

Figure 62.—Public lands (light gray) located within Headwaters Segment of the Clinton River mainstem. This river segment is 5.1 miles long, 37% of which runs through public lands, and there are 1,132 acres of public land adjacent to the river. The Clinton River Watershed Council Recreation Guide, posted on their website at [HTTP://www.crw.org/projects/recreation/recreation.html](http://www.crw.org/projects/recreation/recreation.html), does not recommend canoeing in this section. This website also has site-specific recreational descriptions of many of the public parcels along the river.

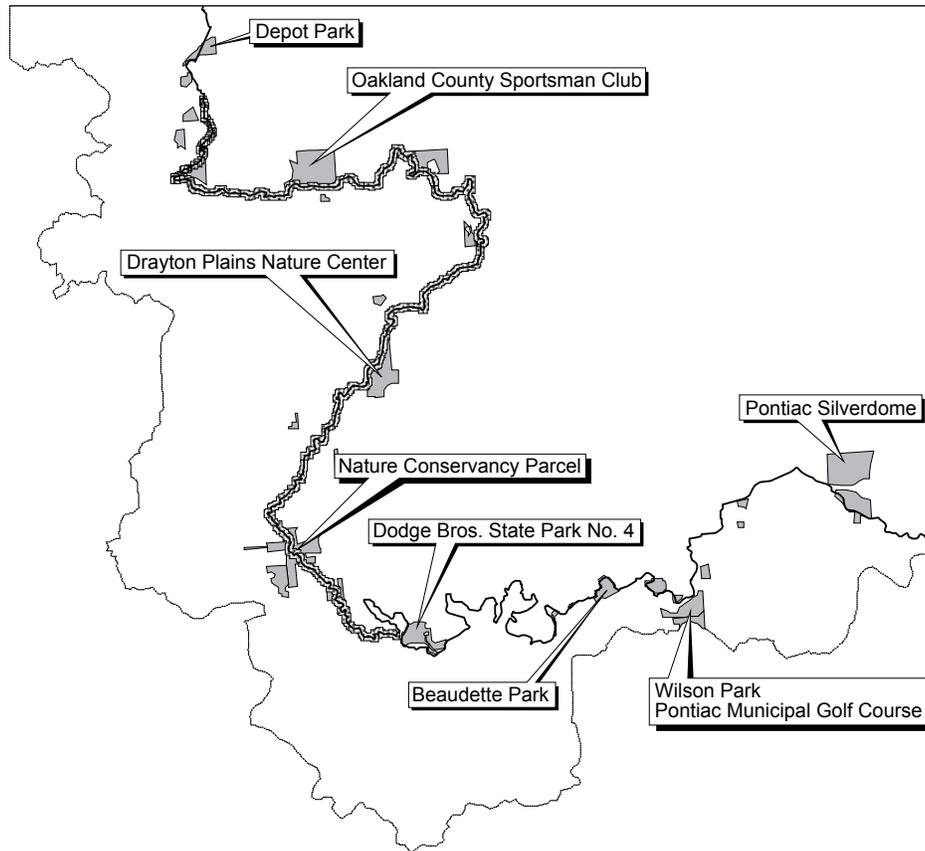


Figure 63.—Public lands (gray) located within the Upper Segment of the Clinton River mainstem. This river segment is 44.7 miles long, 20% of which runs through public lands, and there are 961 acres of public land adjacent to the river. The Clinton River Watershed Council Recreation Guide, posted on their website at [HTTP://www.crw.org/projects/recreation/recreation.html](http://www.crw.org/projects/recreation/recreation.html), recommends canoeing in this section as indicated by a light stippled buffer along the river. This website also has site-specific recreational descriptions of many of the public parcels along the river.

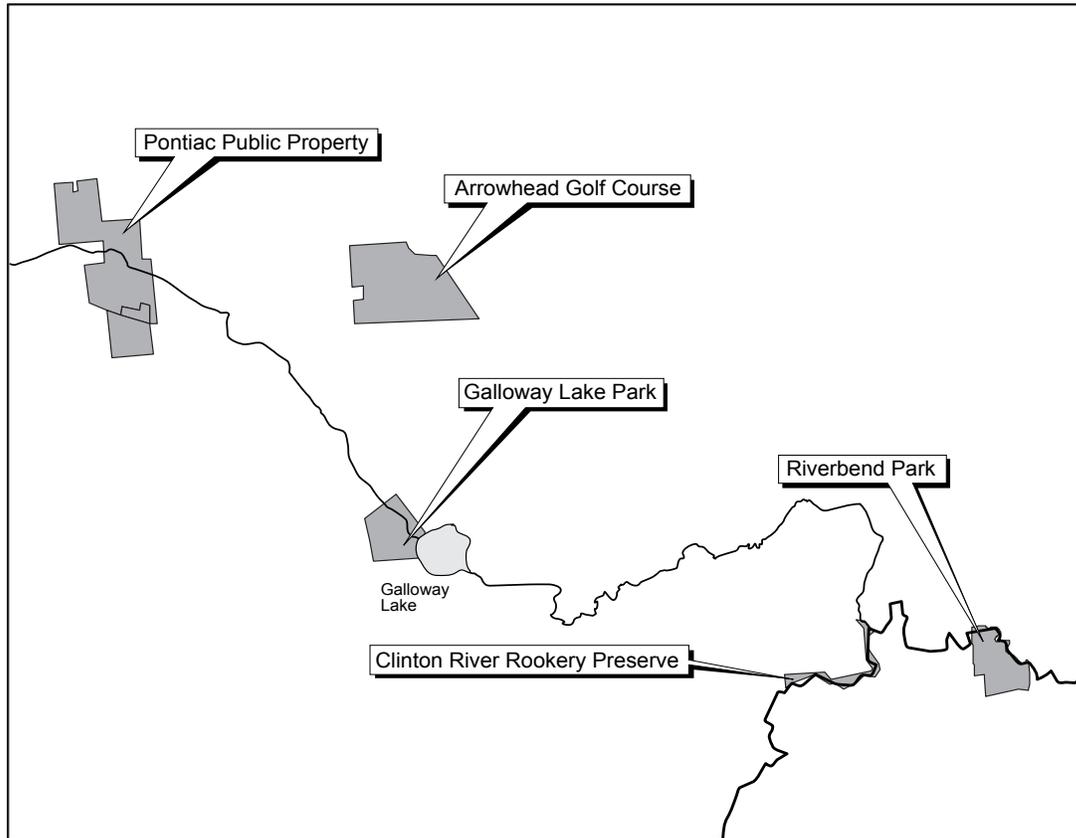


Figure 64.—Public lands (gray) located near Galloway Creek. This river segment is 8.3 miles long, 10% of which runs through public lands, and there are 333 acres of public land adjacent to the river.

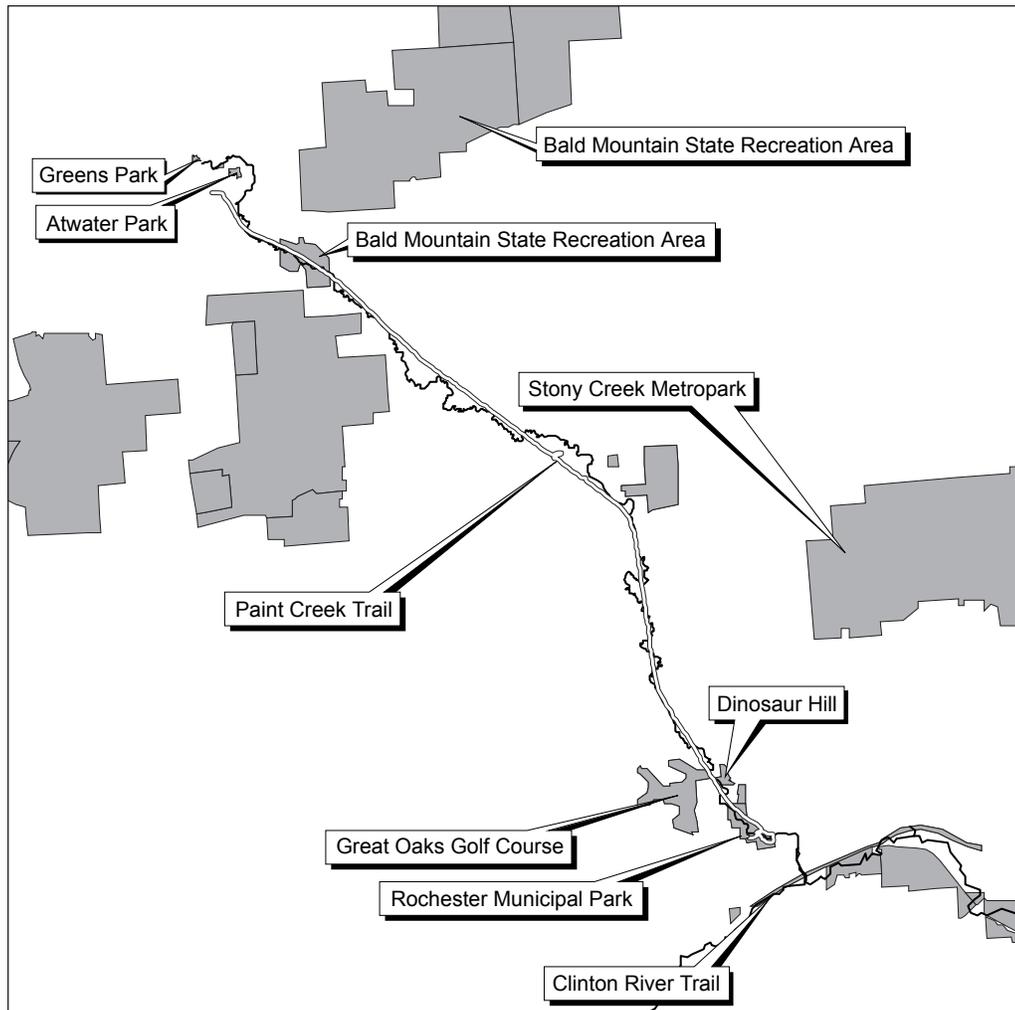


Figure 65.—Public lands (gray) located near Paint Creek. This river segment is 15.0 miles long, 10% of which runs through public lands, and there are 521 acres of public land adjacent to the river. Paint Creek Hiking Trail, which runs almost the entire length of the creek, provides access to the water at numerous points.

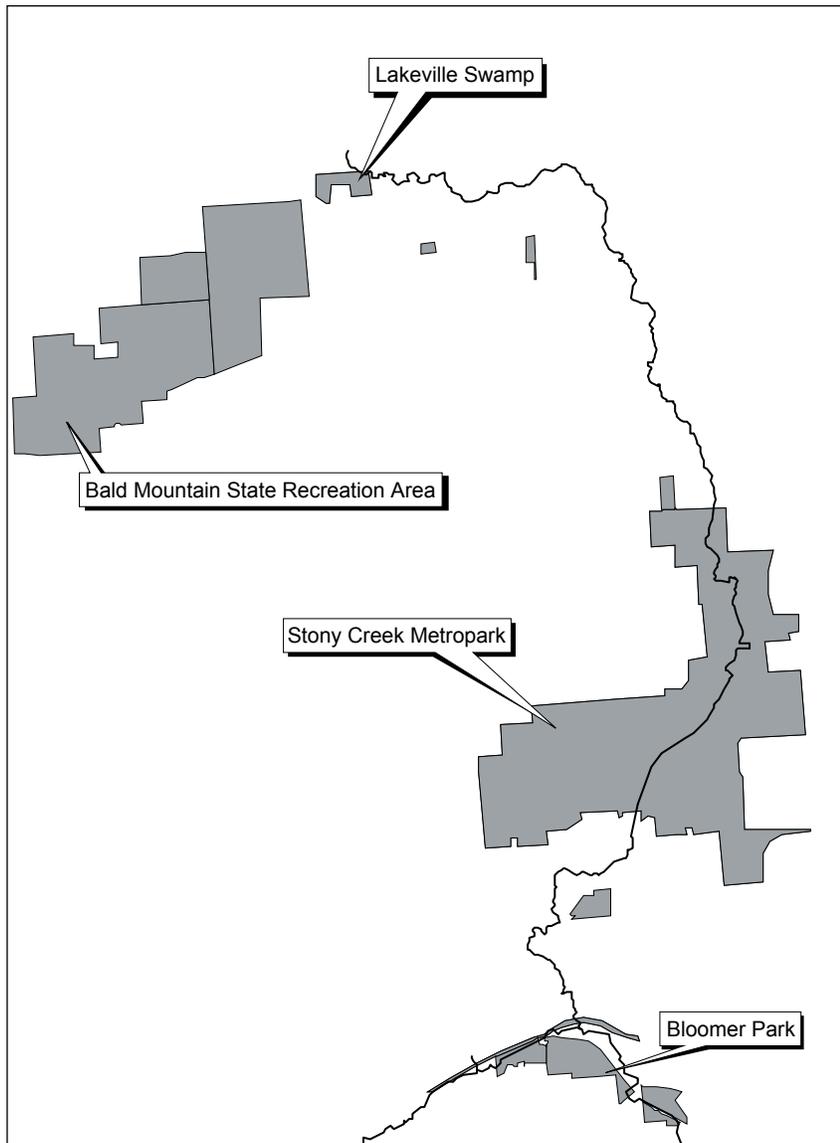


Figure 66.—Public lands (gray) located near Stony Creek. This river segment is 16.7 miles long, 27% of which runs through public lands, and there are 4,037 acres of public land adjacent to the river. Stony Creek Metropark, which runs along a significant part of the creek, provides excellent public access to the water at numerous points.

