Physical Characteristics of Stream Subbasins in the North Fork Crow-Crow River Basin, South-Central Minnesota

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Abstract

Data that describe the physical characteristics of stream subbasins upstream from selected sites on streams in the North Fork Crow-Crow River Basin, located in south-central Minnesota are presented in this report. The physical characteristics are the drainage area of the subbasin, the percentage area of the subbasin covered only by lakes, the percentage area of the subbasin covered by both lakes and wetlands, the main-channel length, and the main-channel slope. Stream sites include outlets of subbasins of at least 5 square miles, and locations of U.S. Geological Survey low-flow, high-flow, and continuous-record gaging stations.

Introduction

This is the 14th report in a series detailing subbasin characteristics of streams in Minnesota and adjacent states. The North Fork Crow-Crow River Basin drains an area of 1,480 square miles and is represented by hydrologic accounting unit 07010204 (U.S. Geological Survey, 1974). The North Fork Crow-Crow River Basin includes parts of Carver, Hennepin, Kandiyohi, Meeker, Mc Leod, Pope, Stearns, and Wright Counties in south-central Minnesota.

Selected data for sites on streams at outlets of subbasins larger than about 5 square miles; at locations of U.S. Geological Survey (USGS) low-flow, high-flow, and continuous-record gaging stations located in the North Fork Crow-Crow River Basin are presented in this report. This report was prepared in cooperation with the Minnesota Department of Transportation.

Acknowledgments

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Methods

USGS 7-1/2 minute series topographic maps were used as source maps to obtain the areas for the subbasin boundaries, the main-channel length, and the contour elevation points used in this report. Paper copies of the maps were used. Lake and marsh data were obtained from U.S. Fish and Wildlife Service National Wetlands Inventory Data (U.S. Fish & Wildlife Service, 1981-present). A geographic information system (GIS) was used to define the geographic location and extent of the subbasins, lakes, marshes, main-channels, and elevation points. Data digitized from paper copies were in error by no more than twice the horizontal accuracy of National Mapping Standards of 40 feet (Thompson, 1987, p. 104). All thematic (digitized) data were projected into an Albers Equal-Area projection for storage and analysis.

Subbasin boundaries were delineated on the basis of anthropogenic activities and topographic contours. Anthropogenic activities, such as the installation of storm sewers, the drainage of wetlands, and the diversion of streams, may alter the drainage area of a stream. Data from field inspections and recent drainage-ditch maps, therefore, were transferred to the topographic maps. The subbasin boundaries were digitized by the Minnesota Department of Natural Resources (DNR), and the USGS, Minnesota using a GIS.

Lake and marsh boundaries were overlaid on the subbasin boundaries to associate each lake and marsh with a subbasin. The total area of lakes and marshes within each subbasin was calculated by the GIS. Total marsh area plus total lake area is defined as storage area.

Main channels were delineated for each subbasin on the 7-1/2 minute topographic maps starting at the outflow of the subbasin and continuing upstream. Whenever the main channel joined with another stream, the stream upstream of the junction that drained the largest area was selected as the main channel. The main

channel, which represents the watercourse that drains the greatest area, is continuous and is defined as a single trace that passes through marshes, lakes, and midline of rivers and braided streams from the basin outlet to an endpoint in the basin, generally at the basin divide. The main channels were digitized by the Minnesota Department of Transportation, using a computer aided drafting system and transferred to the GIS. Stream extensions that represent a portion of the main channel from the end of the mapped stream (blue line on 7-1/2 minute topographic maps) to an endpoint within the basin, generally at the basin divide, were digitized by USGS Minnesota using a GIS. The main-channel data were overlaid onto the subbasin data to associate each main channel with its subbasin.

Elevation points were digitized at the intersection of topographic contour lines and main channels. The elevation data were digitized using a GIS. The elevation data was overlaid onto the main channel data to associate each elevation data point with a main channel. Two points on the main channel, at 10 percent and at 85 percent of the main channel length from the basin outlet to the drainage divide, were located by the GIS. The elevations of these two points were interpolated from the digitized elevation data. Main-channel slope was calculated by dividing the difference in elevation between these points by the distance along the stream channel between these points.

