Dayton, Ill., with a drainage area not quite double that at Algonquin, was 60 percent greater than the previous maximum (March 1948) and the highest in 29 years of record. The National Guard was alerted and put on guard duty for fear of failure of the powerplant dam at Dayton, which would have caused disaster at Ottawa, Ill., only a few miles downstream. It was necessary to sandbag the head race to the plant, but the flood was passed without damage to the dam.

Low-lying areas near Ottawa at the mouth of Fox River were flooded, both by the Fox River and by the flood crest of the Illinois River at about the same time. Residents were evacuated from the area, and an appeal was made for National Guard troops to prevent looting the waterfront.

FLOOD DAMAGES

Despite the widespread inundation and the large population affected, loss of life attributed to the flood was relatively small. One boy was drowned in Stony Creek by falling off a raft on which he was playing, and a dozen or more persons were killed in accidents resulting from the storm and flood.

The U. S. Weather Bureau has estimated the flood damage in Chicago at $10 million and in the suburban areas at $15 million. Detailed field surveys of damages were made by the Corps of Engineers and the Illinois Division of Waterways. Table 1 has been compiled from data furnished by those agencies.

The results of a 3-week survey of damages and financial loss suffered by Chicago firms was made public by the Chicago Association of Commerce and Industry. The Chicago Daily News story on November 5 said in part:

The association's figures "do not reflect losses suffered by many small businesses or damages sustained in residential areas during the flood" said Thomas H. Coulter, chief executive officer of the association.

The $6 million figure, officials said, was based on a survey of more than 1,000 firms answering the questionnaires sent out to the association's 4, 500 members.

Approximately a third of those responding said they suffered some kind of loss--either water damage or production setbacks due to lack of power.

These losses added up to $6, 084, 444.

This included production losses caused by 27, 940 employees thrown out of work from one to five days or more.

"There are approximately 14, 000 industries in the Chicago area, " said a CACI statistician. "To figure the total losses suffered by them, as well as by thousands and thousands of home owners would require a scientific sampling."

Table 1.--Flood damage in Illinois for flood of October 1954
(Data from Corps of Engineers except as noted)

Stream	Location	Amount	Total
North Branch Chicago River	Northfield		a$ 5,300
Little Calumet River	Calumet City	$226,880	
	South Holland	14,250	
	Riverdale	137,100	
			378,230
Thorn Creek			0
Butterfield Creek	Flossmoor		16,650
Calumet Union drainage ditch	Hazel Crest		31,750
Calumet Slough	Oak Forest	27,400	
	Midlothian	156,700	
	Robbins	15,750	
			199,850
Stony Creek	Blue Island		331,000
Sewer backup	Lansing	4,020	
	Phoenix	34,500	
	Dixmoor	41,160	
	Posen	114,070	
	Garden Homes	18,660	
	Alsip	94,640	
	Evergreen Park	1,309,000	
	Oak Lawn	290,100	
			1,906,150
Calumet River basin	Chicago area State highways		a 15,300
Little Calumet River and tributaries			2,878,930
Weller Creek	Des Plaines		a 37,370
Willow Creek	Maine Township	a 7,680	
	Leyden Township	a 9,000	
			a 16,680

Table 1.--Flood damage in Illinois for flood of October 1954--Continued
(Data from Corps of Engineers except as noted)

Stream	Location	Amount	Total
Silver Creek	Franklin Park, Leyden Township		a$142,720
Salt Creek	Elmhurst	a$ 32,380	
	Villa Park	103,000	
	Western Springs	21,500	
	La Grange	162,000	
	Brookfield, Hollywood and Congress Park	381,000	
			699,880
Addison Creek	North Lake	a 50,720	
	Stone Park	a 23,870	
	Melrose Park	530,000	
	Bellwood	122,000	
	Broadview	600,000	
	Westchester	50,000	
			1,376,590
Des Plaines River	Riverside	40,000	
	Lyons	24,000	
	Lemont	48,000	
	Romeo	1,000	
			113,000
Des Plaines River basin	Chicago area State highways		a 30,700
Flag Creek	Clarendon Hills	a 31,010	
	Hinsdale	a 1,400	
	Western Springs	a 7,970	
			a 40,380
Deep Run Creek	Lockport		102,500
Hickory Creek	Rural	42,000	
	New Lenox	12,150	
	Joliet	182,690	
Spring Creek	Joliet	112,660	
			349,500
Du Page River	Lisle	a 47,960	
	Barbers Corners	a 8,550	
	Warrenville	a 2,400	
	Naperville	a 5,700	
	Plainfield	a 34,380	
	Troy	a 19,400	
	Channahon	a 4,650	
			123,040
Aux Sable River	Rural		30,250
Fox River	Aurora	a 22,140	
	Oswego	a 10,500	
	Yorkville	a 16,100	
	Bristol	a 13,400	
	Plano	a 10,000	
	Millbrook	a 53,600	
	Millington	a 3,600	
	Sheridan	a 16,050	
	Serena	a 17,200	
	Wedron	a 3,800	
	Sulphur Springs	a 2,600	
	Dayton	a 7,550	
	Ottawa	a 12,500	
			189,040
Illinois River	Joliet to Utica		317,540
Illinois River and tributaries			3,569,190

a Data collected by Illinois Division of Waterways.

The Red Cross in Illinois, aided by the 5th Army, provided assistance at 14 shelter stations set up for relief of evacuees at Midlothian, Burbank, Markham, Garden Homes, Palos Park, Stone Park, Robbins, Summit, Lisle, Oak Lawn, Downers Grove, Justice, Worth, and Leyden Township. Community resources were supplemented by the Red Cross to furnish aid to about 550 people during the flood. The Red Cross reported expenditures of $1, 587. 97 for emergency care and $8, 802. 90 for rehabilitation services to 86 families.

The Red Cross reported, for the Little Calumet and Kankakee River basins in Indiana: no persons killed, 72 injured, 5 requiring hospitalization; 5 dwellings destroyed, 1,717 damaged; 40 farm buildings and 74 miscellaneous structures damaged; 1,852 families suffered property damage. Red Cross expenditures amounted to $67,520.05.

Although many highways were flooded, damage due to washouts was slight in the Chicago area. Minor washouts on three roads and on shoulders at two locations were shown in a Cook County Highway Department summary of road conditions on October 11. Several bridges in the drainage areas of the Du Page and Fox Rivers were washed out, the largest was a 100-foot span of the bridge across the Fox River near Millbrook, Ill. According to the Indiana State Highway Department, damage to roads and bridges in Indiana amounted to $233,947.39.

STAGES AND DISCHARGES AT STREAM-GAGING STATIONS

Explanation of Data

This section of the report contains the hydrologic information collected by the U. S. Geological Survey during the flood. Records of stage and discharge are presented for gaging stations located at the flood area. More information is presented here than in the regular reports because of the need for detailed flood hydrographs, which are useful in hydraulic and hydrologic studies.

At stream-gaging stations records of stage are computed either from the continuous trace of a water-stage recorder or by periodic direct readings on a nonrecording gage. Discharge measurements are usually obtained by current meter, but indirect methods are also used.

The information presented for each gaging station is: a station description, a tabulation of daily discharge for the period encompassing the flood and a tabulation of stage and discharge at selected intervals during each day of the period.

Station descriptions give information concerning the location and datum of gage, size of drainage area above the gage, nature of gage-height obtained during the flood period, definition of the stage-discharge relation, maximum stage and discharge during the present flood and previous maximum of record, and other pertinent information.

Daily mean discharge is tabulated for October, except for stations in the Kankakee River basin, which also include figures for

November. A summary shows the monthly mean discharge in cubic feet per second and the runoff in inches except at certain stations where the drainage area is indeterminate or diversions are included.

The tables of stage and discharge at indicated times are in sufficient detail to define the gage-height records and the discharge hydrographs during the flood period.

The sequence of data is as follows: (1) streams tributary to Lake Michigan--Little Calumet River basin (western part) and Burns ditch (including Little Calumet River basin, eastern part); (2) and streams in the Illinois River basin--the Kankakee and Des Plaines Rivers, Hickory Creek, Chicago, Du Page, Mazon, and Fox Rivers. The gaging stations have been numbered in this sequence, and are applicable to figures 31 and 32, to the station descriptions, and to summary table 2, which also includes four miscellaneous sites (Nos. 1, 9, 43 and 47) and 1 lake site (No. 12).

(2) Hart ditch at Munster, Ind.

Location.--Lat 41°33'35", long 87°28'50", in N½ sec. 20, T. 36 N., R. 9 W., on left bank at city limits of Munster, a quarter of a mile downstream from U. S. Highway 6 and 0.4 mile upstream from mouth. Datum of gage is 591.21 ft above mean sea level, datum of 1929.
Drainage area.--69.2 sq mi (revised).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. A backwater loop curve was used for the period 11 p.m. Oct. 10 to Oct. 23.
Maxima.--October 1954: Discharge, 2,600 cfs 5 to 10 a.m. Oct. 11; gage height, 7.83 ft 4 to 8 p.m. Oct. 11.
1942 to September 1954: Discharge, 2,490 cfs Apr. 6, 1947; gage height, 7.23 ft Mar. 15, 1944.
Remarks.--Hart ditch is tributary to Little Calumet River. At this point low flow of Little Calumet River runs west into Calumet Sag Channel or into Lake Michigan through Calumet River; flood flow at times runs east into channel storage or through Burns ditch to Lake Michigan.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	8.0	7	11	12	1,780	17	178	22	66	27	42
2	6.4	8	9.5	13	763	18	140	23	56	28	42
3	9.6	9	10	14	504	19	117	24	51	29	39
4	8.0	10	1,320	15	389	20	94	25	45	30	36
5	14	11	2,570	16	256	21	77	26	43	31	33
6	14										

Monthly mean discharge, in cubic feet per second	282
Runoff, in inches	4.70

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		12	7.46	2,570	N	7.14	1,770	12	3.38	448
12	0.57	8.7		October 11		2	7.00	1,650		October 15	
	October 9		1	7.50	2,580	4	6.86	1,540	4	3.31	436
N	0.57	8.7	2	7.52	2,580	6	6.66	1,410	8	3.22	420
6	.57	8.7	3	7.55	2,590	8	6.48	1,300	N	3.08	394
8	.59	10	4	7.57	2,590	10	6.26	1,180	4	2.90	364
10	.70	21	5	7.58	2,600	12	6.04	1,080	8	2.75	340
12	.80	33	6	7.60	2,600		October 13		12	2.60	316
	October 10		7	7.60	2,600	2	5.82	988		October 16	
1	0.95	54	8	7.62	2,600	4	5.60	910	4	2.44	291
2	1.20	105	9	7.66	2,600	6	5.38	850	8	2.30	270
3	1.42	165	10	7.71	2,600	8	5.18	806	N	2.18	252
4	1.78	278	11	7.73	2,590	10	5.00	770	4	2.09	238
5	2.18	406	N	7.73	2,590	N	4.82	734	8	1.99	224
6	2.82	617	1	7.76	2,580	2	4.66	702	12	1.89	210
7	3.56	876	2	7.79	2,570	4	4.52	674		October 17	
8	4.13	1,080	3	7.82	2,560	6	4.40	650	4	1.80	197
9	4.40	1,190	4	7.83	2,550	8	4.28	626	8	1.71	184
10	4.57	1,260	5	7.83	2,550	10	4.18	606	N	1.65	176
11	4.75	1,330	6	7.83	2,550	12	4.10	590	4	1.60	169
N	4.84	1,370	7	7.83	2,550		October 14		8	1.55	162
1	4.95	1,410	8	7.83	2,550	2	4.01	572	12	1.50	154
2	5.05	1,450	9	7.82	2,490	4	3.92	554		October 18	
3	5.14	1,490	10	7.82	2,490	6	3.83	536	6	1.43	144
4	5.23	1,520	11	7.80	2,490	8	3.74	518	N	1.41	140
5	5.72	1,720	12	7.78	2,460	10	3.65	500	6	1.38	136
6	6.35	2,010		October 12		N	3.58	486	12	1.34	129
7	6.78	2,220	2	7.73	2,390	2	3.58	486		October 19	
8	7.08	2,370	4	7.66	2,300	4	3.56	482	6	1.30	122
9	7.20	2,440	6	7.54	2,150	6	3.52	474	N	1.27	117
10	7.28	2,480	8	7.42	2,020	8	3.45	461	6	1.24	112
11	7.42	2,560	10	7.28	1,890	10	3.41	454	12	1.21	107

(3) Thorn Creek at Glenwood, Ill.

Location.--Lat 41°31'50", long 87°36'20", in SW¼SE¼ sec. 9, T. 35 N., R. 14 E., on right bank 20 ft downstream from Baltimore & Ohio Chicago Terminal Railroad bridge, 0.7 mile north of Chicago Heights, 0.8 mile south of Glenwood, and 1 mile upstream from Deer Creek. Datum of gage is 610.97 ft above mean sea level, datum of 1929.
Drainage area.--25.4 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 1,180 cfs 10 to 11 p.m. Oct. 10 (gage height, 9.88 ft).
1949 to September 1954: Discharge, 848 cfs June 10, 1953 (gage height, 9.63 ft).
Remarks.--Figures of discharge include about 6 cfs pumped from ground-water sourcea for municipal supply of Chicago Heights and undetermined amount of ground-water pumpage for industrial use above station. Undetermined amount of pumpage diverted by commercial livestock feeding pens above station.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	19	7	19	12	243	17	44	22	30	27	27
2	17	8	19	13	96	18	40	23	30	28	27
3	18	9	23	14	60	19	39	24	29	29	27
4	21	10	809	15	56	20	34	25	28	30	25
5	36	11	729	16	54	21	30	26	28	31	22
6	22										

Monthly mean discharge, in cubic feet per second	87.1
Runoff, in inches	3.93

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			N	9.40	905	3	8.20	627	10	4.43	104
12	3.08	20	1	9.43	918	4	8.00	593	N	4.36	97
October 9			2	9.43	918	5	7.83	565	2	4.26	89
2	3.06	20	3	9.39	901	6	7.62	531	4	4.15	80
4	3.05	19	4	9.33	877	7	7.41	498	6	4.01	70
6	3.02	18	5	9.34	881	8	7.19	462	8	3.91	62
8	2.98	17	6	9.48	941	9	7.01	434	10	3.85	58
10	2.97	16	7	9.65	1,030	10	6.86	410	12	3.83	57
N	2.97	16	8	9.76	1,100	11	6.70	384	October 14		
2	2.99	17	9	9.85	1,160	12	6.58	365	2	3.80	55
4	2.99	17	10	9.88	1,180	October 12			4	3.80	55
6	3.01	18	11	9.88	1,180	2	6.38	333	6	3.80	55
8	3.05	19	12	9.84	1,150	4	6.32	324	8	3.80	55
9	3.09	21	October 11			6	6.09	291	10	3.80	55
10	3.49	38	1	9.78	1,110	8	5.97	274	N	3.80	55
11	4.00	69	2	9.73	1,080	10	5.84	257	2	4.17	82
12	4.37	98	3	9.66	1,040	N	5.68	237	4	4.00	69
October 10			4	9.58	990	2	5.52	217	6	3.89	61
1	4.44	105	5	9.49	946	4	5.40	203	8	3.89	61
2	5.50	215	6	9.41	910	6	5.26	188	10	3.85	58
3	6.83	405	7	9.33	877	8	5.14	174	12	3.83	57
4	7.68	541	8	9.24	844	10	5.00	159	October 15		
5	8.30	644	9	9.15	815	12	4.90	149	4	3.81	56
6	8.72	719	10	9.03	782	October 13			8	3.81	56
7	9.01	778	11	8.91	757	2	4.80	139	N	3.80	55
8	9.17	821	N	8.77	729	4	4.68	127	4	3.80	55
9	9.22	837	1	8.61	697	6	4.58	117	8	3.80	55
10	9.28	858	2	8.41	663	8	4.50	110	12	3.80	55
11	9.34	881									

(4) Deer Creek near Chicago Heights, Ill.

Location.--Lat 41°31'15", long 87°35'25", 0.1 mile west of center of sec. 14, T. 35 N., R. 14 E., on left bank at bridge on Joe Orr Road, 0.4 mile east of Cottage Grove Avenue, 1 mile north of U. S. Highway 30, 1.5 miles northeast of Chicago Heights, and 1.6 miles west of Torrence Avenue. Datum of gage is 615.95 ft above mean sea level, datum of 1929.
Drainage area.--24.4 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 637 cfs 11 a.m. Oct. 11 (gage height, 11.19 ft). 1948 to September 1954: Discharge, 663 cfs May 10 or 11, 1948 (gage height, 11.52 ft, from floodmark).
Remarks.--Undetermined amount of flow diverted for irrigation above station.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.3	7	0.9	12	316	17	32	22	11	27	6.4
2	.3	8	.7	13	129	18	24	23	9.8	28	5.9
3	.3	9	1.1	14	75	19	20	24	8.2	29	5.6
4	.3	10	323	15	72	20	16	25	7.4	30	5.1
5	.6	11	594	16	44	21	13	26	6.8	31	4.6
6	1.0										

Monthly mean discharge, in cubic feet per second	55.9
Runoff, in inches	2.64

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			3	10.30	433	5	11.09	607	N	6.62	122
12	1.77	0.6	4	10.41	452	6	11.06	598	2	6.40	113
October 9			5	10.61	487	7	11.02	586	4	6.23	106
8	1.77	0.6	6	10.67	499	8	10.96	568	6	6.05	99
10	1.76	.6	7	10.77	519	9	10.89	548	8	5.88	93
N	1.76	.6	8	10.80	525	10	10.85	538	10	5.72	88
4	1.76	.6	9	10.82	530	11	10.73	511	12	5.58	82
6	1.77	.6	10	10.83	532	12	10.63	491	October 14		
8	1.85	1.1	11	10.86	540	October 12			2	5.45	78
9	2.00	2.1	12	10.88	545	2	10.39	448	4	5.35	74
10	2.20	4.0	October 11			4	10.16	411	6	5.27	72
11	2.22	4.2	1	10.90	550	6	9.95	380	8	5.19	70
12	2.32	5.3	2	10.92	556	8	9.73	351	10	5.12	68
October 10			3	10.97	571	10	9.49	322	N	5.07	66
1	3.97	35	4	11.02	586	N	9.26	297	2	5.19	70
2	4.22	42	5	11.07	601	2	9.08	279	4	5.29	73
3	4.90	31	6	11.12	616	4	8.88	261	6	5.49	80
4	5.30	73	7	11.15	625	6	8.72	248	8	5.60	83
5	5.93	95	8	11.16	628	8	8.53	232	10	5.66	85
6	6.67	124	9	11.17	631	10	8.31	217	12	5.68	86
7	7.47	164	10	11.18	634	12	8.08	201	October 15		
8	8.30	216	11	11.19	637	October 13			4	5.65	85
9	9.00	272	N	11.18	634	2	7.83	185	8	5.49	79
10	9.48	321	1	11.18	634	4	7.59	170	N	5.28	72
11	9.73	351	2	11.17	631	6	7.32	156	4	5.07	65
N	9.92	376	3	11.16	628	8	7.06	143	8	4.90	59
1	10.07	398	4	11.13	619	10	6.84	132	12	4.75	54
2	10.20	417									

(5) Butterfield Creek at Flossmoor, Ill.

Location.--Lat 41°32'25", long 87°38'55", in NE¼NW¼ sec. 8, T. 35 N., R. 14 E., on left bank at Reigle Road Bridge at Homewood city limits, 0.1 mile north of Holbrook Road and three-quarters of a mile east of Flossmoor. Datum of gage is 616.80 ft above mean sea level, datum of 1929.
Drainage area.--22.9 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,200 cfs and extended to peak stage by logarithmic plotting.
Maxima.--October 1954: Discharge, 1,480 cfs 12 p.m. Oct. 10 (gage height, 10.92 ft).
1948 to September 1954: Discharge, 970 cfs (revised) Mar. 19, 1948, May 10 or 11, 1948 (gage heights, 10.29 and 10.28 ft, from floodmarks).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	1.7	7	1.7	12	253	17	49	22	22	27	11
2	1.6	8	1.4	13	116	18	39	23	20	28	10
3	1.9	9	2.8	14	87	19	35	24	16	29	10
4	2.4	10	616	15	75	20	30	25	14	30	9.1
5	5.4	11	819	16	59	21	26	26	12	31	8.4
6	3.0										
Monthly mean discharge, in cubic feet per second											76.1
Runoff, in inches											3.83

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		3	8.87	460	3	9.67	631	4	6.34	133
12	3.90	1.3	4	8.90	465	4	9.48	580	6	6.28	127
	October 9		5	9.44	570	5	9.31	542	8	6.22	123
2	3.91	1.4	6	9.81	685	6	9.14	508	10	6.15	117
N	3.91	1.4	7	9.97	765	7	8.97	476	N	6.09	112
2	3.90	1.3	8	10.37	1,020	8	8.80	450	2	6.06	110
6	3.90	1.3	9	10.73	1,310	9	8.67	430	4	6.01	106
8	3.94	1.6	10	10.87	1,430	10	8.55	412	6	5.97	103
10	4.38	10	11	10.91	1,470	11	8.43	394	8	5.94	100
12	4.60	19	12	10.92	1,480	12	8.32	378	10	5.88	95
	October 10			October 11			October 12		12	5.87	95
1	5.43	63	1	10.90	1,460	2	8.14	352		October 14	
2	6.07	111	2	10.83	1,400	4	7.99	331	2	5.82	91
3	6.58	154	3	10.69	1,270	6	7.85	311	4	5.80	89
4	7.28	232	4	10.53	1,140	8	7.72	293	6	5.78	88
5	8.33	380	5	10.43	1,060	10	7.60	276	8	5.75	86
6	8.76	444	6	10.37	1,020	N	7.45	255	10	5.73	84
7	9.17	514	7	10.33	991	2	7.28	232	N	5.72	83
8	9.50	585	8	10.30	970	4	7.09	209	2	5.77	87
9	9.59	608	9	10.26	942	6	6.90	187	4	5.77	87
10	9.59	608	10	10.21	907	8	6.74	170	6	5.79	88
11	9.54	595	11	10.16	876	10	6.61	157	8	5.78	88
N	9.41	562	N	10.07	822	12	6.50	147	10	5.76	86
1	9.22	524	1	9.96	760		October 13		12	5.73	84
2	9.01	482	2	9.82	690	2	6.42	140			

(6) Lansing ditch near Lansing, Ill.

Location.--Lat 41°31'40", long 87°31'45", at north boundary of sec. 17, T. 35 N., R. 15 E., on right bank at upstream side of bridge on farm road, 0.2 mile west of Indiana State line, 0.5 mile east of Burnham Avenue, and 2 miles south of Lansing. Datum of gage is 607.16 ft above mean sea level, datum of 1929.
Drainage area.--8.3 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 302 cfs 4 p.m. Oct. 11 (gage height, 10.18 ft).
1948 to September 1954: Discharge, 461 cfs May 10 or 11, 1948 (gage height, 9.24 ft, from floodmark).
Remarks.--Undetermined amount of flow diverted for irrigation above station. Some merging of basins and interbasin flow during flood period.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.8	7	1.1	12	282	17	25	22	7.8	27	4.9
2	.8	8	1.0	13	205	18	18	23	6.7	28	4.4
3	.9	9	1.8	14	101	19	15	24	6.1	29	4.3
4	1.0	10	171	15	63	20	11	25	5.6	30	3.8
5	3.0	11	293	16	39	21	9.3	26	5.2	31	3.4
6	1.8										

Monthly mean discharge, in cubic feet per second	41.8
Runoff, in inches	5.81

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		3	9.14	198	5	10.17	301	N	9.27	205
12	2.57	1.0	4	9.14	198	6	10.17	301	2	9.12	197
	October 9		5	9.23	202	7	10.17	301	4	8.94	182
2	2.56	1.0	6	9.37	212	8	10.17	301	6	8.76	173
N	2.56	1.0	7	9.52	227	9	10.16	300	8	8.55	166
4	2.56	1.0	8	9.68	243	10	10.15	298	10	8.28	153
6	2.58	1.1	9	9.77	252	11	10.15	298	12	8.05	142
7	2.61	1.3	10	9.84	260	12	10.15	298		October 14	
8	2.71	2.2	11	9.89	266		October 12		2	7.80	127
9	2.82	3.5	12	9.92	269	2	10.13	295	4	7.55	115
10	2.92	4.6		October 11		4	10.11	293	6	7.30	106
11	3.23	8.6	1	9.96	274	6	10.09	290	8	7.08	99
12	3.38	11	2	9.99	277	8	10.08	289	10	6.90	92
	October 10		3	10.01	280	10	10.07	288	N	6.77	88
1	3.84	19	4	10.03	282	N	10.05	285	2	6.84	89
2	4.64	35	5	10.05	285	2	10.01	280	4	6.97	93
3	5.48	53	6	10.06	286	4	9.99	277	6	7.08	99
4	6.31	75	7	10.09	290	6	9.95	273	8	7.08	99
5	6.83	88	8	10.10	291	8	9.92	269	10	6.95	90
6	8.03	141	9	10.13	295	10	9.88	265	12	6.78	88
7	8.57	167	10	10.13	295	12	9.84	260		October 15	
8	8.82	177	11	10.13	295		October 13		4	6.44	79
9	8.92	181	N	10.14	297	2	9.78	254	8	6.09	68
10	9.00	187	1	10.15	298	4	9.72	247	N	5.71	58
11	9.07	193	2	10.17	301	6	9.62	237	4	5.52	55
N	9.11	196	3	10.17	301	8	9.51	226	8	5.34	50
1	9.13	197	4	10.18	302	10	9.40	215	12	5.20	46
2	9.14	198									

(7) North Creek near Lansing, Ill.

Location.--Lat 41°32'45", long 87°33'30", in SE¼SE¼ sec. 1, T. 35 N., R. 14 E., on right bank at Torrence Avenue Bridge, 1.1 miles south of Lansing and 2.7 miles north of U. S. Highway 30. Datum of gage is 599.29 ft above mean sea level, datum of 1929.
Drainage area.--18.2 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 692 cfs 10 to 12 p.m. Oct. 10 (gage height, 8.96 ft).
1948 to September 1954: Discharge, 730 cfs (revised)
Mar. 20, 1948 (gage height, 8.51 ft, revised, from floodmark).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.5	7	1.2	12	484	17	64	22	22	27	11
2	.3	8	.7	13	397	18	45	23	18	28	9.7
3	.4	9	.8	14	282	19	38	24	15	29	9.2
4	.6	10	426	15	180	20	33	25	13	30	8.2
5	1.6	11	555	16	97	21	26	26	12	31	6.8
6	2.7										

Monthly mean discharge, in cubic feet per second	89.1
Runoff, in inches	5.64

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		7	8.82	618		October 12		8	7.83	290
12	2.90	0.6	8	8.90	659	2	8.57	506	10	7.77	277
	October 9		9	8.95	686	4	8.57	506	N	7.72	268
4	2.90	0.6	10	8.96	692	6	8.56	502	2	7.72	268
6	2.89	.6	11	8.96	692	8	8.55	498	4	7.72	268
8	2.89	.6	12	8.96	692	10	8.54	494	6	7.71	266
10	2.88	.5		October 11		N	8.53	490	8	7.69	262
N	2.88	.5	1	8.90	659	2	8.51	482	10	7.65	253
6	2.88	.5	2	8.87	644	4	8.50	479	12	7.61	247
8	2.87	.5	3	8.84	628	6	8.47	467		October 15	
10	2.90	.6	4	8.81	613	8	8.45	460	4	7.49	224
12	3.43	5.4	5	8.78	599	10	8.43	452	8	7.35	201
	October 10		6	8.75	585	12	8.41	445	N	7.20	178
1	3.96	13	7	8.72	571		October 13		4	7.04	156
2	5.26	41	8	8.69	557	2	8.40	442	8	6.88	136
3	6.09	79	9	8.66	544	4	8.38	435	12	6.73	122
4	6.71	120	10	8.64	535	6	8.35	425		October 16	
5	7.18	175	11	8.61	523	8	8.32	415	4	6.59	111
6	7.63	251	N	8.61	523	10	8.29	406	8	6.46	102
7	8.00	328	1	8.61	523	N	8.27	399	N	6.36	96
8	8.24	390	2	8.61	523	2	8.24	390	4	6.26	89
9	8.39	438	3	8.61	523	4	8.21	382	8	6.16	83
10	8.48	471	4	8.61	523	6	8.17	371	12	6.06	78
11	8.56	502	5	8.61	523	8	8.13	360		October 17	
N	8.61	523	6	8.61	523	10	8.08	348	4	5.98	73
1	8.63	531	7	8.61	523	12	8.03	335	8	5.89	68
2	8.63	531	8	8.61	523		October 14		N	5.79	63
3	8.61	523	9	8.61	523	2	7.98	323	4	5.70	59
4	8.58	510	10	8.60	519	4	7.93	313	8	5.62	55
5	8.58	510	11	8.59	515	6	7.87	300	12	5.53	51
6	8.75	585	12	8.58	510						

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(8) Thorn Creek at Thornton, Ill.

Location.--Lat 41°34'05", long 87°36'30", near center of N½ sec. 34, T. 36 N., R. 14 E., on right bank at downstream side of Ridge Road Bridge in Thornton, 1 mile downstream from North Creek and 1½ miles upstream from Grand Trunk Railway. Datum of gage is 586.43 ft above mean sea level, datum of 1929.
Drainage area.--106 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 3,370 cfs 9 a.m. Oct. 11 (gage height, 14.70 ft).
1948 to September 1954: Discharge, 4,040 cfs Mar. 20, 1948 (gage height, 14.08 ft, from floodmark).
Flood of Apr. 5, 1947, reached a stage of 14.34 ft, from floodmark (discharge, 4,200 cfs).
Remarks.--Some diurnal fluctuation caused by pumping operations above station. Figures of discharge include about 6 cfs pumped from ground-water sources for municipal supply of Chicago Heights and undetermined amount of ground-water pumpage for industrial use above station.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	25	7	33	12	2,090	17	295	22	84	27	48
2	22	8	30	13	1,110	18	206	23	69	28	46
3	28	9	31	14	717	19	156	24	60	29	45
4	28	10	1,260	15	583	20	124	25	55	30	40
5	59	11	3,140	16	416	21	103	26	52	31	35
6	42										

Monthly mean discharge, in cubic feet per second	356
Runoff, in inches	3.91

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		2	14.06	2,900	6	10.59	1,240	8	4.36	313
12	2.69	32	3	14.23	3,020	8	10.34	1,170	N	4.22	295
	October 9		4	14.37	3,120	10	10.11	1,110	4	4.13	282
4	2.69	32	5	14.49	3,210	N	9.93	1,080	8	3.98	260
6	2.68	31	6	14.57	3,270	2	9.72	1,040	12	3.85	240
8	2.65	28	7	14.64	3,320	4	9.53	998		October 18	
10	2.62	26	8	14.67	3,350	6	9.32	958	4	3.75	226
N	2.58	22	9	14.70	3,370	8	9.10	924	8	3.63	208
4	2.58	22	10	14.69	3,360	10	8.90	892	N	3.58	200
6	2.62	26	11	14.67	3,350	12	8.69	862	4	3.59	201
8	2.75	38	N	14.64	3,320		October 14		8	3.52	190
10	2.79	42	1	14.61	3,300	2	8.48	828	12	3.46	180
12	2.93	61	2	14.58	3,280	4	8.27	799		October 19	
	October 10		3	14.54	3,240	6	8.06	772	4	3.41	172
1	3.32	148	4	14.50	3,210	8	7.83	744	8	3.33	156
2	3.81	234	5	14.45	3,180	10	7.60	715	N	3.28	146
3	4.62	342	6	14.40	3,140	N	7.39	690	4	3.31	152
4	5.48	444	7	14.33	3,090	2	7.25	672	8	3.30	150
5	6.39	559	8	14.26	3,040	4	7.14	658	12	3.25	139
6	7.07	649	9	14.19	3,000	6	7.17	661		October 20	
7	8.21	792	10	14.11	2,940	8	7.19	664	6	3.20	128
8	8.71	864	11	14.03	2,880	10	7.08	650	N	3.16	119
9	9.13	928	12	13.93	2,820	12	6.99	638	6	3.18	123
10	9.55	1,000		October 12			October 15		12	3.15	116
11	9.96	1,080	2	13.75	2,700	4	6.82	616		October 21	
N	10.28	1,160	4	13.53	2,550	8	6.66	595	6	3.11	107
1	10.63	1,250	6	13.32	2,420	N	6.71	602	N	3.06	97
2	10.99	1,350	8	13.11	2,2[illegible]0	4	6.50	574	6	3.08	101
3	11.34	1,470	10	12.91	2,170	8	6.25	540	12	3.05	95
4	11.61	1,570	N	12.72	2,060	12	5.97	504		October 22	
5	12.05	1,740	2	12.52	1,960		October 16		6	3.01	87
6	12.35	1,870	4	12.31	1,860	4	5.78	480	N	2.96	78
7	12.65	2,020	6	12.07	1,750	8	5.38	432	6	2.99	83
8	12.92	2,170	8	11.82	1,650	N	5.17	406	12	2.96	78
9	13.15	2,310	10	11.56	1,540	4	4.98	384		October 23	
10	13.34	2,430	12	11.32	1,460	8	4.83	366	6	2.94	74
11	13.54	2,560		October 13		12	4.65	346	N	2.88	64
12	13.68	2,650	2	11.07	1,380		October 17		6	2.89	66
	October 11		44	10.84	1,310	4	4.49	329	12	2.89	66
1	13.86	2,770									

(10) Little Calumet River at South Holland, Ill.

Location.--Lat 41°36'05", long 87°34'38", in SW¼SW¼ sec. 13, T. 36 N., R. 14 E., on right bank at downstream side of bridge on U. S. Highway 6, 0.6 mile downstream from Thorn Creek and 1.6 miles east of South Holland, and 4.1 miles upstream from former gaging station at Harvey. Auxiliary gage at Dixmoor, 6.1 miles downstream. Datum of gages is 575.00 ft above mean sea level.

