

Physical Characteristics of Stream Subbasins in the Lac qui Parle River Basin, Southwestern Minnesota and Eastern South Dakota

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Abstract

Data describing the physical characteristics of stream subbasins upstream from selected points on streams in the Lac qui Parle River Basin, located in southwestern Minnesota and eastern South Dakota, 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. The points on the stream include outlets of subbasins of at least 5 square miles, outfalls of sewage treatment plants, and locations of U.S. Geological Survey low-flow, high-flow, and continuous-record gaging stations.

Introduction

This report is one of several that present subbasin characteristics of streams in Minnesota. This report presents selected data for points on streams at outlets of subbasins larger than about 5 square miles; at outfalls of sewage treatment plants; and at locations of U.S. Geological Survey low-flow, high-flow, and continuous-record gaging stations located in the Lac qui Parle River Basin.

The Lac qui Parle River drains an area of 1,096 square miles. The Lac qui Parle River Basin is represented by hydrologic accounting unit 07020003 (U.S. Geological Survey, 1974a and 1974b) and includes parts of Lac qui Parle, Yellow Medicine, and Lincoln Counties in southwestern Minnesota and parts of Grant, Deuel, and Brooking Counties in eastern South Dakota.

This report was prepared in cooperation with the Minnesota Department of Transportation and the U.S. Army Corps of Engineers.

Acknowledgments

The Minnesota State Planning Information Center provided assistance with much of the digitizing and programing needed to produce this report. The Center's assistance is gratefully acknowledged.

Methods

U.S. Geological Survey 7-1/2 minute series topographic maps were used as source maps to obtain the data recorded in this report. Paper copies of the maps

were used. Data recorded 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). Data recorded from these maps were projected into an Albers Equal-Area projection for storage and analysis.

The subbasin boundaries were delineated on the basis of topographic features and human activities recorded on topographic maps. Human activities along subbasin divides such as the installation of storm sewers, the drainage of wetlands, and the diversions of streams may alter the drainage area of the stream. Therefore, data from field inspections and recent drainage-ditch maps were transferred to the topographic maps.

The subbasin boundaries (represented by line segments) and labels were recorded using a geographic information system (GIS). The GIS was used to define the subbasin polygons, recording the line segments that comprise each subbasin and identifying the subbasin with a label. The GIS automatically calculates the area of each subbasin.

The lake data were obtained from the Minnesota State Planning Information Center. The outline of each water body was compared to 7-1/2 minute topographic maps. The lake data were overlaid onto the subbasin data to associate each lake with a subbasin. The total lake area for each subbasin was calculated by the GIS.

Marsh data were recorded using a computer-aided drafting (CAD) system and transferred to the GIS. The marsh data were overlaid onto the subbasin data to associate each marsh area with a subbasin. The total

marsh area for each subbasin was calculated by the GIS. The total marsh area plus the lake area is the storage area.

Main channels were delineated for each subbasin on the 7-1/2 minute topographic maps starting at the mouth of the subbasin and working 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 is continuous and is a single trace that passes through marshes, lakes, and the midline of wide rivers and braided streams. The main channel was extended to the basin divide from the uppermost stream trace on the topographic map. The stream-channel segments forming the main channel were recorded using the CAD and transferred to the GIS. Several computer programs were used to automatically identify the line segments forming an individual stream channel and to enter this information into the GIS data base. These programs also identified the main channel of a stream system that drained more than one subbasin using the rule that the main channel is the stream that drains the largest area.

Elevation data at the intersection of topographic contour lines and main channels were recorded using the CAD system. The data were transferred to the GIS and each data point was associated with a main-channel line segment. 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 data recorded in the GIS. Main-channel slope was calculated by dividing the difference in elevation between these points by the distance along the main channel between these points.