Physical Characteristics of North Fork Crow-Crow River Subbasins

Physical characteristics determined for each of the subbasins shown on plate 1 are presented in table 1. Subbasins are presented in order from headwaters to mouth. The rank of the subbasin stream is shown by indentation; whenever two subbasin streams joined, the stream draining the least cumulative area was assigned a lower rank and indented in the table.

The data for drainage area, and main-channel length are reported using three significant figures or rounded to the nearest one-hundredth of a unit. The data for lake area and storage area are reported using two significant figures or rounded to the nearest one-tenth of a percent. The data for main-channel slope is reported to the nearest one-tenth of a foot per mile.

The following is an explanation of the terms used in table 1:

Subbasin number. A seven digit number based on the Minnesota Common Stream and Watershed Numbering System (Minnesota Department of Natural Resources, 1981). The first two digits are 18 and identify the North Fork Crow-Crow River Basin. The following three digits are arbitrary and were assigned by the DNR. The last two digits were added by the USGS Minnesota, to identify additional subdivisions to the DNR's watersheds at locations of USGS gaging stations and to identify noncontributing areas.

Stream name. The name of the stream or ditch shown on 7-1/2 minute topographic maps. The relative position of the subbasin above other subbasins, streams, and gaging stations.

Outlet location. The U.S. Public Lands Survey System is used to describe the location where the stream exits the subbasin, down to quarter-quarter section. The description includes quarter-quarter section, section, township, and range.

Drainage area. That area, measured on a horizontal plane, enclosed by a topographic divide, within which direct surface runoff from precipitation normally flows by gravity into a watercourse above a specific point. This may include closed basins and other areas that do not contribute directly to surface runoff.

Lake area. The percentage of the drainage area labeled lacustrine (lakes) on U.S. Fish and Wildlife Service National Wetlands Inventory Data.

Storage area. The percentage of a drainage area labeled lacustrine (lakes) and palustrine (wetlainds)on U.S. Fish and Wildlife Service National Wetlands Inventory Data. Marsh areas shown on plate 1 are from USGS 1:100,000 Digtial Line Graph data 1993.

Main-channel length. The total length of the main channel from the basin outlet to a point within the basin (generally at the basin divide) representing the watercourse that drains the greatest area.

Main-channel slope. The average slope of the watercourse between the points at 10 and at 85 percent of the distance along the main-channel from the basin outlet to the drainage divide.

Stream extension. A representation of the main channel from the end of the mapped stream line (blue line on 7-1/2 minute topographic maps) to an endpoint within the basin, generally at the basin divide. This is done by interpreting topographic relief so the extension of the main channel represents the watercourse draining the greatest area.

References Cited

Minnesota Department of Natural Resources, 1981, The common stream and watershed numbering system: Minnesota Department of Natural Resources Stream Inventory and Data Retrieval Systems Report 7002, unpaged.

Thompson, M.M., 1987, Maps for America, 3d edition: U.S. Geological Survey, 265 p.

U.S. Geological Survey, 1974, Hydrologic unit map--1974 State of Minnesota: 1 plate, scale 1:500,000.

U.S. Fish & Wildlife Service, National Wetlands Inventory Digital Data: Oct. 1981 to present

Table 1.—Physical characteristic data for the North Fork Crow-Crow River Basin.

[All cities and towns are in Minnesota; --, not determined, Storage area is both lakes and wetlands]