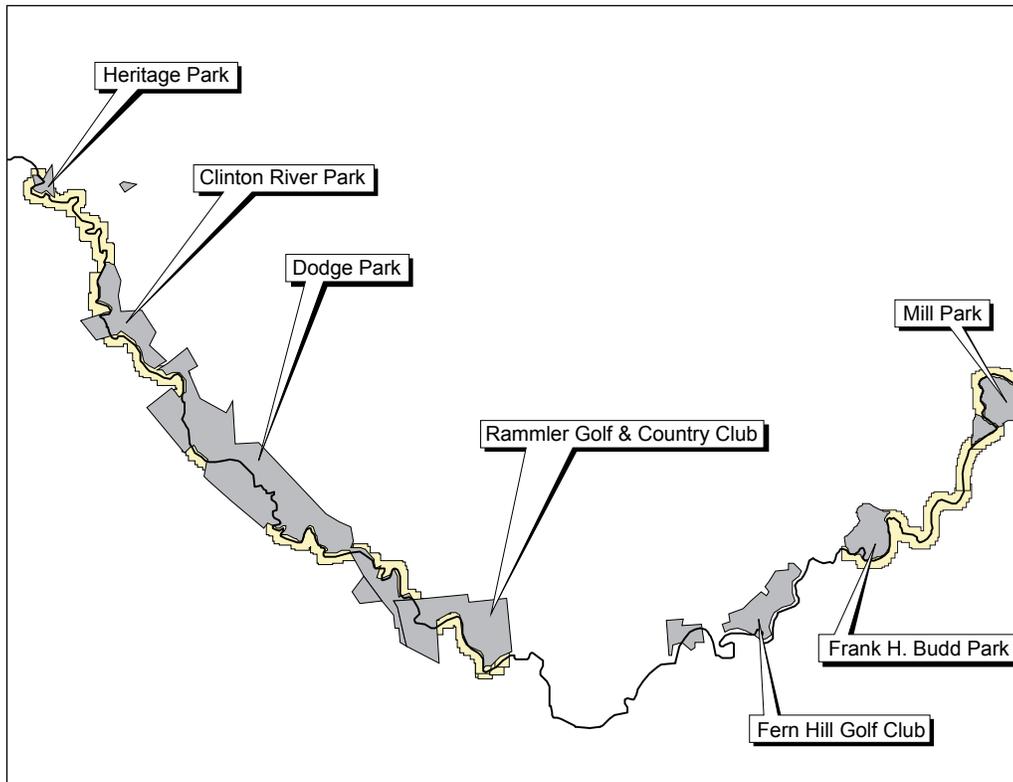


Figure 67.—Public lands (gray) located within Lower Segment of the Clinton River mainstem. This river segment is 13.7 miles long, 62% of which runs through public lands, and there are 780 acres of public land adjacent to the river. The Clinton River Watershed Council Recreation Guide, posted on their website at [HTTP://www.crw.org/projects/recreation/recreation.html](http://www.crw.org/projects/recreation/recreation.html), recommends canoeing in this section as indicated by a light stippled buffer along the river. This website also has site-specific recreational descriptions of many of the public parcels along the river.

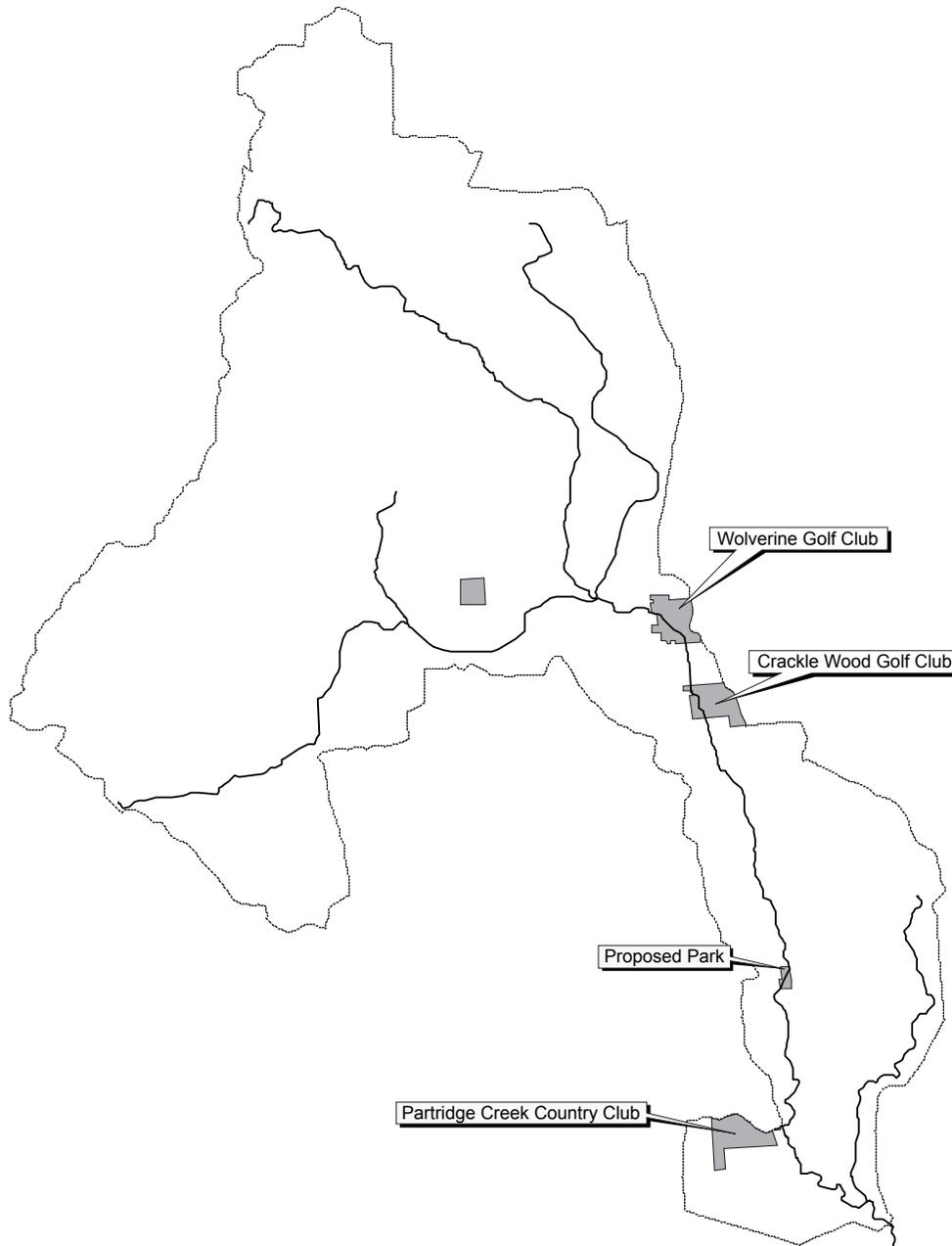


Figure 68.—Public lands (gray) located near Middle Branch of the Clinton River and major tributaries. Combined length for these river segments is 37.5 miles long, only 4% of which runs through public lands, and there are 794 acres of public land adjacent to the river. This section has very limited public access and provides little recreational opportunity.

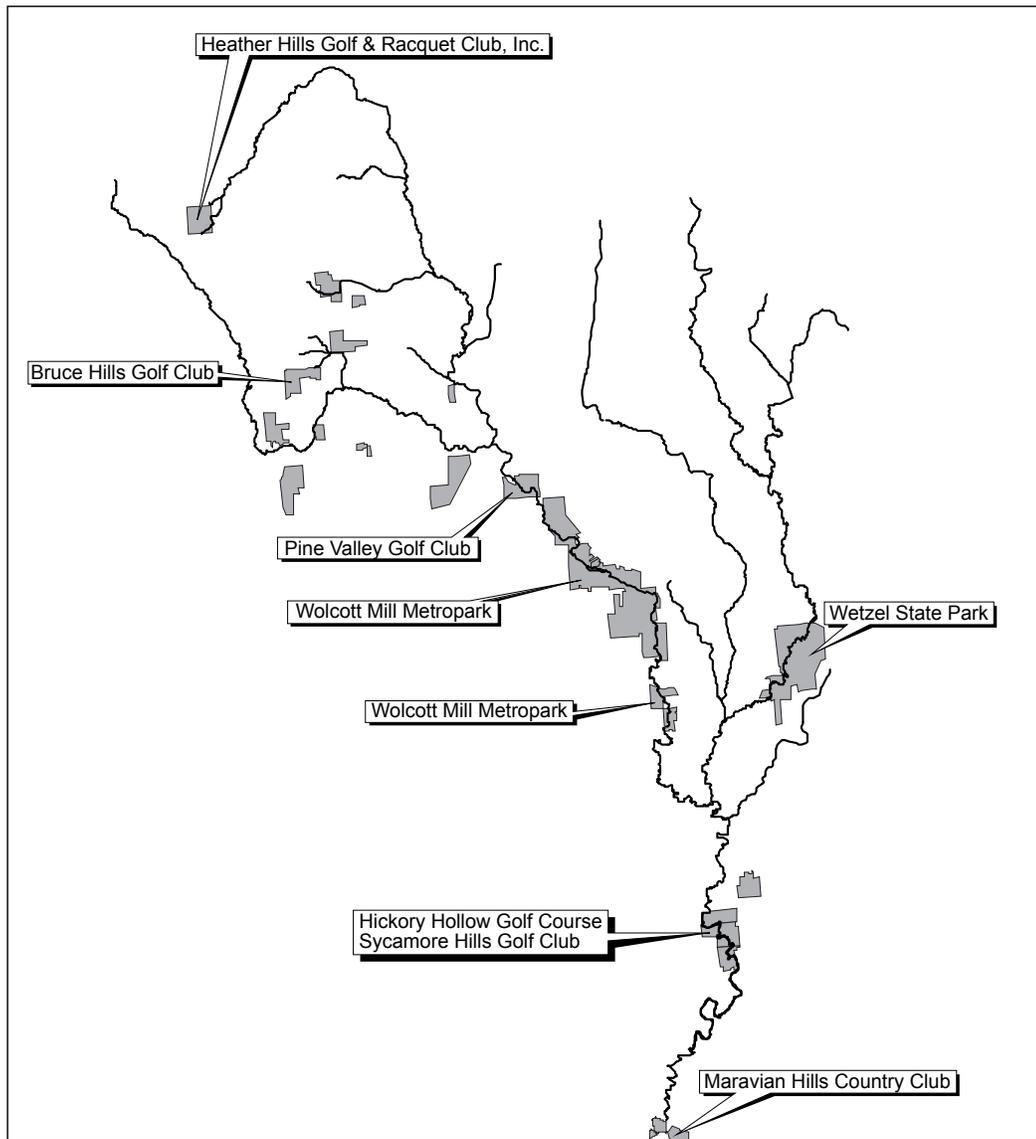


Figure 69.—Public lands (gray) located near North Branch of the Clinton River and major tributaries. Combined length for these river segments is 127.7 miles long, of which 11% of which runs through public lands, and there are 4,657 acres of public land adjacent to the river. This section has moderate to good public access providing substantial recreational opportunity.

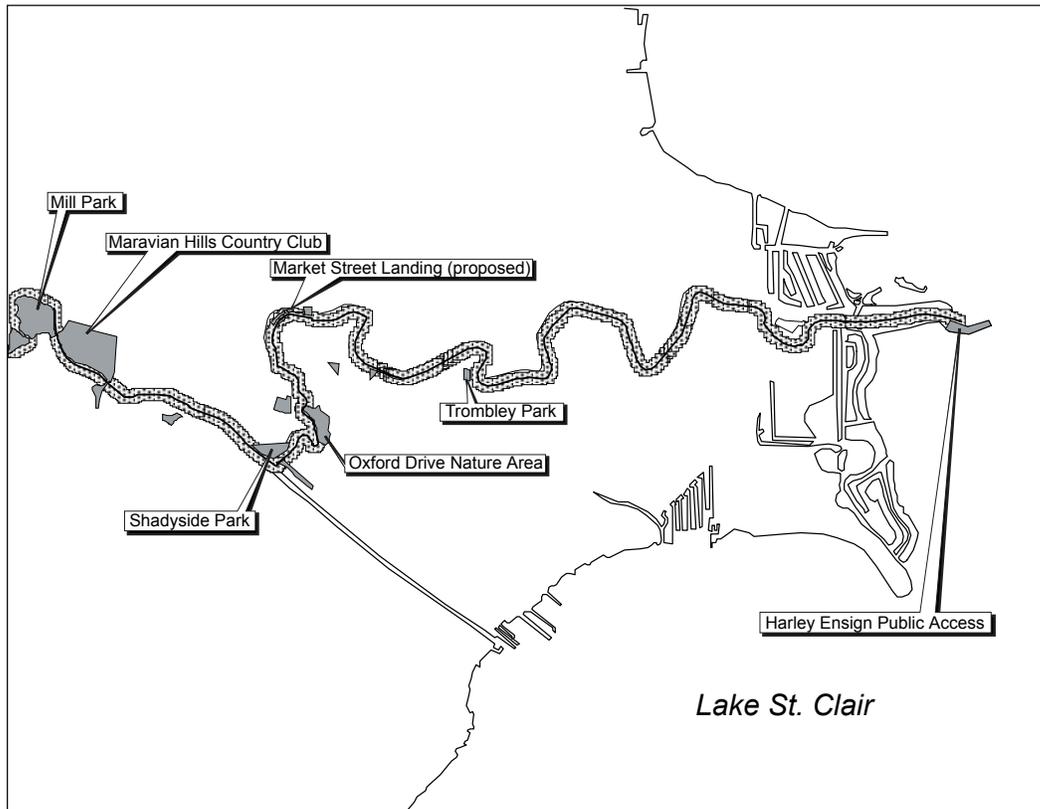


Figure 70.—Public lands (gray) located within Mouth Segment of the Clinton River mainstem. This river segment is 10.4 miles long, 18% of which runs through public lands, and there are 182 acres of public land adjacent to the river. The Clinton River Watershed Council Recreation Guide, posted on their website at [HTTP://www.crowc.org/projects/recreation/recreation.html](http://www.crowc.org/projects/recreation/recreation.html), recommends canoeing in this section as indicated by a light stippled buffer along the river. This website also has site-specific recreational descriptions of many of the public parcels along the river.