Physical Characteristics of Stream Subbasins

The physical characteristics determined for each of the subbasins shown on plate 1 are presented in table 1 at the end of the report. The stream subbasins presented in table 1 are ordered from headwaters to mouth. The rank of the stream is shown by indentation and indicates the drainage pattern of the stream. Rank was assigned by area of the drainage basin drained by the stream. Whenever two streams joined, the stream draining the smaller of the two drainage basins was assigned a lower rank. The first-ranked river is the Lac qui Parle River. Tributary streams are indented.

The data for drainage area, for main-channel length, and for main-channel slope are reported using three significant figures or rounded to the nearest hundredth of a unit. The data for lake area and for storage area are

reported using two significant figures or to the nearest tenth of a percent.

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

Subbasin Number. The number is based on the Minnesota Common Stream Number System.

Stream Name and Location. The name of the stream shown on U.S. Geological Survey 1:24,000 topographic maps. County and judicial ditch names were verified using county ditch maps prepared by Lac qui Parle, Yellow Medicine, and Lincoln Counties. The relative position of the subbasin above other subbasins, streams, gaging stations, and outfalls from sewage treatment plants also is given.

Outlet Location. The U.S. Public Lands Survey System is used to describe the location of the subbasin outlet 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 covered by open water.

Storage Area. The percentage of a drainage area covered by open water and marshes as shown on 7-1/2 minute topographic maps. Marsh areas are not shown on plate 1.

Main-channel Length. The total length of the main channel from the basin outlet to the drainage divide. The main channel is 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.

References Cited

- Thompson, M.M., 1987, Maps for America, Third edition: U.S. Geological Survey, 265 p.
- U.S. Geological Survey, 1974a, Hydrologic unit map—1974 State of Minnesota: Scale 1:500,000, 1 plate.
- U.S. Geological Survey, 1974b, Hydrologic unit map—1974 State of South Dakota: Scale 1:500,000, 1 plate.

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	Outlet location				By subbasin				Cumulative to mouth of basin						
		Quarter-section	Township	Range	Drainage area (square miles)	Lake area (percent of sub-basin area)	Storage area (percent of sub-basin 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)				
													09	115N	47W	14.2
2401001	West Branch Lac qui Parle River above gaging station. near Gary, South Dakota, station number is 4447260962742.	NE ¹ / ₄ NE ¹ / ₄	09	115N	47W	14.2	2.2	5.6	14.2	2.2	5.6	14.2	2.2	5.6	14.4	15.1
2401000	West Branch Lac qui Parle River above Monighan Creek	NW ¹ / ₄ SW ¹ / ₄	29	116N	46W	3.7	.0	4.5	18.0	1.7	5.4	18.3	1.7	5.4	18.3	26.3
2404602	West Branch Lac qui Parle River above gaging station near Marietta, station number is 445517096215	NE ¹ / ₄ NW ¹ / ₄	25	117N	46W	17.1	.8	3.4	73.6	1.8	4.3	42.6	1.8	4.3	42.6	17.0
2404601	West Branch Lac qui Parle River above gaging station near Marietta, station number is 4456090962112	SE ¹ / ₄ SE ¹ / ₄	13	117N	46W	.91	.0	1.3	152	1.2	3.0	30.6	1.2	3.0	30.6	20.6
2404300	Unnamed tributary to West Branch Lac qui Parle river above mouth	NW ¹ / ₄ SW ¹ / ₄	18	117N	45W	6.89	.0	1.5	6.89	.0	1.5	11.6	.0	1.5	11.6	6.53
2404600	West Branch Lac qui Parle River above County Ditch No. 5	NE ¹ / ₄ SE ¹ / ₄	18	117N	45W	.89	.0	.0	160	1.1	2.9	32.5	1.1	2.9	32.5	19.6
2402800	County Ditch No. 5 above subbasin 2402900	NW ¹ / ₄ NE ¹ / ₄	01	117N	46W	39.7	.0	1.8	39.7	.0	1.8	31.6	.0	1.8	31.6	8.11
2402901	Unnamed tributary to County Ditch No. 5 above sewage treatment plant outfall for Marietta	SE ¹ / ₄ NE ¹ / ₄	27	118N	46W	4.82	.0	6.4	4.82	.0	6.4	11.9	.0	6.4	11.9	8.61
2402900	Unnamed tributary to County Ditch No. 5 above mouth	NW ¹ / ₄ NE ¹ / ₄	01	117N	46W	9.67	3.4	6.4	14.5	2.3	6.4	11.3	2.3	6.4	11.3	6.26
2403000	County Ditch No. 5 above mouth	NE ¹ / ₄ SE ¹ / ₄	18	117N	45W	4.68	.0	3.3	58.9	.6	3.0	35.1	.6	3.0	35.1	6.81
2407500	Cobb Creek above North Branch Cobb Creek	SE ¹ / ₄ NW ¹ / ₄	30	115N	47W	47.8	.5	4.4	47.8	.5	4.4	36.2	.5	4.4	36.2	7.40