Gage-height record.--Water-stage recorder graphs from base and auxiliary gages.

Discharge record.--Computed by constant-fall method. Stage-fall-discharge relations defined by current-meter measurements.

Maxima.--October 1954: Discharge, 4,210 cfs 9 to 10 p.m. Oct. 11 (gage height, 19.39 ft). 1947 to September 1954: Discharge, 3,810 cfs May 11, 1948 (gage height, 17.33 ft). Flood of Apr. 6, 1947, reached a stage of 19.24 ft, from floodmark (discharge, 4,760 cfs).

Remarks.--Flow from about 330 sq mi of upper Little Calumet River basin above a point in Gary, Indiana, is diverted to Lake Michigan by Burns ditch (see p. 139).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	37	7	69	12	3,850	17	555	22	268	27	153
2	31	8	55	13	2,650	18	454	23	231	28	143
3	77	9	58	14	1,510	19	399	24	198	29	118
4	78	10	1,930	15	1,030	20	353	25	181	30	115
5	67	11	3,940	16	762	21	301	26	164	31	114
6	90										

Monthly mean discharge, in cubic feet per second	645
Runoff, in inches	

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		3	15.60	2,240	7	19.38	4,200	10	14.75	2,130
12	6.27	31	4	15.67	2,280	8	19.39	4,210	12	14.50	2,040
	October 9		5	15.94	2,390	9	19.39	4,210		October 14	
2	6.33	59	6	16.35	2,550	10	19.3[illegible]	4,200	2	14.10	1,870
4	6.25	63	7	16.68	2,690	11	19.35	4,180	4	13.85	1,790
6	6.13	61	8	17.05	2,880	12	19.36	4,200	6	13.59	1,690
8	6.02	50	9	17.28	2,980		October 12		8	13.35	1,610
10	6.05	44	10	17.48	3,070	2	19.29	4,170	10	13.11	1,530
N	6.13	32	11	17.63	3,190	4	19.21	4,130	N	12.87	1,440
2	6.22	29	12	17.74	3,250	6	19.10	4,090	2	12.73	1,400
4	6.28	45		October 11		8	18.97	4,040	4	12.60	1,350
6	6.31	52	1	17.88	3,320	10	18.84	3,980	6	12.45	1,310
8	6.40	51	2	18.00	3,400	N	18.68	3,890	8	12.33	1,260
10	7.33	96	3	18.14	3,480	2	18.52	3,830	10	12.20	1,220
12	8.22	196	4	18.30	3,570	4	18.34	3,720	12	12.08	1,180
	October 10		5	18.45	3,690	6	18.13	3,640		October 15	
1	9.17	302	6	18.57	3,760	8	17.92	3,540	4	11.89	1,110
2	11.35	828	7	18.69	3,810	10	17.70	3,420	8	11.70	1,070
3	11.17	711	8	18.81	3,880	12	17.45	3,300	N	11.54	1,040
4	11.66	828	9	18.89	3,950		October 13		4	11.38	985
5	12.23	971	10	18.97	3,980	2	17.21	3,200	8	11.22	933
6	13.01	1,240	11	19.04	4,000	4	16.98	3,080	12	11.06	876
7	13.65	1,450	N	19.11	4,060	6	16.73	2,990		October 16	
8	14.23	1,680	1	19.17	4,090	8	16.48	2,870	4	10.88	840
9	14.73	1,920	2	19.22	4,140	10	16.22	2,760	8	10.70	809
10	14.98	1,980	3	19.29	4,140	N	15.96	2,630	N	10.53	755
11	15.20	2,070	4	19.35	4,180	2	15.71	2,530	4	10.37	730
N	15.34	2,120	5	19.37	4,200	4	15.46	2,420	8	10.19	680
1	15.43	2,140	6	19.38	4,200	6	15.23	2,330	12	10.06	638
2	15.52	2,200				8	14.98	2,220			

(11) Midlothian Creek at Oak Forest, Ill.

Location.--Lat 41°36'51", long 87°43'46", in SE¼NW¼ sec. 15, T. 36 N., R. 13 E., on right bank at downstream side of highway bridge in Oak Forest, 4.4 miles upstream from mouth. Datum of gage is 620.41 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--12.7 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 569 cfs 12 p.m. Oct. 10 (gage height, 8.49 ft). 1950 to September 1954: Discharge, 384 cfs (revised) June 10, 1953 (gage height. 6.38 ft).
Remarks.--Diurnal fluctuation at low flow caused by industrial plants upstream.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	1.0	7	6.1	12	325	17	59	22	24	27	15
2	1.0	8	3.3	13	232	18	46	23	21	28	14
3	5.3	9	7.9	14	167	19	39	24	19	29	12
4	2.8	10	427	15	107	20	33	25	17	30	12
5	12	11	448	16	76	21	28	26	16	31	11
6	12										

Monthly mean discharge, in cubic feet per second	71.0
Runoff, in inches	6.44

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		2	8.01	526	4	6.70	409	N	4.57	230
12	1.56	2.8	3	7.78	505	5	6.70	409	2	4.49	223
	October 9		4	7.57	486	6	6.63	403	4	4.41	216
6	1.56	2.8	5	7.61	490	7	6.53	395	6	4.36	212
8	1.55	2.7	6	7.74	502	8	6.45	388	8	4.27	205
10	1.55	2.7	7	7.95	520	9	6.40	384	10	4.21	200
N	1.54	2.5	8	7.98	523	10	6.36	380	12	4.17	197
2	1.53	2.3	9	8.08	532	11	6.31	376		October 14	
6	1.53	2.3	10	8.23	546	12	6.28	373	2	4.11	192
8	1.55	2.7	11	8.39	560		October 12		4	4.05	187
9	1.70	7.7	12	8.49	569	2	6.22	369	6	3.98	181
10	2.25	39		October 11		4	6.09	357	8	3.92	175
11	2.40	49	1	8.48	568	6	5.93	344	10	3.87	170
12	2.80	80	2	8.41	562	8	5.82	335	N	3.83	166
	October 10		3	8.34	556	10	5.74	328	2	3.81	164
1	3.67	152	4	8.19	542	N	5.64	319	4	3.78	162
2	4.41	216	5	7.98	523	2	5.56	312	6	3.71	156
3	4.72	242	6	7.77	504	4	5.57	313	8	3.63	148
4	4.91	257	7	7.54	484	6	5.53	310	10	3.54	140
5	5.07	271	8	7.34	466	8	5.39	298	12	3.45	132
6	5.45	303	9	7.18	451	10	5.25	286		October 15	
7	6.06	355	10	7.02	437	12	5.14	277	4	3.34	121
8	6.62	403	11	6.87	424		October 13		8	3.26	114
9	7.12	446	N	6.78	416	2	5.04	268	N	3.18	106
10	7.62	491	1	6.67	407	4	4.93	259	4	3.11	100
11	8.01	526	2	6.62	403	6	4.85	252	8	3.04	93
N	8.16	539	3	6.60	401	8	4.74	243	12	2.96	86
1	8.13	537				10	4.64	235			

(12) Wolf Lake at Chicago, Ill.

Location.--Lat 41°40'00", long 87°32'15", in SW¼ sec. 29, T. 37 N., R. 15 E., at outlet on west shore in Chicago. Datum of gage is 580.45 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Gage-height record.--Water-stage recorder graph.
Maxima.--October 1954: Gage height, 3.00 ft 5 p.m. Oct. 11 to 7 a.m. Oct. 12.
1939 to September 1954: Hourly mean gage height, 2.32 ft June 27, 1952.
Remarks.--Hourly mean values used to determine extremes in order to dampen effects of wind action.

Gage height, in feet, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	1.65	7	2.30	12	2.98	17	2.76	22	2.52	27	2.20
2	1.66	8	2.29	13	2.96	18	2.71	23	2.44	28	2.13
3	2.00	9	2.34	14	2.89	19	2.70	24	2.36	29	2.07
4	2.17	10	2.82	15	2.87	20	2.65	25	2.30	30	2.04
5	2.29	11	2.98	16	2.82	21	2.60	26	2.26	31	2.00
6	2.30										

Gage height, in feet, at indicated time, 1954

Hour	Gage height	Hour	Gage height	Hour	Gage height	Hour	Gage height	Hour	Gage height
	October 8	1	2.80	2	2.96	8	2.85	N	2.70
12	2.29	2	2.80	4	2.97	12	2.84	8	2.68
	October 9	3	2.73	6	2.98		October 16	12	2.68
6	2.29	4	2.88	12	2.98	4	2.84		October 20
8	2.28	5	2.94		October 13	8	2.82	6	2.67
10	2.27	6	2.95	4	2.98	N	2.82	N	2.65
N	2.27	7	2.97	6	2.97	4	2.81	6	2.64
4	2.27	8	2.98	10	2.97	8	2.80	12	2.62
6	2.28	12	2.98	N	2.96	12	2.79		October 21
8	2.50		October 11	2	2.96		October 17	6	2.61
10	2.56	3	2.98	4	2.95	4	2.78	N	2.60
12	2.64	4	2.97	8	2.95	8	2.77	6	2.58
	October 10	10	2.97	10	2.94	N	2.76	12	2.56
1	2.66	11	2.98	12	2.93	4	2.75		October 22
2	2.67	N	2.98		October 14	8	2.73	6	2.55
3	2.71	2	2.98	4	2.92	12	2.72	N	2.52
4	2.75	3	2.99	8	2.90		October 18	6	2.50
5	2.76	4	2.99	N	2.88	4	2.70	12	2.48
6	2.76	5	3.00	4	2.86	8	2.70		October 23
7	2.77	12	3.00	8	2.88	N	2.74	6	2.46
8	2.77		October 12	12	2.88	4	2.71	N	2.44
9	2.78	6	3.00		October 15	8	2.72	6	2.42
10	2.78	8	2.99	8	2.88	12	2.71	12	2.40
11	2.79	10	2.97	N	2.87		October 19		
N	2.79	N	2.96	4	2.86	4	2.70		

(13) Deep River at Lake George Outlet at Hobart, Ind.

Location.--Lat 41°32'03", long 87°15'22", in NW¼NW¼ sec. 32, T. 36 N., R. 7 W., at northeast end of Lake George in Hobart, an eighth of a mile upstream from Duck Creek. Datum of gage is 600.00 ft above mean sea level, datum of 1929.
Drainage area.--125 sq mi (revised).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 3,880 cfs 1:30 to 2 p.m. Oct. 11 (gage height, 7.68 ft).
1947 to September 1954: Discharge, 2,740 cfs May 11, 1948 (gage height, 5.86 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	28	7	26	12	2,600	17	458	22	188	27	98
2	22	8	22	13	1,480	18	381	23	162	28	88
3	32	9	22	14	961	19	320	24	144	29	77
4	28	10	729	15	738	20	253	25	126	30	70
5	30	11	3,340	16	599	21	210	26	108	31	64
6	30										

Monthly mean discharge, in cubic feet per second	433
Runoff, in inches	3.99

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			11	5.30	2,090	2	6.84	3,290	October 14		
12	1.99	21	12	5.56	2,300	3	6.73	3,210	2	4.26	1,110
October 9			October 11			4	6.64	3,150	4	4.20	1,070
N	1.99	21	1	5.80	2,490	5	6.50	3,050	6	4.18	1,050
6	1.98	19	2	6.04	2,680	6	6.40	2,970	8	4.14	1,020
8	1.98	19	3	6.32	2,900	7	6.30	2,890	10	4.08	982
10	2.04	30	4	6.60	3,120	8	6.22	2,830	N	4.03	947
12	2.10	42	5	6.79	3,250	9	6.14	2,760	2	4.00	926
October 10			6	6.99	3,390	10	6.06	2,700	4	3.96	898
1	2.10	42	7	7.17	3,520	11	5.98	2,630	6	3.92	870
2	2.47	164	8	7.32	3,620	N	5.90	2,570	8	3.88	842
3	2.57	200	9	7.41	3,690	2	5.80	2,460	10	3.86	828
4	2.60	210	10	7.50	3,750	4	5.65	2,310	12	3.84	814
5	2.65	230	11	7.60	3,820	6	5.53	2,180	October 15		
6	2.73	264	N	7.64	3,850	8	5.40	2,070	4	3.80	793
7	2.83	308	1	7.66	3,860	10	5.30	1,990	8	3.75	758
8	2.90	340	1:30	7.68	3,880	12	5.20	1,910	N	3.72	737
9	2.96	370	2	7.68	3,880	October 13			4	3.68	709
10	3.03	405	3	7.65	3,860	2	5.11	1,840	8	3.65	688
11	3.11	445	4	7.62	3,830	4	5.02	1,760	12	3.62	667
N	3.16	470	5	7.59	3,810	6	4.89	1,640	October 16		
1	3.26	523	6	7.53	3,770	8	4.81	1,570	6	3.56	636
2	3.35	562	7	7.46	3,720	10	4.74	1,510	N	3.50	600
3	3.47	642	8	7.38	3,670	N	4.68	1,450	6	3.43	562
4	3.61	737	9	7.30	3,610	2	4.62	1,400	12	3.37	528
5	3.83	891	10	7.22	3,550	4	4.55	1,340	October 17		
6	4.05	1,040	11	7.13	3,490	6	4.50	1,300	6	3.30	490
7	4.32	1,260	12	7.03	3,420	8	4.44	1,260	N	3.24	460
8	4.59	1,480	October 12			10	4.38	1,210	6	3.15	415
9	4.80	1,670	1	6.93	3,350	12	4.32	1,160	12	3.13	405
10	5.10	1,930									

(14) Burns ditch at Gary, Ind.

Location.--Lat 41°34'25", long 87°17'15", in N½ sec. 13, T. 36 N., R. 8 W., near center of span on downstream side of bridge on Central Avenue, 0.5 mile east of Gary and 1¼ miles downstream from Deep River. Altitude of gage is 577 ft (from topographic map).
Drainage area.--About 160 sq mi (revised, approximate for flood flows).
Gage-height record.--Graph drawn on basis of twice-daily wire-weight gage readings except during peak when gage was read every 2 hours.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 3,430 cfs 2 to 6 p.m. Oct. 11; gage height, 15.90 ft 1 to 5 a.m. Oct. 12, from graph based on gage readings.
1943 to September 1954: Discharge, 2,660 cfs May 11, 1948; gage height, 16.44 ft Mar. 16, 1944, from graph based on gage readings.
Remarks.--Discharges not published for stages below 5 ft. Stage-discharge relation affected by backwater from Lake Michigan.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	---	7	---	12	3,110	17	1,130	22	542	27	---
2	---	8	---	13	2,490	18	985	23	465	28	---
3	---	9	---	14	1,870	19	872	24	---	29	---
4	---	10	1,140	15	1,540	20	749	25	---	30	---
5	---	11	3,230	16	1,300	21	627	26	---	31	---
6	---										

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			4	10.28	1,350	3	15.90	3,250	6	13.27	1,980
12	4.28		5	10.53	1,430	4	15.90	3,250	8	13.06	1,920
October 9			6	10.89	1,540	5	15.90	3,250	10	12.90	1,880
6	4.18		7	11.22	1,640	6	15.88	3,230	N	12.72	1,840
N	4.09		8	11.55	1,740	7	15.87	3,230	2	12.58	1,820
2	4.08		9	11.91	1,880	8	15.85	3,210	4	12.41	1,780
4	4.12		10	12.24	2,020	9	15.84	3,200	6	12.28	1,760
5	4.25		11	12.61	2,160	10	15.81	3,180	8	12.12	1,720
6	4.58		12	13.00	2,320	N	15.78	3,150	10	12.01	1,700
7	4.81		October 11			2	15.70	3,090	12	11.89	1,680
8	5.12	223	1	13.40	2,480	4	15.65	3,050	October 15		
9	5.40	273	2	13.75	2,640	6	15.58	2,990	2	11.78	1,660
10	5.69	325	3	14.10	2,810	8	15.50	2,930	4	11.68	1,640
11	5.90	363	4	14.50	3,010	10	15.42	2,880	6	11.56	1,600
12	6.20	417	5	14.75	3,140	12	15.33	2,830	8	11.48	1,580
October 10			6	14.90	3,210	October 13			10	11.38	1,560
1	6.40	453	7	15.00	3,260	2	15.25	2,780	N	11.29	1,540
2	6.67	502	8	15.12	3,320	4	15.16	2,730	2	11.19	1,510
3	6.93	551	9	15.18	3,350	6	15.04	2,650	4	11.10	1,480
4	7.20	603	10	15.24	3,380	8	14.92	2,590	6	11.02	1,460
5	7.45	654	11	15.33	3,410	10	14.81	2,540	8	10.98	1,440
6	7.70	709	N	15.34	3,420	N	14.70	2,480	10	10.90	1,420
7	7.95	766	2	15.45	3,430	2	14.59	2,420	12	10.84	1,400
8	8.22	831	4	15.55	3,430	4	14.47	2,370	October 16		
9	8.30	850	6	15.64	3,430	6	14.32	2,310	4	10.71	1,360
10	8.50	898	8	15.75	3,400	8	14.18	2,250	8	10.58	1,320
11	8.77	965	10	15.82	3,340	10	14.02	2,210	N	10.48	1,300
N	9.02	1,020	12	15.89	3,260	12	13.87	2,160	4	10.35	1,270
1	9.35	1,110	October 12			October 14			8	10.22	1,240
2	9.62	1,180	1	15.90	3,250	2	13.68	2,100	12	10.11	1,210
3	9.98	1,260	2	15.90	3,250	4	13.48	2,040			

(15) Little Calumet River at Porter, Ind.

Location.--Lat 41°37'18", long. 87°05'13", in NE¼ sec. 34, T. 37 N., R. 6 W., near center of span on downstream side of highway bridge, three-quarters of a mile northwest of Porter and 4.5 miles upstream from Salt Creek. Datum of gage is 603.48 ft above mean sea level, datum of 1929.
Drainage area.--62.9 sq mi (revised).
Gage-height record.--Water-atage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 3,110 cfs 9 p.m. Oct. 10 (gage height, 11.66 ft).
1945 to September 1954: Discharge, 2,440 cfs June 28, 1945 (gage height, 9.88 ft, from graph based on gage readings).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	44	7	229	12	1,110	17	638	22	122	27	79
2	37	8	145	13	546	18	330	23	100	28	79
3	327	9	118	14	374	19	231	24	91	29	74
4	1,220	10	1,780	15	420	20	180	25	82	30	74
5	460	11	2,600	16	672	21	144	26	79	31	69
6	385										

Monthly mean discharge, in cubic feet per second	414
Runoff, in inches	7.59

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		5	11.10	2,740	4	7.72	880	10	6.52	415
12	4.35	122	6	11.27	2,840	6	7.60	825	N	6.83	499
	October 9		7	11.42	2,940	8	7.50	780	2	7.29	686
4	4.27	116	8	11.62	3,080	10	7.42	744	4	7.80	920
8	4.20	111	9	11.66	3,110	12	7.35	712	6	8.09	1,060
N	4.13	106	10	11.65	3,100		October 13		8	8.17	1,100
4	4.08	103	11	11.61	3,080	4	7.20	645	10	8.14	1,090
8	4.03	99	12	11.56	3,040	8	7.06	584	12	8.01	1,020
9	4.05	100		October 11		N	6.93	532		October 17	
10	4.40	125	2	11.51	3,010	4	6.81	493	4	7.68	861
11	5.55	236	4	11.48	2,990	8	6.70	460	8	7.35	712
12	5.92	292	6	11.42	2,940	12	6.59	432	N	7.08	592
	October 10		8	11.34	2,890		October 14		4	6.86	508
1	6.24	353	10	11.21	2,810	4	6.47	402	8	6.67	452
2	6.46	400	N	11.04	2,700	8	6.38	381	12	6.51	412
3	6.60	435	2	10.86	2,580	N	6.27	359		October 18	
4	6.73	469	4	10.66	2,450	4	6.27	359	4	6.36	377
5	6.86	508	6	10.40	2,290	8	6.23	351	8	6.23	351
6	7.01	564	8	10.14	2,130	12	6.25	355	N	6.10	325
7	7.29	686	10	9.82	1,960		October 15		4	5.97	300
8	7.70	870	12	9.56	1,820	4	6.45	398	8	5.88	286
9	8.30	1,170		October 12		8	6.64	445	12	5.78	270
10	8.78	1,410	2	9.30	1,670	N	6.67	452		October 19	
11	9.34	1,690	4	8.96	1,500	4	6.60	435	4	5.68	254
N	9.77	1,930	6	8.69	1,360	8	6.50	410	8	5.59	242
1	10.19	2,160	8	8.41	1,220	12	6.49	408	N	5.48	227
2	10.50	2,350	10	8.19	1,120		October 16		4	5.40	217
3	10.74	2,500	N	8.00	1,020	4	6.44	395	8	5.33	209
4	10.95	2,640	2	7.85	945	8	6.41	388	12	5.27	202

(16) Salt Creek near McCool, Ind.

Location.--Lat 41°35'48", long 87°08'40", in SE¼ sec. 6, T. 36 N., R. 6 W., near center of span on downstream side of highway bridge, just downstream from Michigan Central Railroad bridge, 1¼ miles north of McCool and 1.5 miles upstream from Little Calumet River. Altitude of gage is 595 ft (from topographic map).
Drainage area.--78.7 sq mi (revised).
Gage-height record.--Graph drawn on basis of floodmark and twice-daily wire-weight gage readings.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 3,180 cfs 6 a.m. Oct. 11 (gage height, 14.12 ft).
1945 to September 1954: Discharge, 1,910 cfs (revised) May 11, 1948 (gage height, 12.3 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	40	7	98	12	1,280	17	416	22	89	27	71
2	42	8	73	13	662	18	273	23	82	28	68
3	335	9	62	14	415	19	185	24	77	29	66
4	410	10	1,190	15	385	20	130	25	76	30	62
5	250	11	2,740	16	382	21	107	26	72	31	55
6	180										

Monthly mean discharge, in cubic feet per second	335
Runoff, in inches	4.91

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8			October 12		8	7.20	350	4	7.60	390
12	3.88	65	2	12.20	1,840	10	7.09	339	6	7.45	375
	October 9		4	12.00	1,700	12	7.02	332	8	7.31	361
6	3.82	61	6	11.76	1,560		October 15		10	7.19	349
N	3.80	60	8	11.52	1,410	2	7.17	347	12	7.03	333
6	3.78	59	10	11.32	1,290	4	7.31	361		October 18	
8	3.77	58	N	11.17	1,200	6	7.50	380	2	6.91	321
10	3.78	59	2	11.00	1,110	8	7.60	390	4	6.80	310
12	4.55	108	4	10.82	1,030	10	7.69	399	6	6.68	298
	October 10		6	10.69	980	N	7.71	401	8	6.58	288
2	5.55	190	8	10.50	910	2	7.73	403	10	6.49	279
4	6.40	270	10	10.39	880	4	7.71	401	N	6.39	269
6	7.40	370	12	10.22	830	6	7.70	400	2	6.30	260
8	8.35	478		October 13		8	7.65	395	4	6.21	251
10	9.25	612	2	10.10	800	10	7.60	390	6	6.15	245
N	10.15	812	4	9.99	772	12	7.53	383	8	6.10	240
2	10.95	1,080	6	9.81	728		October 16		10	6.03	233
4	11.80	1,580	8	9.70	700	2	7.48	378	12	6.00	230
6	12.65	2,160	10	9.59	678	4	7.40	370		October 19	
8	13.12	2,480	N	9.42	644	6	7.30	360	2	5.95	226
10	13.50	2,750	2	9.31	622	8	7.20	350	4	5.90	221
12	13.78	2,950	4	9.20	605	10	7.17	347	6	5.82	205
	October 11		6	9.09	588	N	7.20	350	8	5.79	202
2	13.99	3,090	8	8.93	564	2	7.40	370	10	5.71	203
4	14.10	3,170	10	8.80	545	4	7.55	385	N	5.65	180
6	14.12	3,180	12	8.69	528	6	7.70	400	2	5.60	176
8	14.00	3,100		October 14		8	7.89	419	4	5.53	161
10	13.81	2,970	2	8.52	503	10	8.01	431	6	5.49	158
N	13.61	2,830	4	8.40	485	12	8.20	455	8	5.42	153
2	13.41	2,690	6	8.25	462		October 17		10	5.39	150
4	13.23	2,560	8	8.10	440	2	8.33	474	12	5.33	145
6	13.01	2,420	10	7.95	425	4	8.40	485		October 20	
8	12.81	2,270	N	7.80	410	6	8.30	470	6	5.21	136
10	12.61	2,130	2	7.65	395	8	8.15	448	N	5.12	129
12	12.40	1,980	4	7.49	379	10	8.00	430	6	5.05	123
			6	7.35	365	N	7.89	419	12	4.99	118
						2	7.72	402			

(17) Kankakee River near North Liberty, Ind.

Location.--Lat 41°33'50", long 86°29'50", along north line sec. 23, T. 36 N., R. 1 W., near center of span on downstream side of county highway bridge at St. Joseph-La Porte County line, 4 miles northwest of North Liberty. Datum of gage is 680.04 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Drainage area.--152 sq mi (revised).

Gage-height record.--Graph drawn on basis of once-daily wire-weight gage readings. No gage-height record Oct. 3, 10, 17, 24, 31, Nov. 7, 11, 14, 21, 25, and 28.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times. Discharge for periods of no gage-height record estimated on basis of records for downstream station.

Maxima.--October 1954: Discharge, 686 cfs 3 to 4 p.m. Oct. 10; gage height, 8.64 ft 12 m. Oct. 12, from graph based on gage readings.
1951 to September 1954: Discharge, 680 cfs Nov. 14, 1951 (gage height, 6.97 ft, from graph based on gage readings).

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	89	220	9	131	220	17	509	178	25	221	178
2	89	220	10	567	220	18	442	175	26	220	236
3	101	220	11	655	216	19	367	178	27	220	240
4	140	220	12	599	212	20	328	182	28	220	226
5	146	220	13	458	208	21	297	178	29	220	245
6	164	220	14	435	202	22	271	172	30	220	226
7	149	220	15	485	193	23	249	175	31	220	
8	137	220	16	536	189	24	232	175			
Monthly mean discharge, in cubic feet per second										294	206
Runoff, in inches										2.22	1.52

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		10		677	2	8.62	590		October 16	
12	2.71	132	12		675	4	8.62	590	2	8.56	556
	October 9			October 11		6	8.59	574	4	8.56	556
6	2.70	131	1	8.22	672	8	8.58	568	6	8.58	568
N	2.68	130	2	8.25	670	10	8.55	550	8	8.56	556
6	2.65	128	3	8.28	669	12	8.52	532	4	8.50	520
8	2.64	127	4	8.30	668		October 13		12	8.48	508
10	2.63	127	5	8.33	666	4	8.48	508		October 17	
12	3.25	164	6	8.36	663	8	8.42	472	8		514
	October 10		8	8.40	660	N	8.40	460	4		514
2		234	10	8.42	658	4	8.33	432	12		490
4		336	N	8.49	651	8	8.29	417		October 18	
6		464	2	8.50	650	12	8.21	393	6	8.40	460
8		603	4	8.51	649		October 14		N	8.38	452
10		651	6	8.55	645	4	8.21	393	6	8.29	417
11		665	8	8.57	643	8	8.27	411	12	8.20	390
N		678	10	8.58	642	N	8.30	420		October 19	
1		682	12	8.60	640	4	8.33	432	8	8.12	374
2		685		October 12		8	8.35	440	4	8.04	358
3		686	2	8.60	640	12	8.35	440	12	7.98	347
4		686	4	8.61	630		October 15			October 20	
5		685	6	8.62	620	6	8.39	456	8	7.89	334
6		684	8	8.62	620	N	8.42	472	4	7.81	322
7		682	10	8.62	620	6	8.50	520	12	7.72	308
8		680	N	8.64	600	12	8.54	544			

(18) Kankakee River at Davis, Ind.

Location.--Lat 41°24', long 86°42', in sec. 13, T. 34 N., R. 3 W., on left bank at downstream side of bridge on U. S. Highway 30 at Davis, half a mile downstream from Mill Creek and 4 miles east of Hanna. Datum of gage is 664.68 ft above mean sea level, datum of 1929.
Drainage area.--508 sq mi (revised).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 1,620 cfs 10 p.m. Oct. 16 to 6 p.m. Oct. 18 (gage height, 11.76 ft).
1925-29, 1931 to September 1954: Discharge observed, about 1,700 cfs Dec. 15, 1927 (gage height, 9.50 ft, site and datum then in use), from rating curve extended above 520 cfs.

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	310	1,270	9	492	1,050	17	1,620	782	25	1,440	750
2	310	1,240	10	971	1,010	18	1,620	750	26	1,410	782
3	385	1,220	11	1,360	980	19	1,590	750	27	1,390	782
4	570	1,200	12	1,420	950	20	1,580	750	28	1,360	798
5	570	1,170	13	1,430	913	21	1,540	718	29	1,340	798
6	621	1,140	14	1,440	880	22	1,520	702	30	1,320	782
7	587	1,110	15	1,500	848	23	1,490	702	31	1,290	
8	522	1,080	16	1,570	818	24	1,460	734			
Monthly mean discharge, in cubic feet per second										1,160	915
Runoff, in inches										2.63	2.01

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		10	10.57	1,280	6	11.35	1,430		October 18	
12	6.11	508	11	10.65	1,290	8	11.37	1,430	N	11.76	1,620
	October 9		12	10.70	1,300	10	11.39	1,440	12	11.75	1,600
4	6.07	501		October 11		N	11.44	1,450		October 19	
8	6.04	496	2	10.79	1,320	2	11.48	1,460	N	11.74	1,590
N	6.00	490	4	10.85	1,330	4	11.50	1,470	12	11.74	1,590
4	5.96	484	6	10.91	1,340	6	11.51	1,470		October 20	
8	5.95	482	8	10.97	1,350	8	11.52	1,480	N	11.74	1,590
10	5.94	481	10	11.03	1,360	10	11.54	1,480	12	11.71	1,560
12	6.07	501	N	11.06	1,360	12	11.53	1,480		October 21	
	October 10		2	11.10	1,370		October 15		N	11.69	1,540
2	6.30	538	4	11.14	1,380	4	11.56	1,490	12	11.66	1,530
4	6.73	609	6	11.15	1,380	8	11.58	1,490		October 22	
6	7.37	722	8	11.17	1,380	N	11.60	1,500	N	11.65	1,520
8	8.17	866	10	11.20	1,390	4	11.62	1,510	12	11.62	1,510
9	8.50	925	12	11.25	1,400	8	11.63	1,520		October 23	
10	8.80	982		October 12		12	11.65	1,520	N	11.57	1,490
11	9.05	1,030	6	11.34	1,420		October 16		12	11.54	1,480
N	9.24	1,060	N	11.36	1,430	4	11.69	1,540		October 24	
1	9.40	1,090	6	11.36	1,430	8	11.70	1,550	N	11.48	1,460
2	9.52	1,110	12	11.36	1,430	N	11.72	1,570	12	11.44	1,450
3	9.62	1,130		October 13		4	11.74	1,590		October 25	
4	9.72	1,140	N	11.35	1,430	8	11.75	1,600	N	11.39	1,440
5	9.82	1,160	12	11.31	1,420	12	11.76	1,620	12	11.35	1,420
6	10.03	1,190		October 14			October 17			October 26	
7	10.16	1,220	2	11.31	1,420	N	11.76	1,620	N	11 31	1,410
8	10.35	1,250	4	11.32	1,420	12	11.76	1,620	12	11.27	1,400
9	10.40	1,260									

(19) Yellow River at Plymouth, Ind.

Location.--Lat 41°20', long 86°18', in sec. 4, T. 33 N., R. 2 E., near center of span at La Porte Street footbridge in Plymouth, half a mile downstream from Baker ditch and 7 miles upstream from Wolf Creek. Datum of gage is 764.78 ft above mean sea level, datum of 1929.

Drainage area.--284 sq mi (revised).

Gage-height record.--Graph drawn on basis of twice-daily wire-weight gage readings except Oct. 12-15 when the gage was read approximately every thirty minutes. No gage-height record Nov. 6, 7, 14.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times. Discharge for Nov. 6, 7, 14 estimated on basis of records for Yellow River at Knox.