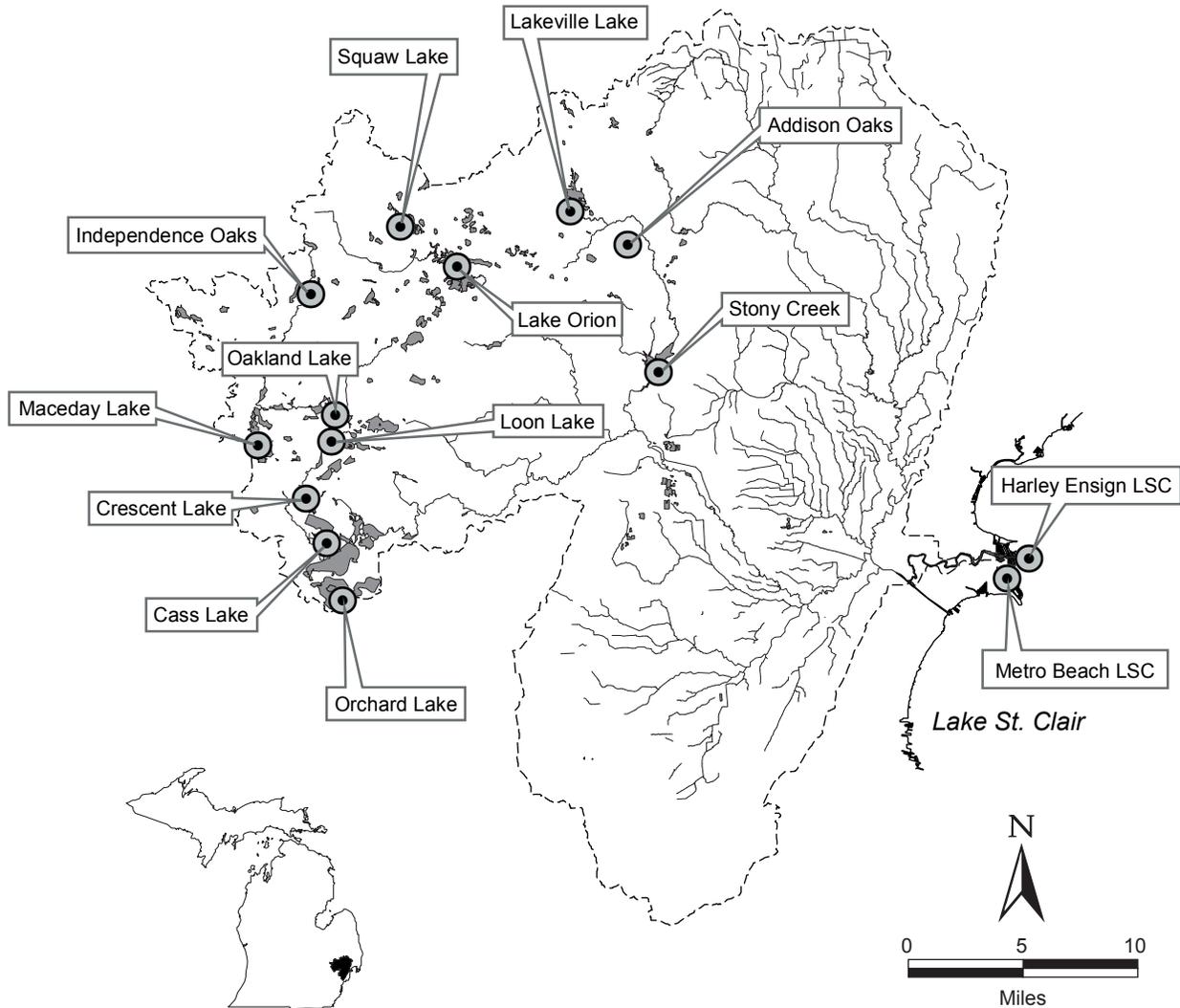


Figure 71.—Locations of major public boat launching sites in the Clinton River watershed. The Clinton River Watershed Council Recreation Guide, posted on their website at [HTTP://www.crowc.org/projects/recreation/recreation.html](http://www.crowc.org/projects/recreation/recreation.html), has site-specific recreational descriptions of many of these recreational facilities.

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## **TABLES**

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Table 1.—Number of archaeological sites within the Clinton River drainage listed by township.

County	Township	Number of sites
Lapeer	T. 06 N, R. 12 E	25
St. Clair	T. 06 N, R. 13 E	1
Oakland	T. 05 N, R. 09 E	1
Oakland	T. 05 N, R. 10 E	15
Oakland	T. 05 N, R. 11 E	18
Macomb	T. 05 N, R. 12 E	62
Macomb	T. 05 N, R. 13 E	7
Oakland	T. 04 N, R. 08 E	2
Oakland	T. 04 N, R. 09 E	13
Oakland	T. 04 N, R. 10 E	33
Oakland	T. 04 N, R. 11 E	39
Macomb	T. 04 N, R. 12 E	22
Macomb	T. 04 N, R. 13 E	1
Oakland	T. 03 N, R. 09 E	15
Oakland	T. 03 N, R. 10 E	39
Oakland	T. 03 N, R. 11 E	46
Macomb	T. 03 N, R. 12 E	22
Macomb	T. 03 N, R. 13 E	26
Macomb	T. 03 N, R. 14 E	2
Oakland	T. 02 N, R. 10 E	1
Oakland	T. 02 N, R. 11 E	4
Macomb	T. 02 N, R. 12 E	40
Macomb	T. 02 N, R. 13 E	31
Macomb	T. 02 N, R. 14 E	12
Oakland	T. 01 N, R. 09 E	11
Oakland	T. 01 N, R. 11 E	10
Macomb	T. 01 N, R. 12 E	13
Oakland	Unknown	1
	TOTAL	512

## Clinton River Assessment

Table 2.—Period of record for climate data at Department of Commerce, National Oceanic and Atmospheric Administration weather stations in or near the Clinton River watershed. Straight-line distance (mi) from the weather station to the geographic center of the watershed is shown. Data from NOAA's Climatic Data Center.

Station name	NCDC number	Period of record	Distance (mi)
Detroit City Airport	0202102	Jan. 1, 1948–Dec. 31, 2000	17.7
Detroit Metro Airport	0202103	Jan. 1, 1958–Dec. 31, 2000	31.1
Milford GM Proving Grounds	0205452	Jan. 1, 1948–Dec. 31, 2000	28.5
Mt. Clemens Selfridge	0205650	Jan. 1, 1948–Dec. 31, 2000	16.5
Pontiac State Hospital	0206658	Jan. 1, 1948–Jan. 31, 1999	7.8
Port Huron	0206680	Jan. 1, 1948–Dec. 31, 2000	43.3

Table 3.—Period of record mean annual discharge at selected United States Geological Survey gauging stations on the Clinton River. Data from United States Geological Survey.

Gauge site	Gauge number	Period of record	Drainage area (mi <sup>2</sup> )	Mean annual discharge (cfs)	Yield (cfs/mi <sup>2</sup> )	Mean daily flow in August
Sashabaw Creek near Drayton Plains	04160800	1959–02	20.9	13.1	0.63	4.7
Clinton River near Drayton Plains	04160900	1959–02	79.2	52.5	0.66	23.0
Clinton River at Auburn Hills	04161000	1935–39 1956–82 2001–02	123.0	103.4	0.84	59.1
Paint Creek at Rochester	04161540	1959–02	70.9	53.1	0.75	26.1
Stony Creek near Washington	04161800	1958–02	68.2	43.0	0.63	19.2
Clinton River at Sterling Heights	04161820	1978–82 1996–97 2001–02	309.0	277.2	0.90	129.0
Clinton River near Fraser	04164000	1947–02	444.0	391.3	0.88	231.9
East Pond Creek at Romeo	04164100	1958–02	21.8	16.2	0.74	7.2
East Branch Coon Creek at Armada	04164300	1958–02	13.0	7.4	0.57	1.4
North Branch Clinton River near Mt. Clemens	04164500	1947–02	199.0	128.1	0.64	27.1
Clinton River at Moravian Drive	04165500	1934–02	734.0	565.9	0.77	259.0

Table 4.—Period of record maximum and minimum daily discharges at selected United States Geological Survey gauging stations on the Clinton River. Data were grouped by year to determine smallest annual maximum and largest annual minimum flows. Data from United States Geological Survey.

Gauge site	Gauge number	Maximum flow				Minimum flow				Full years of data in record
		largest cfs	year	smallest annual cfs	year	largest annual cfs	year	smallest cfs	year	
Sashabaw Creek near Drayton Plains	04160800	146	1981	39	1961	4.0	1980	0.1	1984	40
Clinton River near Drayton Plains	04160900	99	1962	82	1964	17.0	1972	3.0	1963	40
Clinton River at Auburn Hills	04161000	970	1974	181	1958	49.0	1981	5.5	1936	29
Paint Creek at Rochester	04161540	660	1968	107	1964	22.0	1986	6.8	1988	40
Stony Creek near Washington	04161800	407	1968	33	1963	14.0	1980	1.3	1964	41
Clinton River at Sterling Heights	04161820	2,000	1997	1,110	1980	110.0	1980	55.0	1996	6
Clinton River near Fraser	04164000	6,930	1948	781	1958	168.0	1968	49.0	1955	52
East Pond Creek at Romeo	04164100	302	1968	36	1961	6.6	1997	0.9	1964	41
East Branch Coon Creek at Armada	04164300	497	1975	30	1964	0.3	1992	0.0	1976	41
North Branch Clinton River near Mt. Clemens	04164500	5,040	1975	450	1958	14.0	1968	0.1	1988	52
Clinton River at Moravian Drive in Mt. Clemens	04165500	19,200	1947	1,400	1958	200.0	1992	25.0	1934	65

Table 5.—Cover type in the Clinton River watershed in acres. Presettlement data were taken from Michigan Department of Natural Resources, Michigan Resource Inventory System (MIRIS). Land cover in 1992 was determined from the United States Geological Survey (USGS) National Land Cover Data (NLCD).

Cover type	Presettlement (c. 1800)		Current 1992	
	Acres	Percent of total	Acres	Percent of total
Agriculture	0	(0)	187,972	(36.5)
Forested	466,605	(91.5)	108,650	(21.3)
Urban and built up	0	(0)	164,970	(32.4)
Wetlands	41,065	(8.1)	32,541	(6.3)
Open water	2,200	(0.4)	15,737	(3.1)

Table 6.—Beginning and ending elevations and gradient for principal segments of the Clinton River. Elevation and segment length data were extracted from the Michigan Department of Natural Resources, Michigan Resource Inventory System digital elevation and framework datasets. Width measurements were taken from orthorectified aerial images available from same source.

River segment	Elevation at upper end (ft)	Elevation at lower end (ft)	Segment length (mi)	Gradient (ft/mi)	Average width (ft)	Stand. dev. of width	Number measures	Sinuosity index
Clinton River								
Headwaters	1,039.8	992.9	5.0	9.1	14.2	4.1	78	1.33
Upper	992.9	854.1	30.0	4.6	54.2	28.8	233	1.37
Middle	854.1	616.6	19.3	12.4	55.7	13.7	377	1.46
Lower	616.6	578.6	13.7	2.8	76.4	21.1	162	1.42
Mouth	578.6	574.6	11.1	0.4	175.7	51.8	126	1.26
Galloway Creek	945.9	807.6	8.3	16.7	16.7	4.6	74	1.18
Paint Creek	983.1	717.9	15.0	17.7	26.3	23.8	183	1.34
Stony Creek	951.8	687.4	16.7	15.8	35.1	19.6	84	1.15
North Branch	903.2	579.7	41.9	7.7	36.5	5.3	352	1.29
Middle Branch	879.3	578.7	18.1	16.6	39.5	9.8	43	1.04

Table 7.—Clinton River cross-section data summary. Expected width was calculated using average width of rivers with the same discharge volume (equations from Leopold and Maddock 1953, Leopold and Wolman 1957). Mean discharge measurements were taken from Drayton Plains 1994–2003, Auburn Hills 2001–2003, Sterling Heights 2002–2003, and Fraser 1994–2003 (data from United States Geological Survey). Hydraulic diversity index was calculated using the Shannon-Weiner information statistic.

Location	Actual width (ft)	Median daily discharge (cfs)	Expected width (ft)	Hydraulic diversity index
Drayton Plains	36	50.2	39	1.80
Auburn Hills	33	116.0	51	1.45
Sterling Heights	75	177.5	73	2.38
Fraser	83	400.7	109	1.75

Table 8.—Dams and water control structures in the Clinton River watershed, arranged by subwatershed. Data from Department of Environmental Quality, Land and Water Management Division, Dams Safety Unit. Data codes: P=private, F=federal, S=state, LG=local government. Hazard type: 1=high, 2=significant, 3=low. High hazard — loss of life would occur; significant hazard — large amounts of property damage would occur. Blank indicates no data available.

Dam name	Water body	Year built	Owner	Type	Height (ft)	Surface acreage	Storage capacity (acre-ft)	Use	Hazard type
<b>Clinton River</b>									
Dixie Lake Dam		1940	P	earth	4	61	300	lake-level	3
Susin Lake			P	earth	10	50	0	recreation	3
Wau-Me-Gah Lake Dam	Clinton River	1930	P	earth	8	115	600	recreation	2
Tody Lake Dam	Mill Creek	1965	P	earth	12	23	0	recreation	3
Clarkston Dam	Clinton River	1900	P	earth; gravity	34	10	90	retired hydro	1
Williams Lake Control Structure		1972			5	175	0		3
Cemetery & Dollar Lake Dam	Clinton River		P	other	1	28	0		3
Waterford Multi-Lakes Level Control	Clinton River	1973	P	earth; gravity	12	417	3,800	lake-level	2
Eagle Lake Dam	Eagle Lake outlet	1978	LG	earth;	3	20	25	recreation	3
Clintonville Dam	Clinton River	1915	P	earth	14	370	3,900	recreation	2
Lake Angelus Level Control Structure	Lake Angelus outlet	1979	LG	earth; gravity	3	413	520		3
Loon Lake Dam	Clinton River	1936	P	earth; gravity	8	467	3,800	recreation	2
Scott Lake Control Structure					0	77	0		
Watkins Lake Dam	Clinton River				3	244	0		3
Lower Hatchery Dams	Clinton River		P	concrete; gravity	9	43	3	recreation	3
Orchard Lake Dam		1968	LG	earth	8	850	0	lake-level	3
Cass Lake Control Structures 1 and 2	Clinton River	1968	P	other; gravity	6	1,280	0	recreation	3
Pontiac Motor Division Detention Basin	Montcalm Storm Sewer	1982	P	other	12	1	10	lake-level	2
Dawson Millpond Dam	Clinton River	1915	P	concrete	9	567	3,447	retired hydro	1
Walter Moore Dam	Clinton River	1989	LG		0	83	0		3
Winkler Pond Dam	Stony Creek	1917	P	earth; gravity	13	18	200	recreation	2
Yates Mill Dam	Clinton River		P	gravity	10	4	20	other	3
Ford Motor Company Drain Dam	Clinton River		P	gravity	8	2	0	recreation	3
<b>Sashabaw Creek</b>									
Sashabaw Creek Dam	Sashabaw Creek		P	gravity	4	1	0	recreation	3

Table 8.—Continued.