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	By subbasin										Cumulative to mouth of basin	
		Outlet location				Drainage area (square miles)	Lake area (percent of sub-basin area)	Storage area (percent of sub-basin 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)
		Quarter-section	Sec-tion	Town-ship	Range								
2400400	North Branch Cobb Creek above mouth	SE ¹ / ₄ NW ¹ / ₄	30	115N	47W	18.1	0.3	0.6	18.1	0.3	0.6	18.2	11.6
2400802	Florida Creek (Cobb Creek in South Dakota) above gaging station near Burr, South Dakota, station number is 4444100962510	SE ¹ / ₄ SE ¹ / ₄	29	115N	46W	11.3	1.3	6.6	77.3	.5	3.8	48.2	7.79
2400801	Florida Creek above gaging station near Dawson, station number is 4451480961810	NW ¹ / ₄ NE ¹ / ₄	17	116N	45W	22.3	.0	.9	99.6	.4	3.2	67.3	13.5
2400800	Florida Creek above Cobb Creek	SW ¹ / ₄ SE ¹ / ₄	29	117N	45W	10.2	.0	9.4	110	.4	3.8	73.0	12.9
2400909	Noncontributing area					1.94	.9	6.9	1.94	.9	6.9	--	--
2400902	Drainage basin above gaging station at Webber Impoundment inlet, station number is 4449000962402	SW ¹ / ₄ NE ¹ / ₄	33	116N	46W	1.33	.0	.7	1.33	.0	.7	3.4	49.9
2400901	Drainage basin above gaging station at Webber Impoundment outlet, station number is 4449000962400.	NE ¹ / ₄ NE ¹ / ₄	33	116N	46W	.18	.0	.0	1.51	.0	.6	4.2	41.2
2400900	Cobb Creek above subbasin 2406200	SW ¹ / ₄ NE ¹ / ₄	11	116N	46W	23.2	.2	2.1	26.6	.2	2.3	20.5	18.1
2406200	Unnamed tributary to Cobb Creek above mouth	SW ¹ / ₄ NE ¹ / ₄	11	116N	46W	4.74	1.5	10	4.74	1.5	10	6.6	23.9
2404800	Cobb Creek above mouth	SW ¹ / ₄ SE ¹ / ₄	29	117N	45W	6.48	1.7	4.6	37.8	.7	3.7	28.0	12.4
2404200	Florida Creek above mouth	NW ¹ / ₄ SE ¹ / ₄	17	117N	45W	6.52	.0	2.7	154	.4	3.7	79.3	12.2
2404000	West Branch Lac qui Parle River above County Ditch No. 17	SW ¹ / ₄ SE ¹ / ₄	12	117N	45W	6.74	.0	.5	380	.7	3.2	41.5	15.5
2403100	County Ditch No. 17 above mouth	SW ¹ / ₄ SE ¹ / ₄	12	117N	45W	13.5	1.5	5.3	13.5	1.5	5.3	9.7	6.33