Maxima.--October 1954: Discharge, 5,390 cfs 8 p.m. Oct. 12 to 4 a.m. Oct. 13 (gage height, 17.13 ft).
1948 to September 1954: Discharge, 3,230 cfs July 12, 1951 (gage height, 13.39 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	46	380	9	292	260	17	2,710	189	25	654	280
2	43	380	10	1,800	240	18	2,280	180	26	588	340
3	334	380	11	4,050	218	19	1,950	187	27	530	310
4	840	400	12	5,210	206	20	1,670	186	28	481	310
5	865	380	13	5,310	198	21	1,390	182	29	446	320
6	890	350	14	4,830	180	22	1,120	169	30	419	300
7	640	310	15	4,010	177	23	908	166	31	396	
8	350	280	16	3,270	189	24	754	214			
Monthly mean discharge, in cubic feet per second										1,583	262
Runoff, in inches										6.42	1.03

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		10	16.42	4,740	8	15.89	4,150	8	10.72	1,440
12	6.00	282	12	16.55	4,840	10	15.82	4,080	N	10.52	1,380
	October 9			October 12		N	15.74	4,000	4	10.32	1,340
4	5.92	268	2	16.65	4,940	2	15.68	3,940	8	10.12	1,300
8	5.85	255	4	16.75	5,020	4	15.61	3,870	12	9.92	1,250
N	5.79	244	6	16.82	5,090	6	15.53	3,790		October 22	
4	5.75	237	8	16.89	5,150	8	15.47	3,730	4	9.72	1,210
6	5.72	232	10	16.94	5,200	10	15.39	3,650	8	9.52	1,160
7	5.72	232	N	17.00	5,250	12	15.33	3,600	N	9.32	1,120
8	5.95	273	2	17.05	5,300		October 16		4	9.12	1,080
9	6.52	384	4	17.08	5,340	2	15.29	3,560	8	8.96	1,040
10	7.00	490	6	17.10	5,360	6	15.14	3,430	12	8.79	1,000
11	7.40	590	8	17.13	5,390	10	15.02	3,320		October 23	
12	7.82	695	10	17.13	5,390	2	14.89	3,210	4	8.61	964
	October 10		12	17.13	5,390	6	14.78	3,120	8	8.48	936
1	8.15	778		October 13		10	14.64	3,010	N	8.35	907
2	8.50	865	2	17.13	5,390	12	14.58	2,960	4	8.22	878
3	8.82	945	4	17.13	5,390		October 17		8	8.10	852
4	9.11	1,020	6	17.11	5,370	4	14.45	2,860	12	7.98	826
5	9.45	1,100	8	17.11	5,370	8	14.35	2,800		October 24	
6	9.80	1,210	10	17.11	5,370	N	14.20	2,690	6	7.80	786
7	10.20	1,330	N	17.11	5,370	12	13.84	2,480	N	7.63	749
8	10.40	1,390	2	17.09	5,350		October 18		6	7.50	720
9	10.72	1,500	4	17.05	5,300	8	13.60	2,340	12	7.40	698
10	10.95	1,580	6	17.00	5,250	N	13.49	2,280		October 25	
11	11.25	1,700	8	16.94	5,200	4	13.35	2,220	6	7.30	676
N	11.45	1,780	10	16.90	5,160	8	13.24	2,160	N	7.20	654
2	11.91	1,960	12	16.85	5,120	12	13.10	2,100	6	7.10	632
4	12.40	2,160		October 14			October 19		12	7.02	614
6	12.89	2,380	2	16.80	5,070	4	12.98	2,050		October 26	
8	13.32	2,590	4	16.78	5,050	8	12.82	1,990	N	6.90	588
10	13.72	2,810	6	16.70	4,980	N	12.68	1,940	12	6.77	559
12	14.08	3,030	8	16.67	4,950	4	12.52	1,900		October 27	
	October 11		10	16.61	4,900	8	12.37	1,850	N	6.63	529
2	14.40	3,230	N	16.57	4,860	12	12.20	1,800	12	6.51	502
4	14.70	3,440	2	16.53	4,830		October 20			October 28	
6	14.98	3,640	4	16.40	4,710	4	12.04	1,760	N	6.40	480
8	15.20	3,790	6	16.36	4,670	8	11.85	1,720	12	6.31	462
10	15.41	3,940	8	16.29	4,590	N	11.69	1,680		October 29	
N	15.61	4,090	10	16.24	4,530	4	11.50	1,630	N	6.22	444
2	15.82	4,260	12	16.15	4,440	8	11.30	1,580	12	6.17	434
4	16.00	4,400		October 15		12	11.12	1,540			
6	16.17	4,540	2	16.08	4,360		October 21				
8	16.30	4,640	4	16.01	4,280	4	10.92	1,480			
			6	15.94	4,200						

(20) Yellow River at Knox, Ind.

Location.--Lat 41°18', long 86°37', in sec. 14, T. 33 N., R. 2 W., on right bank 40 ft upstream from bridge on U. S. Highway 35 in Knox, 1½ miles downstream from Eagle Creek and 9 miles upstream from mouth. Datum of gage is 679.93 ft above mean sea level, datum of 1929 (Lafayette supplementary adjustment of 1951).
Drainage area.--425 sq mi (revised).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 5,660 cfs 10 p.m. Oct. 15, 4 a.m. Oct. 16 (gage height, 13.75 ft).
1943 to September 1954: Discharge, 3,160 cfs Apr. 7, 1950 (gage height, 10.42 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	144	652	9	664	493	17	5,020	368	25	1,100	416
2	142	642	10	785	458	18	4,300	362	26	960	476
3	234	634	11	1,630	437	19	3,550	365	27	878	500
4	620	632	12	2,920	412	20	2,870	374	28	816	500
5	970	640	13	3,960	402	21	2,360	374	29	770	500
6	1,060	624	14	5,030	392	22	1,920	362	30	730	500
7	1,030	580	15	5,600	380	23	1,560	356	31	687	
8	940	540	16	5,550	368	24	1,300	368			
Monthly mean discharge, in cubic feet per second										1,939	470
Runoff, in inches										5.26	1.24

Gage height, in feet, and discharge, in cubic feet per second, at indicated time,

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 9		10	12.15	4,380	12	13.32	5,320	12	9.76	2,590
12	6.63	592	12	12.32	4,520		October 17			October 21	
	October 10			October 14		2	13.28	5,280	2	9.72	2,560
2	6.64	596	1	12.47	4,640	4	13.24	5,250	4	9.66	2,520
4	6.66	604	2	12.53	4,680	6	13.15	5,180	6	9.57	2,460
6	6.72	629	3	12.55	4,700	8	13.09	5,130	8	9.55	2,450
8	6.80	665	4	12.65	4,780	10	13.02	5,080	10	9.47	2,390
10	6.86	692	5	12.70	4,820	N	12.98	5,040	N	9.43	2,360
N	6.95	732	6	12.79	4,890	2	12.87	4,960	2	9.40	2,340
2	7.05	780	7	12.83	4,920	4	12.80	4,900	4	9.33	2,290
4	7.16	835	8	12.86	4,950	6	12.74	4,850	6	9.29	2,260
6	7.28	899	9	12.84	4,930	8	12.66	4,790	8	9.21	2,210
8	7.44	994	10	12.86	4,950	10	12.60	4,740	10	9.16	2,170
10	7.61	1,100	11	12.87	4,960	12	12.51	4,670	12	9.13	2,150
12	7.75	1,190	N	12.96	5,030		October 18			October 22	
	October 11		1	13.03	5,080	2	12.40	4,580	2	9.05	2,100
2	7.88	1,280	2	13.04	5,090	4	12.37	4,560	4	9.00	2,060
4	8.00	1,360	3	13.09	5,130	6	12.28	4,480	6	8.92	2,000
6	8.07	1,410	4	13.15	5,180	8	12.20	4,420	8	8.87	1,970
8	8.17	1,470	5	13.10	5,140	10	12.14	4,370	10	8.82	1,930
10	8.25	1,540	6	13.20	5,220	N	12.04	4,290	N	8.81	1,930
N	8.34	1,600	7	13.34	5,330	2	11.98	4,240	2	8.74	1,880
2	8.45	1,680	8	13.26	5,270	4	11.90	4,180	4	8.68	1,840
4	8.56	1,750	9	13.31	5,310	6	11.83	4,120	6	8.64	1,810
6	8.70	1,850	10	13.42	5,400	8	11.73	4,040	8	8.60	1,780
8	8.84	1,950	11	13.44	5,410	10	11.67	4,000	10	8.56	1,750
10	8.98	2,050	12	13.49	5,450	12	11.58	3,920	12	8.52	1,720
12	9.15	2,160		October 15			October 19			October 23	
	October 12		2	13.57	5,520	2	11.55	3,900	8	8.35	1,600
2	9.34	2,300	4	13.63	5,560	4	11.43	3,800	N	8.27	1,550
4	9.55	2,440	6	13.56	5,510	6	11.36	3,750	4	8.22	1,510
6	9.77	2,600	8	13.70	5,620	8	11.26	3,670	8	8.15	1,460
8	10.00	2,700	10	13.72	5,640	10	11.18	3,600	12	8.09	1,420
10	10.15	2,860	N	13.72	5,640	N	11.09	3,530		October 24	
N	10.36	3,010	2	13.70	5,620	2	11.01	3,470	6	8.02	1,370
2	10.48	3,100	4	13.69	5,610	4	10.94	3,420	N	7.90	1,290
4	10.58	3,170	6	13.70	5,620	6	10.85	3,360	6	7.83	1,240
6	10.72	3,260	8	13.70	5,620	8	10.73	3,270	12	7.75	1,190
8	10.82	3,330	10	13.75	5,660	10	10.71	3,260		October 25	
10	10.92	3,400	12	13.72	5,640	12	10.56	3,150	6	7.66	1,140
12	11.03	3,480		October 16			October 20		N	7.59	1,090
	October 13		2	13.73	5,640	2	10.52	3,120	6	7.53	1,050
2	11.07	3,520	4	13.75	5,660	4	10.42	3,050	12	7.47	1,010
4	11.22	3,640	6	13.73	5,640	6	10.36	3,010		October 26	
6	11.37	3,760	8	13.72	5,640	8	10.32	2,980	N	7.38	958
8	11.45	3,820	10	13.66	5,590	10	10.24	2,930	12	7.31	916
10	11.59	3,930	N	13.66	5,590	N	10.12	2,840		October 27	
N	11.58	3,920	2	13.62	5,560	2	10.07	2,810	N	7.24	877
2	11.69	4,010	4	13.54	5,490	4	10.06	2,800	12	7.18	845
4	11.79	4,090	6	13.52	5,480	6	9.96	2,730		October 28	
6	11.90	4,180	8	13.48	5,440	8	9.92	2,700	N	7.12	815
8	12.01	4,270	10	13.39	5,370	10	9.81	2,630	12	7.07	790

(21) Kankakee River at Dunns Bridge, Ind.

Location.--Lat 41°13'17", long 86°57'52", in sec. 15, T. 32 N., R. 5 W., near center of span on upstream side of county highway bridge at Dunns Bridge, 1¾ miles north of Tefft and 3½ miles upstream from Davis ditch. Datum of gage is 649.65 ft above mean sea level, datum of 1929, Lafayette supplementary adjustment of 1951 (levels by Indiana Flood Control and Water Resources Commission).
Drainage area.--1,308 sq mi (revised).
Gage-height record.--Graph drawn on basis of twice-daily wire-weight gage readings.
Discharge record.--Stage-discharge, relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 5,300 cfs 3 to 11 a.m. Oct. 22 (gage height, 13.20 ft).
1948 to September 1954: Discharge, 5,200 cfs Apr. 12, 1950 (gage height, 13.08 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	550	3,910	9	1,600	2,960	17	4,370	2,100	25	5,030	1,770
2	575	3,770	10	1,650	2,860	18	4,550	2,020	26	4,880	1,800
3	600	3,640	11	2 370	2,760	19	4,840	1,950	27	4,710	1,800
4	1,050	3,520	12	2,940	2,640	20	5,070	1,900	28	4,510	1,840
5	1,480	3,400	13	3,330	2,540	21	5,240	1,840	29	4,340	1,840
6	1,660	3,300	14	3,670	2,430	22	5,290	1,800	30	4,200	1,840
7	1,840	3,180	15	3,940	2,320	23	5,260	1,760	31	4,050	
8	1,760	3,060	16	4,200	2,200	24	5,170	1,760			
Monthly mean discharge, in cubic feet per second										3,378	2,480
Runoff, in inches										2.97	2.12

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 9			October 12			8	11.78	4,030	October 20		
12	6.14	1,500	4	9.55	2,780	12	11.84	4,060	6	12.92	5,020
October 10			8	9.72	2,860	October 16			N	12.98	5,080
4	6.02	1,460	N	9.90	2,950	4	11.91	4,110	6	13.02	5,120
8	6.08	1,480	4	10.05	3,020	8	11.98	4,160	12	13.07	5,170
10	6.22	1,530	8	10.18	3,090	N	12.02	4,200	October 21		
N	6.43	1,600	12	10.30	3,150	4	12.09	4,250	6	13.10	5,200
2	6.62	1,670	October 13			8	12.12	4,280	N	13.14	5,240
4	6.83	1,740	4	10.41	3,210	12	12.16	4,310	6	13.18	5,280
6	7.02	1,810	8	10.52	3,270	October 17			12	13.19	5,290
8	7.21	1,870	N	10.62	3,330	4	12.19	4,330	October 22		
10	7.40	1,940	4	10.73	3,400	8	12.20	4,340	2	13.19	5,290
12	7.58	2,000	8	10.82	3,450	N	12.22	4,360	4	13.20	5,300
October 11			12	10.92	3,510	4	12.26	4,390	6	13.20	5,300
2	7.77	2,070	October 14			8	12.29	4,410	8	13.20	5,300
4	7.93	2,130	4	11.02	3,570	12	12.32	4,440	10	13.20	5,300
8	8.25	2,250	8	11.10	3,620	October 18			N	13.19	5,290
10	8.40	2,310	N	11.19	3,670	6	12.39	4,490	4	13.19	5,290
N	8.58	2,380	4	11.28	3,730	N	12.44	4,540	8	13.19	5,290
2	8.72	2,440	8	11.34	3,760	6	12.51	4,610	12	13.19	5,290
4	8.90	2,510	12	11.42	3,810	12	12.59	4,690	October 23		
6	9.02	2,560	October 15			October 19			4	13.18	5,280
8	9.15	2,610	4	11.50	3,860	6	12.68	4,780	8	13.18	5,280
10	9.26	2,650	8	11.58	3,910	N	12.73	4,830	N	13.15	5,250
12	9.38	2,700	N	11.64	3,940	6	12.81	4,910	4	13.15	5,250
			4	11.71	3,990	12	12.88	4,980	8	13.14	5,240
									12	13.12	5,220

(22) Kankakee River at Shelby, Ind.

Location.--Lat 41°11', long 87°21', in sec. 33, T. 32 N., R. 8 W., on left bank 25 ft downstream from Chicago, Indianapolis & Louisville Railway bridge, 1 mile south of Shelby, and 9 miles upstream from Beaver Lake Creek. Datum of gage is 628.13 ft above mean sea level, datum of 1929.
Drainage area.--1,753 sq mi (revised).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 5,040 cfs 12 M. to 10 p.m. Oct. 27 (gage height, 10.60 ft).
1922 to September 1954: Discharge observed, 7,200 cfs Dec. 21, 1927 (gage height, 11.40 ft, present datum, site then in use), from rating curve extended above 3,000 cfs by gage-height relation study with that of present site.

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	642	4,800	9	1,730	3,860	17	4,260	2,820	25	4,890	2,190
2	660	4,740	10	1,810	3,740	18	4,340	2,710	26	4,990	2,190
3	678	4,630	11	2,660	3,630	19	4,360	2,580	27	5,030	2,240
4	852	4,520	12	3,470	3,520	20	4,470	2,460	28	4,920	2,290
5	1,270	4,370	13	3,850	3,380	21	4,580	2,380	29	4,830	2,340
6	1,550	4,240	14	4,020	3,240	22	4,690	2,300	30	4,750	2,340
7	1,710	4,120	15	4,090	3,090	23	4,770	2,240	31	4,770	
8	1,750	3,980	16	4,180	2,960	24	4,830	2,240			
Monthly mean discharge, in cubic feet per second										3,400	3,200
Runoff, in inches										2.24	2.04

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 9		8	9.03	3,640	6	9.75	4,200		October 23	
12	5.55	1,690	12	9.11	3,700	12	9.78	4,220	N	10.33	4,770
	October 10			October 13			October 17		12	10.37	4,810
6	5.52	1,680	6	9.19	3,750	N	9.82	4,260		October 24	
N	5.61	1,710	N	9.36	3,890	12	9.87	4,310	N	10.40	4,840
4	5.84	1,810	6	9.43	3,940		October 18		12	10.39	4,830
8	6.25	2,020	12	9.46	3,970	N	9.92	4,360		October 25	
12	6.60	2,190		October 14		12	9.90	4,340	N	10.45	4,890
	October 11		6	9.47	3,980		October 19		12	10.52	4,960
4	6.90	2,340	N	9.53	4,020	N	9.91	4,350		October 26	
8	7.19	2,480	6	9.56	4,050	12	9.96	4,400	N	10.55	4,990
N	7.51	2,660	12	9.57	4,060		October 20		12	10.58	5,020
4	7.80	2,830		October 15		N	10.04	4,480		October 27	
8	8.09	3,000	6	9.56	4,050	12	10.08	4,520	6	10.58	5,020
12	8.34	3,160	N	9.60	4,080		October 21		8	10.59	5,030
	October 12		6	9.66	4,130	N	10.15	4,590	10	10.59	5,030
4	8.56	3,310	12	9.67	4,140	12	10.20	4,640	N	10.60	5,040
8	8.71	3,420		October 16			October 22		10	10.60	5,040
N	8.83	3,500	6	9.68	4,140	N	10.26	4,700	12	10.58	5,020
4	8.89	3,540	N	9.73	4,180	12	10.29	4,730			

(23) Singleton ditch at Schneider, Ind.

Location.--Lat 41°12'44", long 87°26'44", on line between NE¼ sec. 21 and NW¼ sec. 22, T. 32 N., R. 9 W., on left bank about 15 ft upstream from bridge on U. S. Highway 41, half a mile upstream from Bruce ditch, 1½ miles downstream from Cedar Creek, and 1 2/3 miles north of Schneider. Datum of gage is 623.67 ft above mean sea level, datum of 1929.
Drainage area.--122 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 953 cfs 10 p.m. Oct. 11 to 1 a.m. Oct. 12, 5 to 11 a.m. Oct. 12 (gage height, 10.10 ft).
1948 to September 1954: Daily discharge, 1,100 cfs Apr. 10, 1950.

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	12	79	9	12	56	17	358	45	25	112	49
2	12	74	10	368	53	18	291	42	26	106	51
3	12	71	11	924	53	19	242	42	27	100	55
4	12	69	12	947	51	20	201	40	28	94	70
5	13	65	13	888	49	21	169	39	29	91	106
6	13	63	14	734	48	22	148	38	30	88	86
7	12	61	15	595	46	23	134	39	31	86	
8	12	58	16	452	46	24	122	46			
Monthly mean discharge, in cubic feet per second										237	56.3
Runoff, in inches										2.24	0.52

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 9		12	9.13	827		October 13		12	5.00	399
12	1.40	15		October 11		4	9.71	913		October 17	
	October 10		1	9.45	868	8	9.55	908	6	4.83	377
2	1.40	15	2	9.64	893	N	9.38	898	N	4.67	356
4	1.47	18	3	9.68	898	4	9.18	875	6	4.53	338
6	1.57	22	4	9.73	905	8	8.95	856	12	4.40	321
7	1.75	31	8	9.80	914	12	8.66	823		October 18	
8	2.32	70	N	9.83	918		October 14		8	4.24	300
9	3.05	130	4	10.03	944	4	8.35	790	4	4.10	282
10	4.00	230	8	10.09	952	8	8.02	763	12	3.97	265
11	5.00	340	12	10.10	953	N	7.69	723		October 19	
N	5.75	422		October 12		4	7.47	696	8	3.85	250
1	6.43	502	2	10.08	950	8	7.36	683	4	3.70	230
2	6.87	554	4	10.08	950	12	7.25	670	12	3.63	221
3	7.18	592	6	10.10	953		October 15			October 20	
4	7.37	614	10	10.10	953	6	6.99	639	8	3.51	205
5	7.52	632	N	10.09	952	N	6.64	597	4	3.43	195
6	7.63	646	2	10.08	950	6	6.27	552	12	3.36	186
7	7.71	655	4	10.07	949	12	5.94	513		October 21	
8	7.83	670	6	10.03	944		October 16		8	3.26	173
9	8.05	696	8	9.96	937	6	5.65	478	4	3.19	164
10	8.35	732	10	9.90	932	N	5.42	450	12	3.13	157
11	8.75	780	12	9.84	930	6	5.21	425			

(24) West Creek near Schneider, Ind.

Location.--Lat 41°12'52", long 87°29'36", in NW¼NE¼ sec. 19, T. 32 N., R. 9 W., near center of span on upstream side of county highway bridge, 1.2 miles upstream from Singleton ditch and 2¾ miles northwest of Schneider. Altitude of gage is 631 ft (by altimeter).
Drainage area.--54.5 sq mi (revised).
Gage-height record.--Graph drawn on basis of floodmark and twice-daily wire-weight gage readings.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 1,840 cfs 11 p.m. Oct. 10 to 2 a.m. Oct. 11 (gage height, 8.06 ft).
1948-51, January to September 1954: Discharge, 1,050 cfs Dec. 22, 1949 (gage height, 6.56 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	9.2	24	9	7.4	15	17	104	12	25	37	18
2	8.0	22	10	871	14	18	87	12	26	34	20
3	8.0	22	11	1,570	14	19	74	12	27	32	20
4	8.4	20	12	914	14	20	66	12	28	30	24
5	11	19	13	491	13	21	58	12	29	28	25
6	9.6	19	14	290	13	22	50	11	30	27	22
7	8.0	18	15	171	12	23	42	12	31	26	
8	7.7	17	16	129	12	24	40	14			
Monthly mean discharge, in cubic feet per second										169	16.5
Runoff, in inches										3.57	0.34

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 9			October 12			October 14		8	2.29	133
12	0.58	7.4	2	6.77	1,150	2	3.93	371	N	2.25	129
	October 10		4	6.66	1,100	4	3.85	357	4	2.18	122
2	2.57	164	6	6.52	1,050	6	3.76	341	8	2.16	120
4	3.67	325	8	6.38	994	8	3.67	325	12	2.11	115
6	4.72	530	10	6.25	955	N	3.47	289		October 17	
8	5.65	780	N	6.08	904	2	3.37	271	6	2.06	110
10	5.99	877	2	5.96	868	4	3.27	254	N	1.98	102
N	6.14	922	4	5.79	819	6	3.13	234	6	1.96	100
2	6.20	940	6	5.65	780	8	3.04	222	12	1.90	94
4	6.30	970	8	5.47	730	10	2.96	211		October 18	
6	6.53	1,050	10	5.33	690	12	2.88	202	8	1.86	90
8	6.89	1,200	12	5.19	651		October 15		4	1.78	83
10	7.92	1,750		October 13		4	2.78	190	12	1.75	80
11	8.06	1,840	2	5.06	615	6	2.76	187		October 19	
12	8.06	1,840	4	4.94	581	8	2.70	180	N	1.67	73
	October 11		6	4.80	548	10	2.67	176	12	1.65	72
1	8.06	1,840	8	4.69	524	N	2.62	170		October 20	
2	8.06	1,840	10	4.58	500	2	2.57	164	N	1.58	65
4	7.99	1,790	N	4.49	480	4	2.55	162	12	1.56	63
8	7.85	1,710	2	4.39	458	6	2.50	156		October 21	
10	7.75	1,650	4	4.30	438	8	2.47	153	N	1.50	57
N	7.63	1,580	6	4.23	425	10	2.45	150	12	1.47	55
4	7.41	1,460	8	4.15	411	12	2.39	144		October 22	
8	7.16	1,330	10	4.07	397		October 16		12	1.36	45
12	6.92	1,210	12	3.99	382	4	2.36	141			

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(25) Singleton ditch at Illinoi, Ill.

Location.--Lat 41°11'20", long 87°31'35", in SW¼NW¼ sec. 8, T. 31 N., R. 15 E., near center of span on downstream side of county highway bridge in Illinoi, beside the Cleveland, Cincinnati, Chicago & St. Louis Railroad and at Indiana-Illinois State Line. Datum of gage is 620.33 ft above mean sea level, datum of 1929.
Drainage area.--219 sq mi (revised).
Gage-height record.--Water-stage recorder graph. No gage-height record Nov. 14-22.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times. Discharge for period Nov. 14-22 estimated on basis of records for stations on nearby streams.
Maxima.--October 1954: Discharge, 2,010 cfs 7 to 8 p.m. Oct. 11 (gage height, 9.81 ft).
1944 to September 1954: Discharge, 1,850 cfs Apr. 11, 1950 (gage height, 9.26 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	28	179	9	33	128	17	572	98	25	225	100
2	25	172	10	780	122	18	494	95	26	216	100
3	29	165	11	1,910	115	19	425	92	27	209	110
4	29	162	12	1,940	112	20	367	90	28	202	132
5	31	153	13	1,770	111	21	319	88	29	198	196
6	35	148	14	1,420	110	22	283	85	30	191	170
7	28	140	15	1,090	105	23	259	83	31	182	
8	28	134	16	777	100	24	237	96			
Monthly mean discharge, in cubic feet per second										463	123
Runoff, in inches										2.43	0.63

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 9		6	9.24	1,840	4	9.26	1,850	8	6.18	965
12	1.49	34	7	9.26	1,850	6	9.23	1,840	10	6.08	940
	October 10		8	9.32	1,870	8	9.17	1,820	12	5.96	910
1	1.50	35	9	9.29	1,860	10	9.12	1,810		October 16	
2	1.53	38	10	9.34	1,870	N	9.00	1,770	2	5.86	885
3	1.55	40	11	9.46	1,910	2	8.94	1,750	4	5.75	858
4	1.60	46	N	9.53	1,930	4	8.86	1,730	6	5.64	830
5	1.66	52	1	9.58	1,940	6	8.77	1,700	8	5.57	812
6	1.71	58	2	9.67	1,970	8	8.69	1,680	10	5.50	795
7	1.80	70	3	9.72	1,990	10	8.61	1,650	N	5.42	775
8	2.70	207	4	9.75	2,000	12	8.52	1,630	2	5.36	760
9	3.52	369	5	9.78	2,000		October 14		4	5.30	745
10	4.33	531	6	9.80	2,010	2	8.42	1,600	6	5.21	722
11	5.20	720	7	9.81	2,010	4	8.31	1,560	8	5.10	695
N	5.96	910	8	9.81	2,010	6	8.18	1,520	10	5.01	672
1	6.52	1,050	9	9.80	2,010	8	8.07	1,490	12	4.88	641
2	6.92	1,150	10	9.78	2,000	10	7.95	1,460		October 17	
3	7.20	1,230	11	9.76	2,000	N	7.84	1,420	2	4.72	609
4	7.41	1,290	12	9.74	1,990	2	7.72	1,390	4	4.68	601
5	7.57	1,340		October 12		4	7.57	1,340	6	4.62	589
6	7.67	1,370	2	9.71	1,980	6	7.48	1,310	8	4.59	583
7	7.75	1,400	4	9.66	1,970	12	7.27	1,250	10	4.55	575
8	7.85	1,420	6	9.67	1,970		October 15		N	4.51	567
9	7.95	1,460	8	9.63	1,960	2	7.18	1,220	2	4.49	563
10	8.18	1,520	10	9.60	1,950	4	7.10	1,200	4	4.47	559
11	8.37	1,580	N	9.57	1,940	6	7.01	1,170	6	4.43	551
12	8.59	1,650	2	9.51	1,920	8	6.90	1,140	8	4.40	545
	October 11		4	9.50	1,920	10	6.81	1,120	10	4.38	541
1	8.83	1,720	6	9.48	1,910	N	6.70	1,100	12	4.34	533
2	8.99	1,770	8	9.42	1,900	2	6.60	1,070		October 18	
3	9.10	1,800	10	9.39	1,890	4	6.45	1,030	12	3.95	455
4	9.19	1,830	12	9.34	1,870	6	6.32	1,000			
5	9.21	1,830		October 13							
			2	9.30	1,860						

(26) Kankakee River at Momence, Ill.

Location.--Lat 41°09'36", long 87°40'07" (revised), in NE¼ sec. 24, T. 31 N., R. 13 E., on right bank a quarter of a mile downstream from highway bridge in Momence and 1¼ miles upstream from Tower Creek. Datum of gage is 610.18 ft above mean sea level, datum of 1929.
Drainage area.--2,340 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October-November 1954: Discharge, 5,400 cfs 4 a.m. to 11 p.m. Oct. 15 (gage height, 3.07 ft).
1905-06, 1914 to September 1954: Discharge, 10,100 cfs Apr. 25, 1950 (gage height, 5.06 ft); maximum gage height observed, 8.09 ft Jan. 25, 1930 (ice jam) at site a quarter of a mile upstream.

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	660	5,020	9	1,870	4,460	17	5,160	3,430	25	5,060	2,580
2	682	5,000	10	2,810	4,320	18	5,040	3,300	26	5,100	2,520
3	720	5,020	11	4,900	4,180	19	4,960	3,150	27	5,120	2,500
4	780	5,000	12	5,260	4,020	20	4,900	3,030	28	5,220	2,560
5	984	4,940	13	5,120	3,920	21	4,900	2,860	29	5,220	2,670
6	1,280	4,860	14	5,280	3,820	22	4,900	2,750	30	5,200	2,690
7	1,510	4,760	15	5,400	3,680	23	4,940	2,650	31	5,100	
8	1,720	4,620	16	5,300	3,560	24	5,000	2,620			
Monthly mean discharge, in cubic feet per second										3,874	3,683
Runoff, in inches										1.91	1.76

(27) Kankakee River near Wilmington, Ill.

Location.--Lat 41°20'48", long 88°11'11", in NW¼ sec. 15, T. 33 N., R. 9 E., on right bank 0.4 mile downstream from Prairie Creek and 5 miles downstream from Wilmington. Datum of gage is 511.10 ft above mean sea level, datum of 1929.
Drainage area.--5,250 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October, November 1954: Discharge, 10,200 cfs 8 to 9 a.m. Oct. 12 (gage height, 3.60 ft).
1935 to September 1954: Discharge, 48,000 cfs May 21, 1943 (gage height, 8.87 ft); gage height, 11.57 ft Feb. 1, 1949 (ice jam).
Maximum stage known, 16.73 ft in 1883, 1887.
Remarks.--Slight diurnal fluctuation at low flow caused by power plants above station.

Mean discharge, in cubic feet per second, 1954

Day	October	November	Day	October	November	Day	October	November	Day	October	November
1	754	5,470	9	1,950	4,840	17	6,780	3,760	25	5,600	2,800
2	754	5,340	10	2,780	4,720	18	6,460	3,560	26	5,650	2,800
3	790	5,340	11	8,000	4,560	19	6,190	3,400	27	5,650	2,770
4	844	5,340	12	9,700	4,440	20	6,010	3,240	28	5,650	2,800
5	980	5,290	13	7,990	4,240	21	5,830	3,130	29	5,700	2,980
6	1,230	5,200	14	7,180	4,080	22	5,650	2,980	30	5,650	3,130
7	1,500	5,120	15	7,400	3,960	23	5,600	2,910	31	5,560	
8	1,750	5,000	16	7,270	3,880	24	5,600	2,880			
Monthly mean discharge, in cubic feet per second										4,789	3,999
Runoff, in inches										1.05	.85

(28) Des Plaines River near Gurnee, Ill.

Location.--Lat 42°20'40", long 87°56'30", in SW¼ sec. 27, T. 45 N., R. 11 E., on right bank at upstream side of bridge on State Highway 120, 600 ft east of intersection of State Highways 120 and 63, 2½ miles southwest of Gurnee, 2½ miles upstream from Bull Creek, and 6 miles downstream from Mill Creek. Datum of gage is 650.3 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).
Drainage area.--215 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 442 cfs 3 to 9 a.m. Oct. 13 (gage height, 4.38 ft).
1945 to September 1954: Discharge, 2,620 cfs Mar. 21, 1948 (gage height, 9.21 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	15	7	177	12	423	17	401	22	155	27	102
2	27	8	161	13	441	18	360	23	134	28	107
3	117	9	140	14	433	19	301	24	115	29	102
4	169	10	179	15	433	20	238	25	107	30	95
5	181	11	350	16	425	21	190	26	101	31	84
6	183										

Monthly mean discharge, in cubic feet per second	208
Runoff, in inches	1.12

(29) Buffalo Creek near Wheeling, Ill.

Location.--Lat 42°09'05", long 87°57'25", in NE¼NW¼ sec. 4, T. 42 N., R. 11 E., on left bank at downstream side of highway bridge, 1 mile downstream from unnamed tributary, and 2.5 miles west of Wheeling. Datum of gage is 658.60 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--19.4 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 80 cfs and extended to peak stage by logarithmic plotting.
Maxima.--October 1954: Discharge, 161 cfs 10:30 p.m. Oct. 10 (gage height, 4.62 ft).
1952 to September 1954: Discharge, 268 cfs Apr. 25, 1954 (gage height, 5.40 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.1	7	1.8	12	105	17	26	22	12	27	9.1
2	.1	8	1.6	13	72	18	20	23	10	28	8.6
3	1.4	9	1.6	14	53	19	17	24	9.4	29	7.9
4	.6	10	73	15	42	20	15	25	8.9	30	7.2
5	1.2	11	134	16	34	21	13	26	9.1	31	6.6
6	2.0										

Monthly mean discharge, in cubic feet per second	22.7
Runoff, in inches	1.35

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		11	3.42	62	7	4.32	131	8	3.86	93
12	1.83	1.5	N	3.50	67	9	4.32	131	10	3.83	90
	October 9		1	3.54	70	11	4.34	133	12	3.79	87
4	1.83	1.5	2	3.59	73	N	4.35	134		October 13	
6	1.82	1.4	3	3.77	86	3	4.35	134	2	3.75	84
2	1.82	1.4	4	3.92	98	4	4.34	133	4	3.70	81
4	1.81	1.3	5	4.07	110	5	4.34	133	10	3.61	75
6	1.82	1.4	6	4.14	115	6	4.33	132	4	3.49	66
8	1.89	2.1	7	4.24	124	9	4.27	126	8	3.41	62
10	1.90	2.2	8	4.41	139	10	4.26	125	10	3.39	60
12	1.97	3.0	9	4.53	151	11	4.24	124	12	3.35	58
	October 10		10	4.60	159	12	4.22	122		October 14	
1	2.02	3.8	10:30	4.62	161		October 12		2	3.33	57
2	2.07	4.6	11	4.61	160	2	4.19	119	6	3.27	53
3	2.15	6.3	12	4.57	156	4	4.15	116	10	3.23	51
4	2.34	11		October 11		6	4.12	114	N	3.28	54
5	2.54	18	1	4.51	149	8	4.08	110	2	3.30	55
6	2.75	26	2	4.48	146	10	4.06	109	6	3.26	53
7	2.94	36	3	4.43	141	N	4.02	106	8	3.22	50
8	3.09	43	4	4.39	137	2	3.98	102	10	3.20	49
9	3.22	50	5	4.36	134	4	3.95	100	12	3.17	47
10	3.35	58	6	4.34	133	6	3.90	96			

(30) Des Plaines River near Des Plaines, Ill.