Basin number	Stream name and location	Outlet location				By subbasin			Cumulative to mouth of basin				
		Quarter-quarter section	Section	Township	Range	Drainage area (square miles)	Lake area (percent of subbasin area)	Storage area (percent of subbasin area)	Drainage area (square miles)	Lake area (percent of total area)	Storage area (percent of total area)	Main channel length (miles)	Main channel slope (foot per mile)
	First Rank / Second Rank / Third Rank / Fourth Rank / Fifth Rank												
1808500	Grove Lake above outlet to North Fork Crow River	SE SW	26	125N	36W	14.5	5.0	24.5	14.5	5.0	24.5	7.95	2.2
1800100	North Fork Crow River above Judicial Ditch No. 1	NW SW	04	124N	35W	14.6	0.1	14.8	29.1	2.5	19.6	12.6	4.1
1800300	Judicial Ditch No.1 to North Fork Crow River	NW SW	04	124N	35W	14.6	0.0	11.1	14.6	0.0	11.1	9.82	5.9
1807102	North Fork Crow River above County Ditch No. 32	SW SE	15	124N	35W	4.56	0.0	11.4	48.3	1.5	16.3	15.8	4.9
1807200	County Ditch No. 32 to North Fork Crow River	SE SE	15	124N	35W	18.0	1.4	16.5	18.0	1.4	16.5	10.6	3.8
1807101	North Fork Crow River above Sedan Brook	SE SW	23	124N	35W	1.94	0.0	12.0	68.2	1.4	16.2	17.2	4.9
1800200	Sedan Brook to North Fork Crow River	SE SW	23	124N	35W	29.0	0.0	19.2	29.0	0.0	19.2	12.6	5.3
1807100	North Fork Crow River above County Ditch No. 7	NW SW	30	124N	35W	3.16	0.0	8.9	100.	1.0	16.8	19.6	4.8
1806900	County Ditch No. 7 to North Fork Crow River	NW SW	30	124N	35W	8.37	0.0	18.3	8.37	0.0	18.3	7.00	7.1
1806801	North Fork Crow River above County Ditch No. 7	SE SE	30	124N	34W	0.50	0.0	12.6	109.	0.9	16.9	20.5	4.8
1807000	County Ditch No. 7 to North Fork Crow River	SE SE	30	124N	34W	9.93	0.0	6.1	9.93	0.0	6.1	6.30	9.3
1806800	North Fork Crow River above Skunk River	NW SW	03	123N	34W	10.1	0.0	13.8	129.	0.8	15.8	24.0	4.6
1800400	Skunk River (County Ditch No. 29) to North Fork Crow River	NW SW	03	123N	34W	33.3	1.2	20.8	33.3	1.2	20.8	18.6	5.0
1806601	North Fork Crow River above gaging station near Georgeville: station number is **05275970**	SE SE	03	123N	34W	2.17	0.0	8.6	165.	0.8	16.7	25.4	4.7
1806700	Unnamed tributary to North Fork Crow River	NE SE	25	123N	34W	8.89	5.5	16.1	8.89	5.5	16.1	8.46	5.4
1806600	North Fork Crow River above unnamed tributary subbasin 1806500	NW SE	25	123N	34W	16.5	0.0	16.9	190.	1.0	16.7	31.4	4.6
1806500	Unnamed tributary to North Fork Crow River	NW SE	25	123N	34W	6.09	0.0	3.7	6.09	0.0	3.7	7.55	7.7
1803701	North Fork Crow River above gaging station near Regal: station number is **05276000**	SE SW	11	122N	33W	16.6	0.0	22.7	213.	0.9	16.8	39.9	4.2

Table 1.—Physical characteristic data for the North Fork Crow-Crow River Basin—Continued.