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	Outlet location				By subbasin				Cumulative to mouth of basin			
		Quarter-section		Town-ship	Range	Drainage area (square miles)	Lake area (percent of sub-basin area)	Storage area (percent of sub-basin 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)
		Quarter-section	Section										
2403200	Unnamed tributary to West Branch Lac qui Parle River above mouth	SE ¹ / ₄ SW ¹ / ₄	07	117N	44W	7.37	0.0	4.6	7.37	0.0	4.6	8.2	3.70
2403902	West Branch Lac qui Parle River above gaging station near Madison, station number is 4456300961144	NE ¹ / ₄ SW ¹ / ₄	17	117N	44W	3.00	.0	.1	403	.7	3.3	45.0	14.0
2403901	West Branch Lac qui Parle River above gaging station near Dawson, station number is 4455440960802	SW ¹ / ₄ NE ¹ / ₄	23	117N	44W	11.9	1.0	4.1	415	.8	3.3	52.8	11.1
2403900	West Branch Lac qui Parle River above subbasin 2402700	SW ¹ / ₄ NE ¹ / ₄	23	117N	44W	.31	.0	.0	416	.8	3.3	53.3	10.9
2402700	Unnamed tributary to West Branch Lac qui Parle River above mouth	SW ¹ / ₄ NE ¹ / ₄	23	117N	44W	50.1	1.1	3.3	50.1	1.1	3.3	20.7	1.55
2405902	West Branch Lac qui Parle River above gaging station at Dawson, station number is 05299800	SW ¹ / ₄ NE ¹ / ₄	21	117N	43W	8.54	.0	1.2	474	.8	3.3	60.2	8.66
2405901	West Branch Lac qui Parle River above outfall of sewage treatment plant for Dawson	SW ¹ / ₄ NE ¹ / ₄	21	117N	43W	.02	.0	.0	474	.8	3.3	60.3	8.65
2403800	Judicial Ditch No. 4 above mouth	SE ¹ / ₄ NE ¹ / ₄	21	117N	43W	8.18	.0	.1	8.18	.0	.1	7.33	3.45
2405900	West Branch Lac qui Parle River above mouth	SE ¹ / ₄ NW ¹ / ₄	22	117N	43W	.49	.0	.0	483	.8	3.2	61.7	8.34
2407800	Deer Creek above mouth.	NE ¹ / ₄ SW ¹ / ₄	29	112N	47W	19.2	.2	.6	19.2	.2	.6	19.2	11.4
2406900	County Ditch No. 11 above mouth	NW ¹ / ₄ SE ¹ / ₄	22	112N	47W	9.10	.0	.4	9.10	.0	.4	6.38	19.2
2407000	Lake Hendricks above outlet	SE ¹ / ₄ SW ¹ / ₄	18	112N	46W	12.2	20	21	40.5	6.0	6.6	22.9	9.55