Location.--Lat 42°04'55", long 87°53'25", in SE¼SE¼ sec. 25, T. 42 N., R. 11 E., on right bank 50 ft upstream from dam no. 2 of Cook County Forest Preserve, 0.3 mile downstream from Lake Avenue Bridge, 1.2 miles upstream from Central Road Bridge, and 2½ miles north of Des Plaines. Datum of gage is 626.31 ft above mean sea level, datum of 1929.

Drainage area.--374 sq mi.

Gage-height record.--Water-stage recorder graph except for period Oct. 25-31.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record Oct. 25-31 estimated on basis of recorded range in stage and records for station near Gurnee.

Maxima.--October 1954: Discharge, 1,800 cfs 9 to 11 a.m. Oct. 11 (gage height, 3.25 ft). 1940 to September 1954: Discharge, 4,040 cfs Apr. 25, 1950 (gage height, 7.78 ft). Flood of July 4, 1938, reached a stage of 9.7 ft, from floodmark (discharge, 5,500 cfs).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	23	7	200	12	1,260	17	633	22	295	27	175
2	30	8	195	13	869	18	587	23	246	28	170
3	74	9	191	14	794	19	526	24	217	29	160
4	158	10	785	15	749	20	444	25	190	30	150
5	200	11	1,750	16	688	21	358	26	180	31	140
6	206										

Monthly mean discharge, in cubic feet per second	408
Runoff, in inches	1.26

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		4	2.05	880		October 12		12	1.94	783
12	1.16	190	5	2.19	1,020	2	2.93	1,620		October 15	
	October 9		6	2.34	1,170	4	2.82	1,550	4	1.93	774
2	1.15	184	7	2.50	1,330	6	2.71	1,490	8	1.92	764
8	1.15	184	8	2.66	1,450	8	2.61	1,420	N	1.90	745
10	1.14	178	9	2.80	1,540	10	2.51	1,340	4	1.89	736
2	1.14	178	10	2.90	1,600	N	2.41	1,250	12	1.87	716
4	1.13	173	11	2.98	1,650	2	2.32	1,160		October 16	
6	1.16	190	12	3.04	1,680	4	2.24	1,080	8	1.85	698
8	1.20	212		October 11		6	2.18	1,020	4	1.83	678
10	1.23	228	2	3.10	1,720	8	2.14	980	12	1.81	660
12	1.27	251	3	3.14	1,740	10	2.11	950		October 17	
	October 10		5	3.18	1,760	12	2.09	930	4	1.80	650
1	1.29	262	6	3.21	1,780		October 13		8	1.76	614
2	1.32	279	7	3.22	1,780	4	2.07	910	12	1.76	614
3	1.36	303	8	3.24	1,790	6	2.05	890		October 18	
4	1.41	333	9	3.25	1,800	8	2.05	890	N	1.73	587
5	1.48	378	11	3.25	1,800	10	2.03	870	12	1.70	560
6	1.58	452	1	3.23	1,780	N	2.03	870		October 19	
7	1.67	520	3	3.23	1,780	8	1.99	830	4	1.68	544
8	1.72	560	4	3.22	1,780	10	1.98	821	N	1.66	528
9	1.74	578	7	3.16	1,750	12	1.98	821	4	1.65	520
10	1.73	569	8	3.13	1,740		October 14		12	1.61	488
11	1.73	569	9	3.10	1,720	2	1.97	812		October 20	
N	1.72	560	10	3.06	1,700	6	1.95	792	N	1.55	445
1	1.73	569	11	3.02	1,670	8	1.95	792	12	1.48	397
2	1.75	587	12	2.97	1,640	10	1.93	774		October 21	
3	1.88	707				N	1.95	792	N	1.42	358
						10	1.95	792	12	1.36	321

(31) McDonald Creek near Mt. Prospect, Ill.

Location.--Lat 42°05'42", long 87°54'46", in NW¼NE¼ sec. 26, T. 42 N., R. 11 E., on right bank at downstream side of bridge on McDonald Road, 2 miles upstream from mouth, and 2.5 miles northeast of Mt. Prospect. Datum of gage is 638.12 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--7.52 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 80 cfs and extended to peak stage by logarithmic plotting. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 146 cfs 6 a.m. Oct. 11 (gage height, 7.31 ft).
1952 to September 1954: Discharge, 103 cfs June 3, 1954 (gage height, 6.46 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0	7	2.5	12	68	17	17	22	8.0	27	5.9
2	0	8	2.1	13	36	18	14	23	7.3	28	5.6
3	.6	9	3.4	14	30	19	12	24	6.6	29	5.2
4	2.1	10	67	15	30	20	11	25	5.9	30	5.0
5	2.0	11	131	16	22	21	9.1	26	5.8	31	4.6
6	3.3										

Monthly mean discharge, in cubic feet per second	16.9
Runoff, in inches	2.59

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		9	4.83	48	10	7.24	142	4	4.63	42
12	2.14	2.0	10	4.90	50	11	7.20	140	6	4.55	40
	October 9		11	5.00	53	N	7.17	138	8	4.48	38
4	2.14	2.0	N	5.11	56	2	7.09	134	10	4.42	37
6	2.15	2.1	1	5.20	59	3	7.03	132	N	4.37	36
10	2.15	2.1	2	5.35	64	4	6.97	128	2	4.32	34
N	2.14	2.0	3	5.71	74	6	6.83	122	4	4.27	34
5	2.14	2.0	4	6.00	85	7	6.75	118	6	4.22	32
6	2.22	2.5	5	6.23	94	8	6.67	114	8	4.18	32
7	2.44	4.3	6	6.38	100	9	6.60	110	10	4.14	30
8	2.53	5.1	7	6.53	106	10	6.51	106	12	4.11	30
9	2.63	6.2	8	6.68	114	11	6.43	102		October 14	
10	2.90	9.5	9	6.81	120	12	6.35	99	2	4.07	29
11	3.08	12	10	6.91	126		October 12		4	4.05	29
12	3.26	15	11	7.00	130	2	6.25	95	6	4.04	28
	October 10		12	7.08	134	8	5.71	74	8	4.02	28
1	3.36	17		October 11		N	5.43	66	10	4.01	28
2	3.50	19	1	7.15	138	2	5.30	61	N	4.05	29
3	3.69	23	2	7.20	140	4	5.20	58	2	4.12	30
4	3.94	28	3	7.26	143	6	5.07	54	4	4.15	30
5	4.22	34	4	7.29	144	8	4.95	51	6	4.17	31
6	4.47	39	6	7.31	146	10	4.86	48	8	4.18	32
7	4.66	44	8	7.29	144	12	4.78	46	10	4.20	32
8	4.76	46	9	7.26	143		October 13		12	4.22	32
						2	4.71	44			

(32) Weller Creek at Des Plaines, Ill.

Location.--Lat 42°02'57", long 87°55'05", in N½NW¼ sec. 18, T. 41 N., R. 12 E., on right bank at downstream side of bridge on State Highway 58 in Des Plaines, 2 miles west of U. S. Highway 45 and 3.0 miles upstream from mouth. Datum of gage is 635.02 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--13.1 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 160 cfs and extended to peak stage by logarithmic plotting. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 535 cfs 6 p.m. Oct. 10 (gage height, 10.83 ft).
1950 to September 1954: Discharge, 461 cfs Apr. 25, 1954 (gage height, 9.83 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	5.0	7	4.2	12	90	17	22	22	11	27	8.1
2	8.8	8	4.2	13	55	18	20	23	9.6	28	7.8
3	31	9	48	14	54	19	16	24	8.8	29	7.6
4	4.3	10	329	15	38	20	14	25	8.8	30	6.7
5	21	11	210	16	28	21	12	26	8.6	31	6.3
6	5.6										

Monthly mean discharge, in cubic feet per second	35.6
Runoff, in inches	3.13

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			5	10.69	524	October 12			2	4.27	109
12	1.79	4.5	6	10.83	535	2	4.33	112	4	3.55	74
October 9			7	10.81	534	4	4.19	105	6	3.19	58
2	1.79	4.7	8	10.80	533	6	4.07	99	8	3.03	51
6	1.73	3.6	9	10.77	530	8	3.98	94	10	2.94	47
8	1.71	3.3	10	10.57	514	10	3.94	92	12	2.87	44
10	1.68	2.8	11	10.19	484	N	3.89	90	October 15		
N	1.68	2.8	12	9.71	448	2	3.81	86	4	2.79	41
2	1.72	3.5	October 11			4	3.75	83	8	2.73	39
4	1.77	4.3	1	9.30	420	6	3.66	79	N	2.72	38
6	1.95	8.1	2	8.82	386	8	3.53	73	4	2.66	36
7	3.00	45	3	8.37	355	10	3.47	70	8	2.62	34
8	5.35	165	4	7.82	316	12	3.39	67	12	2.56	32
9	6.98	262	5	7.26	279	October 13			October 16		
10	7.14	272	6	6.78	250	2	3.34	64	4	2.48	29
11	6.49	233	7	6.39	227	4	3.27	61	8	2.45	28
12	5.65	184	8	6.09	209	6	3.22	59	N	2.48	29
October 10			9	5.88	196	8	3.19	58	4	2.44	28
1	5.45	173	10	5.72	188	10	3.17	57	8	2.38	26
2	5.70	186	11	5.57	179	N	3.10	54	12	2.36	25
3	5.80	192	N	5.40	170	2	3.09	53	October 17		
4	5.99	203	1	5.26	162	4	3.07	52	4	2.32	24
5	6.50	234	2	5.24	161	6	3.00	49	8	2.28	22
6	7.21	276	3	5.19	158	8	2.93	47	N	2.28	22
7	7.69	307	4	5.11	154	10	2.89	45	4	2.30	23
8	7.68	306	5	5.03	149	12	2.86	44	8	2.26	21
9	7.26	279	6	4.94	144	October 14			12	2.25	21
10	6.64	242	7	4.85	140	2	2.82	42	October 18		
11	6.14	212	8	4.76	134	4	2.78	41	4	2.20	19
N	5.88	196	9	4.70	132	6	2.76	40	8	2.17	18
1	5.83	193	10	4.63	127	8	2.75	39	N	2.32	24
2	5.89	197	11	4.54	122	10	2.75	39	4	2.24	21
3	7.36	285	12	4.43	117	N	3.39	67	8	2.18	19
4	9.70	448				1	4.33	112	12	2.15	18

(33) Willow Creek near Park Ridge, Ill.

Location.--Lat 41°59'22", long 87°52'24", in SW¼NE¼ sec. 4, T. 40 N., R. 12 E., on right bank at downstream side of bridge on Byron Street, 0.4 mile south of State Highway 72, 1.3 miles upstream from mouth, and 2½ miles southwest of Park Ridge. Datum of gage is 620.95 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).

Drainage area.--19.6 sq mi.

Gage-height record.--Water-stage recorder graph except for the period 12 M. Oct. 5 to 10 a.m. Oct. 6, for which graph was drawn on basis of recorded range in stage and recorder graph for Weller Creek at Des Plaines.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 160 cfs and extended to peak stage by logarithmic plotting.

Maxima.--October 1954: Discharge, 382 cfs 6 a.m. Oct. 11 (gage height, 8.32 ft).
1950 to September 1954: Discharge, 283 cfs Apr. 25, 1954 (gage height, 7.15 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.2	7	20	12	218	17	66	22	31	27	19
2	1.1	8	15	13	149	18	57	23	27	28	16
3	40	9	32	14	120	19	49	24	23	29	15
4	16	10	228	15	109	20	41	25	21	30	12
5	44	11	337	16	84	21	36	26	20	31	10
6	34										

Monthly mean discharge, in cubic feet per second	61.0
Runoff, in inches	3.59

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			8	6.00	192	10	8.12	364	12	5.79	177
12	2.12	13	9	5.92	186	11	8.07	359	October 13		
October 9			10	5.90	185	N	7.97	350	2	5.70	171
2	2.11	13	11	5.95	188	1	7.87	341	4	5.62	165
4	2.11	13	N	6.03	194	2	7.78	333	6	5.55	160
6	2.10	13	1	6.06	196	3	7.70	326	8	5.48	156
8	2.09	12	2	6.09	198	4	7.60	317	10	5.41	152
10	2.08	12	3	6.21	207	5	7.49	307	N	5.35	148
N	2.08	12	4	6.87	257	6	7.41	300	2	5.29	144
2	2.07	12	5	7.38	297	7	7.32	293	4	5.24	141
4	2.06	11	6	7.49	307	8	7.24	286	6	5.19	138
5	2.06	11	7	7.52	310	9	7.16	280	8	5.12	134
6	2.33	19	8	7.61	318	10	7.09	274	10	5.06	131
7	3.41	54	9	7.75	330	11	7.02	269	12	5.02	128
8	4.79	114	10	7.84	339	12	6.95	263	October 14		
9	4.57	102	11	7.92	346	October 12			2	4.97	125
10	4.15	82	12	8.04	357	2	6.83	253	4	4.93	123
11	4.84	117	October 11			4	6.71	244	6	4.88	120
12	5.19	138	1	8.13	365	6	6.60	235	8	4.82	116
October 10			2	8.20	371	8	6.51	228	10	4.78	114
1	5.32	146	3	8.26	376	10	6.41	221	N	4.74	111
2	5.36	149	4	8.29	379	N	6.32	214	2	5.08	132
3	5.47	155	5	8.31	381	2	6.25	210	4	4.96	125
4	5.63	166	6	8.32	382	4	6.19	205	6	4.88	120
5	5.85	182	7	8.31	381	6	6.12	200	8	4.86	119
6	5.99	191	8	8.27	377	8	6.03	194	10	4.85	118
7	6.04	195	9	8.20	371	10	5.93	187	12	4.85	118

(34) Salt Creek near Arlington Heights, Ill.

Location.--Lat 42°03'02", long 88°00'37", on north boundary of sec. 17, T. 41 N., R. 11 E., on right bank at downstream side of bridge on State Highway 58, 2¾ miles southwest of Arlington Heights. Datum of gage is 682.32 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--33.7 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 516 cfs 11 to 12 p.m. Oct. 10 (gage height, 8.28 ft).
1950 to September 1954: Discharge, 540 cfs Apr. 25, 1954 (gage height, 8.43 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	1.0	7	5.0	12	263	17	76	22	34	27	23
2	.8	8	4.0	13	193	18	59	23	31	28	21
3	13	9	10	14	160	19	50	24	28	29	19
4	3.7	10	268	15	131	20	44	25	25	30	16
5	11	11	422	16	99	21	38	26	24	31	15
6	7.9										

Monthly mean discharge, in cubic feet per second	67.6
Runoff, in inches	2.31

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		2	6.22	235	5	7.49	380	N	5.66	192
12	1.42	3.7	3	6.32	244	6	7.43	370	2	5.58	187
	October 9		4	6.86	298	7	7.36	360	4	5.52	183
10	1.42	3.7	5	7.27	348	8	7.31	353	6	5.46	180
N	1.41	3.4	6	7.51	382	9	7.25	346	8	5.39	175
2	1.41	3.4	7	7.72	415	10	7.20	339	10	5.32	171
4	1.40	3.2	8	7.96	457	11	7.14	331	12	5.26	168
6	1.40	3.2	9	8.16	493	12	7.09	325		October 14	
7	1.44	4.1	10	8.25	510		October 12		2	5.19	164
8	1.97	20	11	8.28	516	2	6.93	306	4	5.13	162
9	2.28	31	12	8.28	516	4	6.83	294	6	5.07	158
10	2.64	44		October 11		6	6.73	283	8	5.01	156
11	2.86	52	1	8.27	514	8	6.66	276	10	4.94	152
12	3.23	67	2	8.25	510	10	6.57	267	N	5.01	156
	October 10		3	8.20	501	N	6.50	260	2	5.10	160
1	3.74	92	4	8.15	492	2	6.42	253	4	5.20	165
2	4.20	115	5	8.09	480	4	6.35	246	6	5.25	168
3	4.44	127	6	8.04	471	6	6.28	240	8	5.17	164
4	4.60	135	7	7.99	462	8	6.20	233	10	5.07	158
5	4.77	144	8	7.94	453	10	6.13	227	12	4.98	154
6	5.01	156	9	7.90	446	12	6.06	222		October 15	
7	5.27	168	10	7.86	439		October 13		4	4.80	145
8	5.51	183	11	7.81	431	2	5.99	216	8	4.63	136
9	5.77	200	N	7.76	422	4	5.92	211	N	4.49	130
10	6.00	217	1	7.71	414	6	5.86	206	4	4.36	123
11	6.13	227	2	7.66	406	8	5.78	201	8	4.25	118
N	6.20	233	3	7.61	398	10	5.72	196	12	4.14	112
1	6.22	235	4	7.55	388						

(35) Salt Creek at Western Springs, Ill.

Location.--Lat 41°49'35", long 87°54'00", on boundary between secs. 31 and 32, T. 39 N., R. 12 E., on left bank at upstream side of bridge on Wolf Road, in Cook County Forest Preserve, half a mile north of Western Springs and 8.8 miles upstream from mouth. Datum of gage is 624.93 ft above mean sea level, datum of 1929.
Drainage area.--122 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 1,710 cfs 12 p.m. Oct. 10 to 1 a.m. Oct. 11, 11 a.m. to 12 m. Oct. 11 (gage height, 8.27 ft).
1945 to September 1954: Discharge, 1,920 cfs Mar. 20, 1948 (gage height, 8.06 ft).
Remarks.--Occasional regulation by dam above station. Some diversion for irrigation above station.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	9.0	7	90	12	1,500	17	390	22	147	27	106
2	8.2	8	67	13	1,270	18	272	23	132	28	95
3	101	9	60	14	884	19	220	24	123	29	82
4	82	10	812	15	669	20	182	25	113	30	73
5	119	11	1,670	16	520	21	162	26	110	31	67
6	117										

Monthly mean discharge, in cubic feet per second	331
Runoff, in inches	3.13

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		8	7.95	1,470	2	7.99	1,500	N	6.34	669
12	2.29	61	9	8.14	1,610	4	7.98	1,500	4	6.22	635
	October 9		10	8.21	1,660	6	7.97	1,490	8	6.12	608
2	2.27	59	11	8.25	1,700	8	7.95	1,470	12	6.00	579
4	2.26	59	12	8.27	1,710	10	7.94	1,470		October 16	
6	2.25	57		October 11		12	7.92	1,450	4	5.90	558
8	2.25	57	1	8.27	1,710		October 13		8	5.80	538
10	2.23	54	2	8.26	1,700	2	7.89	1,430	N	5.70	519
N	2.22	53	3	8.25	1,700	4	7.85	1,400	4	5.60	501
2	2.22	53	4	8.24	1,690	6	7.81	1,380	8	5.49	481
4	2.20	52	5	8.23	1,680	8	7.77	1,350	12	5.39	463
6	2.20	52	6	8.24	1,690	10	7.69	1,290		October 17	
8	2.23	54	7	8.24	1,690	N	7.68	1,280	4	5.28	443
10	2.40	73	8	8.25	1,700	2	7.63	1,250	8	5.14	420
12	2.90	130	9	8.26	1,700	4	7.57	1,210	N	4.93	386
	October 10		10	8.26	1,700	6	7.50	1,160	4	4.78	362
1	3.30	166	11	8.27	1,710	8	7.45	1,120	8	4.63	338
2	3.70	211	N	8.27	1,710	10	7.40	1,090	12	4.45	313
3	4.05	257	1	8.26	1,700	12	7.33	1,050		October 18	
4	4.47	316	2	8.26	1,700		October 14		4	4.33	296
5	4.95	389	3	8.26	1,700	2	7.27	1,020	8	4.20	278
6	5.40	465	4	8.25	1,700	4	7.20	981	N	4.13	268
7	5.65	510	5	8.22	1,670	6	7.13	947	4	4.06	258
8	5.82	542	6	8.20	1,660	8	7.07	921	8	4.03	254
9	5.93	564	7	8.17	1,630	10	7.00	891	12	3.95	244
10	6.03	586	8	8.15	1,620	N	6.96	874		October 19	
11	6.14	614	9	8.13	1,600	2	6.91	854	4	3.89	236
N	6.20	630	10	8.11	1,590	4	6.85	832	8	3.81	225
1	6.28	652	11	8.09	1,570	6	6.80	814	N	3.74	216
2	6.35	672	12	8.07	1,560	8	6.74	792	4	3.71	212
3	6.45	701		October 12		10	6.69	776	8	3.67	207
4	7.10	934	2	8.04	1,540	12	6.65	763	12	3.62	201
5	7.51	1,170	4	8.02	1,520		October 15			October 20	
6	7.74	1,330	6	8.00	1,510	4	6.55	731	N	3.45	180
7	7.89	1,430	8	7.99	1,500	8	6.44	698	12	3.35	171

(36) Addison Creek at Bellwood, Ill.

Location.--Lat 41°52'48", long 87°52'07", in SE¼ sec. 9, T. 39 N., R. 12 E., on right bank at downstream side of bridge on Washington Boulevard in Bellwood, 500 ft upstream from Chicago Great Western Railroad bridge and 3.2 miles upstream from mouth. Datum of gage is 617.65 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--18.2 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 190 cfs and extended to peak stage by logarithmic plotting. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 598 cfs 1 to 2 a.m. Oct. 11 (gage height, 9.48 ft).
1950 to September 1954: Discharge, 548 cfs Mar. 25, 1954 (gage height, 6.39 ft), from rating curve extended above 62 cfs by logarithmic plotting.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.9	7	17	12	187	17	20	22	12	27	8.0
2	.8	8	11	13	80	18	17	23	11	28	7.6
3	14	9	15	14	41	19	17	24	9.7	29	6.8
4	14	10	289	15	35	20	15	25	8.4	30	6.4
5	23	11	496	16	26	21	13	26	8.4	31	6.4
6	24										

Monthly mean discharge, in cubic feet per second	46.5
Runoff, in inches	2.94

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		N	4.76	208	2	8.23	486	4	2.93	102
12	0.95	9.7	1	4.74	207	3	8.13	477	6	2.78	94
	October 9		2	4.69	203	4	8.01	466	8	2.66	88
2	0.95	9.7	3	4.83	213	5	7.85	452	10	2.55	82
4	.94	9.3	4	7.39	411	6	7.69	437	N	2.46	78
10	.94	9.3	5	8.40	501	7	7.49	419	2	2.37	74
N	.93	8.9	6	8.61	520	8	7.20	396	4	2.28	69
2	.93	8.9	7	8.78	535	9	6.94	375	6	2.21	66
6	.91	8.0	8	9.06	560	10	6.65	352	8	2.11	60
7	.98	11	9	9.32	584	11	6.38	330	10	2.03	56
8	1.01	12	10	9.43	594	12	6.12	310	12	1.96	53
9	1.06	15	11	9.47	597		October 12			October 14	
10	1.79	44	12	9.47	597	2	5.62	270	2	1.89	50
11	2.52	81		October 11		4	5.24	242	4	1.83	46
12	2.49	80	1	9.48	598	6	4.95	222	6	1.77	44
	October 10		2	9.48	598	8	4.72	205	8	1.72	41
1	2.55	82	3	9.36	587	10	4.49	189	10	1.69	40
2	2.46	78	4	9.27	579	N	4.29	177	N	1.66	38
3	2.50	80	5	9.23	576	2	4.09	165	4	1.66	38
4	2.84	97	6	9.19	572	4	3.91	155	6	1.67	38
5	3.57	134	7	9.13	567	6	3.75	145	12	1.67	38
6	4.00	160	8	9.05	560	8	3.58	135		October 15	
7	4.04	162	9	8.94	550	10	3.40	125	4	1.66	38
8	3.86	152	10	8.83	540	12	3.23	116	N	1.59	34
9	3.82	149	11	8.68	526		October 13		4	1.59	34
10	4.13	168	N	8.56	515	2	3.09	110	12	1.55	32
11	4.58	196	1	8.39	500						

(37) Des Plaines River at Riverside, Ill.

Location.--Lat 41°49'20", long 87°49'15", in SW¼SW¼ sec. 36, T. 39 N., R. 12 E., on left bank 300 ft downstream from Barry Point Road Bridge in Riverside, 200 ft northwest of Riverside-Lyons boundary, 500 ft downstream from Hoffman Dam, 4,000 ft downstream from Salt Creek, and 1½ miles downstream from Chicago, Burlington & Quincy Railroad bridge. Datum of gage is 594.68 ft above mean sea level, datum of 1929.
Drainage area.--635 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 6,340 cfs 6 p.m. Oct. 11 (gage height, 8.15 ft).
1943 to September 1954: Discharge, 6,510 cfs Mar. 20, 1948 (gage height, 8.28 ft).
Maximum discharge since 1914, 7,450 cfs Mar. 18, 1919 from information furnished by Sanitary District of Chicago.
Remarks.--Occasional regulation by gates at Hoffman Dam.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	38	7	392	12	5,360	17	1,460	22	663	27	378
2	36	8	329	13	3,990	18	1,230	23	561	28	350
3	430	9	350	14	2,790	19	1,080	24	484	29	332
4	320	10	2,720	15	2,170	20	938	25	420	30	314
5	529	11	5,870	16	1,760	21	792	26	392	31	290
6	500										

Monthly mean discharge, in cubic feet per second	1,202
Runoff, in inches	2.18

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		3	5.68	2,720	7	8.14	6,310	12	6.24	3,330
12	3.25	308	4	6.21	3,300	8	8.13	6,290		October 14	
	October 9		5	6.47	3,590	9	8.13	6,290	2	6.15	3,240
2	3.25	308	6	6.71	3,870	10	8.12	6,260	4	6.05	3,120
8	3.22	290	7	6.85	4,040	11	8.10	6,210	6	5.96	3,030
10	3.22	290	8	7.04	4,290	12	8.09	6,180	8	5.87	2,930
N	3.21	284	9	7.14	4,430		October 12		N	5.71	2,750
6	3.21	284	10	7.25	4,580	2	8.04	6,050	2	5.65	2,680
7	3.22	290	11	7.34	4,710	4	7.99	5,930	4	5.57	2,600
8	3.30	338	12	7.43	4,840	6	7.91	5,730	6	5.51	2,530
9	3.45	444		October 11		8	7.85	5,600	10	5.42	2,430
10	3.64	608	1	7.48	4,920	10	7.78	5,450	12	5.38	2,390
11	3.86	810	2	7.55	5,030	N	7.71	5,310		October 15	
12	4.06	1,010	3	7.64	5,180	2	7.64	5,180	8	5.24	2,230
	October 10		4	7.73	5,350	4	7.58	5,080	N	5.18	2,170
1	4.22	1,190	5	7.78	5,450	6	7.50	4,950	4	5.12	2,100
2	4.33	1,300	6	7.84	5,580	8	7.43	4,840	8	5.05	2,020
3	4.43	1,400	7	7.88	5,670	10	7.36	4,740	12	4.99	1,960
4	4.52	1,490	8	7.91	5,730	12	7.28	4,620		October 16	
5	4.69	1,660	9	7.95	5,830		October 13		4	4.89	1,860
6	4.83	1,800	10	7.98	5,900	2	7.21	4,520	8	4.84	1,810
7	4.93	1,900	11	8.02	6,000	4	7.16	4,450	N	4.78	1,750
8	4.99	1,960	N	8.04	6,050	6	7.05	4,300	8	4.68	1,650
9	5.07	2,050	1	8.05	6,080	8	6.97	4,200	12	4.64	1,610
10	5.19	2,180	2	8.07	6,130	10	6.88	4,080		October 17	
11	5.31	2,310	3	8.12	6,260	N	6.80	3,980	N	4.49	1,460
N	5.43	2,440	4	8.14	6,310	2	6.73	3,900	12	4.36	1,330
1	5.50	2,520	5	8.14	6,310	8	6.43	3,540		October 18	
2	5.58	2,610	6	8.15	6,340	10	6.34	3,440	N	4.27	1,240
									12	4.18	1,150

(38) Flag Creek near Willow Springs, Ill.

Location.--Lat 41°44'20", long 87°53'48", in SE¼NE¼ sec. 31, T. 38 N., R. 12 E., on left bank at upstream side of bridge on German Church Road, 1.1 miles northwest of Willow Springs and 2.3 miles upstream from mouth. Datum of gage is 609.64 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--16.2 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 1,300 cfs 8 p.m. Oct. 10 (gage height, 6.88 ft).
1951 to September 1954: Discharge, 770 cfs Mar. 25, 1954 (gage height, 5.42 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	3.4	7	30	12	291	17	52	22	27	27	18
2	3.2	8	21	13	165	18	47	23	25	28	17
3	173	9	50	14	106	19	40	24	22	29	15
4	73	10	945	15	76	20	35	25	22	30	13
5	97	11	567	16	61	21	30	26	20	31	13
6	55										

Monthly mean discharge, in cubic feet per second	100
Runoff, in inches	7.15

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			N	5.61	838	1	4.23	455	October 13		
12	1.45	20	1	5.49	797	2	4.17	440	2	3.03	206
October 9			2	5.36	758	3	4.26	462	4	2.97	196
4	1.42	18	3	5.24	722	4	4.40	495	6	2.90	185
8	1.39	16	4	5.34	752	5	4.49	518	8	2.85	177
N	1.39	16	5	5.75	888	6	4.49	518	10	2.81	171
4	1.41	18	6	6.35	1,100	7	4.45	508	N	2.74	160
6	1.42	18	7	6.80	1,270	8	4.37	488	2	2.70	154
7	1.44	19	8	6.88	1,300	9	4.26	462	4	2.65	146
8	1.57	26	9	6.72	1,240	10	4.15	438	6	2.62	142
9	2.00	60	10	6.52	1,160	11	4.07	418	8	2.58	136
10	2.51	116	11	6.28	1,070	12	4.00	402	10	2.54	131
11	3.87	359	12	6.02	982	October 12			12	2.50	125
12	4.77	587	October 11			2	3.87	373	October 14		
October 10			1	5.79	902	4	3.77	350	4	2.42	115
1	5.25	725	2	5.59	832	6	3.68	331	8	2.36	107
2	5.59	832	3	5.41	773	8	3.60	316	N	2.34	105
3	5.62	842	4	5.24	722	10	3.51	297	2	2.37	108
4	5.59	832	5	5.09	677	N	3.44	283	4	2.36	107
5	5.70	870	6	4.92	629	2	3.38	271	6	2.31	101
6	6.10	1,010	7	4.78	590	4	3.32	259	8	2.27	97
7	6.20	1,070	8	4.69	563	6	3.25	246	10	2.23	92
8	6.18	1,040	9	4.59	540	8	3.18	232	12	2.21	90
9	6.03	986	10	4.48	515	10	3.13	223	October 15		
10	5.86	926	11	4.40	495	12	3.09	216	N	2.07	75
11	5.71	874	N	4.30	472				12	1.97	65

(39) North Branch Chicago River at Deerfield, Ill.

Location.--Lat 42°09'09", long 87°49'05", in NW¼NE¼ sec. 3, T. 42 N., R. 12 E., on left bank at downstream side of bridge on County Line Road, 1.7 miles southeast of Deerfield, and 5.7 miles upstream from Skokie River. Datum of gage 638.88 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--20.7 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 211 cfs 3 to 9 a.m. Oct. 11 (gage height, 9.08 ft).
1952 to September 1954: Discharge, 247 cfs Mar. 25, 1954 (gage height, 9.35 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.6	7	2.9	12	147	17	21	22	9.2	27	5.4
2	.6	8	2.0	13	60	18	18	23	7.8	28	4.7
3	4.8	9	1.7	14	41	19	16	24	6.4	29	4.4
4	6.2	10	80	15	38	20	13	25	5.5	30	3.8
5	3.9	11	208	16	28	21	11	26	5.2	31	3.3
6	3.9										
Monthly mean discharge, in cubic feet per second											24.6
Runoff, in inches											1.37

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		3	7.38	82	3	9.07	209		October 13	
12	3.26	1.8	4	7.90	106	4	9.07	209	2	7.28	78
	October 9		5	8.20	125	5	9.06	208	4	7.12	73
2	3.26	1.8	6	8.42	142	6	9.05	207	6	6.97	68
6	3.24	1.6	7	8.58	156	7	9.05	207	8	6.84	64
N	3.23	1.6	8	8.74	172	8	9.04	206	10	6.71	60
4	3.24	1.6	9	8.88	187	9	9.03	205	N	6.60	58
8	3.24	1.6	10	8.96	196	10	9.02	203	2	6.48	54
10	3.26	1.8	11	9.01	202	11	9.00	201	4	6.37	52
12	3.32	2.4	12	9.04	206	12	8.99	200	6	6.28	50
	October 10			October 11			October 12		8	6.20	48
1	3.38	3.0	1	9.06	208	2	8.95	195	10	6.13	47
2	3.46	3.9	2	9.07	209	4	8.91	190	12	6.04	45
3	3.62	5.8	3	9.08	211	6	8.85	184		October 14	
4	3.92	9.6	4	9.08	211	8	8.76	174	2	5.97	43
5	4.30	15	5	9.08	211	10	8.65	163	4	5.89	42
6	4.80	22	6	9.08	211	N	8.50	149	10	5.74	39
7	5.25	29	7	9.08	211	2	8.35	136	N	5.74	39
8	5.60	36	8	9.08	211	4	8.18	124	2	5.83	41
9	5.85	41	9	9.08	211	6	8.02	113	4	5.87	41
10	6.12	46	10	9.07	209	8	7.84	103	6	5.89	42
11	6.34	51	11	9.07	209	10	7.64	93	12	5.90	42
N	6.55	56	N	9.07	209	12	7.45	85		October 15	
1	6.78	62	1	9.07	209				N	5.71	38
2	7.01	69	2	9.07	209				12	5.42	32

(40) Skokie River at Lake Forest, Ill.