Basin number	Stream name and location	Outlet location				By subbasin			Cumulative to mouth of basin				
		Quarter-quarter section	Section	Town-ship	Range	Drainage area (square miles)	Lake area (percent of subbasin area)	Storage area (percent of subbasin area)	Drainage area (square miles)	Lake area (percent of total area)	Storage area (percent of total area)	Main channel length (miles)	Main channel slope (foot per mile)
	First Rank / Second Rank / Third Rank / Fourth Rank / Fifth Rank												
1803700	North Fork Crow River above unnamed tributary subbasin 1803600	SE NE	14	122N	33W	0.17	0.0	34.4	213.	0.9	16.8	40.8	4.1
1803600	Unnamed tributary to North Fork Crow River	SE NE	14	122N	33W	15.6	0.1	22.5	15.6	0.1	22.5	8.58	5.8
1804304	Unnamed tributary to North Fork Crow River above gaging station near Paynesville: station number is **05276100**	SW NW	12	122N	33W	0.49	0.0	8.4	0.49	0.0	8.4	1.11	44.4
1804303	North Fork Crow River above gaging station at Paynesville: station number is **05276200**	SE SW	09	122N	32W	14.0	0.3	11.9	243.	0.8	16.9	46.3	4.5
1804302	North Fork Crow River above unnamed tributary (County Ditch No. 5)	NE SE	09	122N	32W	0.41	0.0	2.7	244.	0.8	16.9	47.4	4.6
1804200	Unnamed tributary (County Ditch No. 5) to North Fork Crow River	NE SE	09	122N	32W	9.67	0.0	11.2	9.67	0.0	11.2	11.3	12.7
1804301	North Fork Crow River above gaging station at Paynesville: station number is **05276210**	SE SW	10	122N	32W	0.47	0.2	10.4	254.	0.8	16.6	47.4	4.6
1804300	North Fork Crow River to Rice Lake	SE NE	24	122N	32W	4.93	0.0	23.7	259.	0.8	16.8	51.6	4.8
1806400	Rice Lake outlet to North Fork Crow River	NE SE	24	122N	32W	16.1	15.3	25.8	16.1	15.3	25.8	6.12	11.8
1802500	Unnamed tributary to Lake Koronis	NE SW	31	122N	32W	6.88	0.0	16.7	6.88	0.0	16.7	4.48	25.0
1802700	Unnamed tributary to Lake Koronis	SW NW	03	121N	32W	10.2	0.0	17.8	10.2	0.0	17.8	7.76	12.3
1802600	Koronis Lake outlet above gaging station near Paynesville: station number is **05276300**	SW SE	03	121N	32W	19.5	24.9	36.2	311.	3.0	18.5	57.3	4.5
1805501	North Fork Crow River above Unnamed tributary subbasin 1805600	SE SE	14	121N	32W	4.19	2.2	18.6	316.	3.0	18.5	60.5	4.2
1805600	Unnamed ditch to North fork Crow River	SE SE	14	121N	31W	6.98	1.7	19.7	6.98	1.7	19.7	6.25	15.4

Table 1.—Physical characteristic data for the North Fork Crow-Crow River Basin—Continued.

Basin number	Stream name and location	Outlet location: Quarter-quarter section	Outlet location: Section	Outlet location: Township	Outlet location: Range	By subbasin: Drainage area (square miles)	By subbasin: Lake area (percent of subbasin area)	By subbasin: Storage area (percent of subbasin area)	Cumulative to mouth of basin: Drainage area (square miles)	Cumulative to mouth of basin: Lake area (percent of total area)	Cumulative to mouth of basin: Storage area (percent of total area)	Cumulative to mouth of basin: Main channel length (miles)	Cumulative to mouth of basin: Main channel slope (foot per mile)
	First Rank / Second Rank / Third Rank / Fourth Rank / Fifth Rank												
1805500	North Fork Crow River above Middle Fork Crow River	NE NW	32	121N	31W	8.00	0.0	17.0	330.	2.9	18.5	66.0	3.9
1803800	County Ditch No. B6 to Middle Fork Crow River	NE NW	08	122N	34W	21.1	2.9	26.4	21.1	2.9	26.4	11.8	6.1
1804500	Middle Fork Crow River above County Ditch No. B6	NE NW	08	122N	34W	15.8	0.0	16.1	15.8	0.0	16.1	8.31	5.8
1802400	County Ditch No. 37 to Middle Fork Crow River	NE NW	28	122N	34W	23.6	1.6	27.6	23.6	1.6	27.6	11.8	6.9
1803901	Middle Fork Crow River above County Ditch No. 37	SE SW	21	122N	34W	11.1	0.0	32.6	71.6	1.4	25.5	16.6	5.4
1803900	Middle Fork Crow River to Mud Lake	NE SE	28	122N	34W	0.45	0.0	59.0	72.1	1.4	25.7	17.6	5.1
1803500	Unnamed tributary to Middle Fork Crow River	SE SE	35	122N	34W	6.55	8.3	17.9	6.55	8.3	17.9	4.08	1.4
1804000	Middle Fork Crow River above gaging station at New London: station number is **05277000**	NE SW	10	121N	34W	21.4	12.9	35.6	100.	4.3	27.3	22.9	3.8
1802300	Middle Fork Crow River above Nest Lake inlet	SW SW	21	121N	34W	12.2	2.3	27.3	112.	4.1	27.3	30.1	4.0
1802200	Nest Lake outlet to Green Lake	NW NE	27	121N	34W	9.55	20.4	38.7	122.	5.4	28.2	30.1	4.0
1804100	Green Lake outlet above gaging station near Spicer: station number is **05277300**	NE NE	30	121N	33W	23.8	40.9	48.1	146.	11.2	31.5	33.3	4.1
1803400	Lake Calhoun outlet above gaging station near Spicer: station number is **05277600**	SW NE	28	121N	33W	12.0	8.5	23.1	12.0	8.5	23.1	6.11	12.2
1803301	Middle Fork Crow River above gaging station near Spicer: station number is **05278000**	SE NE	27	121N	33W	5.83	1.0	28.9	163.	10.6	30.7	36.6	3.6
1803300	Middle Fork Crow River above unnamed tributary subbasin 1803200	NW SW	36	121N	33W	8.75	0.0	22.0	172.	10.1	30.3	38.4	3.5
1803100	Unnamed tributary to Diamond Lake	NE SE	28	120N	33W	13.6	7.3	15.6	13.6	7.3	15.6	4.82	12.6
1803200	Unnamed tributary to Middle Fork Crow River	NW SW	36	121N	33W	24.6	11.2	21.8	38.2	9.8	19.6	12.7	4.1
1802800	Middle Fork Crow River above County Ditch No. 47	NW SW	32	121N	32W	5.75	0.0	11.0	216.	9.7	27.9	40.5	3.3