Dam name	Water body	Year built	Owner	Type	Height (ft)	Surface acreage	Storage capacity (acre-ft)	Use	Hazard type
<b>Galloway Creek</b>									
Galloway Lake Dam Galloway Creek USGS Control	Galloway Creek	1960	F	other	6	0	0	other	3
<b>Paint Creek</b>									
Hillview Lake Dam	Tributary to Paint Creek		P	gravity	9	4	0	recreation	3
Pungs Dam	Paint Creek Drain	1923	P	earth; gravity	16	19	160	recreation	2
Lake Araho Dam	Paint Creek Drain		P	earth; gravity	10	28	140		3
Oxford Multi-lakes	N. Br. Paint Creek	1975	P	earth; gravity	12	76	1,175	recreation	3
Duck Lake Dam	Paint Creek Drain	1920	P	earth; gravity	15	49	350	recreation	3
Manito Lake Dam		1950	LG	earth	6	25	60	recreation	3
Indianwood Lake Dam	Paint Creek	1920	P	earth; gravity	13	122	465	recreation	3
Lake Orion Dam	Paint Creek	1829	LG	gravity	18	470	3,600	lake-level	2
Upper Trout Lake Dam	Trout Creek	1963	S	earth	11	3	57	recreation	3
Lower Trout Lake Dam	Trout Creek	1963	S	earth; other	25	68	660	recreation	3
Bald Mountain Pond Dam	Spring Creek	1946	S	earth; gravity	12	6	30	recreation	3
Warstler Dam	Tributary to Paint Creek		P	earth	0	3	0		3
Paint Creek Cider Mill Dam	Paint Creek		P	gravity	8	1	0		3
Sargent Creek Dam	Sargent Creek		P	earth; gravity	9	4	0	recreation	3
Rochester City Park Dam	Paint Creek	1934	LG	other; gravity	6	1	0	recreation	3
<b>Clam Lake</b>									
Indian Lake Dam	Tributary W. Br. Stony Creek	1928	P	buttress	20	58	900	recreation	3
Prince Lake Dam	Tributary W. Br. Stony Creek	1963	S	earth	20	28	310	recreation	3
Bunny Run Dam	W. Br. Stony Creek	1926	P	earth	11	11	40	recreation	3
<b>West Branch Stony Creek</b>									
Buell Road Dam	W. Br. Stony Creek		P	gravity	5	5	0	recreation	3
Eggleston Dam	W. Br. Stony Creek	1953	P	gravity	0	1	0	recreation	3

Table 8.—Continued.

Dam name	Water body	Year built	Owner	Type	Height (ft)	Surface acreage	Storage capacity (acre-ft)	Use	Hazard type
<b>Stony Creek</b>									
Gehrke Dam	Tributary Stony Creek	1913	P	earth; gravity	18	3	60	other	2
Shoup Pond	Clark Drain		LG	gravity	8	1	6	recreation	3
Lakeville Lake Dam	Stony Creek	1913	P	other	10	460	2,200	lake-level	3
Addison Oaks Dam	Krohn Drain	1976	LG	earth	6	37	90	recreation	3
Misuaraca Dam	Tributary Stony Creek		P		0	3	0	recreation	3
Clifton Mill Pond Dam	Stony Creek	1937	P	earth; gravity	12	9	50	recreation	3
Afton Dam	Tributary Stony Creek		P	earth	0	1	0	recreation	3
Thorington Lake Dam	Tributary Stony Creek		P		3	11	0		3
Traxler Dam	Mcclure Drain		P	gravity	0	1	0	recreation	3
Upper Stony Lake Dam	Stony Creek	1961	LG	earth; gravity	24	90	2,500	recreation	1
Lower Stony Lake Dam	Stony Creek	1961	LG	gravity earth	32	590	13,000	recreation	1
<b>East Pond Creek</b>									
Baldwin Pond Dam	East Pond Creek		P	gravity	6	3	2	recreation	3
Secord Lake Dam	East Pond Creek		P	gravity	7	55	130	recreation	3
Fisher Dam	Tributary East Pond Creek	1920	P	earth	15	43	290	recreation	3
Hidden Lake Dam	Tributary East Pond Creek	1968	P	earth	8	16	70	recreation	3
East Mill Lake Dam	Tributary East Pond Creek	1926	P	earth	15	31	440	recreation	3
<b>Middle Branch Clinton River</b>									
Mather Dam	Price Brook		P		0	1	0		3
Lefever Dam	Tributary Yates Drain		P		0	1	0		3
Cory Lake Dam	Tributary Yates Drain		P	earth	8	7	32	recreation	2
Crystal Creek Detention Dam No 1	TR-Clinton River	1989	P	earth	12	4	8	lake-level	3
Huntington Lake Level			LG	other	0	0	0	recreation	3
Chestnut Lake Dam	Middle Br. Clinton River	1968	LG	gravity	16	10	100	recreation	3
<b>Gloede Ditch</b>									
Sterling Mall Dam	Utica Drain	1977	LG	earth	9	16	234	lake-level	3

Table 8.—Continued.

Dam name	Water body	Year built	Owner	Type	Height (ft)	Surface acreage	Storage capacity (acre-ft)	Use	Hazard type
<b>North Branch Clinton River</b>									
Bishop Dam	North Branch Clinton River	1964	P	earth	5	1	0	recreation	3
Centennial Lake Dam	North Branch Clinton River		P		6	30	0		3
Woodland Waters Dam	North Branch Clinton River	1962	P	earth	6	25	0	recreation	3
Cascade Dam	North Branch Clinton River		P	buttress	9	1	0	other	3
North Branch Clinton USGS Control	North Branch Clinton River	1961	F	other	2.5	1	0	other	3
<b>Plumb Brook</b>									
Andries Dam	Plumbrook Drain		P	earth	6	1	0	recreation	3
Troy Lakes Estates Dam	Gibson Drain	1993	P	earth	19	6	30	lake-level	3
Gibson Drain Detention Dam	Gibson Drain				9	16	0		3
Big Beaver Creek									
Autumn Ridge Detention Dam	Shanahan Drain	1982	LG	earth	11	1	23	other	2
<b>Red Run River</b>									
Plumbrook Golf Course Dam	Plumbrook Drain		P	gravity	4	1	0	irrigation	3

Clinton River Assessment

Table 9.–National Pollution Discharge Elimination System permits issued in the Clinton River watershed. Data from Michigan Department of Environmental Quality, Surface Water Quality Division.

Valley segment City	Receiving water	Designated name	Permit type
Upper			
Auburn Hills	Carpenter Lake	Oakland Hts Development	industrial stormwater
Orion	Carpenter Lake	GM Orion Assembly	industrial stormwater
Waterford	Cass Lake	Cass Lake Dry Dock Marina	industrial stormwater
Auburn Hills	Clinton River	Foamade Ind	processed wastewater
Clarkston	Clinton River	Springfield Metal Works	industrial stormwater
		Thompson–McCully–Clarkston	industrial stormwater
Pontiac	Clinton River	Clawson Concrete–Plt 7	industrial stormwater
		FedEx Ground–Pontiac	industrial stormwater
		GM Truck Product Center–West	industrial stormwater
		GM–Pontiac East Assembly	industrial stormwater
		Grand Trunk WRR–Pontiac	processed wastewater
		Heat Treating Services–Pontiac	industrial stormwater
		Pontiac WWTP	non-industrial sanitary wastewater
		Seniors Unlimited Garage	industrial stormwater
Waterford	Clinton River	Midwest Millwork–Waterford	industrial stormwater
		Oakland–Pontiac Airport	industrial stormwater
		SPS Waterford Co–Waterford	industrial stormwater
		TTX Corp–Draco Div–Waterford	industrial stormwater
Clarkston	Greens Lake	LDM Technologies–Clarkston	industrial stormwater
Orion	Judah Lake	Corban Industries–Orion	industrial stormwater
Clarkston	Lotus Lake	Premarc Corp	industrial stormwater
Pontiac	Orange Lake	ABF Freight–Friendly Rd	industrial stormwater
Waterford	Osum Lake	Schram Auto Parts–Waterford	industrial stormwater
	Otter Lake	US Postal Service–Waterford	industrial stormwater
Pontiac	Pontiac Creek	Amtrak Station–Pontiac	industrial stormwater
		Automotive Component Carrier	industrial stormwater
		First Student–Pontiac	industrial stormwater
		Grand Truck WRR–Pontiac Car	industrial stormwater
		Grand Trunk WRR–Pontiac Loco	industrial stormwater
		Smart–Pontiac	industrial stormwater
		UPS–Pontiac	industrial stormwater
Waterford	Pontiac Creek	City Aluminum Foundry	industrial stormwater
		Simpsons Towing–Waterford	industrial stormwater
Waterford	various	Six-S Inc–MO-4502	industrial stormwater
		Six-S Inc–MO-3238	industrial stormwater
		Six-S Inc–MO-4485	industrial stormwater
		Six-S Inc–Ross Bandit AT-173	industrial stormwater
Middle			
Auburn Hills	Clinton River	Corrigan–Auburn Hills	industrial stormwater
		Jamco Mfg–Auburn Hills	industrial stormwater
		Peninsula Plastics Co Inc	industrial stormwater
		Phase II Ind–Auburn Hills	industrial stormwater

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type
Auburn Hills	Clinton River	Ralco Industries	industrial stormwater
		Superior Materials and Redi Mix	industrial stormwater
Pontiac	Clinton River	Akzo Nobel Coatings–Pontiac	industrial stormwater
		Akzo Nobel–30 Brush St	industrial stormwater; processed wastewater
		GM Truck Prod Ctr–Validation	industrial stormwater
Rochester	Clinton River	Fibermark–Rochester	industrial stormwater
		Parkedale Pharmaceuticals Inc	industrial stormwater
		Premix Concrete–Rochester	industrial stormwater
		Rochester WTP	processed wastewater
		Solaronics–Rochester	industrial stormwater
Rochester Hills	Clinton River	Angelos Crushed Con #6–R Hills	industrial stormwater
		Eagle Ottawa–Rochester Hills	industrial stormwater
		Eaton Corporation	industrial stormwater
		Hamlin Tool and Machine Co	industrial stormwater
		Long Mfg–Rochester Hills	industrial stormwater
		Pulte, Arthur	processed wastewater
		Su-Dan–Rochester Hills	industrial stormwater
		Yates Cider Mill Inc	industrial stormwater
Utica	Clinton River	Jolico-JB Tool Inc	industrial stormwater
Shelby Twp	Clinton River	Liquid Disposal Inc–SF Site	processed wastewater
	Unammed trib to Clinton River	G and H LF PRP Group	processed wastewater
Clinton Twp	Cottrell Drain	Venture Ind–Harper Pit	industrial stormwater
Auburn Hills	Galloway Creek	C and D Enterprises	industrial stormwater
		DaimlerChrys Tech Center	industrial stormwater
		Inalfa Roof Syst–Auburn Hills	industrial stormwater
Orion	Galloway Creek	Eagle Valley Recycle and Dispos	industrial stormwater
Pontiac	Galloway Creek	City Waste Systems–Pontiac	industrial stormwater
		Detroit Steel Treating–Pontiac	industrial stormwater
		FPT–Pontiac Division	industrial stormwater
		Great Lakes Waste–Highwood	industrial stormwater
		Highwood Die and Engineering	industrial stormwater
		USF Holland–Pontiac	industrial stormwater
Auburn Hills	Unnamed trib of Galloway Creek	Delta Tooling Co.	industrial stormwater; processed wastewater
	Galloway Ditch	Ajax Materials–Plt 2	industrial stormwater
		Automotive Products–Auburn Hills	industrial stormwater
		Cole Specialty Systems	industrial stormwater
		Roadway Express–Auburn T264	industrial stormwater

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type
Orion	Galloway Ditch	Lymtal International–Orion	industrial stormwater
		Schenck Turner–Orion	industrial stormwater
Auburn Hills	Galloway Drain	ABB Inc–Auburn Hills	industrial stormwater
		Recticel–Auburn Hills	industrial stormwater
Rochester Hills	Honeywell Ditch	Avon Broach and Production Co	industrial stormwater
Auburn Hills	Johnson Drain	Johann A Krause Inc	industrial stormwater
Pontiac	Joslyn Drain	GM–Pontiac North Campus	processed wastewater
Leonard	Lakeville Lake	ITT Industries	industrial stormwater
Utica	Old Clinton River Channel	Visteon Corp–Utica Fac	industrial stormwater
Oxford	Oxford Lake	TKMS Ltd–Oxford	industrial stormwater
Lake Orion	Paint Creek	Lamb–Lake Orion	industrial stormwater
Washington	Stony Creek	American Aggregates–812	industrial stormwater
		Natural Aggregates–Washington	processed wastewater
Oxford	Stony Lake	American Aggregates–817	industrial stormwater
		RLM Industries–Oxford	industrial stormwater
Lower Center Line	Bear Creek	BAE Industries–Center line	industrial stormwater
		Juklin Industries–Center line	industrial stormwater
		Wico Metal Products–Center line	industrial stormwater
Hazel Park	Bear Creek	AMCOL Corp–Hazel Park	industrial stormwater
		National Induction Heating	industrial stormwater
		Red Industries–Hazel Park	industrial stormwater
Madison Hts	Bear Creek	Universal Trim–Madison Hts	industrial stormwater
Warren	Bear Creek	Acco Systems–Warren	industrial stormwater
		Adams United Corp–Warren	industrial stormwater
		Ajax Metal Processing–Cold	industrial stormwater
		Almo Manifold and Tool–Warren	industrial stormwater
		Angelos Crushed Con #4	industrial stormwater
		AZ Automotive–Mound Rd.	industrial stormwater
		Cape Industries–Warren	industrial stormwater
		Commodore Cartage Co.–Warren	industrial stormwater
		Cook Industries–Warren	industrial stormwater
		CPS Process Systems Inc	industrial stormwater
		Everfresh/LaCroix Beverages	industrial stormwater
		Fini Finish Products–Warren	industrial stormwater
		Flex-N-Gate–Stamping 2	industrial stormwater
		GM-Powertrain Div–Warren	industrial stormwater
		Hayden Twist Drill and Tool	industrial stormwater
		Henkel Surface Technologies	industrial stormwater
		Hercules Welding Products	industrial stormwater
Hoover Steel Treating–Warren	industrial stormwater		
Induction Engineering–Warren	industrial stormwater		
InveCast Corp–Dodge St–Warren	industrial stormwater		
Invecast Corp–Warren	industrial stormwater		