Location.--Lat 42°13'57", long 87°50'41", in NW¼SW¼ sec. 4, T. 43 N., R. 12 E., on left bank at downstream side of bridge on State Highway 59A at Lake Forest, 12 miles upstream from mouth. Datum of gage is 648.69 ft above mean sea level, datum of 1929.
Drainage area.--12.8 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 188 cfs 10 p.m. Oct. 10 (gage height, 5.42 ft).
1951 to September 1954: Discharge, 321 cfs Nov. 13, 1951 (gage height, 7.16 ft).
Remarks.--Diurnal fluctuation at low flow.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	4.0	7	4.7	12	52	17	16	22	7.7	27	8.0
2	8.0	8	3.7	13	29	18	15	23	6.5	28	7.0
3	29	9	3.9	14	28	19	14	24	6.0	29	6.5
4	7.7	10	114	15	25	20	12	25	6.3	30	6.0
5	8.8	11	131	16	20	21	9.2	26	7.2	31	4.3
6	7.2										

Monthly mean discharge, in cubic feet per second	19.6
Runoff, in inches	1.77

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		10	4.33	121	10	4.72	144	8	2.82	42
12	1.50	3.7	11	4.31	120	11	4.63	139	10	2.77	39
	October 9		N	4.26	117	N	4.55	134	12	2.71	37
4	1.48	3.5	1	4.21	114	1	4.46	129		October 13	
8	1.45	3.2	2	4.17	111	2	4.36	123	2	2.66	35
10	1.43	2.9	3	4.25	116	3	4.27	117	4	2.60	33
N	1.43	2.9	4	4.43	127	4	4.16	111	6	2.57	32
2	1.42	2.8	5	4.62	138	5	4.05	104	8	2.53	30
4	1.45	3.2	6	4.78	148	6	3.95	98	N	2.48	28
6	1.47	3.4	7	4.96	159	7	3.86	93	2	2.47	28
7	1.48	3.5	8	5.22	174	8	3.78	88	4	2.45	26
8	1.53	4.1	9	5.38	186	9	3.71	84	8	2.40	26
9	1.66	6.1	10	5.42	188	10	3.63	80	12	2.35	24
10	1.74	7.6	11	5.37	185	11	3.58	77		October 14	
11	1.74	7.6	12	5.32	181	12	3.52	74	2	2.33	24
12	1.81	9.0		October 11			October 12		4	2.32	23
	October 10		1	5.29	179	2	3.40	68	6	2.30	23
1	1.96	12	2	5.25	176	4	3.30	64	8	2.28	22
2	2.27	21	3	5.20	173	6	3.22	60	10	2.28	22
3	2.72	37	4	5.16	171	8	3.14	56	N	2.37	25
4	3.25	60	5	5.08	166	10	3.08	52	2	2.48	28
5	3.65	80	6	5.03	163	N	3.04	50	4	2.66	35
6	3.89	94	7	4.95	158	2	2.98	48	6	2.77	40
7	4.08	106	8	4.88	154	4	2.95	46	10	2.59	32
8	4.25	116	9	4.82	150	6	2.89	44	12	2.51	29
9	4.31	120									

(41) West Fork of North Branch Chicago River at Northbrook, Ill.

Location.--Lat 42°08'18", long 87°50'04", in SW¼SE¼ sec. 4, T. 42 N., R. 12 E., on left bank at upstream side of bridge on State Highway 68, 2.0 miles northwest of Northbrook, and 7.9 miles above mouth. Datum of gage is 637.98 ft above mean sea level, datum of 1929 (Cook County Highway Department bench mark).
Drainage area.--11.5 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 301 cfs 2 a.m. Oct. 11 (gage height, 8.18 ft).
1952 to September 1954: Discharge, 411 cfs Mar. 25, 1954 (gage height, 8.56 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.3	7	2.0	12	72	17	11	22	4.8	27	3.0
2	.3	8	1.8	13	30	18	11	23	3.9	28	2.6
3	14	9	1.6	14	26	19	11	24	3.2	29	2.4
4	3.0	10	132	15	25	20	7.7	25	2.8	30	2.5
5	11	11	211	16	16	21	6.2	26	3.7	31	1.7
6	6.1										

Monthly mean discharge, in cubic feet per second	20.3
Runoff, in inches	2.04

Gage height, in feet, and discharge, in cubic feet per second, at indicated time,

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		N	6.92	127	1	7.62	195		October 13	
12	2.49	1.5	1	6.94	128	2	7.60	192	2	5.07	42
	October 9		2	6.97	131	3	7.48	178	4	4.96	39
4	2.48	1.5	3	7.05	138	4	7.44	173	6	4.85	36
8	2.45	1.3	4	7.17	147	5	7.39	168	8	4.73	34
N	2.43	1.1	5	7.29	158	6	7.33	162	10	4.62	31
2	2.42	1.1	6	7.55	186	7	7.27	156	N	4.46	27
4	2.43	1.1	7	7.67	202	8	7.21	151	2	4.42	26
6	2.44	1.2	8	7.78	219	9	7.14	145	4	4.37	25
7	2.46	1.3	9	7.90	240	10	7.08	139	6	4.31	24
8	2.50	1.6	10	7.98	256	11	7.00	133	8	4.26	23
9	2.55	2.0	11	8.04	269	12	6.92	127	10	4.21	22
10	2.62	2.7	12	8.15	294		October 12		12	4.18	21
11	2.71	3.7		October 11		2	6.74	114		October 14	
12	3.02	7.7	1	8.17	299	4	6.53	101	2	4.14	20
	October 10		2	8.18	301	6	6.25	84	6	4.06	19
1	3.52	16	3	8.14	292	8	6.08	75	8	4.00	18
2	4.00	25	4	8.11	284	10	5.85	67	10	3.98	17
3	4.55	38	5	8.07	275	N	5.68	62	N	4.08	19
4	5.06	51	6	8.02	264	2	5.53	57	2	4.51	28
5	5.50	62	7	7.96	252	4	5.57	58	4	4.99	40
6	5.93	74	8	7.90	240	6	5.50	56	6	4.96	39
7	6.29	88	9	7.84	229	8	5.40	53	8	4.84	36
8	6.55	102	10	7.77	217	10	5.28	49	12	4.69	32
9	6.69	110	11	7.71	208	12	5.17	46		October 15	
10	6.83	120	N	7.65	199				N	4.31	24
11	6.88	124							12	4.06	19

(42) North Branch Chicago River at Niles, Ill.

Location.--Lat 42°00'44", long 87°47'45", in SW¼SE¼ sec. 30, T. 41 N., R. 13 E., on right bank at downstream side of bridge on Touhy Avenue in Niles, 3.6 miles downstream from West Fork of North Branch, 7.9 miles upstream from North Shore Channel, and 15.6 miles upstream from mouth. Datum of gage is 601.99 ft above mean sea level, datum of 1929.
Drainage area.--102 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 1,700 cfs 3 a.m. Oct. 11 (gage height, 9.01 ft).
1950 to September 1954: Discharge, 1,510 cfs Apr. 26, 1954 (gage height, 8.56 ft).
Remarks.--Considerable regulation at low flow.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	9.7	7	26	12	1,030	17	195	22	64	27	32
2	11	8	19	13	642	18	149	23	49	28	33
3	109	9	63	14	436	19	152	24	38	29	29
4	54	10	961	15	378	20	106	25	34	30	26
5	88	11	1,500	16	275	21	82	26	31	31	22
6	39										

Monthly mean discharge, in cubic feet per second	216
Runoff, in inches	2.44

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		2	6.80	885	3	8.39	1,430	4	6.18	741
12	1.11	16	3	6.92	916	4	8.34	1,410	6	6.04	713
	October 9		4	7.65	1,140	5	8.29	1,390	8	5.90	685
6	1.08	15	5	8.00	1,270	6	8.24	1,370	10	5.78	661
N	1.07	15	6	8.16	1,330	7	8.18	1,340	N	5.67	639
6	1.05	14	7	8.28	1,380	8	8.13	1,320	2	5.57	619
7	1.59	43	8	8.48	1,460	9	8.07	1,300	4	5.45	595
8	2.35	106	9	8.67	1,540	10	8.03	1,280	6	5.33	571
9	3.45	238	10	8.78	1,590	11	7.99	1,270	8	5.19	543
10	3.86	304	11	8.87	1,640	12	7.94	1,250	10	5.05	515
11	4.08	340	12	8.95	1,680		October 12		12	4.95	496
12	4.47	413		October 11		2	7.86	1,210		October 14	
	October 10		1	8.98	1,690	4	7.76	1,170	2	4.83	476
1	4.76	464	2	9.00	1,700	6	7.65	1,140	6	4.63	442
2	4.94	495	3	9.01	1,700	8	7.55	1,100	10	4.45	412
3	5.07	519	4	8.98	1,690	10	7.44	1,070	N	4.40	403
4	5.34	573	5	8.96	1,680	N	7.31	1,030	2	4.53	425
5	5.64	633	6	8.92	1,660	2	7.19	997	4	4.52	423
6	5.90	685	7	8.87	1,640	4	7.07	961	6	4.54	427
7	6.10	725	8	8.82	1,610	6	6.93	919	8	4.58	434
8	6.17	739	9	8.76	1,580	8	6.77	878	10	4.59	435
9	6.22	749	10	8.70	1,550	10	6.63	842	12	4.58	434
10	6.33	771	11	8.63	1,520	12	6.48	805		October 15	
11	6.51	812	N	8.57	1,500		October 13		N	4.28	378
N	6.64	845	1	8.52	1,480	2	6.33	771	12	3.98	323
1	6.73	868	2	8.44	1,450						

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(44) Tinley Creek near Palos Park, Ill.

Location.--Lat 41°38'48", long 87°45'59", in SW¼SE¼ sec. 32, T. 37 N., R. 13 E., on left bank at downstream side of 135th Street Bridge, 1.5 miles west of State Highway 50, 1.5 miles upstream from mouth, and 3 miles southeast of Palos Park. Datum of gage is 607.40 ft above mean sea level, datum of 1929.
Drainage area.--11.3 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 800 cfs and extended to peak stage by logarithmic plotting. Shifting-control method used at times.
Maxima.--October 1954: Discharge, 1,120 cfs 7 a.m. Oct. 10 (gage height, 10.30 ft).
1951 to September 1954: Discharge, 530 cfs June 10, 1953 (gage height, 8.43 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0	7	13	12	270	17	51	22	36	27	24
2	0	8	8.4	13	112	18	46	23	34	28	19
3	72	9	33	14	79	19	43	24	32	29	12
4	28	10	891	15	68	20	41	25	29	30	11
5	42	11	546	16	57	21	39	26	26	31	9.4
6	24										

Monthly mean discharge, in cubic feet per second	87.0
Runoff, in inches	8.87

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		2	8.07	761	5	6.32	498	N	3.41	106
12	2.53	7.3	3	7.74	711	6	6.69	554	2	3.35	100
	October 9		4	7.66	699	7	7.08	612	4	3.30	94
2	2.52	7.0	5	7.68	702	8	7.32	648	6	3.26	90
6	2.52	7.0	6	7.90	735	9	7.23	634	8	3.23	86
N	2.49	5.9	7	8.40	814	10	7.00	600	10	3.21	84
2	2.48	5.6	8	8.85	886	11	6.75	562	12	3.18	81
6	2.48	5.6	9	9.05	918	12	6.48	522		October 14	
7	2.51	6.6	10	9.05	915		October 12		2	3.17	80
8	2.60	10	11	8.85	886	2	5.98	447	4	3.16	79
9	3.03	40	12	8.57	841	4	5.54	386	6	3.14	76
10	4.00	124		October 11		6	5.19	337	10	3.12	74
11	5.41	287	1	8.22	785	8	4.88	293	N	3.11	73
12	6.55	435	2	7.91	736	10	4.67	265	2	3.13	75
	October 10		3	7.62	693	N	4.47	239	4	3.20	83
1	7.60	608	4	7.35	652	2	4.32	220	6	3.25	88
2	8.90	830	5	7.09	614	4	4.17	200	8	3.23	86
3	9.73	995	6	6.83	574	6	4.07	187	10	3.19	82
4	10.05	1,070	7	6.57	536	8	3.96	173	12	3.16	79
5	10.18	1,100	8	6.34	501	10	3.87	161		October 15	
6	10.27	1,110	9	6.08	462	12	3.80	153	N	3.05	66
7	10.30	1,120	10	5.85	429		October 13		12	3.00	61
8	10.28	1,110	11	5.65	401	2	3.77	149		October 16	
9	10.05	1,080	N	5.44	372	4	3.72	143	N	2.98	59
10	9.70	1,020	1	5.26	346	6	3.66	136	12	2.93	53
11	9.35	966	2	5.34	358	8	3.58	127			
N	8.89	892	3	5.70	408	10	3.50	117			
1	8.45	822	4	5.95	443						

(45) Chicago Sanitary and Ship Canal at Lockport, Ill.

Location.--Lat 41°34'11", long 88°04'42", in SW¼ sec. 27, T. 36 N., R. 10 E., at upper end of 9-foot navigation channel in Des Plaines River at Lockport.

Discharge record.--Total mean daily discharge includes governmental and private pumpage, inflow from Des Plaines River basin, and diversion from Lake Michigan. This total is obtained by adding the mean daily discharges, based on half-hourly discharge readings at dams, sluice gates, lockages, exciter turbines in operation and main turbines in operation as corrected for variable efficiencies, and the leakage of lock gates, dams, sluice gates, and turbines not in operation.

Chicago pumpage includes water from Lake Michigan to supply Chicago metropolitan area, water from wells within the main channel drainage area including pumpage to municipalities served by Chicago, and an average of about 136 cfs from agencies not served by Chicago.

Mean net diversion is obtained by deducting from total discharge the Chicago pumpage and inflow from Des Plaines River basin.

Maxima.--October 1954: Total discharge, 24,585 cfs 8:30 p.m. Oct. 10.

1900 to September 1954: Total discharge, 24,567 cfs (revised) Mar. 19, 1948.

Remarks.--Records furnished by Sanitary District of Chicago. The Federal permit of June 26, 1930, issued by the Secretary of War, limits the diversion of water from Lake Michigan to an annual average of 1,500 cfs, exclusive of pumpage for municipal supplies.

Mean discharge, in cubic feet per second, 1954

Day	October			Day	October			Day	October		
	Totals	Chicago pumpage	Net diversion		Totals	Chicago pumpage	Net diversion		Totals	Chicago pumpage	Net diversion
1	3,471	1,800	1,533	11	20,417	1,736	11,758	21	2,609	1,714	556
2	3,393	1,684	1,555	12	13,760	1,766	5,974	22	2,705	1,715	684
3	8,668	1,590	6,760	13	8,090	1,758	3,055	23	2,636	1,617	736
4	4,778	1,816	2,650	14	5,935	1,744	2,289	24	2,478	1,499	709
5	5,813	1,750	3,700	15	4,517	1,725	1,685	25	2,506	1,710	533
6	3,654	1,750	1,603	16	3,960	1,604	1,685	26	2,816	1,709	857
7	3,419	1,725	1,440	17	3,387	1,474	1,417	27	2,565	1,706	615
8	3,520	1,720	1,574	18	3,186	1,685	1,048	28	2,492	1,700	542
9	5,022	1,646	3,132	19	3,361	1,710	1,245	29	2,605	1,682	681
10	21,429	1,505	16,940	20	2,962	1,718	875	30	2,405	1,565	615
								31	2,631	1,460	955
Monthly means, in cubic feet per second									5,200	1,677	2,561

Discharge, in cubic feet per second, 1954

Hour	Discharge	Hour	Discharge	Hour	Discharge	Hour	Discharge	Hour	Discharge	Hour	Discharge
	October 9	12	18,110	9	23,816	7	20,256	5	12,909	3	7,272
1	4,646		October 10	10	22,871	8	20,256	6	14,022	4	5,699
2	2,991	1	17,486	11	20,269	9	21,398	7	12,586	5	5,698
3	3,011	2	20,078	12	21,021	10	20,208	8	13,976	6	5,708
4	4,642	3	18,546		October 11	11	19,973	9	10,100	7	7,381
5	2,996	4	19,421	1	19,532	12	18,730	10	10,385	8	7,399
6	4,611	5	20,742	2	20,387		October 12	11	11,754	9	13,508
7	4,626	6	11,911	3	20,288	1	18,780	12	10,289	10	9,426
8	4,623	7	24,134	4	21,685	2	18,675		October 13	11	11,104
9	3,003	8	24,267	5	21,510	3	18,468	1	10,066	12	11,019
10	4,612	9	22,668	6	21,463	4	18,201	2	7,959		October 14
11	3,011	10	24,311	7	19,645	5	17,996	3	9,945	2	8,400
N	2,991	11	23,538	8	19,171	6	12,351	4	10,071	4	7,742
1	4,598	N	22,285	9	20,953	7	6,979	5	8,690	6	6,500
2	3,028	1	22,273	10	19,009	8	8,252	6	8,794	8	4,569
3	3,029	2	23,459	11	20,845	9	12,280	7	7,964	10	6,088
4	3,004	3	23,052	N	20,439	10	15,062	8	7,188	N	4,563
5	3,004	4	22,535	1	20,704	11	13,305	9	8,827	2	4,535
6	4,531	5	22,370	2	17,540	N	13,314	10	8,827	4	4,545
7	4,553	6	20,963	3	21,130	1	13,342	11	7,158	6	4,532
8	7,209	7	23,133	4	18,475	2	14,709	N	5,682	8	4,469
9	7,244	8	22,455	5	19,825	3	13,284	1	5,698	10	6,084
10	11,670	8:30	24,585	6	20,056	4	13,173	2	5,718	12	4,401
11	13,132										

(46) Long Run near Lemont, Ill.

Location.--Lat 41°38'33", long 87°59'57", in SW¼SE¼ sec. 32, T. 37 N., R. 11 E., on left bank at downstream side of highway bridge, 2 miles south of Lemont and 5.4 miles upstream from mouth. Datum of gage is 637.10 ft above mean sea level, datum of 1929.
Drainage area.--20.8 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,300 cfs and extended to peak stage by logarithmic plotting.
Maxima.--October 1954: Discharge, 3,160 cfs 6 a.m. Oct. 10 (gage height, 9.91 ft).
1951 to September 1954: Discharge, 1,000 cfs (revised) June 13, 1952 (gage height 8.18 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.3	7	35	12	410	17	78	22	36	27	20
2	.4	8	26	13	272	18	62	23	31	28	18
3	196	9	60	14	190	19	51	24	27	29	17
4	127	10	2,010	15	151	20	45	25	23	30	16
5	114	11	789	16	108	21	40	26	20	31	15
6	69										
Monthly mean discharge, in cubic feet per second											163
Runoff, in inches											9.04

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			1	8.57	1,570	4	7.32	724	N	5.25	271
12	2.11	23	2	8.39	1,410	5	7.50	805	2	5.17	260
October 9			3	8.21	1,270	6	7.51	810	4	5.10	251
2	2.09	22	4	8.20	1,260	7	7.43	774	6	5.01	239
6	2.06	22	5	8.34	1,370	8	7.26	699	8	4.94	230
8	2.05	21	6	8.68	1,670	9	7.15	658	10	4.89	224
N	2.03	21	7	8.88	1,870	10	7.03	616	12	4.84	217
2	2.01	20	8	8.94	1,930	11	6.93	584	October 14		
4	2.02	20	9	8.90	1,890	12	6.84	557	2	4.79	211
6	2.06	22	10	8.80	1,790	October 12			4	4.74	204
7	2.14	24	11	8.64	1,640	2	6.66	507	6	4.69	198
8	2.92	48	12	8.47	1,480	4	6.52	472	8	4.65	193
9	4.03	124	October 11			6	6.39	443	10	4.60	187
10	4.88	222	1	8.29	1,330	8	6.30	425	N	4.60	187
11	5.78	345	2	8.15	1,220	10	6.20	407	2	4.58	185
12	6.86	563	3	7.99	1,100	N	6.13	396	4	4.57	183
October 10			4	7.84	996	2	6.06	385	6	4.55	181
1	8.30	1,340	5	7.69	904	4	5.99	374	8	4.54	180
2	9.26	2,280	6	7.54	825	6	5.91	363	10	4.52	177
3	9.57	2,670	7	7.43	774	8	5.85	355	12	4.50	175
4	9.73	2,890	8	7.32	724	10	5.77	344	October 15		
5	9.83	3,040	9	7.22	683	12	5.70	334	4	4.45	169
6	9.91	3,160	10	7.12	647	October 13			N	4.27	149
7	9.84	3,050	11	7.04	619	2	5.62	323	8	4.15	136
8	9.63	2,750	N	6.94	587	4	5.55	313	12	4.06	127
9	9.39	2,440	1	6.88	569	6	5.47	302	October 16		
10	9.18	2,190	2	6.98	599	8	5.39	291	N	3.85	108
11	8.96	1,950	3	7.19	672	10	5.32	281	12	3.65	91
N	8.78	1,770									

(48) Hickory Creek at Joliet, Ill.

Location.--Lat 41°31'10", long 88°04'10", in SW¼NE¼ sec. 15, T. 35 N., R. 10 E., on right bank at Third Avenue in Joliet, 0.25 mile downstream from Spring Creek and 1¾ miles upstream from mouth. Datum of gage is 527.00 ft above mean sea level, datum of 1929.

Drainage area.--107 sq mi.

Gage-height record.--Water-stage recorder graph except for period 9 a.m. Oct. 11 to 3:30 p.m. Oct. 12, for which graph was drawn on basis of recorded range in stage and slope of adjoining graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--October 1954: Discharge, 8,130 cfs 2 a.m. Oct. 11 (gage height, 9.82 ft).
1944 to September 1954: Discharge, 10,200 cfs Apr. 5, 1947 (gage height, 10.68 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	9.7	7	26	12	1,900	17	218	22	101	27	68
2	9.7	8	22	13	1,020	18	172	23	92	28	65
3	8.9	9	23	14	636	19	145	24	83	29	58
4	9.7	10	3,220	15	418	20	125	25	77	30	55
5	25	11	5,060	16	283	21	111	26	74	31	50
6	23										

Monthly mean discharge, in cubic feet per second	458
Runoff, in inches	4.93

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
October 8			4	6.96	3,540	8	6.66	3,210	10	3.92	822
12	1.46	19	5	7.40	4,020	9	6.53	3,080	12	3.87	792
October 9			6	8.10	4,860	10	6.41	2,960	October 14		
10	1.46	19	7	8.62	5,600	11	6.30	2,850	2	3.83	774
N	1.45	18	8	8.95	6,210	12	6.19	2,740	4	3.79	750
2	1.45	18	9	9.13	6,590	October 12			6	3.70	700
4	1.44	17	10	9.37	7,110	2	6.00	2,550	8	3.65	675
6	1.45	18	11	9.60	7,620	4	5.80	2,350	10	3.59	645
7	1.56	31	12	9.68	7,800	6	5.65	2,200	N	3.58	640
8	1.63	40	October 11			8	5.50	2,050	2	3.50	600
9	1.62	39	1	9.79	8,060	10	5.37	1,930	4	3.45	577
10	1.64	41	2	9.82	8,130	N	5.25	1,820	6	3.40	554
11	1.66	44	3	9.70	7,850	2	5.14	1,730	8	3.37	541
12	1.67	46	4	9.52	7,440	4	5.04	1,640	10	3.34	528
October 10			5	9.30	6,960	6	4.95	1,560	12	3.30	510
1	1.94	91	6	9.10	6,520	8	4.86	1,490	October 15		
2	2.30	176	7	8.93	6,170	10	4.74	1,390	4	3.23	485
3	3.16	449	8	8.72	5,780	12	4.65	1,320	8	3.14	449
4	4.14	954	9	8.50	5,410	October 13			N	3.06	417
5	4.70	1,360	10	8.30	5,120	2	4.57	1,260	4	2.97	382
6	4.92	1,540	11	8.10	4,860	4	4.48	1,190	8	2.89	354
7	4.98	1,580	N	7.93	4,650	6	4.41	1,140	12	2.82	330
8	5.25	1,820	1	7.75	4,430	8	4.35	1,100	October 16		
9	5.62	2,170	2	7.56	4,190	10	4.27	1,040	N	2.65	281
10	5.88	2,430	3	7.40	4,020	N	4.21	997	12	2.53	246
11	6.09	2,640	4	7.25	3,860	2	4.14	954	October 17		
N	6.36	2,910	5	7.10	3,690	4	4.08	918	N	2.42	218
1	6.56	3,110	6	6.93	3,500	6	4.03	888	12	2.33	193
2	6.72	3,270	7	6.79	3,350	8	3.97	852	October 18		
3	6.72	3,270							N	2.24	170
									12	2.18	155

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(49) Du Page River at Troy, Ill.

Location.--Lat 41°31'20", long 88°11'35", in SE¼SW¼ sec. 10, T. 35 N., R. 9 E., on left bank at Troy (formerly known as Grinton), 400 ft upstream from U. S. Highway 52 and 3.8 miles downstream from Lilly Cache Creek. Datum of gage is 564.62 ft above mean sea level, datum of 1929 (Illinois Division of Waterways bench mark).
Drainage area.--325 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 12,000 cfs 8 a.m. Oct. 11 (gage height, 11.06 ft).
1940 to September 1954: Discharge, 11,000 cfs Mar. 19, 1948 (gage height, 10.10 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	55	7	499	12	7,150	17	1,100	22	615	27	425
2	55	8	335	13	3,370	18	935	23	561	28	395
3	194	9	269	14	2,240	19	821	24	520	29	377
4	586	10	6,590	15	1,740	20	742	25	481	30	347
5	503	11	11,400	16	1,340	21	675	26	455	31	302
6	622										

Monthly mean discharge, in cubic feet per second	1,474
Runoff, in inches	5.23

Gage height, in feet, and discharge, in cubic feet per second, at indicated time,

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		2	10.81	11,500	4	6.25	4,020	8	3.82	1,240
12	2.50	296	3	10.89	11,700	6	6.05	3,760	12	3.78	1,200
	October 9		4	10.95	11,800	8	5.89	3,570		October 17	
2	2.48	286	5	11.00	11,900	10	5.75	3,400	4	3.74	1,170
6	2.46	275	6	11.03	11,900	N	5.62	3,240	8	3.70	1,130
8	2.45	270	7	11.05	12,000	2	5.51	3,110	N	3.67	1,100
10	2.45	270	8	11.06	12,000	4	5.41	2,990	4	3.63	1,070
6	2.41	250	9	11.05	12,000	6	5.32	2,880	8	3.59	1,030
10	2.45	270	10	11.03	11,900	8	5.23	2,780	12	3.56	1,010
11	2.45	270	11	10.99	11,800	10	5.19	2,730		October 18	
12	2.52	308	N	10.94	11,700	12	5.06	2,570	4	3.53	984
	October 10		1	10.89	11,700		October 14		8	3.50	960
1	2.59	330	2	10.91	11,700	2	4.99	2,490	N	3.47	936
2	2.74	419	3	10.86	11,600	4	4.93	2,420	4	3.43	904
3	3.17	704	4	10.80	11,500	6	4.87	2,360	8	3.41	888
4	4.50	1,950	5	10.70	11,300	8	4.81	2,290	12	3.38	864
5	5.29	2,850	6	10.59	11,100	10	4.75	2,220		October 19	
6	5.89	3,570	7	10.49	10,900	N	4.72	2,190	4	3.36	848
7	6.42	4,250	8	10.40	10,700	2	4.70	2,170	8	3.34	832
8	6.87	4,880	9	10.31	10,500	4	4.67	2,140	N	3.33	824
9	7.23	5,400	10	10.20	10,300	6	4.66	2,130	4	3.31	808
10	7.67	6,160	11	10.09	10,100	8	4.65	2,120	8	3.29	792
11	8.12	6,760	12	10.00	9,980	10	4.61	2,070	12	3.27	778
N	8.44	7,270		October 12		12	4.55	2,000		October 20	
1	8.77	7,830	2	9.71	9,460		October 15		N	3.22	740
2	9.03	8,270	4	9.40	8,900	4	4.45	1,900	12	3.17	704
3	9.25	8,640	6	9.15	8,480	8	4.37	1,810		October 21	
4	9.43	8,950	8	8.88	8,020	N	4.29	1,720	N	3.13	676
5	9.76	9,550	10	8.61	7,560	4	4.23	1,650	12	3.08	641
6	10.14	10,200	N	8.32	7,080	8	4.16	1,580		October 22	
7	10.36	10,600	2	8.05	6,650	12	4.10	1,520	N	3.05	620
8	10.44	10,800	4	7.75	6,180		October 16		12	3.00	585
9	10.51	10,900	6	7.49	5,780	4	4.03	1,450		October 23	
10	10.56	11,000	8	7.21	5,360	8	3.97	1,390	N	2.96	559
11	10.60	11,100	10	6.95	4,990	N	3.92	1,340	12	2.93	540
12	10.67	11,200	12	6.73	4,680	4	3.87	1,290			
	October 11			October 13							
1	10.74	11,400	2	6.48	4,330						

(50) Mazon River near Coal City, Ill.

Location.--Lat 41°17'10", long 88°21'35", in SW¼SW¼ sec. 31, T. 33 N., R. 8 E., on right bank at downstream side of bridge on State Highway 113S, a quarter of a mile downstream from Johnny Run and 4 miles west of Coal City. Datum of gage is 527.41 ft above mean sea level, datum of 1929.
Drainage area.--470 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 707 cfs 3 p.m., 6:30 p.m. Oct. 11 (gage height, 4.41 ft).
1939 to September 1954: Discharge, 17,300 cfs Apr. 25, 1950 (gage height, 18.50 ft).
Maximum stage known, about 21 ft Aug. 8, 1924.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	0.4	7	6.9	12	520	17	125	22	49	27	36
2	.7	8	6.9	13	359	18	95	23	43	28	33
3	1.6	9	5.6	14	250	19	76	24	40	29	31
4	1.6	10	21	15	201	20	63	25	36	30	30
5	3.4	11	503	16	164	21	57	26	36	31	28
6	6.0										
Monthly mean discharge, in cubic feet per second											91.3
Runoff, in inches											.22

(51) Illinois River at Marseilles, Ill.

Location.--Lat 41°19'40", long 88°43'10", in SE¼SW¼ sec. 13, T. 33 N., R. 4 E., on right bank 0.4 mile downstream from dam in Marseilles, 6.9 miles upstream from Fox River, and at mile 246.6. Datum of gage is 462.91 ft above mean sea level, datum of 1929.

Drainage area.--7,640 sq mi, approximately. Since Jan. 17, 1900, flow has included diversion from Lake Michigan through Chicago Sanitary and Ship Canal.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--October 1954: Discharge, 56,600 cfs 7 a.m. Oct. 12 (gage height, 11.39 ft).
1919 to September 1954: Discharge, 83,300 cfs Apr. 26, 1950 (gage height, 14.91 ft).
A stage of 25.4 ft (ice jam) occurred at present site on Jan. 21, 1916.

Remarks.--Figures of daily discharge include flow through navigation locks. Flow regulated by power plants and navigation dam above station.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	5,100	7	6,600	12	54,500	17	15,900	22	11,500	27	9,900
2	4,840	8	6,970	13	42,000	18	14,100	23	10,400	28	9,510
3	8,690	9	6,780	14	27,100	19	14,000	24	10,500	29	9,330
4	8,800	10	22,900	15	20,400	20	12,700	25	9,900	30	9,600
5	10,100	11	46,600	16	18,200	21	11,500	26	10,500	31	9,230
6	6,780										
Monthly mean discharge, in cubic feet per second											15,000
Runoff, in inches											

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		2	8.21	37,800	6	9.52	45,400	8	4.00	15,100
12	2.29	6,890	3	8.26	38,000	8	9.45	45,000	N	4.00	15,100
	October 9		4	8.30	38,200	10	9.15	43,200	4	4.15	15,900
6	2.29	6,890	5	8.57	39,800	N	9.03	42,500	8	4.27	16,500
8	2.30	6,930	6	8.61	40,100	2	8.90	41,700	12	4.09	15,500
10	2.30	6,930	7	8.87	41,500	4	8.50	39,400		October 18	
N	2.14	6,300	8	9.20	43,500	6	8.25	38,000	4	3.86	14,400
2	2.13	6,260	9	9.24	43,700	8	7.87	35,700	8	3.75	13,900
4	2.13	6,260	10	9.22	43,600	10	7.48	33,600	N	3.60	13,000
8	2.11	6,180	11	9.57	45,700	12	7.32	32,700	4	3.43	12,200
10	2.11	6,180	N	9.82	47,200		October 14		8	3.92	14,700
11	1.90	5,390	1	9.99	48,200	2	7.07	31,300	12	3.99	15,000
12	2.72	8,680	2	10.10	48,900	4	7.00	30,900		October 19	
	October 10		3	10.26	49,900	6	6.65	29,000	4	3.76	13,900
1	2.73	8,720	4	10.33	50,300	8	6.73	29,500	8	3.74	13,800
2	2.52	7,820	5	10.53	51,500	10	6.62	28,800	N	3.60	13,000
3	2.62	8,250	6	10.68	52,400	N	6.39	27,600	4	3.75	13,900
4	2.68	8,500	7	10.78	53,000	2	6.27	26,900	8	3.75	13,900
5	4.40	17,200	8	10.92	53,800	4	5.88	24,900	12	3.66	13,400
6	4.37	17,000	9	10.93	53,900	6	5.46	22,700		October 20	
7	4.35	17,000	10	11.01	54,400	8	5.58	23,300	6	3.67	13,400
8	4.36	17,000	11	11.10	54,900	10	5.13	21,000	N	3.35	11,800
9	4.88	19,700	12	11.29	56,000	12	5.15	21,100	6	3.33	11,700
10	5.22	21,400		October 12			October 15		12	3.53	12,700
11	5.28	21,800	6	11.30	56,100	4	5.13	21,000		October 21	
N	5.88	24,900	7	11.39	56,600	8	5.01	20,400	6	3.33	11,700
1	5.94	25,200	8	11.35	56,400	10	4.75	19,000	N	3.25	11,300
2	6.20	26,600	9	11.32	56,200	N	5.01	20,400	6	3.03	10,200
3	6.50	28,200	10	11.24	55,700	4	4.96	20,100	12	3.32	11,600
4	6.00	25,500	11	11.10	54,900	8	4.93	20,000		October 22	
5	6.38	27,600	N	11.13	55,100	12	4.58	18,100	6	3.32	11,600
6	7.50	33,700	2	11.00	54,300		October 16		N	3.24	11,200
7	7.32	32,700	4	10.90	53,700	4	4.63	18,400	6	3.23	11,200
8	7.38	33,000	6	10.68	52,400	8	4.43	17,400	12	3.12	10,600
9	7.40	33,100	8	10.59	51,800	N	4.45	17,500		October 23	
10	7.42	33,200	10	10.36	50,500	4	4.60	18,200	6	3.12	10,600
11	7.90	35,900	12	10.30	50,100	8	4.72	18,000	N	2.93	9,660
12	7.93	36,100		October 13		12	4.35	17,000	6	3.01	10,000
	October 11		2	10.00	48,300		October 17		12	3.04	10,200
1	7.95	36,200	4	9.76	46,900	4	4.13	15,800			

(52) Fox River at Algonquin, Ill.