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	Outlet location				By subbasin				Cumulative to mouth of basin			
		Quarter-section		Township	Range	Drainage area (square miles)	Lake area (percent of sub-basin area)	Storage area (percent of sub-basin 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)
		Quarter section	Township										
2406701	Lac qui Parle River above sewage treatment plant outfall for Hendricks, Minnesota.	SW ¹ / ₄ SE ¹ / ₄	07	112N	46W	1.19	0.0	0.3	41.7	5.8	6.4	24.1	8.91
2406600	Unnamed tributary to Lac qui Parle River above mouth.	NW ¹ / ₄ NW ¹ / ₄	08	112N	46W	5.59	.1	11	5.59	.1	11	5.84	7.30
2406700	Lac qui Parle River above subbasin 2406800	NE ¹ / ₄ SW ¹ / ₄	03	112N	46W	6.37	.0	2.6	53.7	4.5	6.5	30.1	7.61
2406800	Unnamed tributary to Lac qui Parle River above mouth	NE ¹ / ₄ SW ¹ / ₄	03	112N	46W	5.90	3.1	8.6	5.90	3.1	8.6	6.76	11.8
2406300	Judicial Ditch No. 19 above mouth	NE ¹ / ₄ NE ¹ / ₄	18	113N	45W	5.21	.0	.3	5.21	.0	.3	6.50	12.1
2402100	Lac qui Parle River above subbasin 240220	NW ¹ / ₄ NE ¹ / ₄	32	114N	45W	14.5	1.1	5.2	79.3	3.5	6.0	50.8	9.11
2407700	Unnamed tributary to Fish Lake above mouth	SE ¹ / ₄ SW ¹ / ₄	16	113N	47W	19.1	4.8	9.2	19.1	4.8	9.2	12.2	5.57
2407600	Fish Lake above outlet	SE ¹ / ₄ NW ¹ / ₄	09	113N	47W	24.5	5.6	8.8	43.6	5.2	9.0	13.7	5.56
2406400	Unnamed tributary to Lac qui Parle River above subbasin 2406500	NE ¹ / ₄ NE ¹ / ₄	16	113N	46W	7.57	.0	1.7	51.1	4.5	7.9	22.9	7.46
2406500	Unnamed tributary to unnamed tributary to Lac qui Parle River above mouth	NE ¹ / ₄ NE ¹ / ₄	16	113N	46W	5.58	1.2	16.3	5.58	1.2	16	5.79	22.1
2402200	Unnamed tributary to Lac qui Parle River above mouth	NW ¹ / ₄ NE ¹ / ₄	32	114N	45W	14.1	.0	1.4	70.8	3.3	7.2	35.5	11.4
2402002	Lac qui Parle River above gaging station near Canby, station number is 443916096174801	SE ¹ / ₄ NE ¹ / ₄	29	114N	45W	.91	.0	1.0	151	3.4	6.6	52.1	9.7
2402001	Lac qui Parle River above gaging station near Canby, station number is 4441030961435	SW ¹ / ₄ NE ¹ / ₄	14	114N	45W	2.90	.0	.9	154	3.3	6.5	58.8	11.6

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	Outlet location				By subbasin				Cumulative to mouth of basin			
		Quarter- quarter section		Town- ship	Range	Drainage area (square miles)	Lake area (percent of sub-basin area)	Storage area (percent of sub-basin 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)
		Sec- tion	tion										
2402000	Lac qui Parle River above subbasin 2401900	NE ¹ / ₄ NE ¹ / ₄	01	114N	45W	2.21	0.0	0.0	156	3.3	6.4	63.2	12.8
2401900	Unnamed tributary to Lac qui Parle River	NE ¹ / ₄ NE ¹ / ₄	01	114N	45W	6.16	.0	.1	6.16	.0	.1	8.39	31.5
2401802	Lac qui Parle River above gaging station near St. Leo, station number is 4445210960916	SW ¹ / ₄ NW ¹ / ₄	22	115N	44W	9.33	.0	.7	172	3.0	5.8	73.2	12.3
2401801	Lac qui Parle River above gaging station near Canby, station number is 05298500	NW ¹ / ₄ NW ¹ / ₄	10	115N	44W	5.39	.0	2.1	177	2.9	5.7	81.9	11.3
2401800	Lac qui Parle River above Lazarus Creek	SE ¹ / ₄ NE ¹ / ₄	03	115N	44W	.61	.0	.0	178	2.9	5.7	83.9	11.0
2401200	Lazarus Creek above subbasin 1100	SW ¹ / ₄ NE ¹ / ₄	08	114N	46W	13.4	.1	10.1	13.4	.1	10	11.8	31.8
2401100	Unnamed tributary to Lazarus Creek above mouth	SW ¹ / ₄ NE ¹ / ₄	08	114N	46W	9.20	14	21	9.20	14	21	7.90	24.5
2401300	Lazarus Creek above subbasin 2401400.	NE ¹ / ₄ SE ¹ / ₄	28	115N	45W	13.4	.1	4.9	36.0	3.8	11	26.4	25.7
2401401	Unnamed tributary to Lazarus Creek above gaging station near Canby, station number is 05299100	NE ¹ / ₄ NW ¹ / ₄	06	115N	45W	2.95	.0	2.7	2.95	.0	2.7	3.96	55.2
2401400	Unnamed tributary to Lazarus Creek	NE ¹ / ₄ SE ¹ / ₄	28	115N	45W	1.48	.0	.6	4.44	.0	2.0	8.50	38.4
2401501	Lazarus Creek above gaging station near Canby, station number is 4445430961547	SW ¹ / ₄ SE ¹ / ₄	22	115N	45W	8.45	.0	.6	48.9	2.8	8.3	30.2	23.2
2401500	Lazarus Creek above Canby Creek	NE ¹ / ₄ NE ¹ / ₄	14	115N	45W	1.40	.0	.0	50.3	2.7	8.1	32.5	21.5
2401604	Canby Creek above gaging station near Canby, station number is 05299400	NE ¹ / ₄ SE ¹ / ₄	14	114N	46W	16.3	1.4	5.9	16.3	1.4	5.9	10.2	16.8