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type
Warren	Bear Creek	J and J Buring and Fabricating	industrial stormwater
		Macomb Auto Salvage–Warren	industrial stormwater
		Metallurgical Processing Co	industrial stormwater
		Mich Metal Fabricators–Warren	industrial stormwater
		Milco Manufacturing Co–Warren	industrial stormwater
		Modern Broaching Serv–Warren	industrial stormwater
		Nitro-Vac Heat Treat–Warren	industrial stormwater
		Noble Metal Processing Inc	industrial stormwater
		Nor-Cote Inc–Warren	industrial stormwater
		Plymouth Shafting Corp–Nagel	industrial stormwater
		Precision Mold and Engineering	industrial stormwater
		Ring Screw Works–Screw Div	industrial stormwater
		Royce Corp–Warren	industrial stormwater
		Schwab Foundry Co–Warren	industrial stormwater
		Schwartz Machine Co–Warren	industrial stormwater
		SET Enterprise Inc	industrial stormwater
		SLC Recycling Industries Inc	industrial stormwater
		Soramatic Precision Machining	industrial stormwater
		Tank Truck Mfg–Warren	industrial stormwater
		Tool Dex Inc	industrial stormwater
		Tractech–Warren	industrial stormwater
		Tuff Machine Co–Warren	industrial stormwater
		Warner Elect Formsprag Clutch	industrial stormwater
		Weldaloy Products Company	industrial stormwater
		Welform Electrodes Inc–Warren	industrial stormwater
		Wico Metal Products–Ryan Rd	industrial stormwater
		Wico Metal Products–Warren	industrial stormwater
Wolverine Die Cast–Nagel Ave	industrial stormwater		
Sterling Hts	Beaver Creek	A G Simpson Inc	industrial stormwater; processed wastewater
		Ex-Cell-O Machine Tools Inc	industrial stormwater
		Tesma Sterling Hts	industrial stormwater
	Big Beaver Creek	Automotive Plastic Tech	industrial stormwater
		Cadillac Products–Auto Div	industrial stormwater
		Deluxe Stamping and Die Co	industrial stormwater
		Detroit Hoist and Crane	industrial stormwater
		Luckmarr Plastics Inc	industrial stormwater
		Orlandi Gear–Sterling Hts	industrial stormwater
		PPG Industries–Sterling Hts	industrial stormwater
Proficient Products Inc	industrial stormwater		
Chesterfield	Bowman Ditch	TRW–Sterling Hts	industrial stormwater
		Valiant Industries Inc	industrial stormwater
Armada	Cemetery Creek	Visteon Corp–Chesterfield P12	industrial stormwater
		Motor City Stamping	industrial stormwater
Sterling Hts	Chrissman Drain	Armada Rubber Mfg	industrial stormwater
		AZ Automotive–Sterling Hts	industrial stormwater
		Continental Light–Sterling Hts	industrial stormwater

## Clinton River Assessment

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type		
Sterling Hts	Chrissman Drain	J G Kern Enterprises Inc	industrial stormwater		
		Mark Engineering Co	industrial stormwater		
		Venture Corp–Mound Facility	industrial stormwater		
Almont	Clinton River	Aristo-Cast Inc–Almont	industrial stormwater		
Center Line	Clinton River	AZ Automotive–Center line	industrial stormwater		
Clinton Twp	Clinton River	A and M Industries	industrial stormwater		
		Collins and Aikman–Clinton	industrial stormwater		
Madison Hts	Clinton River	Advanced Assembly–Madison Hts	industrial stormwater		
		Valley Industries–Madison Hts	industrial stormwater		
Mt. Clemens	Clinton River	DuPont–Mt. Clemens	industrial stormwater		
Rochester	Clinton River	Baxter Hyland Immuno–Rochester	industrial stormwater		
Rochester Hills	Clinton River	Avon Plastic Products	industrial stormwater		
Roseville	Clinton River	Lincoln Die Casting–Roseville	industrial stormwater		
Sterling Hts	Clinton River	Amplas Compounding Inc	industrial stormwater		
		Automotive Composites Co	industrial stormwater		
		Casadei Structural Steel Inc	industrial stormwater		
		IMPCO	industrial stormwater		
		John R Fuel and Supply–Van Dyke	industrial stormwater		
		Regal Prototypes Inc	industrial stormwater		
		Shuert Industries–Sterling Hts	industrial stormwater		
		Thread-Craft–Sterling Hts	industrial stormwater		
		Ultimate Hydroforming Inc	industrial stormwater		
		Warhoops Auto and Truck Parts	industrial stormwater		
		Utica	Clinton River	MNP Corporation–Utica	industrial stormwater
		Warren	Clinton River	Guardian Automotive Company	industrial stormwater
				M and W Manufacturing Co	industrial stormwater
Super Steel Treating Co–Warren	industrial stormwater				
Armada	Coon Creek	Park Electric–Armada	industrial stormwater		
Macomb	Crittenden Drain	Michigan Production Machining	industrial stormwater		
		PICO East–Macomb Twp	industrial stormwater		
Shelby Twp	Decker Drain	SND Steel Fabrication Inc	industrial stormwater		
Armada	East Branch of Coon Creek	Armada WWTP	non-industrial sanitary wastewater		
Romeo	East Pond Creek	Armada Ind Park	processed wastewater		
		Aristo-Craft–Romeo	industrial stormwater		
		D and N Bending–Romeo	industrial stormwater		
		Ford–Michigan Proving Grounds	processed wastewater		
		Kriewall Enterprises Inc	industrial stormwater		
		Romeo Expeditors Inc	industrial stormwater		
		Romeo WWTP	non-industrial sanitary wastewater		
New Baltimore	Fuller Drain	Twentieth Century Machine Co	industrial stormwater		
		Emhart Automotive–Chesterfield	industrial stormwater		
		Emhart Automotive–Gratiot	industrial stormwater		

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type
Sterling Hts	Gamble Drain	Hi-Tech Tool–Sterling Hts	industrial stormwater
		Proto Gauge Inc	industrial stormwater
Troy	Gibson Drain	Versatube Corp–Troy	industrial stormwater
Macomb	Gloede Ditch	Berz–Macomb Airport	industrial stormwater
		Jam Prototype–Macomb	industrial stormwater
		Harris Drain	ACR Industries–Macomb Dimension Machine Tool Joint Production Technology
Troy	Hawthorn Drain	Birmingham Hydraulics–Troy	industrial stormwater
Richmond	Highbanks Creek	Armada Products–Richmond	industrial stormwater
Madison Hts	Lawson Drain	Henze Stamping and Manufacturing	industrial stormwater
Shelby Twp	Longstaff Drain	JAC Products Inc Rollform	industrial stormwater
		Nat Asphalt Products Inc	industrial stormwater
		Ski Industries–Shelby Twp	industrial stormwater
		Utica-Craft Industries	industrial stormwater
	Longstaff Drain #2	AV Technology–14920 23 Mile	industrial stormwater
		Fori Automation–Shelby Twp	industrial stormwater
		Shelby Precast Concrete Co	industrial stormwater
		Utica Products–Shelby Twp	industrial stormwater
Romeo	Mahaffy Drain	L and L Products Inc–Deep South Shelby Enterprises–Romeo	industrial stormwater industrial stormwater
Madison Hts	McCoy Drain	Eleven Mile Truck Frame and Axle	industrial stormwater
Clinton Twp	Middle Branch of Clinton River	John Carlo Inc–2828 Rex	industrial stormwater
		John Carlo Inc–Johnson Plt225	industrial stormwater
		John Carlo Inc–Plt2721	industrial stormwater
		John Carlo–Rex Models S 2017	industrial stormwater
Shelby Twp	Middle Branch of Clinton River	Arlington Transit Mix	industrial stormwater
Clinton Twp	Miller Drain	Electroplating Ind–Clinton Twp	industrial stormwater
Sterling Hts	Moore Drain	Becker Tooling–Sterling	industrial stormwater
		Classic Tool and Boring Inc	industrial stormwater
		Consolidated Rail–Sterling Hts	industrial stormwater
		DaimlerChrysler–Sterling Hts	industrial stormwater
		Experi-Metal–Sterling Hts	industrial stormwater
		Fettes Mfg–Sterling Hts	industrial stormwater
		Sterling Concrete–Sterling Hts	industrial stormwater
		Visteon Corp–Sterling	industrial stormwater
		Almont	North Branch of Clinton River
Clinton Twp	North Branch of Clinton River	Blue Water Fabricators	industrial stormwater
		Columbia Tool and Die Co	industrial stormwater

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type	
Clinton Twp	North Branch of Clinton River	D and B Polishing–Clinton Twp	industrial stormwater	
		Fred J Breiten Lumber–Clinton	industrial stormwater	
		Norgren Automotive–Clinton Twp	industrial stormwater	
Romeo	North Branch of Clinton River	Tower Automotive–Clinton Twp	industrial stormwater	
Almont	Unnamed trib to North Branch	Ford–Romeo Engine Plant	industrial stormwater	
Chesterfield	Pitts Drain	Almont Meadows MHP	non-industrial sanitary wastewater	
		Profile Mfg–Chesterfield	industrial stormwater	
Sterling Hts	Plum Brook	Visteon Corp–Chesterfield P11	industrial stormwater	
		American and Import Auto Parts	industrial stormwater	
		Atlas Copco AFS Inc	industrial stormwater	
		Curtis Metal Finishing	industrial stormwater	
		Ford-Van Dyke–Sterling Hts	industrial stormwater	
		McClain Industries	industrial stormwater	
		Norbert Industries Inc	industrial stormwater	
		Troy Aggregate–Sterling Hgts	industrial stormwater	
		Plum Brook Creek	Levy-Clawson Concrete–Plt 16	industrial stormwater
			Mayco Plastics–Sterling Hts	industrial stormwater
Mich Tile and Marble Co	industrial stormwater			
Plumbrook Drain	Moore Flame Cutting	industrial stormwater		
	Nisshinbo Automotive Corp	industrial stormwater		
	Ran-Shel Inc	industrial stormwater		
	Shamrock Fasterner Tech	industrial stormwater		
Center Line	Red Run Drain	Wyatt Services–Sterling Hts	industrial stormwater	
		Aetna Industries–Center line	industrial stormwater	
Hazel Park	Red Run Drain	Emerald Steel–Center Line	industrial stormwater	
Madison Hts	Red Run Drain	KC Jones Plating–Hazel Park	industrial stormwater	
		Ajax Paving–M-400	industrial stormwater	
		Ajax Paving–M-430	industrial stormwater	
		Ajax Paving–M-482	industrial stormwater	
		Ajax Paving–M-522	industrial stormwater	
		Ajax Paving–M-524	industrial stormwater	
		Ajax Paving–M-604	industrial stormwater	
		Atlas Gear–Madison Hts	industrial stormwater	
		Bokum Tool–Madison Hts	industrial stormwater	
		Central Gear–Madison Hgts	industrial stormwater	
		H and L Tool–Madison Hgts	industrial stormwater	
		Howard Finishing–Madison Hts	industrial stormwater	
		Inland Diamond Products Co	industrial stormwater	
		Kerr Screw Products Co	industrial stormwater	
		Meridian Automotive Systems	industrial stormwater	
		Oakland Co SOCSDS 12 Towns RTF	non-industrial sanitary wastewater	

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type
Madison Hts	Red Run Drain	Ogura Corp–Madison Hgts	industrial stormwater
		Park Precision–Madison Hgts	industrial stormwater
		Plating Specialties	industrial stormwater
		Ross Controls	industrial stormwater
		Stanhope Tool–Madison Hts	industrial stormwater
		UPS–Madison Hts	industrial stormwater
		Zimmerman Handling Systems	industrial stormwater
Roseville	Red Run Drain	Angelos Crushed Con #1	industrial stormwater
		Spartan Grinding–Roseville	industrial stormwater
		Sphere Industries–Roseville	industrial stormwater
Sterling Hts	Red Run Drain	DaimlerChrysler–Sterling Stamp	industrial stormwater
Warren	Red Run Drain	A and T Auto Parts–Warren	industrial stormwater
		Ace Finishing–Warren	industrial stormwater
		Anchor Tool and Die–Warren	industrial stormwater
		Apex Broaching Systems–Warren	industrial stormwater
		AZ Automotive–Plants 6 and 9	industrial stormwater
		Best Block Co–Warren	industrial stormwater
		Bilco Tool Corp–Warren	industrial stormwater
		Borg Warner Automotive–Warren	processed wastewater
		Cadillac Plating–Warren	industrial stormwater
		Capri Tube Inc–Warren	industrial stormwater
		Caratron Industries–Warren	industrial stormwater
		Carboloy Inc	industrial stormwater; processed wastewater
		Central Metal Products–Warren	industrial stormwater
		Cerametal Mich–Warren	industrial stormwater; processed wastewater
		Comtrex LLC–Warren	industrial stormwater
		Contrail–Warren	industrial stormwater
		Conway Central Express–xpn	industrial stormwater
		DaimlerChrysler–Dodge City	industrial stormwater; processed wastewater
		Distel Tool and Machine–Warren	industrial stormwater
		Duramic Abrasive Product	industrial stormwater
		E and E Engineering–Warren	industrial stormwater
		Ernst Concrete–Warren Plt	industrial stormwater
		Express Coat Corp–Warren	industrial stormwater
		Flex-N-Gate–Forming Tech	industrial stormwater
		Flex-N-Gate–Stamping 1	industrial stormwater
		FOHA North America–Warren	industrial stormwater
		Gentz Industries–Warren	industrial stormwater
		GM-Technical Center–Warren	industrial stormwater
		Grosse Tool and Machine–Warren	industrial stormwater
		Hahn Elastomers–Warren Div	industrial stormwater
		Hi-Tech Coatings Inc	industrial stormwater
Inalfa/SSI Roof Syst–Warren	industrial stormwater		
J and N Fabrication–Warren	industrial stormwater		
Keo Cutters–Warren	industrial stormwater		

Table 9.–Continued.