Location.--Lat 42°09'59", long 88°17'25", in NW¼ sec. 34, T. 43 N., R. 8 E., on right bank 20 ft upstream from Chicago Street Bridge at Algonquin and 400 ft upstream from Crystal Lake outlet. Datum of gage is 729.48 ft above mean sea level, datum of 1929.
Drainage area.--1,364 sq mi.
Gage-height record.--Water-stage recorder graph, except Oct. 26, 28, for which graph was drawn based on fragmentary record.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge 2,130 cfs 1 a.m. Oct. 16 (gage height, 2.34 ft).
1915 to September 1954: Discharge, 5,850 cfs Apr. 1, 2, 1916; gage height, 4.50 ft Apr. 1, 1916, from graph based on gage readings.
Remarks.--Flow occasionally regulated by dam near McHenry, 16 miles above station, and occasionally affected by wind action on Fox chain of lakes.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	394	7	1,390	12	1,830	17	2,020	22	1,140	27	766
2	437	8	1,400	13	1,960	18	1,940	23	1,040	28	699
3	549	9	1,370	14	1,980	19	1,810	24	855	29	699
4	840	10	1,540	15	2,110	20	1,630	25	780	30	740
5	1,180	11	1,710	16	2,110	21	1,300	26	753	31	712
6	1,350										

Monthly mean discharge, in cubic feet per second	1,260
Runoff, in inches	1.06

(53) Poplar Creek at Elgin, Ill.

Location.--Lat 42°01'35", long 88°15'20", in SE¼NW¼ sec. 19, T. 41 N., R. 9 E., on right bank just upstream from bridge on U. S. Highway 20 in Elgin and 2 miles upstream from mouth. Datum of gage is 716.00 ft above mean sea level, datum of 1929.
Drainage area.--35.8 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--October 1954: Discharge, 291 cfs 12 p.m. Oct. 10 (gage height, 3.72 ft).
1951 to September 1954 (revised): Discharge, 310 cfs Apr. 25, 1954 (gage height, 3.83 ft).

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	8.7	7	10	12	174	17	78	22	36	27	22
2	8.7	8	8.5	13	142	18	68	23	30	28	20
3	15	9	8.7	14	121	19	59	24	26	29	19
4	8.7	10	165	15	105	20	51	25	25	30	17
5	14	11	243	16	90	21	43	26	24	31	15
6	14										

Monthly mean discharge, in cubic feet per second	53.8
Runoff, in inches	1.73

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1954

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		N	2.71	150	11	3.38	242		October 13	
12	1.34	7.7	1	2.74	154	N	3.36	239	4	2.71	150
	October 9		2	2.79	161	1	3.34	237	8	2.67	145
10	1.34	7.7	3	3.01	190	5	3.26	225	2	2.64	141
N	1.33	7.2	4	3.37	241	6	3.23	221	4	2.61	137
6	1.33	7.2	5	3.47	255	7	3.21	218	8	2.59	135
8	1.34	7.7	6	3.57	269	8	3.19	216	12	2.55	130
10	1.38	9.6	7	3.62	276	9	3.17	213		October 14	
11	1.60	23	8	3.64	279	10	3.14	209	2	2.54	128
12	1.64	26	9	3.64	279	11	3.11	204	6	2.52	126
	October 10		11	3.68	285	12	3.09	202	8	2.50	123
1	1.67	29	12	3.72	291		October 12		10	2.49	122
2	1.73	34		October 11		2	3.06	197	N	2.50	123
3	1.83	43	2	3.68	285	6	2.98	186	2	2.49	122
4	1.88	48	3	3.64	279	10	2.90	175	6	2.45	116
5	1.99	60	4	3.61	274	N	2.88	172	12	2.42	113
6	2.16	80	5	3.58	270	2	2.85	168		October 15	
7	2.50	123	6	3.56	267	4	2.82	165	6	2.36	105
8	2.62	139	7	3.52	262	8	2.78	159	12	2.30	97
9	2.63	140	8	3.48	256	10	2.76	157		October 16	
10	2.63	140	9	3.44	251	12	2.75	156	6	2.24	90
11	2.67	145	10	3.42	248				12	2.19	84

(54) Fox River at Dayton, Ill.

Location.--Lat 41°23'14", long 88°47'21", in SE¼ sec. 29, T. 34 N., R. 4 E., on right bank in tailwater of plant of North Counties Hydro-Electric Co. at Dayton, 5.6 miles upstream from mouth. Datum of gage is 462.30 ft above mean sea level, datum of 1929.
Drainage area.--2,570 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 15,000 cfs and by computation of peak flow over dam.
Maxima.--October 1954: Discharge, 47,100 cfs 4 p.m. Oct. 11 (gage height, 24.63 ft). 1914 to September 1954: Discharge, 29,000 cfs Mar. 19, 1948 (gage height, 19.65 ft); gage height, 32.04 ft Jan. 30, 1952 (ice jam).
Remarks.--Low flow regulated by powerplant above station.

Mean discharge, in cubic feet per second, 1954

Day	October	Day	October	Day	October	Day	October	Day	October	Day	October
1	585	7	2,080	12	23,400	17	5,460	22	3,560	27	2,320
2	575	8	2,000	13	10,300	18	5,060	23	3,180	28	2,210
3	637	9	1,980	14	7,580	19	4,730	24	2,930	29	2,100
4	1,590	10	8,650	15	6,520	20	4,410	25	2,640	30	2,000
5	1,600	11	37,900	16	5,870	21	4,070	26	2,440	31	1,900
6	2,140										

Monthly mean discharge, in cubic feet per second 5,239
Runoff, in inches..... 2.35

Gage height, in feet, and discharge, in cubic feet per second, at indicated time,

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	October 8		10	15.93	18,200	8	18.88	26,700	8	10.72	7,080
12	7.57	1,980	11	16.19	18,900	10	18.08	24,300	10	10.72	7,080
	October 9		12	16.46	19,700	N	17.27	22,000	12	10.71	7,060
6	7.57	1,980		October 11		2	16.48	19,700		October 15	
8	7.58	1,990	1	16.81	20,700	4	15.86	18,000	4	10.62	6,900
10	7.57	1,980	2	17.24	21,900	6	15.29	16,600	8	10.50	6,680
N	7.57	1,980	3	17.81	23,500	8	14.83	15,500	N	10.39	6,490
2	7.56	1,970	4	18.53	25,700	10	14.38	14,400	4	10.28	6,290
4	7.58	1,990	5	19.28	27,900	12	13.95	13,500	8	10.21	6,170
6	7.56	1,970	6	20.13	30,600		October 13		12	10.18	6,120
12	7.56	1,970	7	20.97	33,500	2	13.53	12,700		October 16	
	October 10		8	21.81	36,400	4	13.18	12,000	8	10.09	5,960
1	7.56	1,970	9	22.55	39,000	6	12.88	11,400	4	9.99	5,790
2	7.57	1,980	10	23.16	41,200	8	12.64	10,900	12	9.88	5,610
3	7.61	2,020	11	23.69	43,400	10	12.41	10,400		October 17	
4	7.66	2,080	N	23.98	44,500	N	12.22	10,000	8	9.78	5,450
5	7.71	2,130	1	24.33	45,900	2	12.04	9,680	4	9.77	5,430
6	7.77	2,200	2	24.46	46,400	4	11.87	9,340	12	9.67	5,270
7	7.84	2,270	3	24.62	47,100	6	11.72	9,040		October 18	
8	7.95	2,400	3:30	24.63	47,100	8	11.58	8,760	8	9.57	5,110
9	8.31	2,830	4	24.60	47,000	10	11.50	8,600	4	9.52	5,030
10	9.33	4,290	5	24.53	46,700	12	11.41	8,420	12	9.43	4,900
11	10.73	6,770	6	24.38	46,100		October 14			October 19	
N	11.68	8,570	7	24.14	45,200	2	11.33	8,260	8	9.36	4,790
1	12.23	9,660	8	23.89	44,200	4	11.25	8,100	4	9.29	4,680
2	12.65	10,500	9	23.53	42,700	6	11.16	7,920	12	9.20	4,550
3	13.01	11,200	10	23.18	41,300	8	11.08	7,760		October 20	
4	13.38	12,000	11	22.80	39,900	10	11.02	7,650	N	9.12	4,430
5	13.73	12,800	12	22.43	38,600	N	10.96	7,530	12	8.99	4,240
6	14.32	14,200		October 12		2	10.89	7,400		October 21	
7	14.93	15,600	2	21.53	35,500	4	10.82	7,270	N	8.90	4,110
8	15.33	16,600	4	20.62	32,300	6	10.76	7,150	12	8.70	3,830
9	15.72	17,700	6	19.71	29,200						

SUMMARY OF FLOOD STAGES AND DISCHARGES

The results of the determinations of maximum stages and discharges at the 49 established stream-gaging stations and 4 miscellaneous ungaged points in the area are summarized and presented in table 2; records of stage at 1 lake site are also given. The reference numbers correspond to those assigned in the foregoing descriptions of stages and discharges at stream-gaging stations, and in figures 31 and 32.

The discharges listed in table 2 were determined at the established stream-gaging stations as explained in the descriptions of those stations. At the points where peak discharges were not determined by gaging-station operations, a general note at the head of the table indicates the method of determination. The peak-discharge values are given as actually determined; that is, no adjustments for artificial storage, regulation or diversions have been attempted.

At some stations the peak discharge did not occur simultaneously with peak stage due to the effects of slope, backwater, or other reasons. The maxima are then given separately; the first line shows the peak discharge and its date and time; a second line, the peak stage and its date and time and also data on floods prior to the operation of gaging-stations, where such historical information is available.

Peak discharges, in cubic feet per second per square mile, plotted against corresponding drainage areas are shown in figure 40. The reference numbers used throughout the report have been shown alongside the highest plotted points for gaging-station identification.

Table 2.--Summary of flood stages and discharges

[Maximum discharge for the flood of October 1954 were obtained from gaging-station records, except as otherwise indicated by the following symbols: A, flow-through-culvert measurement; B, current-meter measurement at peak stage; C, contracted-opening measurement]

No.	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during October 1954 flood			
				Date	Gage height (feet)	Discharge		Date and hour	Gage height (feet)	Discharge	
						Cfs	Cfs per sq mi			Cfs	Cfs per sq mi
1	Little Calumet River (western part) at Grant Street, Gary, Ind.	--------	--------	----------	------	-------	-------	Oct. 11,----------	------	a244A	-------
2	Hart ditch at Munster, Ind----------	69.2	1942-54	Apr. 6, 1947 Mar. 15, 1944	------ 7.23	2,490 -------	36.0 -------	Oct. 11, 5-10 a.m -- Oct. 11, 4-8 p.m ---	------ 7.83	2,600 -------	37.6 -------
3	Thorn Creek at Glenwood, Ill---------	25.4	1949-54	June 10, 1953	9.63	848	33.4	Oct. 10, 10-11 p.m -	9.88	1,180	46.5
4	Deer Creek near Chicago Heights, Ill-	24.4	1948-54	May 10 or 11, 1948	11.52	663	27.2	Oct. 11, 11 a.m ----	11.19	637	26.1
5	Butterfield Creek at Flossmoor, Ill--	22.9	1948-54	Mar. 19, 1948 May 10 or 11, 1948	10.29 10.28	970 970	42.4	Oct. 10, 12 p.m ----	10.92	1,480	64.6
6	Lansing ditch near Lansing, Ill------	8.3	1948-54	May 10 or 11, 1948	9.24	461	55.5	Oct. 11, 4 p.m -----	10.18	302	36.4
7	North Creek near Lansing, Ill--------	18.2	1948-54	Mar. 20, 1948	8.51	730	40.1	Oct. 10, 10-12 p.m -	8.96	692	38.0
8	Thorn Creek at Thornton, Ill---------	106	1948-54	Apr. 5, 1947	14.34	4,200	39.6	Oct. 11, 9 a.m -----	14.70	3,370	31.8
9	Thorn Creek near Lansing, Ill--------	--------	--------	----------	------	-------	-------	Oct. 11, 1:30 p.m --	11.08	3,430B	-------
10	Little Calumet River at South Holland Ill.	--------	1947-54	Apr. 6, 1947	19.24	4,760	-------	Oct. 11, 9-10 p.m---	19.39	4,210	-------
11	Midlothian Creek at Oak Forest, Ill--	12.7	1950-54	June 10, 1953	6.38	384	30.2	Oct. 10, 12 p.m ----	8.49	569	44.8
12	Wolf Lake at Chicago, Ill----------	--------	1939-54	June 27, 1952	2.32	-------	-------	Oct. 11, 5 p.m., to Oct. 12, 7 a.m.	3.00	-------	-------
13	Deep River at Lake George Outlet, at Hobart, Ind.	125	1947-54	May 11, 1948	5.86	2,740	21.9	Oct. 11, 1:30 to 2 p.m.	7.68	3,880	31.0
14	Burns ditch at Gary, Ind----------	[b]160	1943-54	May 11, 1948 Mar. 16, 1944	------ 16.44	2,660 -------	16.6 -------	Oct. 11, 2-6 p.m --- Oct. 12, 1-5 a.m ---	------ 15.90	3,430 -------	21.4 -------
15	Little Calumet River (eastern part) at Porter, Ind.	62.9	1945-54	June 28, 1945	9.88	2,440	38.8	Oct. 10, 9 p.m -----	11.66	3,110	49.4

16	Salt Creek near McCool, Ind----------	78.7	1945-54	May 11, 1948	12.3	1,910	24.3	Oct. 11, 6 a.m-------	14.12	3,180	40.4
17	Kankakee River near North Liberty, Ind	152	1951-54	Nov. 14, 1951	6.97	680	4.47	Oct. 10, 3-4 p.m----- Oct. 12, 12 m--------	------- 8.64	686 -------	4.51 --------
18	Kankakee River at Davis, Ind----------	508	1925-29, 1931-54	Dec. 15, 1927	[c] 9.50	1,700	3.35	Oct. 16, 10 p.m., to Oct. 18, 6 p.m.	11.76	1,620	3.19
19	Yellow River at Plymouth, Ind---------	284	1948-54	July 12, 1951	13.39	3,230	11.4	Oct. 12, 8 p.m., to Oct. 13, 4 a.m.	17.13	5,390	19.0
20	Yellow River at Knox, Ind----------	425	1943-54	Apr. 7, 1950	10.42	3,160	7.44	Oct. 15, 10 p.m. and Oct. 16, 4 a.m.	13.75	5,660	13.3
21	Kankakee River at Dunns Bridge, Ind---	1,308	1948-54	Apr. 12, 1950	13.08	5,200	3.98	Oct. 22, 3-11 a.m----	13.20	5,300	4.05
22	Kankakee River at Shelby, Ind---------	1,753	1922-54	Dec. 21, 1927	[d] 11.40	[g] 7,200	4.11	Oct. 27, 12 m. to 10 p.m.	10.60	5,040	2.88
23	Singleton ditch at schneider, Ind-----	122	1948-54	Apr. 10, 1950	-------	[f] 1,100	9.02	Oct. 10, 10 p.m. to Oct. 12, 1 a.m.; Oct. 12, 5-11 a.m.	10.10	953	7.81
24	West Creek near Schneider, Ind--------	54.5	1948-51, 1954	Dec. 22, 1949	6.56	1,050	19.3	Oct. 10, 11 p.m., to Oct. 11, 2 a.m.	8.06	1,840	34.3
25	Singleton ditch at Illinoi, Ill-------	219	1944-54	Apr. 11, 1950	9.26	1,850	8.45	Oct. 11, 7-8 p.m-----	9.81	2,010	9.63
26	Kankakee River at Momence, Ill--------	2,340	1905-06 1914-54	Apr. 25, 1950 Jan. 25, 1930	5.06 [g] 8.09	10,100 -------	4.32 --------	Oct. 15, 4 a.m., to 11 p.m.	3.07	5,400	2.31
27	Kankakee River near Wilmington, Ill---	5,250	1935-54	May 21, 1943 1883, 1887	8.87 16.73	48,000 -------	9.14 --------	Oct. 12, 8-9 a.m-----	3.60	10,200	1.94
28	Des Plaines River near Gurnee, Ill----	215	1945-54	Mar. 21, 1948	9.21	2,620	12.2	Oct. 13, 3-9 a.m-----	4.38	442	2.06
29	Buffalo Creek near Wheeling, Ill------	19.4	1952-54	Apr. 25, 1954	5.40	268	13.8	Oct. 10, 10:30 p.m---	4.62	161	8.30
30	Des Plaines River near Des Plaines, Ill.	374	1940-54	Apr. 25, 1950 July 4, 1938	7.78 9.7	4,040 5,500	10.8 14.7	Oct. 11, 9-11 a.m----	3.25	1,800	4.81

Table 2.--Summary of flood stages and discharges--continued

No.	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during October 1954 flood			
				Date	Gage height (feet)	Discharge		Date and hour	Gage height (feet)	Discharge	
						Cfs	Cfs per sq mi			Cfs	Cfs per sq mi
31	McDonald Creek near Mt. Prospect, Ill.	7.52	1952-54	June 3, 1954	6.46	103	13.7	Oct. 11, 6 a.m------	7.31	146	19.4
32	Weller Creek at Des Plaines, Ill----	13.1	1950-54	Apr. 25, 1954	9.83	461	35.2	Oct. 10, 6 p.m------	10.83	535	40.8
33	Willow Creek near Park Ridge, Ill---	19.6	1950-54	Apr. 25, 1954	7.15	283	14.4	Oct. 11, 6 a.m------	8.32	382	19.5
34	Salt Creek near Arlington Heights, Ill.	33.7	1950-54	Apr. 25, 1954	8.43	540	16.0	Oct. 10, 11-12 p.m--	8.28	516	15.3
35	Salt Creek at Western Springs, Ill--	122	1945-54	Mar. 20, 1948	8.06	1,920	15.7	Oct. 10, 12 p.m. to 1 a.m., Oct. 11, 11 a.m. to 12 m.	8.27	1,710	14.0
36	Addison Creek at Bellwood, Ill------	18.2	1950-54	Mar. 25, 1954	6.39	548	30.1	Oct. 11, 1-2 a.m----	9.48	598	32.9
37	Des Plaines River at Riverside, Ill-	635	1943-54	Mar. 20, 1948 Mar. 18, 1919	8.28	6,510 7,450	10.3 11.7	Oct. 11, 6 p.m------	8.15	6,340	9.98
38	Flag Creek near Willow Springs, Ill-	16.2	1951-54	Mar. 25, 1954	5.42	770	47.5	Oct. 10, 8 p.m------	6.88	1,300	80.2
39	North Branch Chicago River at Deerfield, Ill.	20.7	1952-54	Mar. 25, 1954	9.35	247	11.9	Oct. 11, 3-9 a.m----	9.08	211	10.2
40	Skokie River at Lake Forest, Ill----	12.8	1951-54	Nov. 13, 1951	7.16	321	25.1	Oct. 10, 10 p.m-----	5.42	188	14.7
41	West Fork of North Branch Chicago River at Northbrook, Ill.	11.5	1952-54	Mar. 25, 1954	8.56	411	35.7	Oct. 11, 2 a.m------	8.18	301	26.2
42	North Branch Chicago River at Niles, Ill.	102	1950-54	Apr. 26, 1954	8.56	1,510	14.8	Oct. 11, 3 a.m------	9.01	1,700	16.7
43	Stony Creek (East) at Blue Island Ill.	18.1	-------	----------	------	-------	-------	Oct. 10 or 11-------	5.88	4320	23.9
44	Tinley Creek near Palos Park, Ill---	11.3	1951-54	June 10, 1953	8.43	530	46.9	Oct. 10, 7 a.m------	10.30	1,120	99.1
45	Chicago Sanitary and Ship Canal at Lockport, Ill.	--------	[h]1900-54	Mar. 19, 1948	------	24,567	-------	Oct. 10, 8:30 p.m---	------	24,585	-------
46	Long Run near Lemont, Ill----------	20.8	1951-54	June 13, 1952	8.18	1,000	48.1	Oct. 10, 6 a.m------	9.91	3,160	152

47	Marley Creek near Mokena, Ill-------	8.38	--------	----------	------	-------	-------	Oct. 10 or 11-------	------	501c	59.8
48	Hickory Creek at Joliet, Ill--------	107	1944-54	Apr. 5, 1947	10.68	10,200	95.3	Oct. 11, 2 a.m------	9.82	8,130	76.0
49	Du Page River at Troy, Ill----------	325	1940-54	Mar. 19, 1948	10.10	11,000	33.8	Oct. 11, 8 a.m------	11.06	12,000	36.9
50	Mazon River near Coal City, Ill-----	470	1939-54	Apr. 25, 1950	18.50	17,300	36.8	Oct. 11, 3 and 6:30 p.m.	4.41	707	1.50
51	Illinois River at Marseilles, Ill---	[i]7,640	1919-54	Apr. 26, 1950	14.91	83,300	-------	Oct. 12, 7 a.m------	11.39	56,600	-------
52	Fox River at Algonquin, Ill---------	1,364	1915-54	Apr. 1, 2, 1916	4.50	5,850	4.29	Oct. 16, 1 a.m------	2.34	2,130	1.56
53	Poplar Creek at Elgin, Ill----------	35.8	1951-54	Apr. 25, 1954	3.83	310	8.66	Oct. 10, 12 p.m-----	3.72	291	8.13
54	Fox River at Dayton, Ill----------	2,570	1914-54	Mar. 19, 1948 Jan. 30, 1952	19.65 [g]32.04	29,000 -------	11.3 -------	Oct. 11, 4 p.m------	24.63	47,100	18.3

a Flow eastward into Burns ditch at time of maximum stage at Grant Street; may not have been maximum discharge eastward nor westward.
b Does not include unknown amount of contributing area from Little Calumet River (western part) during present flood.
c Site and datum then in use.
d Site then in use, present datum.
e Maximum observed.
f Daily mean discharge.
g Ice jam.
h Records prior to 1936 published in State report, Stream-flow data of Illinois,1937.
i Since Jan. 17, 1900, flow has included diversion from Lake Michigan through Chicago Sanitary and Ship Canal.

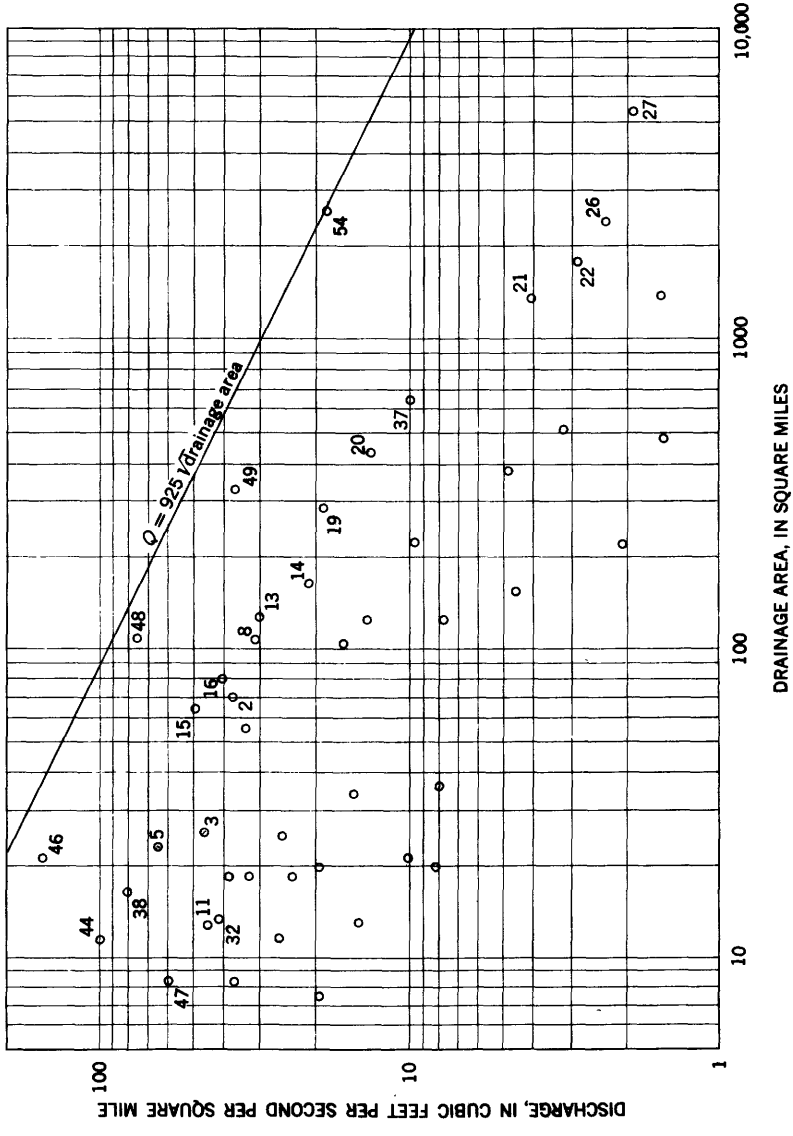

Figure 40.--Relation of unit discharge to size of drainage basin.

FLOOD-CREST STAGES

Listed in tables 3 and 4 are data on flood-crest stages that were collected in the flood areas by the Illinois Department of Public Works and Buildings, Division of Waterways, and the Corps of Engineers, and furnished to the Geological Survey for inclusion in this report. Crest stages at Geological Survey gaging stations are included also.

Table 3 contains information on streams tributary to Lake Michigan; table 4, on streams in the Illinois River basin. Streams are listed in the usual downstream order. All elevations are referred to mean sea level, datum of 1929.

FLOOD-FREQUENCY

By reference to a plot of crest discharge, in cubic feet per second per square mile, versus drainage area size, in square miles (fig. 40), it will be noted that the highest crest discharges for this flood may be closely approximated by the formula:

$$\underline{Q} = 925 \sqrt{\text{drainage area}}$$

whereas highest crest discharges for the flood of 1943 in central Illinois 2/, when analyzed in a similar manner, led to the formula:

$$\underline{Q} = 1850 \sqrt{\text{drainage area}}$$

One might infer from these data that the more recent flood was not of a magnitude to justify unusual attention. To draw such a conclusion, however, is to disregard the difference in runoff characteristics between the two flood areas. Not only is the rainfall less in northern Illinois than in central Illinois, but the land slopes are less steep, and the drainage patterns are less well developed. Hence the normal rates of runoff for the northern part of the State should be expected to be less than for the central part. To emphasize the unusual nature of the 1954 flood, it should be compared with other floods, allowing for differences in runoff characteristics. This is most conveniently done by making estimates of the probable recurrence interval.

Hydrologic data are too meager to provide close estimates for the recurrence interval of the more outstanding floods. However, a recent analysis of floods in Illinois does provide a basis for some

2/ Illinois Department Public Works and Buildings, 1943, The floods of May 1943 in Illinois: Ill. Dept. Public Works and Buildings, Div. Waterways, Springfield, Ill.

Table 3.--Flood-crest stages, streams tributary to Lake Michigan

(Furnished by Corps of Engineers and Illinois Department of Public Works and Buildings, Division of Waterways, except those at Geological Survey gaging stations)

Stream and Location	Miles above mouth	Oct. 1954 elevation (feet)	Previous maximum	
			Date	Elevation (feet)
LITTLE CALUMET RIVER (WESTERN PART)				
Little Calumet River (from high point in Indiana west into Illinois):				
Calumet Ave. (U.S. Hwy. 41), Hammond, Ind	14.5	596.1	Apr. 6, 1947	595.6
Hohman Ave. (U.S. Hwy. 6), Hammond, Ind	13.3	595.8	Apr. 6, 1947	595.4
Wentworth Ave., Calumet City, Ill	12.5	595.4	Apr. 6, 1947	595.3
Burnham Ave., Calumet City, Ill	11.7	595.4	Apr. 6, 1947	595.2
Torrence Ave. (U.S. Alt. 30), Lansing, Ill	10.1	595.6	Apr. 6, 1947	595.1
Mouth of Thorn Creek	8.7	--------	----------	---------
159th St., South Holland, Ill. (USGS gage)	8.1	594.39	Apr. 6, 1947	594.24
Cottage Grove Ave., South Holland, Ill	6.8	593.6	Apr. 6, 1947	594.0
Mouth of Calumet Union drainage ditch	5.9	--------	----------	---------
Indiana Ave., South Holland, Ill	5.2	592.3	Apr. 6, 1947	592.2
Halsted St. (State Hwy. 1), Harvey, Ill	3.4	590.4	Apr. 6, 1947	590.3
Ashland Ave. (U.S. Hwy. 54), Dixmoor, Ill	2.1	587.7	Apr. 6, 1947	588.5
Ashland Ave., downstream side, Dixmoor, Ill. (USGS gage)	2.1	587.59	Apr. 6, 1947	588.68
Mouth of Midlothian Creek	1.4	--------	----------	---------
Thorn Creek:				
Park Forest, Monee Road, sec. 11. T. 34 N., R. 13 E., left bank 25 ft upstream	17.2	713.88	----------	---------
Monee Road, 15 ft downstream	17.2	713.68	----------	---------
Road bridge, left bank 10 ft upstream	-----	700.95	----------	---------
Road bridge, right downstream wingwall	-----	700.45	----------	---------
Scout Camp Road bridge, right upstream wingwall	16.2	700.59	----------	---------
Scout Camp Road, right bank 6 ft downstream	16.2	699.78	----------	---------
Foot bridge, right bank 25 ft upstream	16.2	698.87	----------	---------
Foot bridge, left bank 50 ft downstream	16.2	698.94	----------	---------
Foot bridge, left bank 10 ft upstream	16.1	698.37	----------	---------
Foot bridge, right bank 10 ft downstream	16.1	698.26	----------	---------
Abandoned road bridge, right downstream abutment	15.6	693.25	----------	---------
Western Avenue, left bank 50 ft upstream	15.2	687.29	----------	---------
Western Avenue, left bank 50 ft downstream	15.2	687.22	----------	---------
Sauk Trail Road bridge, left upstream wingwall	14.7	682.64	----------	---------
Sauk Trail Road, left bank 5 ft downstream	14.7	682.29	----------	---------
Chicago Heights, Sauk Trail Lake spillway, 26th Street, left bank 25 ft upstream	13.3	679.67	----------	---------
Sauk Trail Lake spillway, 26th Street, left bank 25 ft downstream	13.3	665.62	----------	---------
E. J. & E. Ry., left bank, 25 ft upstream	13.0	663.34	----------	---------
E. J. & E. Ry., bridge, downstream center pier	13.0	663.30	----------	---------
N. Y. C. RR., right bank 50 ft upstream	12.7	658.13	----------	---------
N. Y. C. RR., right bank 50 ft downstream	12.7	657.67	----------	---------
16th Street, left bank 50 ft upstream	12.4	652.16	----------	---------
16th Street, right bank 20 ft downstream	12.4	651.77	----------	---------
15th Street, left bank 15 ft upstream	12.3	650.11	----------	---------
15th Street, right bank 25 ft downstream	12.3	649.22	----------	---------
U. S. Highway 30 (14th Street), left bank 20 ft upstream	12.1	647.60	----------	---------
U. S. Highway 30 (14th Street), 50 ft downstream	12.1	646.69	----------	---------
State Highway 1 (Chicago Road), right bank 25 ft upstream	11.8	643.12	----------	---------
State Highway 1 (Chicago Road, right bank 10 ft downstream	11.8	642.97	----------	---------
Park Avenue foot bridge, right bank 15 ft upstream	11.6	640.57	----------	---------
Park Avenue foot bridge, right downstream wingwall	11.6	640.69	----------	---------
Halsted Road, left bank 15 ft upstream	11.3	637.77	----------	---------
Halsted Road, left bank 25 ft downstream	11.3	637.30	----------	---------
Foot bridge, left upstream pier	11.2	636.57	----------	---------
Foot bridge, left bank 50 ft. downstream	11.2	636.04	----------	---------
Mouth of unnamed tributary	10.8	--------	----------	---------
Joe Orr Road, left bank 75 ft upstream	10.5	629.65	----------	---------
Joe Orr Road, downstream end of bridge	10.5	629.30	----------	---------
Glenwood, B. & O. RR., left bank 100 ft upstream	9.7	622.84	----------	---------
B. & O. RR., downstream right bank, USGS gage	9.7	620.85	----------	---------
Abandoned farm bridge, right bank 100 ft upstream	9.0	617.67	----------	---------
Mouth of Deer Creek	8.3	--------	----------	---------
B. & O. RR., right bank 75 ft upstream	7.8	613.07	----------	---------
B. & O. RR., right bank 20 ft downstream	7.8	611.93	----------	---------
Mouth of Butterfield Creek	7.8	--------	----------	---------
Glenwood-Chicago Heights Road, left bank 150 ft upstream	7.7	612.12	----------	---------
Glenwood-Chicago Heights Road, left bank 25 ft downstream	7.7	611.15	----------	---------