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	Outlet location				By subbasin				Cumulative to mouth of basin			
		Quarter-section		Township	Range	Drainage area (square miles)	Lake area (percent of sub-basin area)	Storage area (percent of sub-basin 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)
		Quarter-section	Section										
2401603	Canby Creek above gaging station near Canby, station number is 4441200961748	NE ¹ / ₄ NE ¹ / ₄	17	114N	45W	5.25	0.0	1.3	21.5	1.1	4.7	16.2	21.5
2401602	Canby Creek above sewage treatment plant outfall from Canby	SE ¹ / ₄ SW ¹ / ₄	35	115N	45W	5.84	.2	.6	27.4	.9	3.9	21.3	26.9
2401601	Canby Creek (County Ditch No. 8) above gaging station near Canby, station number is 4445440961409.	NW ¹ / ₄ NW ¹ / ₄	24	115N	45W	4.33	.0	.0	31.7	.8	3.3	24.9	28.0
2401600	Canby Creek (County Ditch No. 8) above mouth	NE ¹ / ₄ NE ¹ / ₄	14	115N	45W	4.27	.0	.3	36.0	.7	3.0	25.7	27.9
2400700	Judicial Ditch No. 1 above mouth	SW ¹ / ₄ SW ¹ / ₄	26	116N	45W	22.4	.1	1.3	22.4	.1	1.3	19.6	19.0
2400501	Lazarus Creek above gaging station near Canby, station number is 05299600	SE ¹ / ₄ SE ¹ / ₄	30	116N	44W	8.45	.0	.9	117	1.4	4.7	40.6	19.0
2400600	Unnamed tributary to Lazarus Creek above mouth	SE ¹ / ₄ SW ¹ / ₄	32	116N	44W	6.04	.0	.3	6.04	.0	.3	3.87	7.59
2401700	Unnamed tributary to Lazarus Creek above mouth	NE ¹ / ₄ SW ¹ / ₄	04	115N	44W	7.98	.0	.1	7.98	.0	.1	5.53	10.6
2400500	Lazarus Creek above mouth	SE ¹ / ₄ NE ¹ / ₄	03	115N	44W	2.47	.0	.6	134	1.2	4.2	47.0	15.9
2400400	Lac qui Parle River above unnamed tributary (County Ditch No. 79)	NW ¹ / ₄ SE ¹ / ₄	24	116N	44W	7.39	.0	.6	319	2.1	4.9	93.0	10.1
2405100	Unnamed tributary (County Ditch No. 79) above mouth	NW ¹ / ₄ SE ¹ / ₄	24	116N	44W	8.66	.0	1.2	8.66	.0	1.2	9.24	4.91
2405200	Lac qui Parle River above subbasin 2405000	NE ¹ / ₄ SW ¹ / ₄	01	116N	44W	9.70	.0	2.5	3371	2.0	4.8	102	9.31