Valley segment	Receiving water	Designated name	Permit type
City			
Warren	Red Run Drain	Leonard Tool and Die–Warren	industrial stormwater
		Machining Enterprises Inc	industrial stormwater
		Manufacturers Products Co	industrial stormwater
		Michigan Rivet Corp–Warren	industrial stormwater
		Midwest Gear and Tool Inc	industrial stormwater
		Modern Hard Chrome Service Co	industrial stormwater
		Parton and Preble Mix–Warren	industrial stormwater
		Paslin Co–Warren	industrial stormwater
		PK Fabricating Inc–Warren	industrial stormwater
		Plymouth Shafting Corp–Hoover	industrial stormwater
		Punchcraft Co–Warren	industrial stormwater
		Rajason International	industrial stormwater
		Reska Spline Products–Warren	industrial stormwater
		Sheridan Auto Parts–Edorn	industrial stormwater
		Sheridan Auto Parts–Groesbeck	industrial stormwater
		Sturdy Broaching Service	industrial stormwater
		TI Group–Warren	industrial stormwater
		Tool-Dex Inc–Warren	industrial stormwater
		Tri County Precision Grinding	industrial stormwater
		Vac-Met Inc–Warren	industrial stormwater
		Venture Corp–Warehouse	industrial stormwater
		Warren Abrasives Inc	industrial stormwater
		Warren Recycling Center	industrial stormwater
Warren WWTP	non-industrial sanitary wastewater; industrial stormwater		
		Weyerhaeuser Co–Warren	industrial stormwater; processed wastewater
		Wolverine Die Cast–Hoover Rd	industrial stormwater; processed wastewater
Troy	Shanahan Drain Spencer Drain	Wear-Ever Surface Treating	industrial stormwater
		Clark Refining–Troy	processed wastewater
		Adaptive Technologies–Troy	industrial stormwater
		Airborne Express–Troy	industrial stormwater
		AL-Craft–Troy	industrial stormwater
		Angel Trucking	industrial stormwater
		Barrett Paving Materials–Troy	industrial stormwater
		Big Beaver Specialty Co	process wastewater
		Castall Products–Troy	industrial stormwater
		CNI Inc–Troy	industrial stormwater
		Compound Technologies–Troy	industrial stormwater
		Controlled Power–Troy	industrial stormwater
		DuPont–Troy	industrial stormwater
		Federal Express–Troy	industrial stormwater
		FedEx Freight East–Troy	industrial stormwater
		Fisher Corp–Troy	industrial stormwater
FJ Manufacturing–Troy	industrial stormwater		
Lebow Products Inc	processed wastewater		

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type
Troy	Spencer Drain	Magna International Inc–Vehma	industrial stormwater
		Metaldyne–Troy	industrial stormwater
		Mich Timber and Truss–Troy	industrial stormwater
		Modern Prototype Div–Troy	industrial stormwater
		ND Industries–Troy	industrial stormwater
		Ring Screw Textron–Troy	industrial stormwater
		Scott Specialty Gases–Troy	industrial stormwater
		Smart–Troy	industrial stormwater
		Solvay Automotive–Troy	industrial stormwater
		Sterling Industries–Troy	industrial stormwater
		Sulzer Metco–Troy	industrial stormwater
		Tiechon Industries–Troy	industrial stormwater
		Troy Aggregate–Troy	industrial stormwater
		Vehma International Amer	industrial stormwater
		Venture Mold and Eng–Troy	industrial stormwater
		Yarema Die and Engineering	industrial stormwater
		Yarema Die and Engineering– Troy	industrial stormwater
	Sturgis Drain	Metro Technologies–Troy	industrial stormwater
		PPG Industries–Chemfil	industrial stormwater
		USPS–Royal Oak Processing	industrial stormwater
Sterling Hts	Vokes Drain	Utica Transit Mix and Supply Co	industrial stormwater
Romeo	Wilson Drain	L and L Products Inc–Romeo North	industrial stormwater
		Theut Products Inc–Mich Block	industrial stormwater
		Theut Products Inc–Romeo	industrial stormwater
Washington	Yates Drain	Sterling Concrete–Washington	industrial stormwater
Mouth			
Clinton Twp	Clinton River	Warren Industries Inc–Clinton	industrial stormwater
Fraser	Clinton River	A-V-R Mfg–Fraser	industrial stormwater
		Turchi Cut Stone–Fraser	industrial stormwater
Harrison Twp	Clinton River	Barcoa Manufacturing	industrial stormwater
		Ernies Auto Parts	industrial stormwater
		Mega Thrust–Harrison Twp	industrial stormwater
		Northern Industrial Mfg	industrial stormwater
		Par-Kut International	industrial stormwater
		Selfridge Plating–Mt Clemens	industrial stormwater
Mt. Clemens	Clinton River	A-1 Roll Co–Mt Clemens	industrial stormwater
		Barrett Paving–Mt Clemens	industrial stormwater
		Caterpillar Inc–Mt Clemens	industrial stormwater
		Concord Tool and Mfg–Mt Clemens	industrial stormwater
		Enmanco Inc–Mt Clemens	industrial stormwater
		Johnson Controls–Mt Clemens	industrial stormwater
		LeRoys Auto Parts–Mt Clemens	industrial stormwater

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type
Mt. Clemens	Clinton River	Mt. Clemems WWTP	non-industrial sanitary wastewater
Pontiac	Clinton River	TM Smith Tool Intl Corp	industrial stormwater
Roseville	Clinton River	Hydra-Lock–Mt Clemens	industrial stormwater
Roseville	Clinton River	AZ Automotive–Roseville	industrial stormwater
Selfridge ANGB	Clinton River	Selfridge ANGB	processed wastewater
Clinton Twp	Harrington Drain	American Auto–Clinton Twp	industrial stormwater
		Austemper–Clinton Twp	industrial stormwater
		Auto-Con Corp–Clinton Twp	industrial stormwater
		Burkard Industries Inc	industrial stormwater
		Mini Mix Supply–Clinton Twp	industrial stormwater
		RW Mfg–Orion Industries	industrial stormwater
		Superior Heat Treat LLC	industrial stormwater
		Van Loon Ind–Clinton Twp	industrial stormwater
		Venture Ind–Groesbeck Plt	industrial stormwater
Fraser	Harrington Drain	JJJ Inc	industrial stormwater
		Metaldyne–Fraser	industrial stormwater
Roseville	Harrington Drain	Moon Roof Corp of America	industrial stormwater
		Phalanx Inc–Roseville	industrial stormwater
		Piper Industries–Roseville	industrial stormwater
		QMC Die Technology	industrial stormwater
		Radar Industries–Roseville	industrial stormwater
		RCO Engineering Inc–Roseville	industrial stormwater
		UPS–Roseville	industrial stormwater
		Wolverine Bronze Co–Roseville	industrial stormwater
		Wolverine Plating–Roseville	industrial stormwater
Warren	Harrington Drain	Radar Industries Inc–Warren	industrial stormwater
		Roadway Express–Warren T262	industrial stormwater
Clinton Twp	Peltier Drain	Waste Management–East	industrial stormwater
Warren	Schoenherr Drain	Chemtech Finishing Systems	industrial stormwater
Eastpointe	Sweeney Drain	Hydra-Fab–Eastpointe	industrial stormwater
Fraser	Sweeney Drain	K and K Stamping–Fraser	industrial stormwater
		Middleton Auto Parts–Fraser	industrial stormwater
		Vac-Met Inc–Fraser	industrial stormwater
		CBS Boring and Machine Co Plt2	industrial stormwater
		Christy Industries	industrial stormwater
		Oakland Tool and Mfg–Fraser	industrial stormwater
		Shane Steel Processing–Fraser	industrial stormwater
		Specialty Steel–Fraser	industrial stormwater
		TBL Trailer Inc–Fraser	industrial stormwater
		US Mfg Corp–Fraser	industrial stormwater
		Venture Ind–Commerce Plt	industrial stormwater
		Venture Ind–Malyn Plt1	industrial stormwater
		Venture Ind–Malyn Plt3	industrial stormwater
		Venture Ind–Malyn Warehouse	industrial stormwater
		Venture Ind–Masonic Plt	industrial stormwater

Table 9.–Continued.

Valley segment City	Receiving water	Designated name	Permit type
Roseville	Sweeney Drain	Aero Grinding Inc–Roseville	industrial stormwater
		Apollo Plating–Roseville	industrial stormwater
		Regal Plastics–Roseville	industrial stormwater
		Advance Precision Grinding	industrial stormwater
		Albert Webster–Engineering	industrial stormwater
		Crown Boring–Roseville	industrial stormwater
		Don and Hanks Highway Auto Parts	industrial stormwater
		Gilco–Roseville	industrial stormwater
		Great Lakes Paper Stock Corp	industrial stormwater
		Grippe Machining and Mfg Co	industrial stormwater
		H and M Machining Inc–Roseville	industrial stormwater
		Hofley Manufacturing– Roseville	industrial stormwater
		Industrial Stamping and Mfg	industrial stormwater
		Roberts and Sons–Roseville	industrial stormwater
		Westgood Mfg–15211 11 Mile	industrial stormwater
Warren	Sweeney Drain	Midwest Brake	industrial stormwater
		Harry and Sons Auto Parts– Warren	industrial stormwater
		Sur-Flo Plastics–Warren	industrial stormwater
		Technical Rotary Services	industrial stormwater
		Tonys Die and Machine–Warren	industrial stormwater
Clinton Twp	Tesk Drain	Lunar Industries–Clinton Twp	industrial stormwater
		Press-Way–Clinton Twp	industrial stormwater
Fraser	Tesk Drain	A-1 Stamping–Fraser	industrial stormwater
		Automated Production–Fraser	industrial stormwater
		Berg Tool–Fraser	industrial stormwater
		CBS Boring and Machine Co Plt 3	industrial stormwater
		CBS Boring and Machining– Fraser	industrial stormwater
		Continental Plastics	industrial stormwater
		Crawford Technologies Inc	industrial stormwater
		Diversified Fabricators–Fraser	industrial stormwater
		Edrich Products–Fraser	industrial stormwater
		Falcon Cold Forming Inc	industrial stormwater
		G and F Prototype Plasters	industrial stormwater
		Grossel Tool–Fraser	industrial stormwater
		Inter-Lakes Bases–Fraser	industrial stormwater
		ISO Plus Inc–Fraser	industrial stormwater
		Jason Tool and Engineering	industrial stormwater
		Kinde II	industrial stormwater
		Prototype Tooling and Mfg– Fraser	industrial stormwater
Stampings Inc–Fraser	industrial stormwater		
Sur-Flo Plastics–Fraser	industrial stormwater		
Venture Corp–Advanced	industrial stormwater		
Venture Ind–Tech Center	industrial stormwater		

Clinton River Assessment

Table 10.–Contamination sites in the Clinton River watershed, as of 2003 (Department of Environmental Quality, Remediation and Redevelopment Division). Acronyms: BHC=benzenehexachloride; BTEX=benzene, toluene, ethylbenzene, and xylene; BTX=benzene, toluene, and xylene; DCA=dichloroethane; 1,1 DCA=isomer of dichloroethane; 1,2 DCA=isomer of dichloroethane; cis-1,2-DCE=isomer of dichloroethylene; tran-1,2-DCE=isomer of dichloroethylene; DDE=dichloro-diphenyl-dichloroethylene; DDT=Dichloro-diphenyl-trichloroethane; MEK=methyl ethyl ketone; MTBE=methyl tertiary butyl ether; PCBs=polychlorinated biphenyls; PCE=perchloroethylene; PNAs=polynuclear aromatic hydrocarbons; SVOCs=semi-volatile organic compounds; TCA=trichloroethane; 1,1,1 TCA=isomer of trichloroethane; TCE=trichloroethylene; VC=vinyl chloride; VOCs=volatile organic compounds.

Site location common site name	Pollutant
<b>Headwaters</b>	
Oakland County	
Former Texaco – Clarkston	Gasoline, BTEX, MTBE
Salem Sand and Gravel	VOCs
<b>Upper</b>	
Oakland County	
Clarkston Rd. Area	Arsenic, Lead
Camp Pontiac Correctional Facility	PNAs
Colombiere Center	PNAs
Main Street Residential Wells	1,2 DCA, Benzene, 1,1 DCA, Xylenes
Oakland Co. Rd. Comm. Dixie Lake	Sodium, Chloride
Woodhull Lake	Inorganics, PNAs
Buckeye Pipeline	BTEX
Maybee and Sashabaw Rd. Residential Well	BTEX
Clinton Valley Center	VOCs
W.C. Warner Petroleum	No data
Dandy Oil	1,1,1 TCA
Pontiac Steel (former)	Boron, iron, lead
Sashabaw Rd. Area Residential Wells	BTEX, TCE, TCA
Emma Milner	Gasoline, BTEX, MTBE, cadmium, cyanide, lead, naphthalene
Fisher Cleaners and Laundry	PCE
Safety Kleen	PCE, TCE
Oakland County Fuels Inc.	VOCs, SVOCs
One Hour Martinizing Cleaners	PCE, TCE
Oakland County Central Power House	VOCs, PNAs
Drayton Rd. Well	1, 1, 1 TCA
Rockcroft St. Residential Wells	VC, PCE, TCE
Cooley Lake Rd. Residential Well	BTX, DCA
Kayo Oil Co.	BTEX
Hoight Oil	VOCs, SVOCs
Pontiac Manufactured Gas Plant	PNAs
Saltarelli Landfill	Metals, PNAs, TCE, PCBs, Acenephylene
West Bloomfield School Bus Garage	No data
Shell Dry Well 1 Telegraph	Pseudocumene, Phenols, mesitylene, benzene
Nu Kar Products	BTX
G.M. Truck and Bus – Pontiac Central	BTEX, PNAs, lead
G.M. Truck and Bus Pontiac Central	Cyanide

Table 10.–Continued.

Site location common site name	Pollutant
George W. Auch Co. Kennett Rd. Landfill	SVOCs Chlorobenzene, xylenes, fluoranthene, lead
Wide Track and Wesson	Arsenic
Wide Track and Saginaw	VOCs, arsenic, lead
City of Pontiac, Lot 9 Brownfield	SVOCs, inorganics
City of Pontiac 94-32	VOCs, SVOCs, inorganics
Branch and Gillespie Street	Inorganics
GM CPC Pontiac	PCBs, 1,2 DCA, VOCs, PNAs, Metals
Grand Trunk R.R. Ojista Rd.	Diesel Fuel
AKZO Coatings	Benzene
Paddock and M-59 Drums	VOCs
Architectural Stone International	VOCs, SVOCs
Goddard Coatings	PNAs, Metals
Goddard Coatings	SVOCs
Middle	
Oakland County	
Auburn Court Associates	BTEX, PNAs
Adams and Auburn Rd. Development	PCE, TCE, Xylenes, Cis-1,2-DCE
Christianson Adam Rd. Dumpsite	TCE, Toluene, Chromium, Lead, Manganese, Xylene
Former A and A Asphalt	TCA, Toluene, Methylene, Chloride
Auburn Hills Specialty Crews Complex	No data
Great Lakes Container Corp.	Toluene, Dieldrin, Lead, Cadmium, Nickel
Royal Auto Parts	Inorganics
Collier Rd. Landfill Pontiac	Zinc, TCE, VC, Asbestos
Collier Rd. N. of Galloway Creek	SVOC, inorganics
Joslyn Collier Property	Diethylether, methane, iron, chromium
Joslyn Road Oil Spill	Petroleum Products
Industrial Services of America	Phenols, Naphthalene, Chloroethane
Michigan Dust Control	Oil
Oakland Co. Rd. Comm. Sanitary Landfill	4,4 DDT, Cadmium, Chromium, arsenic
Oakland Co. Rd. Comm. Lake Orion	Chloride
ITT Automotive	TCE, PNAs, Lead, Copper, Mercury, Chlorinated Hydrocarbons
Upland and Joslyn Landfill	Arsenic
Sanicem Landfill J Fons Co.	Chromium, Copper, Cadmium, Lead
Kingston Development	Nickel, Chromium, Toluene, Xylene, Acetone
Lakeview and Tienken Creek	PCBs
Sandfill Landfill No. 1	Inorganics, VOCs, SVOCs
Stans Trucking	Lead, Chromium, Lead, Zinc, copper, dichlorobenzene
Stan's Trucking Landfill Outlot A	Methane, PCBs, VOCs
Sun Pipeline Livernois Rd.	VOCs, SVOCs
Sandfill Landfill No.2	Inorganics, VOCs, SVOCs
J and L Landfill	Copper, Nickel, Lead, Chromium, TCE, Toluene, Manganese, Cadmium

Table 10.–Continued.