Table 1.—Physical characteristic data for the North Fork Crow-Crow River Basin—Continued.

Basin number	Stream name and location	Outlet location: Quarter-quarter section	Outlet location: Section	Outlet location: Township	Outlet location: Range	By subbasin: Drainage area (square miles)	By subbasin: Lake area (percent of subbasin area)	By subbasin: Storage area (percent of subbasin area)	Cumulative to mouth of basin: Drainage area (square miles)	Cumulative to mouth of basin: Lake area (percent of total area)	Cumulative to mouth of basin: Storage area (percent of total area)	Cumulative to mouth of basin: Main channel length (miles)	Cumulative to mouth of basin: Main channel slope (foot per mile)
	First Rank / Second Rank / Third Rank / Fourth Rank / Fifth Rank												
1802900	County Ditch No.47 to Middle Fork Crow River	NW SW	32	121N	32W	23.7	1.6	8.4	23.7	1.6	8.4	13.0	6.2
1805300	Middle Fork Crow River to North Fork Crow River	NE NW	32	121N	31W	27.4	1.1	14.3	267.	8.1	24.8	48.8	3.3
1806302	North Fork Crow River above Grove Creek	SE SW	29	121N	31W	0.10	0.0	40.1	598.	5.2	21.3	66.6	3.8
1803000	County Ditch No.26 to Long Lake	NE NE	22	119N	32W	13.1	0.8	19.9	13.1	0.8	19.9	8.31	13.9
1805401	Grove Creek above gaging station near Manannah: station number is **05277050**	NE NE	06	120N	31W	34.7	5.4	16.3	47.8	4.1	17.3	19.4	11.7
1805400	Grove Creek to North Fork Crow River	SE SW	29	121N	31W	0.73	0.0	16.3	48.6	4.1	17.2	20.7	11.2
1806301	North Fork Crow River above Stag Brook	SW NE	29	121N	31W	0.36	0.0	16.5	647.	5.1	21.0	67.5	3.8
1805700	Stag Brook to North Fork Crow River	SW NE	29	121N	31W	6.52	0.9	14.0	6.52	0.9	14.0	6.93	13.1
1806309	Noncontributing area to subbasin 1806300					1.69	0.0	16.7	1.69	0.0	16.7	--	--
1806300	North Fork Crow River above County Ditch No.17 (Jewitts Creek)	NW SW	13	120N	31W	29.4	0.0	17.9	684.	4.9	20.8	76.6	3.6
1805009	Noncontributing area to subbasin 1805000					0.06	0.0	12.9	0.06	0.0	12.9	--	--
1805000	Unnamed tributary to Lake Ripley	NE SW	23	119N	31W	9.19	10.5	26.6	9.24	10.4	26.5	4.60	14.2
1805100	County Ditch No.17 (Jewitts Creek) to North Fork Crow River	NW SW	13	120N	31W	32.0	5.0	21.9	41.3	6.3	22.9	14.2	7.8
1805200	Unnamed tributary to North Fork Crow River	NW SW	13	120N	31W	27.2	3.1	17.1	27.2	3.1	17.1	13.7	10.2
1806203	North Fork Crow River above unnamed tributary subbasin 1805800	NE SW	17	120N	30W	4.71	4.1	24.1	758.	4.9	20.8	80.4	3.6
1805800	Unnamed tributary to North Fork Crow River	NE NW	20	120N	30W	9.38	0.0	11.8	9.38	0.0	11.8	8.93	6.6
1806202	North Fork Crow River above gaging station at Forest City: station number is **05278100**	NW NE	17	120N	30W	1.09	0.0	15.8	768.	4.8	20.7	81.8	3.6