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	Outlet location				By subbasin				Cumulative to mouth of basin			
		Quarter-section		Township	Range	Drainage area (square miles)	Lake area (percent of sub-basin area)	Storage area (percent of sub-basin 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)
		Quarter-section	Section										
2404100	Unnamed tributary to unnamed tributary to Lac qui Parle River above mouth	SE ¹ / ₄ NW ¹ / ₄	05	116N	44W	13.5	0.9	3.9	13.5	.9	3.9	8.75	2.13
2404900	Unnamed tributary (County Ditch No. 85) above mouth	SE ¹ / ₄ NW ¹ / ₄	05	116N	44W	8.17	.0	.7	8.17	.0	.7	8.78	4.55
2405000	Unnamed tributary to Lac qui Parle River above mouth	NE ¹ / ₄ SW ¹ / ₄	01	116N	44W	10.7	.4	2.0	32.4	.5	2.5	16.57	2.33
2405302	Lac qui Parle River above gaging station near Dawson, station number is 4454230960202	SE ¹ / ₄ SW ¹ / ₄	27	117N	43W	7.62	.0	1.5	377	1.8	4.5	109	8.89
2405301	Lac qui Parle River above gaging station at Dawson, station number is 4455250960206	SE ¹ / ₄ SW ¹ / ₄	22	117N	43W	5.54	.0	2.9	383	1.8	4.5	111	8.76
2405300	Lac qui Parle River above West Branch Lac qui Parle River	SE ¹ / ₄ NW ¹ / ₄	22	117N	43W	.11	.0	.0	383	1.8	4.5	112	8.73
2403700	Lac qui Parle River above County Ditch No. 27	SE ¹ / ₄ SE ¹ / ₄	03	117N	43W	6.22	.0	1.6	872	1.2	3.8	67.4	7.00
2403302	County Ditch No. 27 above sewage treatment plant outfall from Madison	NE ¹ / ₄ NE ¹ / ₄	28	118N	44W	.75	.0	1.2	.75	.0	1.2	1.69	18.1
2403301	County Ditch No. 27 above gaging station near Dawson, station number is 4458200960142	SW ¹ / ₄ NE ¹ / ₄	03	117N	43W	15.0	.7	2.2	15.7	.7	2.2	11.8	4.74
2403300	County Ditch No. 27 above mouth	SE ¹ / ₄ SE ¹ / ₄	03	117N	43W	.08	.0	.0	15.8	.7	2.1	12.2	4.78
2403400	Lac qui Parle River above County Ditch 4	NW ¹ / ₄ NE ¹ / ₄	30	118N	42W	10.1	.0	1.7	898	1.2	3.7	78.0	5.39
2402600	County Ditch 4 above subbasin 2405800	NW ¹ / ₄ SW ¹ / ₄	14	118N	44W	16.4	.5	4.3	16.4	.5	4.3	11.8	4.52
2405800	Unnamed tributary to County Ditch 4 above mouth	NW ¹ / ₄ SW ¹ / ₄	14	118N	44W	7.45	.5	4.5	7.45	.5	4.5	5.05	1.06