Site location common site name	Pollutant
Warner Lambert GSA	Inorganics
Collins and Orion Roads Residential Wells	VOCs
House of Imports	Chromium, Nickel
Former GP Plastics	VOCs, metals
Former Oxford Township Firing Range	Lead
Bald Mountain Rec Area Dump	Inorganics, SVOCs
Bald Mountain Shooting Range	Inorganics, PNAs
Lanthier Foundry and Machine	Ethyl Alcohol, PCE, TCE
Lapeer Road Residential Well	TCE, 1,2 DCE, PCE, VC, Vinylidene Chloride
Stadium Dr. Elementary School	No data
Micholson Lake Lot #10	No data
MSP Brazeway	TCE
Macomb County	
G and H Landfill	PCBs, TCE, BTEX
Hamlin Rd. Landfill East	Lead, chromium
Ramona Park Landfill	Phenols
Spring Lake Subdivision	BTEX, Napthalene, PCBs
Liquid Disposal, Inc.	PCBs, TCE, PCE, Phthalates, chloroform
North Oxford Area GW Contam.	TCE, VC
Lower	
Macomb County	
Carolee St. Area	Chloride
Utica Site Cardinal Land Corp.	No data
DPW Public Service Facility	No data
Art Van Furniture	Lead, arsenic
Former Wellhasen General Store	No data
Washington Township Sec 8 Landfill	Benzene, VC, TCA
Warhoops Junkyard	PNAs, lead
Clinton River Rd. Disposal Area	Phenols
BBC Holdings, LLC	TCA, tetrachloroethene, SVOCs
Koch Rd. Dump	Lead, hydrocarbons
Maidstone Automotive	No data
Stony Creek Liquor Store	Motor oil
Bear Creek Drain Commission	Lead, barium, chromium
Card Rd. Residential Wells	Benzene
Ryan and 23 Mile Rd.	TCE, cis-1,2-DCE
26 Mile Rd. and Romeo Plank Residential	Phenanthrene
Red Run Drain Baumgartner	Lead, barium, zinc
Red Run Drain Maple Lane	Lead, barium, zinc
Red Run Drain Fostoria Freedom	Methylene chloride, VC, lead, acetone
Red Run Drain (Old Detroit Landfill)	Lead, arsenic, chromium
Detroit Arsenal	Chromium, lead, 1,1 DCA, 1,1,1 TCA
Cedargrove Rd. Residential Wells	Benzene, 1,2 DCA
Foss Road Residential Well	PCE
Mt. Clemens Coatings and Plastics	Lead, phthalates, MEK, tetrahydrofuran

Table 10.–Continued.

Site location common site name	Pollutant
Equipment Mfg.	TCE, metals
Fini Finish Products	Chromium, cyanide
First State Bank Property	BTEX
Gibbs Machinery	PCBs, lead, phenanthrene
TRW 28 Mile Road Stamping	Arsenic
Kor-Tech Stamping, Inc.	Naphthalene
Local 909 UAW	No data
Nutrax Inc.	Gasoline
Performance Automotive	oil
Rockyanos Azza	No data
Robbins CPR, Inc.	Oil
Mold Tech	VOCs
Superior Polishing	Hexavalent chromium
Vorelco Property	Metals, PNAs, VOAs
Warren Alloy	Methylnaphthalene, nitrosodiphenylamine, arsenic
Village Fair Plaza Shopping Center	VOCs
Veet Industries	Fluorene, BTEX, Napthalene
Weyerhauser Paper Company	Dichlorobenzene, trichlorobenzene
Former Warren State Police Post	BTEX, TMBs, Napthalene
Sherwood Lime Pit	PNAs, PCBs, TCE
Shell Utica and Moravian	Phenols, MTBE, PNAs
A and J Insulation Company	No data
Former Romeo State Police Post	BTEX, TMB, Napthalene
Ring Screw Works	Phenanthrene
Anthony's Florist	Kerosene
Walker Landfill	TCA
South Macomb Disposal (LF 9 and 9A)	MEK, Benzene
Michigan Casting Corporation	Metals, oils
32 Mile Rd. Residential Wells	Brine, chlorides
Lakehead Pipeline	Crude oil
Park Electric	Lead
Armada Times	BTEX
Macomb Road Commission Dump	Inorganics, SVOCs
Oakland County	
Beaumont Hospital – Troy	PNAs
Beaver Precision Products	TCE
21721 Wyoming–Royal Oak Twp.	No data
8521 Northend–Royal Oak Twp.	No data
Davis Mtg. – Clawson	TCA, 1,2-DCA, Vinyl Chloride
Eaton Corporation	TCE, Vinyl Chloride, Trans-1,2-DCE
Ford New Holland Inc.	VOCs, SVOCs, metals
Electroplating Service Inc.	Metals
H L Blachford	TCE, DCA
NCKS Associates	PNAs, HVO
Eleven Mile Truck Frame and Axle	Lead, PNAs, PCBs

Table 10.–Continued.

Site location common site name	Pollutant
Royal Oak Project	TCE, PCE, DCA, Toluene, Xylenes, Ethylbenzene
TCF Bank	Benzene, toluene, ethyl benzene
Wayne Oakland Oil Company	BTEX
Wesley Drugs	No data
Advanced Friction Materials	TCE
Howard Gas and Oil	BTX
Rose Exterminator	Pesticides–chlordan, DDE, DDT, Endrin, heptachlor, diazinon, BHC
Test Systems Simulations Inc.	Xylenes, TCA, Carbon tetrachloride
SOCRRA John R and 12 Mile	Lead, BTEX, TCE, DCA
Randolph Tool and Manufacturing Co.	Vinyl chloride
Reichhold Chemicals	TCE, xylenes, ethylbenzene, styrene, 1,2-DCE
Venture Rim Products	No data
Ferndale Laboratories	Heating oil
West Side Woodward	PNAs
Royal Oak Mini Storage LLC	BTX, phenanthrene, fluorine, naphthalene
Powerfone	Lead, PNAs, BTEX
Shane Steel Property – Hazel Park	No data
Sentry Steel	Heating oil
Gauge Products Company	PCBs, BTEX, Chlorobenzene
Ethyl Corp.	Lead, Chromium, Tetrahydrofuran, Chloroform
Sam’s Auto Parts	Oil, Transmission Fluid
Colonial Village Cleaners	No data
East Milton and Dequindre Residence	Lead
Wayne County	
Celanese Plastics Specialties Co.	BTX
Plating Equipment Used Inc.	Cyanide, cadmium, lead
General Die Casting	Chromium, lead, cyanide
U S Industries	Benzopyrene, phenanthrene, benzo (a) anthracene
Enterprise Oil	Waste oil
McNichols E North Sector	PNAs, metals
McNichols E South Sector	Lead
Southland Corp E McNichols	BTEX
Chemcentral Farr Avenue	PCE, TCE, BTEX, Carbon tetrachloride
Helen Avenue Vacant Lot, 13535	Lead
Daimler Chrysler Lynch Rd. Marshalling	PNAs, lead
Master Metals	Lead, Arsenic
Edgeton	Lead
30 Glynn Court	1,2,4 trimethyl benzene
BASF Bourke Avenue	Hexyl acetate
Freezer Services–St. Aubin	Lead, Oils
Peloquin Enterprises Detroit	Lead, Oil
Michigan Industrial Finishes	Paint wastes
Wayne Co. Detention Center	TCE, PCE, DCE
BASF Hamtramck Plant	VOCs, HVOCs, PNAs, heavy metals

Table 10.–Continued.

Site location common site name	Pollutant
Cook Family Foods	No data
Grand Haven Residential Development	Lead
WITCO	Chromium, nickel
M and G Convoy Property	Lead
Sears Former	Arsenic, PNAs
Highland Park Hospital (power plant)	BTEX, PNAs
Lapeer County	
Almont Manufacturing Co. (frmr)	TCE, metals
Mouth	
Macomb County	
Bryer Cleaner	PCE, TCE
Clinton River	Lead, Chromium, PCB
Pulse Oil	BTEX, PNAs
Giddings and Lewis	PCB, 1,1 DCE
Orion Industries	PNAs, metals
Vanderbush Industrial (former)	PCE, TCE, DCE
Stramaglia Construction Inc.	No data
Zendts Landscaping	Oil

Table 11.—Trigger levels used by the Michigan Department of Community Health to establish sport fish consumption advisories (MDEQ 2003). (ppm=parts per million; ppt=parts per trillion)

Chemical	MDCH Trigger Level
Total Chlordane	0.3 ppm
Total DDT	5.0 ppm
Dieldrin	0.3 ppm
Dioxin Toxic Equivalents	10.0 ppt
Heptachlor (+Heptachlor Epoxide)	0.3 ppm
Mercury	
Restrict Consumption	0.5 ppm
No Consumption	1.5 ppm
Mirex	0.1 ppm
Total PCB	
General Population	2.0 ppm
Women of Child Bearing Age and Children Under 15 years	
1 Meal per week	0.05 ppm
1 Meal per month	0.2 ppm
6 Meal per year	1.0 ppm
No Consumption	1.9 ppm
Toxaphene	5.0 ppm

Table 12.—Contaminants of concern that had concentrations in at least one sample that exceeded the contaminants Probable Effect Level in the Clinton River 1990–97 (Rheaume et al. 2001).

Anthracene
Total PAH
Phenanthrene
Total PCB
Benz[a]anthracene
Chrysene
Benzo[a]pyrene
Total chlordane
Mercury
Lindane
Lead
Zinc
Cadmium
Arsenic
Total DDT

Table 13.—Designated drains in the Clinton River watershed by valley segment, county, and township.

<b>Headwaters</b>		
<i>Oakland County</i>	<i>Oakland County – continued</i>	
• <i>Brandon Township</i>	• <i>Independence Township</i>	
Allen	Cranberry Lake	
<b>Upper</b>		
<i>Oakland County</i>	• <i>Pontiac Township – continued</i>	• <i>Waterford Township – continued</i>
• <i>Bloomfield Township</i>	Wilmont Relief	Turtle
Waldron	Johnson	West End
Ward Orchards	Joseph Jones	• <i>West Bloomfield Township</i>
• <i>Independence Township</i>	Joslyn	Beechmont
Kelly	Mainland	Drakeshire Condominium
M-15	Moore	Estates of West Bloomfield
• <i>Orion Township</i>	Pontiac Clinton River #1	Four Towns
Ballard	Pontiac Clinton River #2	Keego Harbor
Brown	Pontiac Clinton River #3	Meadowridge Estates
Dry Run	Pontiac Creek Extension	Mission Springs County
Reid and Branch	Richton Relief	Orchard Lake Woods
• <i>Pontiac Township</i>	Rowland	Perrytown Estates County
Augusta	Birdsland	Pilgrim Hills of West Bloomfield Twp
Bartlett	Drayton Plains and Extension	Pine Lake North
Brewer	Guyer	Skae
Brooklyn	Lochaven	Wellington Woods
David L. Moffit	McIvor	Willow Woods
Earlmoor	Otter	Windrift Pond
Holland	Silvercrest Extension	Woodslands
Jewel	Tillden	
<b>Middle</b>		
<i>Macomb County</i>	• <i>Avon Township</i>	• <i>Oakland Township – continued</i>
• <i>Washington Township</i>	Hampton	Chamberlin Farms
Mt. Vernon	Honeywell	Claremont
• <i>Shelby Township</i>	Hoot	Cloisters
Gravel Ridge	Ireland-Varner	Cornerstone Condominium
Greens M-59 Relief	Jensen	County Creek
Shelby Consolidated N.W.	Karas	Crossings
Woodland Tile	Ladd	Deer Point
<i>Oakland County</i>	Lueders	Delta Kelly
• <i>Addison Township</i>	Ramiro	Dutton
Clark	Rewold Phase 1	Five Points
Krohn	Sue Ann Douglas	Frost
Leonard	Van Maele	Goodison Glen
• <i>Avon Township</i>	• <i>Brandon Township</i>	Goodison Place
Bishop	Big Meadows	Gosling
Chester	Cowden	Guardian Angel
Fessler	Perry	High Meadows
Fred D. Houghten	Weir	Hills of Kings Pointe
Gabler	• <i>Oakland Township</i>	Hills of Oakland County
Greenacre	Carrollton	Kingsridge
Hamilton	Century Woods	Kirklands

Clinton River Assessment

Table 13.–Continued.