Table 1.—Physical characteristic data for the North Fork Crow-Crow River Basin—Continued.

Basin number	Stream name and location	Outlet location				By subbasin			Cumulative to mouth of basin				
		Quarter-quarter section	Section	Township	Range	Drainage area (square miles)	Lake area (percent of subbasin area)	Storage area (percent of subbasin area)	Drainage area (square miles)	Lake area (percent of total area)	Storage area (percent of total area)	Main channel length (miles)	Main channel slope (foot per mile)
	First Rank, Second Rank, Third Rank, Fourth Rank, Fifth Rank												
1806201	North Fork Crow River above gaging station near Kingston: station number is **05278120**	SW NE	13	120N	30W	11.0	0.0	6.8	779.	4.7	20.5	88.3	3.4
1806200	North Fork Crow River above Eagle Creek	NW NW	23	120N	29W	17.4	0.0	11.6	796.	4.6	20.3	95.1	3.3
1802000	Eagle Creek to North Fork Crow River	NW NW	23	120N	29W	19.7	25.3	35.2	19.7	25.3	35.2	15.7	2.8
1804900	Unnamed tributary above inlet to Lake Stella	SE SW	34	119N	30W	15.3	10.1	26.9	15.3	10.1	26.9	7.76	12.7
1804800	Outlet of Lake Washington	SW SW	29	119N	29W	17.4	30.5	42.1	32.7	21.0	35.0	12.2	8.2
1806102	Washington Creek above County Ditch No. 36	NE SE	33	120N	29W	16.7	1.9	25.1	49.4	14.5	31.6	20.2	6.9
1805900	Unnamed tributary to County Ditch No.36	NE SE	35	120N	30W	13.7	3.9	15.8	13.7	3.9	15.8	9.07	10.1
1806001	County Ditch No. 36 above unnamed tributary subbasin 1805900	NE SE	35	120N	35W	2.84	0.0	31.5	2.84	0.0	31.5	4.15	20.9
1806000	County Ditch No.36 to County Ditch No. 9	NE SE	33	120N	29W	14.6	3.9	25.0	31.1	3.6	21.6	15.8	7.7
1806101	Washington Creek-County Ditch No.9 above gaging station near Kingston: station number is **05278150**	SW NW	34	120N	29W	0.40	0.0	19.4	81.0	10.2	27.7	20.7	6.6
1806100	County Ditch No.9 to North Fork Crow River	NE SW	26	120N	29W	1.95	0.0	23.8	82.9	10.0	27.6	22.6	6.0
1804600	Unnamed tributary to Collinwood Lake	SE SE	12	118N	29W	26.4	13.4	27.5	26.4	13.4	27.5	13.2	4.3
1804700	Silver Creek to Collinwood Lake	NE SE	12	118N	29W	20.7	7.9	26.0	20.7	7.9	26.0	12.5	2.9
1801700	Unnamed tributary to North Fork Crow River	NW NE	36	120N	29W	33.3	10.1	24.1	80.4	10.6	25.7	24.2	3.6
1801800	North Fork Crow River above French Creek	NW NE	21	120N	28W	14.0	0.7	20.9	994.	5.9	21.6	106.	3.3
1801900	French Creek to North Fork Crow River	NW NE	21	120N	28W	10.2	6.3	25.0	10.2	6.3	25.0	6.81	5.5
1801500	North Fork Crow River above unnamed tributary subbasin 1808200	NE SW	25	120N	28W	7.78	0.0	11.4	1010.	5.9	21.6	112.	3.2
1808200	Unnamed tributary to North Fork Crow River	NE SW	25	120N	28W	6.49	10.3	21.0	6.49	10.3	21.0	5.58	16.1