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	Outlet location				By subbasin				Cumulative to mouth of basin			
		Quarter-section		Township	Range	Drainage area (square miles)	Lake area (percent of sub-basin area)	Storage area (percent of sub-basin 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)
		Quarter-section	Section										
2402501	County Ditch 4 above gaging station near Lac qui Parle, station number is 4500280955851	SE ¹ / ₄ SE ¹ / ₄	24	118N	43W	30.6	0.5	3.3	54.4	0.5	3.8	22.1	3.63
2402500	County Ditch 4 above mouth	NW ¹ / ₄ NE ¹ / ₄	30	118N	42W	.47	.0	.0	54.8	.5	3.7	23.5	3.63
2402301	Lac qui Parle River above gaging station near Lac qui Parle, station number is 05300000	SW ¹ / ₄ SW ¹ / ₄	27	118N	42W	7.76	.6	5.0	960	1.1	3.7	83.2	4.89
2402401	County Ditch No. 93 above gaging station at Lac qui Parle, station number is 4500340955432	SE ¹ / ₄ SW ¹ / ₄	22	118N	42W	12.6	.2	6.5	12.6	.2	6.5	10.5	3.04
2402400	County Ditch No. 93 above mouth	SE ¹ / ₄ NE ¹ / ₄	27	118N	42W	.40	.0	.0	13.0	.2	6.3	11.4	3.99
2400300	Unnamed tributary to Tenmile Creek above mouth	SE ¹ / ₄ NW ¹ / ₄	36	116N	43W	16.7	.0	5.8	16.7	.0	5.8	11.0	2.30
2405400	Tenmile Creek (Judicial Ditch No. 8) above subbasin 2400300	SE ¹ / ₄ NW ¹ / ₄	36	116N	43W	10.9	.0	1.3	10.9	.0	1.3	8.25	6.46
2400200	Unnamed tributary to Tenmile Creek above mouth	NE ¹ / ₄ SE ¹ / ₄	36	116N	43W	5.85	.0	5.4	5.85	.0	5.4	7.19	4.63
2409000	Unnamed tributary to Tenmile Creek above mouth	NE ¹ / ₄ NW ¹ / ₄	04	115N	42W	9.62	.0	4.2	9.62	.0	4.2	14.3	2.62
2400100	Tenmile Creek (Judicial Ditch No. 8) above subbasin 2405500	NW ¹ / ₄ NE ¹ / ₄	15	116N	42W	10.6	.0	4.0	53.6	.0	4.2	19.3	2.48
2405500	Unnamed tributary to Tenmile Creek above mouth	NW ¹ / ₄ NE ¹ / ₄	15	116N	42W	14.1	.2	6.6	14.1	.2	6.6	10.0	5.18
2405600	Unnamed tributary to Tenmile Creek above mouth	SE ¹ / ₄ NE ¹ / ₄	34	117N	42W	11.0	.6	6.7	11.0	.6	6.7	7.11	3.56

Table 1.—Physical characteristic data for the Lac qui Parle River drainage basin--Continued

Basin number	Stream name and location	Outlet location		By subbasin				Cumulative to mouth of basin					
		Quarter- quarter section	Sec- tion	Town- ship	Range	Drainage area (square miles)	Lake area (percent of sub- basin area)	Storage area (percent of sub- basin 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)
2405701	Tennile Creek (Judicial Ditch No.8) above gaging station near Boyd, station number is 05300500	NW ¹ / ₄ NE ¹ / ₄	23	117N	42W	8.78	0.7	11	87.5	2	5.6	27.2	2.21
2405700	Tennile Creek (Judicial Ditch 8) above County Ditch No. 34	NE ¹ / ₄ NE ¹ / ₄	11	117N	42W	1.83	.0	1.3	89.3	2	5.5	29.2	2.24
2403601	County Ditch No. 34 above gaging station near Lac qui Parle, station number is 4457420955343	NW ¹ / ₄ NW ¹ / ₄	11	117N	42W	23.5	.0	2.0	23.5	.0	2.0	14.1	10.8
2403600	County Ditch No. 34 above mouth	NE ¹ / ₄ NE ¹ / ₄	11	117N	42W	.24	.0	.0	23.7	.0	1.9	14.6	10.1
2403501	Tennile Creek above gaging station near Lac qui Parle, station number is 4459350955307	SW ¹ / ₄ SE ¹ / ₄	26	118N	42W	4.38	.0	3.5	117	.1	4.7	34.3	3.07
2403500	Tennile Creek above mouth	NE ¹ / ₄ NW ¹ / ₄	26	118N	42W	1.91	.0	1.1	119	.1	4.7	36.2	3.68
2402300	Lac qui Parle River above mouth	NE ¹ / ₄ SE ¹ / ₄	14	118N	42W	3.37	.0	1.2	1100	1.0	3.8	90.3	4.18