Table 3.--Flood-crest stages, streams tributary to Lake Michigan--continued

Stream and Location	Miles above mouth	Oct. 1954 elevation (feet)	Previous maximum	
			Date	Elevation (feet)
LITTLE CALUMET RIVER (WESTERN PART)--Con:				
Thorn Creek--continued:				
Sewage treatment plant, white door, left bank	7.6	611.08	----------	--------
B. & O. RR., (spur), right bank 10 ft upstream	7.6	610.17	----------	--------
B. & O. RR., (spur), right bank 25 ft downstream	7.6	610.04	----------	--------
B. & O. RR., right bank 25 ft upstream	7.4	609.83	----------	--------
B. & O. RR., right bank 100 ft downstream	7.4	609.17	----------	--------
State Highway 83 (Vincennes Avenue), left bank 50 ft upstream	7.2	608.57	----------	--------
State Highway 83 (Vincennes Avenue), left bank 50 ft downstream	7.2	608.25	----------	--------
C. & E. I. RR., left bank 100 ft upstream	6.5	606.88	----------	--------
C. & E. I. RR., left bank 30 ft downstream	6.5	606.82	----------	--------
Mouth of North Creek	5.2	--------	----------	--------
Thornton, Ridge Road (Margaret Street), left bank 150 ft upstream	4.3	601.88	----------	--------
Ridge Road (Margaret Street), USGS gage, downstream right bank	4.3	601.13	----------	--------
Grand Trunk Ry., left bank 75 ft upstream	2.9	599.17	----------	--------
Grand Trunk Ry., left bank 100 ft downstream	2.9	598.88	----------	--------
Calumet Expressway, south-bound bridge, left upstream end of bridge	2.2	597.91	----------	--------
Calumet Expressway, south-bound bridge, left downstream end of bridge	2.2	597.66	----------	--------
Calumet Expressway, north-bound bridge, right upstream end of bridge	2.0	596.97	----------	--------
Calumet Expressway, north-bound bridge, right downstream end of bridge	2.0	597.10	----------	--------
Volbrecht Road, right bank 25 ft upstream	2.0	596.99	----------	--------
Volbrecht Road bridge, downstream concrete handrail	2.0	596.98	----------	--------
Half a mile upstream from 167th Street, USGS crest-stage indicator	1.5	595.96	----------	--------
167th Street bridge, left upstream wingwall	1.0	595.68	----------	--------
167th Street, left bank 10 ft downstream	1.0	595.41	----------	--------
Unnamed tributary to Thorn Creek, northwest of Heights:				
Chicago Heights, 1¼ miles west on U. S. Highway 30, left bank 150 ft upstream	2.0	663.69	----------	--------
U. S. Highway 30 culvert, 25 ft left of downstream headwall	2.0	663.78	----------	--------
Scott Avenue and 13th Street culvert, upstream headwall	1.8	663.71	----------	--------
Scott Avenue and 13th Street culvert, downstream headwall	1.8	662.75	----------	--------
Ashland Avenue culvert, upstream headwall	1.6	659.10	----------	--------
Ashland Avenue culvert, downstream headwall	1.6	658.55	----------	--------
Franklin Avenue, right bank 10 ft upstream	1.6	658.42	----------	--------
Franklin Avenue culvert, upstream headwall	1.6	657.90	----------	--------
Franklin Avenue, right bank 50 ft downstream	1.6	656.04	----------	--------
Country Club Road culvert, left upstream headwall	1.5	656.27	----------	--------
Country Club Road culvert, downstream headwall	1.5	655.76	----------	--------
Campbell and 10th Streets culvert, post in northeast angle of intersection	1.2	652.18	----------	--------
Dixie Highway, 8 ft upstream	.9	646.28	----------	--------
Dixie Highway culvert, downstream headwall	.9	646.38	----------	--------
Reigle Road culvert, upstream headwall	.8	644.64	----------	--------
Reigle Road culvert, downstream headwall	.8	643.95	----------	--------
Parkside Avenue and Peoria Street, right bank 150 ft upstream	.5	641.04	----------	--------
Parkside Avenue and Peoria Street, right bank 100 ft downstream	.5	639.26	----------	--------
Chicago Heights, 1 mile north on Ill. Highway 1, left bank 25 ft upstream	.3	638.98	----------	--------
State Highway 1 culvert, downstream headwall	.3	638.61	----------	--------
Deer Creek:				
Chicago Heights, Joe Orr Road, sec 14, T. 35 N., R. 14 E., 50 ft upstream	2.8	627.39	----------	--------
Joe Orr Road, downstream left bank, USGS gage	2.8	627.14	----------	--------
Joe Orr Road, left bank 50 ft downstream	2.8	627.06	----------	--------
Foot bridge, left end of bridge	-----	624.83	----------	--------
Cottage Grove Avenue, left bank 10 ft upstream	1.4	619.52	----------	--------
Cottage Grove Avenue bridge, left downstream abutment	1.4	619.24	----------	--------
Arnell Lane, right bank 20 ft upstream	1.1	618.36	----------	--------
Arnell Lane, right bank 10 ft downstream	1.1	617.95	----------	--------
State Street bridge, right upstream wingwall	.3	615.01	----------	--------
State Street bridge, right downstream wingwall	.3	614.88	----------	--------

Table 3.--Flood-crest stages, streams tributary to Lake Michigan--continued

Stream and Location	Miles above mouth	Oct. 1954 elevation (feet)	Previous maximum	
			Date	Elevation (feet)
LITTLE CALUMET RIVER (WESTERN PART)--Con:				
Deer Creek--continued:				
C. & E. I. RR., bridge, upstream wingwall----	.3	614.51	----------	---------
C. & E. I. RR., right bank 75 ft downstream-	.3	614.46	----------	---------
Butterfield Creek:				
Flossmoor, Western Avenue, left bank 20 ft upstream----------	4.0	647.36	----------	---------
Western Avenue, right bank 25 ft downstream--	4.0	647.08	----------	---------
Road bridge (Flossmoor Golf Course), left bank 100 ft upstream----------	-----	646.16	----------	---------
Road bridge (Flossmoor Golf Course), left bank 150 ft downstream----------	-----	646.21	----------	---------
Dixie Highway, left bank 8 ft upstream-------	2.7	636.05	----------	---------
Dixie Highway, right bank 10 ft downstream---	2.7	635.17	----------	---------
Foot bridge (Idlewild Golf Course), left bank 15 ft upstream----------	-----	632.82	----------	---------
Foot bridge (Idlewild Golf Course), downstream side----------	-----	632.77	----------	---------
Reigle Road bridge, upstream wingwall--------	1.6	628.07	----------	---------
Reigle Road, downstream left bank, USGS gage-	1.6	627.72	----------	---------
Homewood, farm road bridge (Homewood sewage plant), right bank 15 ft upstream----------	-----	621.80	----------	---------
Homewood, farm road bridge (Homewood sewage plant), left bank 50 ft downstream---------	-----	621.37	----------	---------
Halsted Street bridge, upstream wingwall-----	.8	617.09	----------	---------
Halsted Street, left bank 50 ft downstream---	.8	617.11	----------	---------
Glenwood Road, left bank 20 ft upstream------	.2	612.86	----------	---------
Glenwood Road, left bank 8 ft downstream-----	.2	612.74	----------	---------
North Creek:				
Lansing, Torrence Avenue, downstream right bank, USGS gage----------	5.8	608.25	----------	---------
Volbrecht Street bridge, upstream abutment---	3.0	605.88	----------	---------
Volbrecht Street, right bank 100 ft downstream----------	3.0	605.62	----------	---------
Cottage Grove Avenue bridge, upstream pier---	.7	604.10	----------	---------
Cottage Grove Avenue bridge, downstream pier-	.7	604.10	----------	---------
Calumet Union drainage ditch:				
171st St., Hazel Crest, Ill----------	-----	623.5	April 1947	623.6
169th St. and Dixie Highway, Hazel Crest, Ill	-----	614.0	April 1947	616.0
161st St. and Dixie Highway, Markham, Ill----	-----	608.4	April 1947	609.7
161st St. and Park Ave., Markham, Ill--------	-----	607.6	April 1947	606.6
161st St and Vincennes, South Holland, Ill---	-----	600.6	April 1947	599.5
Indiana Ave. (Ill. Hwy. 83), South Holland, Ill----------	-----	594.3	April 1947	593.4
Midlothian Creek:				
167th St., Tinley Park, Ill. (USGS crest-stage gage)----------	-----	663.26	----------	----------
Oak Forest, Ill. (USGS gage)----------	-----	628.90	June 10, 1953	626.79
Calumet Slough:				
Oak Ave., Oak Forest, Ill----------	-----	646.0	April 1947	647.7
Cicero Ave. (Ill. Hwy. 50), Oak Forest, Ill--	-----	643.2	April 1947	644.6
Crawford Ave., Midlothian, Ill----------	-----	618.5	April 1947	619.1
139th St., Robbins, Ill----------	-----	600.9	April 1947	600.8
Foot Bridge (Troy St.), Robbins, Ill---------	-----	598.7	April 1947	597.6
BURNS DITCH				
Little Calumet River (from high point in Indiana east through Burns ditch):				
Calumet Ave. (U. S. Hwy. 41), Hammond, Ind---	-----	596.1	Apr. 6, 1947	595.6
Southeastern Ave. (Ind. Hwy. 152), Highland, Ind----------	-----	595.9	April 1947	594.3
Kennedy Ave. (Ind. Hwy. 912), Highland, Ind--	-----	595.5	April 1947	593.8
Cline Ave., Highland, Ind----------	-----	595.1	April 1947	593.6
Burr Street, Black Oak, Ind----------	-----	594.6	April 1947	592.7
Harrison Street, Gary, Ind----------	-----	593.4	May 1948	592.0
Broadway (Ind. Hwy. 53), Gary, Ind----------	-----	593.3	May 1948	591.8
Central Ave., Gary, Ind----------	-----	592.8	May 1948	590.8
Burns ditch:				
Clay St. South of 15th Ave., Gary, Ind-------	-----	590.4	May 1948	590.1
U. S. Hwy. 20, E. Gary, Ind----------	-----	589.4	May 1948	587.5
U. S. Hwy. 12, near E. Gary, Ind----------	-----	584.6	May 1948	583.2

Table 4.--Flood-crest stages, Illinois River basin

(Furnished by Illinois Department of Public Works and Buildings, Division of Waterways except those at Geological Survey gaging stations)

Stream and Location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN		
Des Plaines River:		
Des Plaines, dam No. 2, right bank, USGS gage	69.3	629.56
Central Road, right bank 40 ft upstream	68.0	628.24
Central Road, 10 ft right of downstream wingwall	68.0	628.28
Golf Road, (State Highway 58), 15 ft upstream	66.9	627.54
Golf Road bridge, right downstream wingwall	66.9	627.89
Rand Road (U. S. Highway 12), right bank 30 ft upstream	65.4	626.56
Rand Road bridge, right downstream wingwall	65.4	626.38
Mouth of Weller Creek	65.2	--------
Northwest Highway (U. S. Highway 14), right bank 40 ft upstream	64.8	625.77
Northwest Highway, right bank 50 ft downstream	64.8	625.84
Algonquin Road, right bank 40 ft upstream	64.2	625.74
Algonquin Road, right bank 100 ft downstream	64.2	625.30
Oakton Street, right bank 80 ft upstream	63.7	625.16
Oakton Street, right bank 60 ft downstream	63.7	625.15
Park Ridge, Touhy Avenue, right bank 20 ft upstream	62.0	624.43
Touhy Avenue, right bank 30 ft downstream	62.0	624.47
Devon Avenue bridge, right upstream wingwall	60.7	623.80
Devon Avenue bridge, right downstream wingwall	60.7	623.81
Higgins Road (State Highway 72), right bank 80 ft upstream	60.0	623.77
Higgins Road, right bank 50 ft downstream	60.0	623.82
Mouth of Willow Creek	59.9	--------
Bryn Maur Avenue, left bank 70 ft downstream	59.5	621.67
Schiller Park, Lawrence Avenue, right bank 60 ft upstream	57.9	621.87
Lawrence Avenue bridge, 15 ft right of downstream wingwall	57.9	621.84
Irving Park Road bridge, upstream right wingwall	56.9	621.10
Irving Park Road, right bank 50 ft downstream	56.9	621.02
Franklin Park, Belmont Avenue, right bank 50 ft upstream	55.7	620.44
Belmont Avenue, right bank 15 ft downstream	55.7	620.49
C. M. & St. P. RR., third group of pilings downstream	55.4	620.02
River Grove, Grand Avenue, right bank 50 ft upstream	55.1	620.02
Grand Avenue, right bank 15 ft downstream	55.1	619.96
First Avenue, right bank 40 ft upstream	54.2	619.67
First Avenue, right bank 50 ft downstream	54.2	619.57
Elmwood Park, North Avenue (State Highway 64), right bank 15 ft upstream	52.9	618.69
North Avenue (State Highway 64) bridge, right downstream wingwall	52.9	618.62
Mouth of Silver Creek	51.9	--------
Maywood, Chicago Avenue, right bank 15 ft upstream	51.6	617.80
Chicago Avenue, right bank 10 ft downstream	51.6	617.83
Lake Street, right bank 40 ft upstream	51.0	617.33
Lake Street, right bank 50 ft downstream	51.0	617.27
C. & N. W. Ry. bridge, downstream end of right pier	51.0	617.07
Washington Boulevard, right bank 30 ft upstream	50.6	617.19
Washington Boulevard, right bank 60 ft downstream	50.6	617.01
River Forest, Madison Street, right bank 3 ft upstream	50.2	616.28
Madison Street, right bank 40 ft downstream	50.2	616.27
C. & G. W. Ry., left bank 15 ft upstream	49.8	615.90
C. & G. W. Ry., left bank 20 ft downstream	49.8	615.55
Forest Park, Roosevelt Road (12th Street), right bank 60 ft upstream	49.0	615.45
Roosevelt Road (12th Street), right bank 50 ft downstream	49.0	615.05
North Riverside, Cermak Road (22nd Street), right bank 12 ft upstream	47.8	614.11
Cermak Road (22nd Street), right bank 20 ft downstream	47.8	613.29
26th Street bridge, right upstream wingwall	47.2	613.29
26th Street, right bank 25 ft downstream	47.2	613.24
Riverside, 31st Street, right bank 30 ft upstream	46.4	612.61
31st Street, right bank 10 ft downstream	46.4	612.66
Forest Avenue, right bank 60 ft upstream	45.9	612.12
Forest Avenue, right bank 20 ft downstream	45.9	612.37
Mouth of Salt Creek	45.2	--------
Hoffman Dam, left bank wingwall silt structure upstream	44.4	608.15
Barry Point Road, left bank 30 ft upstream	44.3	604.17
Barry Point Road, left bank 40 ft upstream	44.3	603.66
Barry Point Road, left bank 400 ft downstream, USGS gage	44.3	602.83
Lyons, Ogden Avenue (U. S. Highway 34), left bank 10 ft upstream	43.3	600.71
Ogden Avenue (U. S. Highway 34), left bank at downstream wingwall	43.3	600.48
U. S. Highway 66, right bank 10 ft upstream	42.7	599.78
U. S. Highway 66 bridge, right downstream wingwall	42.7	599.68
47th Street, right bank 6 ft upstream	42.1	599.86
47th Street, right bank 15 ft downstream	42.1	599.51
Weller Creek:		
Mt. Prospect, Lincoln Road bridge, left upstream wingwall	5.6	661.77
Lincoln Road bridge, right downstream wingwall	5.6	661.00
Elmhurst Road (State Highway 83) bridge, right upstream wingwall	4.5	655.38
Elmhurst Road (State Highway 83) bridge, left downstream wingwall	4.5	655.27
Mt. Prospect Road bridge, right upstream wingwall	3.4	647.52
Mt. Prospect Road bridge, right downstream wingwall	3.4	647.59
Des Plaines, Seeger Road (Golf Road), right bank 10 ft upstream	3.0	646.11
Seeger Road (Golf Road), downstream right bank, USGS gage	3.0	645.85

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Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN--Continued		
Weller Creek--continued:		
Washington Street, left bank 70 ft upstream	2.8	644.87
Washington Street, left bank 30 ft downstream	2.8	643.49
C. & N. W. Ry. bridge, left upstream wingwall	2.6	642.73
C. & N. W. Ry. bridge, left downstream wingwall	2.6	642.06
Wolf Road, left bank 80 ft upstream	2.2	640.86
Wolf Road, right bank downstream on fence	2.2	640.80
Northwest Highway (U. S. Highway 14) & C. & N. W. Ry., left bank 10 ft upstream	1.9	638.86
Northwest Highway (U. S. Highway 14) & C. & N. W. Ry., right bank 80 ft downstream	1.9	636.73
M. St. P. & S. S. M. RR., right bank 15 ft upstream	1.5	635.29
Private road (Public Service Co.), left bank upstream	------	633.17
Private road (Public Service Co.), left bank downstream	------	632.77
C. & N. W. Ry. (spur) bridge, left upstream abutment	1.2	632.45
C. & N. W. Ry. (spur) bridge, left downstream abutment	1.2	632.56
C. & N. W. Ry. bridge, left upstream wingwall	1.0	630.69
C. & N. W. Ry. bridge, left downstream wingwall	1.0	630.67
Willow Avenue (conduit intake), left bank 30 ft upstream	1.0	629.45
Willow Avenue (conduit intake), left bank 15 ft upstream	1.0	629.51
River Road (conduit outlet), left bank 15 ft downstream	.5	627.34
School walk bridge (east of Perry Street), right upstream wingwall	.4	627.35
School walk bridge (east of Perry Street), right downstream wingwall	.4	626.43
Willow Creek:		
Park Ridge, C. & N. W. Ry. bridge, right downstream abutment	4.5	646.52
C. & N. W. Ry., 50 ft right of downstream right end of bridge	4.5	645.74
Higgins Road bridge, right bank upstream wheel curb	4.2	645.14
Higgins Road bridge, right downstream wingwall	4.2	644.76
Wolf Road culvert, right upstream headwall	4.0	644.36
Wolf Road, right bank 50 ft downstream	4.0	644.06
Lee Street, left bank 20 ft upstream	3.1	640.33
Lee Street, right bank 50 ft downstream	3.1	640.20
Wooden foot bridge, downstream handrail	------	640.20
Morse Avenue, right bank 15 ft upstream	2.8	639.22
Morse Avenue, left bank 20 ft downstream	2.8	638.67
Mannheim Road bridge, upstream left pier	2.4	636.56
Mannheim Road, left bank 50 ft downstream	2.4	636.33
Orchard Place Road, right bank 15 ft upstream	2.3	636.27
Orchard Place Road, right bank 20 ft downstream	2.3	635.96
M. St. P. & S. S. M. RR., right bank 50 ft upstream	2.2	635.69
M. St. P. & S. S. M. RR., downstream	2.2	635.35
Higgins Road, upstream from bridge	2.0	634.83
Higgins Road, left bank 5 ft downstream	2.0	634.65
Private lane bridge, upstream right end	------	630.90
Private lane bridge, right downstream wingwall	------	630.10
Scott Street bridge, right upstream wingwall	1.4	630.16
Scott Street, right bank downstream	1.4	629.88
Byron Street, downstream right bank, USGS gage	1.3	629.27
River Road, right bank 150 ft upstream	.3	627.23
River Road bridge, 5 ft right of right end of bridge	.3	626.44
River Road bridge, 10 ft right of right end of bridge	.3	626.83
Silver Creek:		
Franklin Park, Franklin Road, sec. 20, T. 40 N., R. 12 E., left bank 15 ft upstream	5.7	645.11
Franklin Road, right bank 10 ft downstream	5.7	645.08
Grand Avenue culvert, upstream headwall	4.8	641.85
Grand Avenue culvert, downstream headwall	4.8	641.01
Granville Avenue bridge, upstream end	4.5	640.66
Granville Avenue bridge, downstream end	4.5	640.58
Granville Avenue, 150 ft northeast on south side of building	4.5	640.56
Hyde Park foot bridge, right upstream end of bridge	4.5	640.51
Hyde Park foot bridge, 150 ft southeast on building downstream	4.5	640.42
Mannheim Road culvert, right upstream end of headwall	4.3	640.20
Mannheim Road, right bank downstream on pole	4.3	640.00
Mouth of Nevada Creek	4.1	--------
Scott Street bridge, left upstream wingwall	3.6	635.95
Scott Street, 4th fence post from left downstream wingwall	3.6	635.70
Richards Street, left bank 25 ft upstream	3.4	635.32
Richards Street bridge, on pole at left upstream wingwall	3.4	635.20
Richards Street, right bank 5 ft downstream	3.4	634.82
Herrick Avenue bridge, left upstream wingwall	3.3	634.62
Herrick Avenue bridge, right downstream end of headwall	3.3	634.45
Fullerton Avenue bridge, left upstream end of headwall	3.1	634.17
Fullerton Avenue bridge, left downstream end of headwall	3.1	634.15
Palmer Street Bridge, right upstream wingwall	2.8	633.30
Palmer Street bridge, right downstream end of bridge	2.8	633.16
Melrose Park, Armitage Avenue bridge, right upstream wingwall	2.5	631.15
Armitage Avenue bridge, right downstream wingwall	2.5	630.64
I. H. B. RR., (spur), right bank upstream at bridge	2.5	630.74
I. H. B. RR., (spur), left bank downstream at bridge	2.5	630.73
25th Avenue culvert, left upstream end of headwall	2.3	628.89
25th Avenue culvert, right downstream wingwall	2.3	628.79

Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN--Continued		
Silver Creek--continued:		
North Avenue bridge, upstream headwall	1.8	627.34
North Avenue bridge, downstream headwall	1.8	626.83
Broadway bridge, left upstream wingwall	1.7	626.38
Broadway bridge, right downstream wingwall	1.7	626.38
17th Avenue bridge, upstream headwall	1.5	626.20
17th Avenue bridge, downstream headwall	1.5	626.25
15th Avenue bridge, left upstream wingwall	1.4	624.84
15th Avenue bridge, right downstream wingwall	1.4	624.11
9th Avenue, right bank 20 ft downstream	.9	619.81
5th Avenue bridge, left upstream wingwall	.4	618.80
5th Avenue bridge, left downstream wingwall	.4	618.71
Maywood, 1st Avenue bridge, left upstream wingwall	.0	618.12
1st Avenue, left bank 100 ft downstream	.0	618.01
Nevada Creek (tributary to Silver Creek):		
Melrose Park, Melrose Street, (no bridge), sec. 29, T. 40 N., R. 12 E., left bank on tree	.5	642.20
Nevada Street, right bank 20 ft upstream	.4	641.11
Nevada Street, right bank 30 ft downstream	.4	640.99
Foot bridge, right bank 10 ft upstream	.2	640.06
Mannheim Road culvert, upstream headwall	.1	639.89
Mannheim Road culvert, downstream face	.1	638.34
Salt Creek:		
Arlington Heights, Kirchoff Road bridge, left upstream wingwall	37.0	698.91
Kirchoff Road bridge, left downstream wingwall	37.0	698.55
Algonquin Road, right bank 40 ft upstream	35.6	693.98
Algonquin Road, downstream	35.6	692.96
Golf Road (Ill. Highway 58), left bank 15 ft upstream	34.7	690.63
Golf Road (Ill. Highway 58), downstream right bank, USGS gage	34.7	690.60
Higgins Road bridge, left upstream wingwall	33.1	686.02
Higgins Road bridge, left downstream wingwall	33.1	685.70
Old Higgins Road bridge, upstream wingwall	33.1	685.68
Old Higgins Road, downstream	33.1	685.67
Arlington Heights Road bridge, left upstream wingwall	31.5	683.16
Arlington Heights Road bridge, left downstream wingwall	31.5	683.23
Devon Avenue bridge, left upstream wingwall	30.0	680.06
Devon Avenue bridge, left downstream wingwall	30.0	679.98
Lawrence Avenue bridge, left upstream wingwall	29.2	679.04
Lawrence Avenue, right bank 50 ft downstream	29.2	678.77
Wood Dale, C. M. & St. P. RR., bridge, right upstream wingwall	27.7	677.66
C. M. & St. P. RR., right bank 50 ft downstream	27.7	677.77
Irving Park Road (Ill. Highway 19), upstream	27.6	676.88
Irving Park Road (Ill. Highway 19), downstream	27.6	676.31
Elmhurst Golf Course foot bridge, downstream	-----	673.30
Addison, Lake Street (U. S. Highway 20), upstream	24.0	671.46
Lake Street (U. S. Highway 20), downstream	24.0	671.48
North Avenue (Ill. Highway 64), upstream	21.7	669.12
North Avenue (Ill. Highway 64), downstream	21.7	669.17
Elmhurst, C. & N. W. Ry. and I. C. RR., upstream	21.1	667.96
C. & N. W. Ry. and I. C. RR., downstream	21.1	667.44
St. Charles Road, upstream	20.5	665.72
St. Charles Road, downstream	20.5	665.50
Ill. Highway 83, upstream	20.4	665.32
Ill. Highway 83, downstream	20.4	665.35
Villa Park, C. A. & E. Ry., upstream	20.1	664.40
C. A. & E. Ry., downstream	20.1	664.58
Elmhurst, Butterfield Road (Ill. Highway 56), upstream	17.7	659.95
Butterfield Road (Ill. Highway 56), downstream	17.7	660.06
Roosevelt Road (U. S. Highway 30 Alt.), upstream	17.3	659.16
Roosevelt Road (U. S. Highway 30 Alt.), downstream	17.3	659.10
Harger Road, upstream	15.6	656.01
Harger Road, downstream	15.6	655.89
22d Street (Ill. Highway 55), upstream	14.9	653.19
22d Street (Ill. Highway 55), downstream	14.9	653.16
31st Street, upstream	13.7	650.92
31st Street, downstream	13.7	650.91
Fullersburg Dam pool	11.6	645.19
York Road, upstream	11.5	642.63
York Road, downstream	11.5	642.55
Western Springs, Wolf Road, upstream left bank, USGS gage	8.8	633.09
Wolf Road, downstream	8.8	633.14
LaGrange Park, 31st Street, upstream	6.9	629.47
31st Street, downstream	6.9	629.37
Westchester, LaGrange Road, upstream	5.6	624.88
LaGrange Road, downstream	5.6	624.81
Broadview, I. H. B. RR., upstream	4.7	622.68
I. H. B. RR., downstream	4.7	622.44
Mouth of Addison Creek	3.6	----------
North Riverside, 17th Avenue, upstream	3.5	620.99
17th Avenue, downstream	3.5	620.98
Brookfield, 31st Street, upstream	1.9	619.06
31st Street, downstream	1.9	618.88

Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN--Continued		
Salt Creek--continued:		
Abandoned RR., bridge at Monroe Avenue, upstream	1.2	617.30
Abandoned RR., bridge at Monroe Avenue, downstream	1.2	617.01
Washington Avenue, upstream	1.1	616.38
Washington Avenue, downstream	1.1	615.91
Brookfield Avenue, upstream	.7	615.24
Brookfield Avenue, downstream	.7	614.80
C. B. & Q. RR., downstream	.7	614.93
Lyons, First Avenue, upstream	.1	612.21
First Avenue, downstream	.1	612.07
Addison Creek:		
North Lake, Wolf Road, left bank 150 ft upstream	6.5	643.62
Wolf Road, right bank 50 ft downstream	6.5	643.36
Prater Avenue bridge, left upstream wingwall	6.2	642.28
Prater Avenue bridge, left downstream wingwall	6.2	642.17
Roy Avenue, right bank 20 ft upstream	6.0	641.42
Roy Avenue bridge, right downstream wingwall	6.0	641.24
Roberta Avenue, right bank 20 ft upstream	5.9	641.10
Roberta Avenue bridge, left downstream end of bridge	5.9	640.98
Park View Drive bridge, left upstream wingwall	5.8	640.73
Park View Drive bridge, left downstream wingwall	5.8	640.70
Park View Drive, left bank 25 ft downstream	5.8	640.48
North Avenue culvert, right end of upstream headwall	5.7	639.46
North Avenue, left bank 25 ft downstream	5.7	639.34
Melrose Park, Morse Avenue, southeast corner of shack 150 ft upstream	5.6	639.12
Morse Avenue, right bank 150 ft downstream	5.6	638.90
Lemoyne Street bridge, right upstream end	5.6	638.57
Lemoyne Street, right bank 50 ft downstream	5.6	638.40
Victoria Drive bridge, left upstream end	5.5	638.32
Victoria Drive, left bank 75 ft downstream	5.5	638.30
Victoria Drive, left bank 200 ft downstream	5.5	638.27
Hirsh Street bridge, upstream face	5.4	638.08
Hirsh Street, right bank 25 ft downstream	5.4	637.85
Stone Park, Mannheim Road, left bank 15 ft upstream	4.9	637.04
Mannheim Road, 100 ft left of river	4.9	636.90
Mannheim Road, left bank 200 ft downstream, garage 150 ft left of stream	4.9	636.28
Melrose Park, Lake Street culvert, left downstream abutment	4.7	633.97
C. & N. W. Ry. bridge, left upstream abutment	4.5	633.72
I. H. B. RR., left bank upstream	4.3	631.95
I. H. B. RR., left bank downstream	4.3	632.17
Bellwood, C. & N. W. Ry. bridge, left upstream pier	4.0	631.62
C. & N. W. Ry. bridge, left downstream pier	4.0	631.58
C. & N. W. Ry. bridge, (4th bridge below Lake Street) left upstream end	4.0	631.50
I. H. B. RR., bridge, (5th bridge below Lake Street) left upstream abutment	3.9	630.34
Washington Boulevard bridge, left upstream wingwall	3.2	627.36
Washington Boulevard bridge, downstream right bank, USGS gage	3.2	627.13
C. & G. W. Ry. bridge, right upstream end	3.0	627.10
C. & G. W. Ry. bridge, left downstream end	3.0	626.94
C. A. & E. Ry. bridge, left upstream wingwall	3.0	626.70
C. A. & E. Ry. bridge, left downstream wingwall	3.0	626.70
Madison Street, downstream headwall	3.0	626.63
Monroe Street bridge, left upstream wingwall	2.9	626.83
Monroe Street bridge, right downstream wingwall	2.9	626.62
Wilcox Street bridge, right upstream wingwall	2.8	626.35
Wilcox Street bridge, left downstream wingwall	2.8	626.50
Adams Street bridge, right upstream wingwall	2.8	626.09
Adams Street bridge, right downstream wingwall	2.8	626.22
Jackson Street bridge, right upstream wingwall	2.7	626.09
Jackson Street bridge, right downstream wingwall	2.7	626.06
VanBuren Street, right bank upstream, concrete walk	2.6	626.06
VanBuren Street bridge, right downstream wingwall	2.6	625.96
30th Avenue bridge, right upstream wingwall	2.5	625.85
30th Avenue bridge, right downstream wingwall	2.5	625.50
31st Avenue bridge, right upstream wingwall	2.4	625.71
31st Avenue bridge, left downstream wingwall	2.4	625.55
32d Avenue bridge, left upstream wingwall	2.3	625.53
32d Avenue bridge, left downstream wingwall	2.3	625.44
Harrison Street bridge, left upstream opening	2.3	625.44
Harrison Street bridge, left downstream opening	2.3	625.51
Westchester, Kitchener Street foot bridge, right downstream end	2.1	625.41
Gladstone Avenue, left bank 75 ft upstream	2.0	625.38
Gladstone Avenue bridge, left upstream wingwall	2.0	--------
Gladstone Avenue bridge, right downstream wingwall	2.0	625.42
Roosevelt Road (U. S. Highway 30 Alt.) bridge, left upstream wingwall	1.8	625.04
Roosevelt Road (U. S. Highway 30 Alt.) bridge, left downstream wingwall	1.8	624.78
Pusheck Road bridge, right upstream wingwall	1.4	624.27
Pusheck Road bridge, right downstream wingwall	1.4	624.46
Broadview, I. H. B. RR., bridge, right upstream end	1.3	624.15
I. H. B. RR., bridge, right downstream end	1.3	624.10
25th Avenue bridge, upstream face	1.1	621.84
25th Avenue bridge, downstream face	1.1	621.52
Cermak Road bridge, right upstream end	.3	621.72
Cermak Road bridge, left downstream end	.3	621.67

Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN--Continued		
Flag Creek:		
Clarendon Hills, Elm and Colfax Avenue, corner of garage	10.4	725.55
Park Avenue, Concrete Specialties Co., pile of RR., ties near building-	10.3	725.56
Yellow shed, top of planks	10.3	725.02
Brownson Lumber Co., in shed	10.3	722.95
Prospect Avenue, right bank 20 ft downstream	10.2	717.79
Harris Avenue culvert, upstream headwall	9.9	714.91
Harris Avenue, right bank downstream, guardrail	9.9	714.35
Ill. Highway 83, left bank 25 ft upstream	9.7	710.67
Ill. Highway 83, right bank at downstream wingwall	9.7	709.98
Hinsdale, Jackson Street, right bank 8 ft upstream	9.7	709.35
Jackson Street, left bank 15 ft downstream	9.7	709.16
Strough Street, right bank 10 ft upstream	9.6	708.36
Strough Street culvert, downstream headwall	9.6	707.74
Quincy Street, right bank 15 ft upstream	9.6	707.04
Quincy Street, right bank 10 ft downstream	9.6	705.32
6th and Brunes Street, left bank 150 ft upstream	9.5	704.83
Adams Street, left bank 8 ft upstream	9.4	705.08
Adams Street, left bank 10 ft downstream	9.4	704.75
4th and Bodin Streets, right bank 50 ft upstream	9.3	700.69
Monroe Street, left bank 20 ft upstream	9.2	697.85
Monroe Street, right bank 25 ft downstream	9.2	697.50
Madison Street, right bank 100 ft downstream	9.1	695.76
Clay Street culvert, left upstream end of handrail	9.0	695.08
Clay Street, left bank 15 ft downstream	9.0	693.96
Hinsdale Avenue, right bank 5 ft upstream	8.9	693.51
Hinsdale Avenue culvert, downstream handrail	8.9	693.29
Northeast corner of garage near C. B. & Q.RR.,-	8.8	692.34
Elm Street, left bank 8 ft upstream	8.1	673.11
Elm Street, left bank 100 ft downstream	8.1	670.96
Walnut Street culvert, left upstream wingwall	8.0	667.02
Walnut Street, left bank 75 ft downstream	8.0	663.90
Oak Street, left bank 15 ft upstream	7.9	662.44
Oak Street culvert, downstream headwall	7.9	661.72
County Line Road culvert, left upstream abutment	7.7	653.91
County Line Road culvert, downstream headwall	7.7	652.20
Western Springs, 47th Street, right bank 75 ft upstream	7.3	644.77
47th Street, right bank 25 ft downstream	7.3	644.49
55th Street culvert, left upstream abutment	6.1	644.99
55th Street culvert, left downstream abutment	6.1	644.02
Plainfield Road culvert, left upstream abutment	5.1	641.20
Plainfield Road culvert, right downstream abutment	5.1	641.23
U. S. Highway 66, left bank 25 ft upstream	4.2	636.23
U. S. Highway 66, right bank 100 ft downstream	4.2	635.27
Wolf Road bridge, right upstream guardrail	3.9	634.23
Wolf Road bridge, left downstream guardrail	3.9	633.69
71st Street, left bank 15 ft upstream	3.9	633.40
71st Street bridge, left downstream wingwall	3.9	632.72
Willow Springs, 79th Street bridge, right upstream wingwall	2.8	623.95
79th Street, left bank 10 ft downstream	2.8	623.57
Wolf Road bridge, right upstream wingwall	2.6	621.72
Wolf Road bridge, right downstream wingwall	2.6	621.54
Private road, left bank 25 ft upstream	2.5	620.69
Private road bridge, left downstream abutment	2.5	620.33
Private road, left bank 10 ft upstream	2.4	618.13
Private road, right bank 25 ft downstream	2.4	617.85
German Church Road, upstream left bank, USGS gage	2.3	616.52
German Church Road, right bank 50 ft downstream	2.3	615.98
91st Street bridge, right upstream wingwall	.9	599.68
91st Street bridge, right downstream abutment	.9	599.33
Private road bridge, right upstream abutment	.4	595.22
Private road, right bank 25 ft downstream	.4	594.92
A. T. & S. F. Ry., left bank 10 ft upstream	.4	595.11
A. T. & S. F. Ry., left bank 10 ft downstream	.4	594.87
North Branch Chicago River:		
Deerfield, County Line Road, USGS gage	28.6	647.96
Northbrook, Dundee Road bridge, right upstream wingwall	27.4	643.39
Schermer Road, left bank 50 ft upstream	27.3	643.35
Schermer Road, left bank 30 ft downstream	27.3	643.15
Sunset Ridge Road, left bank 40 ft upstream	25.7	635.51
Sunset Ridge Road bridge, left downstream abutment	25.7	635.25
Meadowbrook Lane, right bank 25 ft upstream	25.3	633.00
Meadowbrook Lane, right bank 20 ft downstream	25.3	632.99
Sunset Drive, right bank 30 ft upstream	25.1	632.90
Sunset Drive, right bank 20 ft downstream	25.1	632.50
Northfield, Middle Fork Road, left bank 50 ft upstream	24.5	629.05
Middle Fork Road, left bank 30 ft downstream	24.5	628.95
Old Willow Road, power pole upstream right bank	24.2	626.77
Old Willow Road bridge, right downstream abutment	24.2	626.83
New Willow Road bridge, left upstream abutment	23.9	624.43
New Willow Road bridge, left downstream abutment	23.9	624.42
Winnetka Road, right bank 100 ft upstream	23.3	623.00
Winnetka Road, right bank downstream	23.3	622.57

Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN--Continued		
North Branch Chicago River--continued:		
Wilmette, mouth of Skokie River	22.9	--------
Lake Ave. bridge, left upstream wingwall	22.1	620.43
Lake Ave. bridge, left downstream wingwall	22.1	620.25
Glenview, Glenview Road bridge, right upstream wingwall	21.2	620.27
Glenview Road bridge, right downstream wingwall	21.2	620.26
Morton Grove, Simpson Street, (Golf Road) bridge, left upstream wingwall	19.9	617.46
Simpson Street (Golf Road) bridge, right downstream wingwall	19.9	617.41
Church Street, wall on right bank upstream	19.1	617.36
Church Street, power pole on left bank downstream	19.1	617.01
Dempster Street bridge, right upstream wingwall	19.1	617.95
C. M. & St. P. RR., bridge, right upstream wingwall	18.2	616.46
C. M. & St. P. RR., bridge, right downstream pier	18.2	615.34
Oakton Street bridge, right upstream wingwall	16.9	614.04
Oakton Street bridge, right downstream wingwall	16.9	613.90
Caldwell Street bridge, left upstream wingwall	16.9	614.38
Caldwell Street bridge, left downstream wingwall	16.9	613.88
Niles, Howard Street bridge, upstream wingwall	16.2	612.10
Howard Street, gold green left bank downstream	16.2	611.55
Touhy Avenue, left bank 30 ft upstream	15.6	610.96
Touhy Avenue, downstream right bank, USGS gage	15.6	611.00
West Fork of North Branch Chicago River:		
Northbrook, Lake-Cook County Road, right bank 100 ft upstream	9.1	646.90
Lake-Cook County Road bridge, right downstream wingwall	9.1	647.45
Dundee Road (Ill. Highway 68), upstream left bank, USGS gage	7.9	646.16
C. M. & St. P. RR., bridge, right upstream wingwall	7.2	643.08
C. M. & St. P. RR., right bank 75 ft downstream	7.2	642.47
Schermer Road, right bank 20 ft upstream	7.0	640.25
Schermer Road bridge, right downstream wingwall	7.0	640.46
Walters Road bridge, left upstream wingwall	6.9	638.20
Walters Road, right bank 15 ft downstream	6.9	639.02
C. & N. W. Ry. bridge, inside face of bridge left bank upstream	5.9	633.60
C. & N. W. Ry., left bank downstream	5.9	633.54
Techny Road bridge, left upstream wingwall	5.9	633.05
Techny Road, left bank 25 ft downstream	5.9	632.88
Willow Road bridge, left upstream wingwall	5.0	629.37
Willow Road bridge, right downstream wingwall	5.0	629.75
West Lake Road bridge, left upstream wingwall	3.5	626.07
West Lake Road, right bank 25 ft downstream	3.5	625.85
Glenview, Glenview Road, left bank 50 ft upstream	2.2	620.67
Glenview Road bridge, right downstream wingwall	2.2	621.37
Waukegan Road, left bank 100 ft upstream	2.1	620.91
Waukegan Road, right bank 15 ft downstream	2.1	620.91
Morton Grove, Simpson Street (Golf Road) bridge, right upstream wingwall	.3	617.90
Simpson Street (Golf Road) bridge, left downstream wingwall	.3	617.51
Convent Creek:		
Lemont, Walker Road culvert, sec. 22, T. 37 N., R. 11 E., left bank 50 ft upstream	.6	635.67
Walker Road culvert, right bank 25 ft downstream	.6	633.47
Walker Road bridge, left bank 30 ft upstream	.5	629.08
Walker Road bridge, right bank 25 ft downstream	.5	625.28
Chicago-Joliet Road bridge, right upstream wingwall	.3	609.58
Chicago-Joliet Road, right bank 10 ft downstream	.3	609.07
G. M. & O. RR., right bank 100 ft upstream	.2	601.93
G. M. & O. RR., right bank 30 ft downstream	.2	600.89
Long Run - Ill. and Mich. Canal:		
Lemont, Will-Cook County road culvert, sec. 1, T. 36 N., R. 11 E., right upstream wingwall	11.1	684.73
Will-Cook County road, left bank 20 ft downstream	11.1	684.92
Bell Road bridge, left upstream wingwall	9.8	676.01
Bell Road, right bank 25 ft downstream	9.8	675.75
Parker Road, left bank 50 ft upstream	8.6	669.47
Parker Road, left bank 200 ft downstream	8.6	669.03
Cedar Road, left bank 125 ft upstream	7.4	661.74
Cedar Road, left bank 150 ft downstream	7.4	661.18
State Street, downstream left bank, USGS gage	5.4	647.01
Archer Avenue (Ill. Highway 4A), left bank 25 ft upstream	5.1	644.98
Farm lane, right bank 15 ft upstream	5.0	641.70
Farm lane, right bank 30 ft downstream	5.0	640.90
Abandoned road (750 ft downstream from Ill. Highway 4A), 20 ft upstream	5.0	640.18
Smith Road, right bank 8 ft upstream	3.8	631.87
Smith Road, right bank 16 ft downstream	3.8	631.08
Lockport, Gravel road, right bank upstream	1.9	602.58
Gravel road bridge, right upstream wingwall	1.9	600.87
Gravel road, right bank 150 ft downstream	1.9	598.43
Chicago-Joliet Road, right bank 150 ft upstream	1.7	592.04
G. M. & O. RR., left bank upstream	1.6	591.62
G. M. & O. RR., left bank 50 ft downstream	1.6	590.80

Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN--Continued		
Fiddyment Creek:		
Lockport, Gravel road, sec. 13, T. 36 N., R. 10 E., left bank 20 ft upstream	.9	624.45
Gravel road culvert, right downstream headwall	.9	622.40
Hamilton Street, left bank 15 ft upstream	.4	600.61
Hamilton Street, right bank 150 ft downstream	.4	598.29
Ill. Highway 4A, left bank 20 ft upstream	.3	592.25
Ill. Highway 4A, right bank 25 ft downstream	.3	591.09
G. M. & O. RR., right bank 20 ft upstream	.3	589.31
G. M. & O. RR.,bridge, right upstream pier	.3	589.43
Milne Creek:		
Lockport, Gravel lane culvert, sec. 25, T. 36 N., R. 10 E., right upstream end	2.2	665.45
Division Street, right bank 20 ft upstream	1.9	656.89
Division Street, right bank 20 ft downstream	1.9	656.28
Culvert, grass line on tree upstream	1.7	650.14
Culvert, 20 ft upstream	1.7	649.95
11th Street, left bank 75 ft upstream	1.2	637.90
11th Street, right bank 8 ft downstream	1.2	637.07
Ill. Highway 7, right bank 30 ft upstream	.9	629.84
Ill. Highway 7, left bank 2 ft downstream	.9	629.46
Madison Street, left bank 20 ft upstream	.5	617.12
Madison Street, left bank 20 ft downstream	.5	616.64
7th Street, right bank 25 ft upstream	.4	612.17
Jefferson Street, 100 ft upstream	.4	609.64
Jefferson Street bridge, right downstream wingwall	.4	607.26
Jefferson Street, left bank 100 ft downstream	.4	606.61
Hamilton Street culvert, left upstream wingwall	.2	595.24
Hamilton Street, left bank 25 ft downstream	.2	593.81
State Street bridge, right upstream abutment	.1	586.59
G. M & O. RR., left bank 100 ft upstream	0	583.27
G. M. & O. RR., left bank 30 ft downstream	0	581.13
G. M. & O. RR., left bank 150 ft downstream	0	581.21
Fraction Run:		
South Lockport, Gravel road, sec. 26, T. 36 N., R. 10 E., right bank 5 ft upstream	1.9	638.77
Gravel road, left bank 20 ft downstream	1.9	638.21
Lawrence Street, right bank 6 ft upstream	1.1	623.90
Lawrence Street, right bank 10 ft downstream	1.1	622.55
Dellwood Park, foot bridge, right bank 15 ft upstream	.5	603.21
Foot bridge, right bank 75 ft downstream	.5	603.11
Stone arch bridge, right bank 50 ft upstream	.1	589.76
Stone arch bridge, left bank 100 ft downstream	.1	589.25
Dam, left bank 150 ft upstream	.1	588.86
Ill. Highway 4A bridge, left downstream abutment	.1	571.06
Ill. Highway 4A, left bank 50 ft downstream	.1	569.83
G. M. & O. RR.,bridge, left upstream wingwall	0	569.95
Spring Creek:		
Joliet, Cass Street, left bank 75 ft downstream	.5	544.92
N. Y. C. RR.,bridge, right upstream end	.3	543.47
N. Y. C. RR., right bank 20 ft downstream	.3	542.70
Washington Street, right bank 15 ft upstream	.3	541.66
Washington Street, left bank 25 ft downstream	.3	541.97
West Branch Du Page River (head of Du Page River):		
Wayne Center, Army Trail Road, sec. 14, T. 40 N, R. 9 E., left bank upstream	24.1	737.22
Army Trail Road, right bank 50 ft downstream	24.1	736.84
St. Charles Road, left bank 100 ft upstream	21.6	728.54
St. Charles Road, right bank 75 ft downstream	21.6	728.22
Ill. Highway 64, right bank 20 ft upstream	21.5	727.50
Ill. Highway 64, right bank 16 ft downstream	21.5	727.54
C. & G. W. Ry., right bank 10 ft upstream	21.0	723.98
C. & G. W. Ry., right bank 30 ft downstream	21.0	723.50
C. A. & E. Ry., right bank 12 ft upstream	20.7	723.53
C. A. & E. Ry. bridge, right downstream wingwall	20.7	723.63
Geneva Road, left bank upstream, corner fence post	19.3	717.99
Geneva Road, left bank 10 ft downstream	19.3	717.99
Winfield, Winfield-West Chicago Road, right bank upstream	17.9	713.67
Winfield-West Chicago Road bridge, left downstream wingwall	17.9	713.00
C. & N. W. Ry., 50 ft downstream	17.9	713.13
Beecher Street, right bank 8 ft upstream	17.8	712.88
Beecher Street, right bank downstream	17.8	712.82
U. S. Highway 30 Alt., right bank upstream	15.2	705.29
U. S. Highway 30 Alt. bridge, right downstream wingwall	15.2	705.08
Gray Mill Road, right bank upstream	15.0	704.95
Gray Mill Road, right bank 4 ft downstream	15.0	704.31

Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN--Continued		
West Branch Du Page River (head of Du Page River)--Continued		
Mack Road, right bank 10 ft upstream	13.6	700.63
Mack Road, right bank 40 ft downstream	13.6	699.93
Warrenville, North William Street, right bank 40 ft upstream	12.4	697.37
North William Street bridge, right downstream wingwall	12.4	696.90
Ill. Highway 55, right bank 130 ft upstream	11.7	694.97
Ill. Highway 55, right bank 100 ft downstream	11.7	694.69
C. A. & E. Ry., right bank 35 ft downstream	11.7	694.39
Warrenville Dam, island 50 ft upstream	11.2	694.13
Warrenville Dam, island 12 ft downstream	11.2	692.99
Warrenville Road (Aurora Street), right bank 100 ft upstream	10.9	691.58
Warrenville Road (Aurora Street), right bank 20 ft downstream	10.9	691.19
McDowell Grove foot bridge, left bank 30 ft upstream	8.9	683.62
McDowell Grove foot bridge, left bank 45 ft downstream	8.9	682.87
McDowell Grove Dam, right bank 35 ft upstream	8.8	682.77
McDowell Grove Dam, right bank 20 ft downstream	8.8	682.08
Naperville, U. S. Highway 34, right bank 10 ft upstream	7.7	680.20
U. S. Highway 34, right bank 15 ft downstream	7.7	679.70
C. B. & Q. RR., left bank 180 ft upstream	7.4	679.13
C. B. & Q. RR., left bank 20 ft downstream	7.4	677.97
South Eagle Street foot bridge, left bank 150 ft upstream	6.1	671.07
South Eagle Street foot bridge, left bank 60 ft downstream	6.1	670.77
South Main Street, right bank 60 ft upstream	5.9	670.17
South Main Street, right bank 40 ft downstream	5.9	669.99
South Washington Street (Ill. Highway 65), right bank 20 ft upstream	5.8	669.70
South Washington Street (Ill. Highway 65), right bank 20 ft downstream	5.8	669.30
Foot bridge (Pioneer Park), left bank 30 ft upstream	4.2	658.44
Foot bridge (Pioneer Park), left bank 10 ft downstream	4.2	658.25
Hobson Road, left bank 30 ft upstream	3.9	656.13
Hobson Road, left bank 40 ft downstream	3.9	656.22
Gravel road, right bank 30 ft upstream	3.2	651.53
Gravel road, right bank 10 ft downstream	3.2	651.52
Dam and ford, right bank 10 ft upstream	2.2	645.51
Dam and ford, right bank 130 ft downstream	2.2	645.44
Naperville Road, left bank 40 ft upstream	1.6	641.25
Naperville Road bridge, left downstream wingwall	1.6	640.99
East Branch Du Page River:		
Glen Ellyn, North Avenue (Ill. Highway 64), left bank 20 ft upstream	21.1	696.35
North Avenue (Ill. Highway 64), left bank 30 ft downstream	21.1	695.72
C. & G. W. Ry., right bank 25 ft upstream	20.3	694.85
C. & G. W. Ry., right bank 100 ft downstream	20.3	694.79
St. Charles Road, left bank 20 ft upstream	20.0	689.58
St. Charles Road, left bank 30 ft downstream	20.0	689.47
Crescent Boulevard, left bank 18 ft upstream	19.1	688.77
Crescent Boulevard, left bank 8 ft downstream	19.1	688.44
Lombard, Lombard Street, left bank 80 ft upstream	19.0	687.98
Lombard Street, left bank 50 ft downstream	19.0	687.75
C. A. & E. Ry., upstream toe of fill	18.9	687.48
C. A. & E. Ry., left bank 70 ft downstream	18.9	687.25
Ill. Highway 53, right bank 40 ft upstream	17.6	683.80
Ill. Highway 53, right bank 30 ft downstream	17.6	683.73
U. S. Highway 30 Alt. bridge, right upstream abutment	17.1	683.06
U. S. Highway 30 Alt. bridge, left downstream abutment	17.1	683.02
Ill. Highway 55, left bank 70 ft upstream	15.0	677.36
Ill. Highway 55, left bank 60 ft downstream	15.0	676.78
White Oak Farm road, left bank 12 ft upstream	14.4	674.13
White Oak Farm road, right bank 5 ft downstream	14.4	673.84
Ill. Highway 53, left bank 4 ft upstream	13.3	671.58
Ill. Highway 53, left bank 30 ft downstream	13.3	671.09
Simonds Drive, left bank 35 ft upstream	13.1	671.01
Simonds Drive, left bank 80 ft downstream	13.1	670.78
Morton Arboretum foot bridge, left bank 10 ft upstream	12.8	670.05
Morton Arboretum foot bridge, left bank 20 ft downstream	12.8	670.27
Lisle, Warrenville Road, right bank 5 ft upstream	12.5	667.87
Warrenville Road, right bank 20 ft downstream	12.5	667.51
Ogden Avenue (U. S. Highway 34), left bank 20 ft upstream	11.9	666.73
Ogden Avenue (U. S. Highway 34), left bank 30 ft downstream	11.9	666.28
Burlington Avenue, left bank 60 ft upstream	11.7	665.51
Burlington Avenue, left bank 40 ft downstream	11.7	665.38
C. B. & Q. RR., left bank 60 ft upstream	11.6	664.51
C. B. & Q. RR., left bank 60 ft downstream	11.6	664.07
Maple Avenue bridge, upstream end	10.9	661.30
Maple Avenue, left bank 70 ft downstream	10.9	660.78
Woodridge Golf Course road, left bank upstream	9.8	657.63
Woodridge Golf Course road, left bank 10 ft downstream	9.8	657.67
Hobson Road, right bank 20 ft upstream	9.0	655.95
Hobson Road, left bank 40 ft downstream	9.0	655.64
Barbers Corners, Barbers Corners Road, left bank 80 ft upstream	6.0	647.28
Barbers Corners Road, left bank 10 ft downstream	6.0	647.11
Naperville Road, left bank 50 ft upstream	2.0	635.92
Naperville Road, left bank 50 ft downstream	2.0	635.78
Confluence with West Branch, 200 ft upstream	0	632.27

Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
DES PLAINES RIVER BASIN--Continued		
Du Page River:		
Naperville, Confluence of West Branch and East Branch	27.6	632.22
Confluence of West Branch and East Branch, 300 ft downstream	27.6	631.17
Gravel road, sec. 13, T. 37 N., R. 9 E., left bank 30 ft upstream	26.1	625.39
Gravel road, left bank downstream	26.1	625.29
German Lutheran School Road, left bank 50 ft upstream	25.1	621.18
German Lutheran School Road bridge, left downstream wingwall	25.1	620.56
Spaulding School Road, right bank 40 ft upstream	24.0	617.10
Spaulding School Road, right bank 40 ft downstream	24.0	616.66
Tamrack Road, left bank 50 ft upstream	22.9	614.80
Tamrack Road, left bank 50 ft downstream	22.9	614.35
Gravel road, sec. 34, T. 37 N., R. 9 E., left bank upstream	21.7	611.63
Gravel road, left bank 12 ft downstream	21.7	611.33
Plainfield, Ill. Highway 59, left bank 10 ft upstream	19.9	605.09
Ill. Highway 59, left bank 75 ft downstream	19.9	604.38
E. J. & E. Ry., left bank 60 ft upstream	19.8	604.46
U. S. Highway 30, left bank 200 ft upstream	19.2	602.16
U. S. Highway 30, left bank 100 ft downstream	19.2	601.69
Gravel road, sec. 20, T. 36 N., R. 9 E., left bank 40 ft upstream	17.8	597.80
Gravel road bridge, left downstream wingwall	17.8	597.39
U. S. Highway 66, left bank 12 ft upstream	15.3	593.41
U. S. Highway 66, left bank 12 ft downstream	15.3	592.55
VanHorn Road, left bank 30 ft upstream	14.5	591.41
VanHorn Road, left bank downstream	14.5	591.17
Black Road bridge, left upstream wingwall	12.3	582.38
Black Road, left bank downstream	12.3	582.21
Troy, U. S. Highway 52, left bank 400 ft upstream, USGS gage	10.6	575.68
U. S. Highway 52 bridge, right upstream wingwall	10.5	574.81
U. S. Highway 52, left bank 12 ft downstream	10.5	574.79
U. S. Highway 66, left bank 12 ft upstream	10.3	572.76
U. S. Highway 66, left bank 10 ft downstream	10.3	572.46
Center School Road bridge, upstream wingwall	9.2	564.73
Center School Road, right bank 2 ft downstream	9.2	563.90
Englesman School Road, left bank 20 ft upstream	7.9	557.15
Englesman School Road, left bank downstream	7.9	555.68
C. R. I. & P. RR., upstream toe of fill	5.9	544.29
C. R. I. & P. RR., left bank 25 ft downstream	5.9	544.20
C. R. I. & P. RR., right bank 300 ft downstream	5.9	540.26
Abandoned railroad, right bank upstream	5.8	539.11
Link School Road, right bank 7th fence post upstream	5.6	536.65
Link School Road bridge, right downstream abutment	5.6	536.63
Dirst Road, right bank 40 ft upstream	3.4	526.84
Dirst Road, right bank 100 ft downstream	3.4	526.60
U. S. Highway 6, right bank 5 ft upstream	1.4	521.99
U. S. Highway 6, right bank 20 ft downstream	1.4	521.72
Channahon, Ill. and Mich. Canal Lock 6, left bank 40 ft upstream	1.0	521.75
Channahon Pool waste-gage bridge, right upstream wingwall	1.0	521.72
Ill. and Mich. Canal Lock 6, left bank 50 ft downstream	1.0	514.15
Ill. and Mich. Canal Lock 7, downstream 250 ft right of right bank	1.0	515.99
Old U. S. Highway 6, right bank 15 ft upstream	.9	515.04
Old U. S. Highway 6, right bank 10 ft downstream	.9	514.57
FOX RIVER BASIN		
Fox River:		
St. Charles Dam, left bank 100 ft upstream	60.7	687.97
St. Charles Dam, left bank 10 ft downstream	60.7	681.66
Geneva, proposed dam site 11, left bank	59.4	679.52
Geneva, proposed dam site 11, left bank 50 ft downstream	59.4	679.31
Geneva Dam, left bank 200 ft upstream	58.7	678.45
Geneva Dam, left bank 100 ft downstream	58.7	673.08
Batavia, proposed dam site 13, 120 ft upstream	57.4	668.58
Batavia, proposed dam site 13, 50 ft downstream	57.4	668.02
Batavia Dam, left bank upstream	56.3	666.83
Batavia Dam, right bank 200 ft downstream	56.3	662.00
Mooseheart, proposed dam site 15, 10 ft upstream	54.3	653.60
Mooseheart, proposed dam site 15, 50 ft downstream	54.3	653.40
North Aurora Dam, right bank 50 ft upstream	52.6	648.89
State Street (Ill. Highway 55), right bank 20 ft upstream	52.5	644.66
State Street (Ill. Highway 55), right bank 20 ft downstream	52.5	644.68
Proposed dam site 17, right bank	51.5	638.14
Proposed dam site 17, left bank	51.5	637.84
Aurora, Illinois Avenue bridge, right upstream abutment	49.8	634.64
Illinois Avenue, right bank 70 ft downstream	49.8	634.39
New York Street (Ill. Highway 65), right bank 120 ft upstream	49.0	632.31
New York Street (Ill. Highway 65), right bank 50 ft downstream	49.0	632.19
Dam, left channel, right end	48.9	631.65
Main Street (U. S. Highway 30) bridge, (left channel) left downstream face	48.9	628.54
Galena Boulevard (U. S. Highway 30) bridge, (right channel) upstream face	48.9	629.00
Fox Street bridge, (left channel) right upstream retaining wall	48.8	628.50
Downer Place bridge, (right channel) right upstream retaining wall	48.8	627.82
Benton Street (left channel), right bank 130 ft upstream	48.7	627.19

Table 4.--Flood-crest stages, Illinois River basin--Continued

Stream and location	Miles above mouth	Oct. 1954 elevation (feet)
FOX RIVER BASIN--Continued		
Fox River--continued:		
Holbrook Street (left channel), right bank 40 ft downstream	48.7	626.40
North Avenue bridge, (right channel) right upstream arch	48.3	626.16
North Avenue (right channel), right bank 40 ft downstream	48.3	625.86
C. B. & Q. RR., right bank 40 ft upstream	48.0	624.12
C. B. & Q. RR., right bank 40 ft downstream	48.0	624.08
E. J. & E. Ry., right bank 90 ft upstream	47.6	620.07
E. J. & E. Ry., right bank 60 ft downstream	47.6	620.12
Montgomery, Mill Street bridge, left upstream arch	46.4	616.92
Mill Street bridge, left downstream arch	46.4	617.01
C. B. & Q. RR., 500 ft upstream	45.3	613.14
C. B. & Q. RR., right bank 60 ft downstream	45.3	611.66
Sewage disposal plant, right bank	43.7	611.20
Oswego, U. S. Highway 34 bridge, left upstream wingwall	43.0	601.38
U. S. Highway 34, left bank 15 ft downstream	43.0	601.07
Proposed dam site 23, 20 ft upstream	41.4	594.62
Proposed dam site 23	41.4	594.76
Proposed dam site 24, right bank 180 ft upstream	39.9	592.89
Proposed dam site 24, right bank 120 ft upstream	39.9	593.08
Yorkville, proposed dam site 25, left bank 900 ft upstream from Morgan Creek	38.4	584.26
Yorkville Road (Ill. Highway 47), right bank 40 ft upstream	36.3	578.25
Yorkville Road (Ill. Highway 47), right bank 100 ft downstream	36.3	578.20
Plano Road, left bank 120 ft upstream	31.4	572.97
Plano Road, left bank 20 ft downstream	31.4	572.72
Millhurst Dam, right bank 480 ft upstream	30.3	569.25
Dam, left bank 470 ft upstream	30.3	569.64
Dam, left bank 830 ft downstream	30.3	567.99
Dam, right bank 835 ft downstream	30.3	567.91
Millbrook, Millbrook Road, right bank 500 ft upstream	29.0	564.79
Millbrook Road, right bank 100 ft downstream	29.0	564.73
Millington, Millington Road, right bank 100 ft upstream	25.6	557.84
Millington Road, right bank 10 ft downstream	25.6	556.78
Sheridan, North Sheridan Road bridge, left upstream end on handrail	20.4	549.68
North Sheridan Road, left bank 60 ft downstream	20.4	549.48
Sheridan Road bridge, left upstream abutment	19.4	546.53
Sheridan Road, left bank 30 ft downstream	19.4	546.57
C. B. & Q. RR., left bank 3d group pilings upstream	19.3	546.06
C. B. & Q. RR., left bank 75 ft downstream	19.3	545.62
Serena Road (U. S. Highway 52) bridge, right upstream abutment	15.7	535.58
Serena Road (U. S. Highway 52) bridge, right downstream side	15.7	535.64
Wedron, C. B. & Q. RR., bridge over Indian Creek, 60 ft upstream	9.5	519.38
C. B. & Q. RR., bridge over Indian Creek, upstream in piling	9.5	519.14
Wedron Road, left bank 200 ft upstream	8.8	514.48
Wedron Road, left bank 140 ft downstream	8.8	514.22
Sulphur Springs, left bank, St. Joseph Health Resort	8.1	511.64
Dayton, Dam, left bank 170 ft upstream	5.7	506.20
Dam, left bank 130 ft upstream	5.7	506.34
Dam, right end at bank	5.7	506.06
Right bank in power-plant tailwater, USGS gage	5.6	486.93
Dayton Road, right bank 30 ft upstream	5.4	487.13
Dayton Road, right bank 6 ft downstream	5.4	486.63
Ottawa, U. S. Highway 6 bridge, right upstream abutment	1.3	472.79
U. S. Highway 6 bridge, right downstream abutment	1.3	472.79
C. R. I. & P. RR., left bank 40 ft upstream	1.2	471.72
C. R. I. & P. RR., left bank 60 ft downstream	1.2	471.46
Ill. and Mich. Canal (aqueduct), right bank 70 ft upstream	1.1	471.50
Ill. and Mich. Canal (aqueduct), right bank 3 ft downstream	1.1	471.40
Main Street, left bank 100 ft upstream	.2	468.21
Main Street, left bank 100 ft downstream	.2	468.22

generalized comparisons. 3/ The report points out that, for the 1943 flood, there were no stations for which the recurrence interval appears to be much in excess of 100 years and only a few stations in excess of 50 years. As the curves of that report indicate the recurrence interval of the 1954 flood of the Du Page River at Troy appears to be about 80 years and for Hickory Creek at Joliet and the Fox River at Dayton in excess of 100 years.

3/ Mitchell, W. D., 1954, Floods in Illinois; magnitude and frequency, Ill. Dept. Public Works and Buildings, Div. of Waterways, Springfield, Ill.

Flood-frequency curves have been developed for a few other stations within the area covered by the present report, but the drainage areas for these stations are generally outside the region of high precipitation, so that the crest discharges were not unusually high. For the several stations in small drainage areas that are located within the region of high precipitation (such as those tributary to the Little Calumet River), the periods of record are so short that no magnitude-frequency relations have yet been developed. However, for several of these small areas, the basin lag has been computed from observed hydrographs. Assuming that climatological factors for these areas are similar to those that have been derived and published for the adjacent Wheaton morainal region, the probable recurrence interval may be estimated from the observed values of lag. Such estimates indicate that the recurrence interval of the 1954 flood may be in excess of 100 years, for at least a few of the small gaged drainage areas tributary to Little Calumet River and Long Run near Lemont. At one of these small drainage areas, Thorn Creek at Thornton, the crest discharge of the October 1954 flood has been exceeded twice during the 8 years of record. According to this information, the recurrence interval at Thornton appears to be only a few years; otherwise it is necessary to assume that three very unusual floods have occurred within 8 years of record. A reliable estimate of recurrence interval in this section of the flood area must be postponed until records are available for a longer period.

COMPARISONS AND OTHER INTERESTING FEATURES

There are few long-term records at the stations in Illinois for comparison of flood peaks. The longest term record is at the Des Plaines River at Riverside, for which monthly mean discharges are published back to 1886 in State reports. At Riverside the peak of this flood (6,340 cfs) has been equaled or exceeded 4 times since 1914:

Year	Discharge (cfs)
1950	6, 340
1948	6, 510
1919	7, 450
1916	6, 480

The Fox River at Dayton, Ill., for which record is available since 1915, exceeded the previously recorded maximum discharge by 60 percent as previously mentioned. This flood (47, 100 cfs) greatly exceeded all others during its period of record:

Year	Discharge (cfs)
1950	20,600
1948	29,000
1938	23,100
1937	20,100

Ice jams have caused higher stages than the 24.63 feet recorded for this flood, notably on January 30, 1952 and March 8, 1943, when stages of 32.04 feet and 31.70 feet were reached respectively.

In the Little Calumet River basin in Illinois, the flood is comparable to the previous maxima of 1947 and 1948. The flood of March 1948 was greater than this flood except in the drainage area of the upper Thorn and Butterfield Creeks. The 1947 flood was slightly higher than that of 1948 at Thorn Creek at Thornton. The comparison between flood-crest stages in 1954 and 1947 in the Little Calumet River basin is given in table 2. It will be noted that the 1954 stages are highest in the Indiana part of the basin.

Although discharges in this flood were exceeded by the floods in 1947 and 1948 it is important to note that at the gaging stations in the Little Calumet River basin in Illinois the stages in 1954 were the highest on record with the exception of Deer Creek near Chicago Heights. Since damage resulted more from inundation (a function of stage) rather than from rate of discharge, the flood is a more significant event than a study of recurrence intervals (based on the usual criterion of magnitude of peak discharge) would indicate. The reason underlying this condition of having less discharge but a greater stage than previously known, all substantiated by discharge measurements, is not clear. Measurements made at lower flows after this flood showed no great change in the stage-discharge relation. Flood-crest elevations referred to mean sea level indicated little possibility of backwater from downstream tributaries. Previous floods have occurred early in the spring prior to growth of vegetation. After this flood field men reported a heavy growth of weeds and underbrush along the banks and particularly in overbank sections at many points within the basin. This is believed to be at least a contributing factor.

Runoff for the month of October varied greatly. Totals were very high especially in the area of highest peak discharge per square mile, the maximum October runoff was 9.04 inches on Long Run. Tinley Creek was second highest with 8.87 inches; Little Calumet River at Porter, Ind., 7.59 inches; Flag Creek, 7.15 inches; Midlothian Creek, 6.44 inches; and Yellow River at Plymouth, Ind.,

6.42 inches. Lansing ditch, North Creek, and the Du Page River at Troy, Ill., all had runoff in excess of 5 inches. There is some degree of uncertainty whether the discharge computed for Lansing ditch included all the flow from the drainage area. It is known that there was some merging of basin and interbasin flow on the right bank.

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