Table 1.—Physical characteristic data for the North Fork Crow-Crow River Basin—Continued.

Basin number	Stream name and location	Outlet location				By subbasin			Cumulative to mouth of basin				
		Quarter-quarter section	Section	Township	Range	Drainage area (square miles)	Lake area (percent of subbasin area)	Storage area (percent of subbasin area)	Drainage area (square miles)	Lake area (percent of total area)	Storage area (percent of total area)	Main channel length (miles)	Main channel slope (foot per mile)
	First Rank / Second Rank / Third Rank / Fourth Rank / Fifth Rank												
1808300	North Fork Crow River above unnamed tributary subbasin 1801600	NW NW	18	119N	27W	12.8	0.7	17.5	1030.	5.8	21.5	121.	3.1
1801600	Unnamed tributary to North Fork Crow River	NW NW	18	119N	27W	47.0	4.3	14.1	47.0	4.3	14.1	19.1	5.8
1807900	North Fork Crow River above unnamed tributary subbasin 1808000	NW SW	06	119N	26W	22.8	2.3	15.3	1100.	5.7	21.1	132.	3.0
1808000	Unnamed tributary to North Fork Crow River	NW SW	06	119N	26W	17.5	3.5	21.1	17.5	3.5	21.1	6.64	22.2
1801301	Unnamed tributary to North Fork Crow River	NE SE	06	119N	26W	0.49	0.0	14.3	0.49	0.0	14.3	1.14	53.6
1801300	North Fork Crow River above Twelve Mile Creek	NW SW	21	119N	26W	9.28	0.4	24.8	1130.	5.6	21.1	138.	3.0
1807700	Unnamed tributary to Twelve Mile Creek	NW NW	12	118N	27W	35.8	3.1	19.4	35.8	3.1	19.4	15.1	5.1
1807800	Unnamed tributary to Twelve Mile Creek	NW NW	12	118N	27W	8.62	17.3	27.8	8.62	17.3	27.8	6.15	10.0
1801200	Twelve Mile Creek to North Fork Crow River	NW SW	21	119N	26W	13.7	11.9	28.3	58.1	7.2	22.7	21.8	5.0
1801409	Noncontributing area to subbasin 1801400					1.74	5.6	17.8	1.74	5.6	17.8	--	--
1801400	Mill Creek to Buffalo Lake	NW SW	25	120N	26W	26.7	9.5	25.7	28.4	9.3	25.2	10.8	12.3
1800709	Noncontributing area to subbasin 180700					5.57	21.4	26.5	5.57	21.4	26.5	--	--
1800700	Outlet of Buffalo Lake	NE NW	01	119N	26W	14.9	19.9	31.1	48.9	13.9	27.1	12.2	11.6
1807400	Mill Creek to North Fork Crow River	NW SE	13	119N	26W	9.72	3.8	30.3	58.6	12.2	27.6	15.6	8.0
1801100	North Fork Crow River above Fredrick Creek	SE SE	13	119N	26W	10.9	0.2	33.5	1260.	6.0	21.6	147.	2.9
1800600	Frederick Creek to North Fork Crow River	SE SE	13	119N	26W	9.78	5.4	22.6	9.78	5.4	22.6	9.35	10.0
1800801	North Fork Crow River above gaging station near Delano: station number is **05278340**	SE NE	30	119N	25W	5.13	3.0	32.2	1270.	5.9	21.7	150.	2.8
1807601	County Ditch No.31 above gaging station near Montrose: station number is **05278350**	SE SW	15	118N	26W	8.83	7.7	28.6	8.83	7.7	28.6	8.13	4.8

Table 1.—Physical characteristic data for the North Fork Crow-Crow River Basin—Continued.

Basin number	Stream name and location	Outlet location: Quarter-quarter section	Section	Township	Range	By subbasin: Drainage area (square miles)	By subbasin: Lake area (percent of subbasin area)	By subbasin: Storage area (percent of subbasin area)	Cumulative to mouth of basin: Drainage area (square miles)	Cumulative to mouth of basin: Lake area (percent of total area)	Cumulative to mouth of basin: Storage area (percent of total area)	Cumulative to mouth of basin: Main channel length (miles)	Cumulative to mouth of basin: Main channel slope (foot per mile)
	First Rank / Second Rank / Third Rank / Fourth Rank / Fifth Rank												
1807600	Unnamed tributary above subbasin 1807500	SW NW	13	118N	26W	4.98	4.2	23.9	13.8	6.4	26.9	10.3	8.8
1801000	Unnamed tributary above subbasin 1807500	SW NW	13	118N	26W	11.8	0.0	15.7	11.8	0.0	15.7	7.12	8.2
1807500	Unnamed tributary to North Fork Crow River	SW NE	32	119N	25W	5.52	0.0	29.3	31.1	2.8	23.1	15.4	7.8
1800800	North Fork Crow River above unnamed tributary subbasin 1800900	NE NW	33	119N	25W	2.46	0.0	37.5	1300.	5.9	21.7	153.	2.8
1800900	Unnamed tributary to North Fork Crow River	NE NW	33	119N	25W	17.5	4.4	26.9	17.5	4.4	26.9	9.69	7.2
1800509	Noncontributing area to subbasin 1800500					1.69	16.7	30.5	1.69	16.7	30.5	--	--
1800500	Unnamed tributary to North Fork Crow River	NW SE	28	119N	25W	14.1	3.9	25.5	15.8	5.3	26.0	8.33	7.0
1808801	North Fork Crow River above gaging station near Rockford: station number is **05278400**	SE SE	23	119N	25W	4.79	2.3	38.6	1340.	5.8	21.9	158.	2.7
1808800	North Fork Crow River above Crow River	SW SW	30	119N	24W	6.05	2.3	20.8	1350.	5.8	21.9	160.	2.7
	South Fork Crow River above Crow River	SW SW	30	119N	24W	1280.	3.2	12.6	1280.	3.2	12.6	131.	1.8
1808400	Sarah Creek to Crow River	SE SW	29	119N	24W	8.60	9.8	28.3	8.60	9.8	28.3	8.28	12.4
1808701	Crow River above gaging station at Rockford: station number is **05280000**	SW NE	29	119N	24W	4.74	9.1	22.8	2640.	4.6	17.4	162.	2.7
1808709	Noncontributing area to subbasin 1808700					2.28	23.3	29.5	2.28	23.3	29.5	--	--
1808700	Crow River above unnamed tributary subbasin 1808600	SE NE	13	120N	24W	37.0	2.6	14.7	2680.	4.6	17.4	173.	2.5
1807300	Noncontributing area to subbasin 1808600					36.0	12.9	28.3	36.0	12.9	28.3	--	--
1808609	Noncontributing area to subbasin 1808601					4.51	12.3	25.2	4.51	12.3	25.2	--	--
1808601	Unnamed tributary above gaging station near St. Michael: station number is **05280300**	NW SE	15	120N	24W	4.32	13.3	24.3	8.83	12.8	24.8	6.17	11.0
1808600	Unnamed tributary to Crow River	NE SE	13	120N	24W	8.91	0.0	17.0	53.8	10.7	25.9	6.33	12.6
1802100	Crow River to Mississippi	SE NE	26	121N	23W	25.6	2.8	14.6	2760.	4.7	17.5	185.	2.4