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**Middle, Oakland County – continued**

<ul style="list-style-type: none"> <li>• <i>Oakland Township – continued</i></li> <li>Knorrwood Pines West</li> <li>Maple Park Office Center</li> <li>Oakland Crest</li> <li>Oakland Farm County</li> <li>Oakland Knolls</li> <li>Oakland Meadows</li> <li>Orchard Ridge</li> <li>Paint Creek Estates</li> <li>Plum Creek</li> <li>Pond Vallee</li> <li>Ramsgate Farms</li> <li>Royal View</li> <li>Shoup</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Oakland Township – continued</i></li> <li>Twin Lakes Branch No. 1</li> <li>Twin Lakes Branch No. 2</li> <li>Twin Lakes</li> <li>Wellington</li> <li>Woodcliff on the Lake</li> <li>Wyndgate Pointe</li> <li>Wyndridge Estates</li> <li>• <i>Orion Township</i></li> <li>Axford</li> <li>Osgood</li> <li>Paint Creek</li> <li>• <i>Oxford Township</i></li> <li>Brandon-Oxford</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Oxford Township – continued</i></li> <li>Drahner</li> <li>Prince</li> <li>Sanders</li> <li>• <i>Pontiac Township</i></li> <li>Galloway</li> <li>Galloway Lake Farms</li> <li>Hobart</li> <li>Joachim</li> <li>Kasper</li> <li>Maplehurst</li> <li>Palmer</li> <li>Sinking Bridge</li> <li>Skaritt</li> </ul>
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**Lower**

*Macomb County*

• *Armada Township*

- Armada-Ray
- Chase
- Coon Creek
- Crawford
- Crawford No. 2
- Farley
- Hullett
- Jacobs
- Kruger
- Mills
- Milton
- Morton
- Newland Branch
- Newland
- Townline
- Wakefield
- Wilson
- Woodbeck

• *Bruce Township*

- Apel
- Bruce
- Clinton River Romeo Relief
- Hosner
- Lucking
- Mahaffy
- McKay
- Rood
- Townline
- Trieloff
- Wakefield

• *Clinton Township*

- Bousson
- Bridgewood Basin
- Canal-Kukuk Relief
- Cranberry Marsh
- Crooked Brook
- Daus
- Doescher
- Eberts
- Greiner
- Groth
- Kerner
- Kukuk
- Luedke
- Meitz
- Millar
- Moravian
- Schroeder
- Stadler
- Utica

• *Lenox Township*

- Anderson
- Bark
- Deer Creek
- Dixon
- Dryer
- Hardscrabble
- Harrison
- Hill
- Jaques
- Neiman
- Norton

• *Lenox Township – continued*

- Ray Lenox
- Rubarth
- Smith

• *Macomb Township*

- Ahrens
- Alwardt
- Arndt
- Bowman
- Burk
- Card
- Crittenden
- Coates
- Conklin
- Gloede
- Denryter
- Dunn
- Eckert
- Fieblecorn
- Green
- Hafel
- Hahn
- Hall
- Hammon
- Harder
- Hart
- Heydenreich
- Howard
- Jersey Branch
- Jersey
- Jones
- Kath

Table 13.–Continued.

**Lower, Macomb County – continued**• *Macomb Township – continued*

Kitley  
Klockow  
Kruth  
Lewis  
Luchtman  
Macomb  
McBride  
Miller  
Nicol  
Peters  
Pingle  
Rabe  
Rose  
Steinbrink  
Stein  
Stern  
Thoel  
Tilch  
Wallasch  
Zander

• *Ray Township*

Corey  
Eaton  
Five Points  
Gass  
Knust  
McBride Branch  
Priest  
Stark  
Wyman

• *Richmond Township*

Anderson East Branch  
Clay  
Jaques West Branch  
Ward  
Wheeler

• *Shelby Township*

Bannister  
Brown  
Cannon  
Decker  
Disco  
Dunn Branch B  
Dunn Branch C  
Dunn Branch D  
Dunn  
Foley  
Franklin Branch

• *Shelby Township – continued*

Hawald  
Harris  
Kaflic  
Ketcham  
Kingsbury  
Lawson  
Longstaff  
Longstaff No. 2  
Middle Branch Clinton River  
Preston  
Ruby  
Runyan  
Schocke  
Shelby Conservation  
Shoemaker  
Stokes  
Utica Improvement and Encourse  
Westlake  
Wilcox  
Vineyard

• *Sterling Heights Township*

16-1/2 Mile  
17 Mile Road and Branches  
18 Mile Rd.  
Belmont Retention  
Berger  
Bliesath  
Brieholz  
Briston Heights Retention No. 1  
Bristol Heights Retention No. 2  
Burr  
Burr Relief No. 2  
Busch  
Cady  
Cady Enclosure  
Cady Extension  
Canal  
Cook  
Country Club Estates Retention  
Crissman  
Daus  
Diener  
Diener Enclosure No. 2  
Fisher  
Foley  
Gamble  
Gamble Impounment  
Georgian Mansion Retention

• *Sterling Heights Township – continued*

Gibson  
Greens Enclosure  
Hawken Enclosure  
Hildebrandt Basin  
Hildebrandt  
Kleino Relief Canal Rd. Branch  
Kleino Relief Enclosure  
Lakeside Lake  
Lateral 1A  
Lateral 1B  
Lateral 2A  
Lateral 2B  
Lateral 3A  
Lateral 3B  
Lateral 4A  
Lateral 4B  
Lateral 5A  
Lateral 5B  
Lateral 6B  
Lateral 12B  
Lateral 13A  
Lateral 15A  
Lateral 15B  
Lateral 16A  
Lateral 16B  
Lateral 19B  
Lockwood  
L.R.W. Retention Basin  
McInerney  
Merrill  
Moore  
Newth  
Phiel  
Plumbrook  
Puls  
Red Run  
Rickabus  
Robinhood Retention  
Robinson  
Schuer  
Shanahan Enclosure  
Shell Heights Retention  
Spencer  
Sterling Relief  
Sterling Relief Extension  
Union  
Utica Gardens Tile  
Vokes Relief Branch No. 2

Table 13.–Continued.

**Lower, Macomb County – continued**

• <i>Sterling Heights Township – continued</i>	• <i>Warren Township – continued</i>	• <i>Royal Oak Township – continued</i>
Vokes Relief Branch No. 3	Springer	Red Run Imp and Campbell Road
Vokes Relief	Stevens East Branch	Red Run Warren Branch
• <i>Warren Township</i>	Stephens West Branch	Schubiner
Bear Creek	Ten Mile Branch East Lateral	Shaberman
Bear Creek	Ten Mile Branch West Lateral	Triple
Bear Creek Warren Branch 2	Walker Relief	Twelve Towns
Bear Creek Warren Branch North	Warren Branch No. 2	Vickers
Buckland	Warren Branch South	Wilson
Center line Branch	• <i>Washington Township</i>	• <i>Southfield Township</i>
Center line Relief	Balch	Barry
Center line Relief Branch No. 1	Brown	Calhoun
Cramer Relief	Gaskill	Clarkston
Edman	Gould Tile	Horton Relief
Fogg	Healy Brook Branch	Lilly
Frazho East Branch	Healy Brook	McClelland
Grobbel Relief and Brs.	Heide	Pemberton
Grobbel Relief Branch No. 2	King	Royal Oak
Harrington East	Nims	Southfield No. 1
Harrington West	Nims Extension	Southfield No. 2
Hartsig Relief	See	Southfield No. 6
Kutchey Relief	Taft	• <i>Troy Township</i>
Kutchey Relief Brs.	Washington	Barnard
Kutchey Thomas Relief	Yates Branch	Boyd
Lorraine Storm Branch No. 1	Yates	Brotherton
Lorraine Storm Branch No. 2	<i>Oakland County</i>	Crake
Lorraine Storm	• <i>Royal Oak Township</i>	Dennis Murphy
Martin Rd. Branch West	Acacia Park Triple	Douglas
Masonic Lateral	Batavia	Elliott
Masonic Rd. Branch E	Campbell No. 2	Ferry
McCoy Relief and Brs.	Clawson	Fetterly
Meckler	Coolidge	Fredericks
Meirow	Dequindre Interceptor	Gibson
Murthum Relief	Dunleavy	Gorsline
Red Run Branch A	East-Clawson	Halfpenny
Red Run Branch B	George W. Kuhn – Contract 1	Hawthorne
Red Run Branch D	George W. Kuhn – Contract 2	Houghten
Red Run Branch E	George W. Kuhn	Hugh Dohany
Red Run Branch F	Glendale	Jackson
Rinke Branch	Henry-Graham	King
Schoenherr Relief Branch No. 1	John Garfield and Garfield	Lane
Schoenherr-14 Mile Relief	Kaczmar	Lane Extension
Schoenherr Relief	Lawson	Lanni
Schroeder-Szabo-Otto	North Arm Relief	Mastin
Schroeder Relief	Marshall	McConnell
Schroeder North Branch	McClain	McDonald
Schroeder South Branch	Murray	McIntyre
Sharkey Relief	Red Run	Moxley
Smith	Red Run Federal	Nelson-Phase I

Table 13.–Continued.

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**Lower, Oakland County – continued**

<ul style="list-style-type: none"> <li>• <i>Troy Township – continued</i></li> <li>Nelson-Phase II</li> <li>Nelson-Phase III</li> <li>Olson</li> <li>Page</li> <li>Quinn</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Troy Township – continued</i></li> <li>Renshaw</li> <li>Richardson</li> <li>Robert Huber</li> <li>Roth</li> <li>Shanahan</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Troy Township – continued</i></li> <li>Spencer</li> <li>Sturgis</li> <li>Swan</li> <li>Wrey</li> </ul>
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**Mouth**

<p><i>Macomb County</i></p> <ul style="list-style-type: none"> <li>• <i>Clinton Township</i></li> <li>Cass Avenue West Lateral</li> <li>Charter Oaks</li> <li>Faulman</li> <li>Harrington</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Clinton Township – continued</i></li> <li>Spruce Street</li> <li>Strevel Heights</li> <li>Sweeney</li> <li>Teske</li> <li>Vermander</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Roseville Township</i></li> <li>Callahan</li> <li>Erin Clinton Townline</li> <li>Fraser Tile</li> <li>Priest</li> <li>Rohrbeck-Sweeney Relief</li> <li>Winkleman Tile</li> </ul>
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Table 14a.—Statutes administered by Michigan Department of Environmental Quality, that protect aquatic resources. N.R.E.P Act=Natural Resources and Environmental Protection Act (1994 PA 451).

State of Michigan Acts	Description of Acts
Public Health Code (1978 PA 368, as amended)	Aquatic Nuisance Control: regulates the use of any substances for the treatment of swimmer’s itch, and excessive aquatic plants and algae.
Part 31 N.R.E.P. Act	Water Resource Protection: regulates discharge to surface waters according to set water quality standards.
Part 41 N.R.E.P. Act	Sewerage Systems: regulates wastewater or sewer system facilities.
Part 91 N.R.E.P. Act	Soil Erosion and Sedimentation Control: regulates any earth change that disturbs one or more acres, or is within 500 feet of a lake or stream.
Part 301 N.R.E.P Act	Inland Lakes and Streams: this part regulates structure placement or removal, dredging, filling below the ordinary high water mark, and operating or constructing a marina in lakes and streams.
Part 303 N.R.E.P. Act	Wetland Protection: regulates dredging, filling, and structure placement within wetlands.
Part 307 N.R.E.P. Act	Inland Lake Level: regulates the establishment of legal lake levels and lake level control structures.
Part 309 N.R.E.P. Act	Inland Improvement: regulates the establishment of lake boards and revolving funds to protect and improve lakes.
Part 315 N.R.E.P. Act	Dam Safety: establishes a program to maintain a statewide inventory of dams, and provides staff to inspect dams to evaluate the integrity of the structures.

Table 14b.—Federal statutes, administered by Michigan Department of Environmental Quality, that protect aquatic resources.

Federal Water Pollution Control Act, Section 314 (as amended 2002, PL 107-303)
Federal Water Pollution Control Act, Section 402 (as amended 2002, PL 107-303)
Federal Water Pollution Control Act, Section 404 (as amended 2002, PL 107-303)
Coastal Zone Management Act (as amended 1996, PL 104-150)
River and Harbor Act, Section 10 (1899)

Table 15.–Fish species historically found in the Clinton River watershed. Origin: N=Native, C=Colonized, I=Introduced; Status: P=Present, O=Extirpated, U=Unknown (followed by year it was last collected in the watershed); 2001/2002: an X indicates the species was caught in the most recent fisheries survey during 2001 and 2002.

Common name	Scientific name	Origin	Status	2001/2002
Lampreys	Petromyzontidae			
chestnut lamprey	<i>Ichthyomyzon castaneus</i>	N	P	
northern brook lamprey	<i>Ichthyomyzon fossor</i>	N	P	
silver lamprey	<i>Ichthyomyzon unicuspis</i>	N	P	
American brook lamprey	<i>Lampetra appendix</i>	N	U (1915)	
sea lamprey	<i>Petromyzon marinus</i>	C	P	
Sturgeons	Acipenseridae			
lake sturgeon ( <b>threatened</b> )	<i>Acipenser fulvescens</i>	N	U	
Gars	Lepisosteidae			
longnose gar	<i>Lepisosteus osseus</i>	N	P	X
Bowfins	Amiidae			
bowfin	<i>Amia calva</i>	N	P	X
Herrings	Clupeidae			
alewife	<i>Alosa pseudoharengus</i>	C	P	
gizzard shad	<i>Dorosoma cepedianum</i>	N	P	X
Carp and minnows	Cyprinidae			
central stoneroller	<i>Campostoma anomalum</i>	N	P	X
goldfish	<i>Carassius auratus</i>	I	P	X
spotfin shiner	<i>Cyprinella spiloptera</i>	N	P	X
common carp	<i>Cyprinus carpio</i>	I	P	X
brassy minnow	<i>Hybognathus hankinsoni</i>	N	P	X
striped shiner	<i>Luxilus chrysocephalus</i>	N	U (1929)	
common shiner	<i>Luxilus cornutus</i>	N	P	X
redfin shiner	<i>Lythrurus umbratilis</i>	N	P	
hornyhead chub	<i>Nocomis biguttatus</i>	N	P	X
river chub	<i>Nocomis micropogon</i>	N	U (1978)	
golden shiner	<i>Notemigonus crysoleucas</i>	N	P	X
pugnose shiner	<i>Notropis anogenus</i>	N	U (1927)	
emerald shiner	<i>Notropis atherinoides</i>	N	P	X
bigmouth shiner	<i>Notropis dorsalis</i>	N	U (1978)	
blackchin shiner	<i>Notropis heterodon</i>	N	P	X
blacknose shiner	<i>Notropis heterolepis</i>	N	U (1935)	
spottail shiner	<i>Notropis hudsonius</i>	N	P	X
rosyface shiner	<i>Notropis rubellus</i>	N	P	X
sand shiner	<i>Notropis stramineus</i>	N	P	
mimic shiner	<i>Notropis volucellus</i>	N	P	
northern redbelly dace	<i>Phoxinus eos</i>	N	P	
bluntnose minnow	<i>Pimephales notatus</i>	N	P	X
fathead minnow	<i>Pimephales promelas</i>	N	P	X
western blacknose dace	<i>Rhinichthys obtusus</i>	N	P	X
creek chub	<i>Semotilus atromaculatus</i>	N	P	X

Table 15.–Continued.

Common name	Scientific name	Origin	Status	2001/2002
Suckers	Catostomidae			
quillback	<i>Carpionodes cyprinus</i>	N	P	
white sucker	<i>Catostomus commersonii</i>	N	P	X
lake chubsucker	<i>Erimyzon sucetta</i>	N	P	X
northern hog sucker	<i>Hypentelium nigricans</i>	N	P	X
spotted sucker	<i>Minytrema melanops</i>	N	P	X
silver redhorse	<i>Moxostoma anisurum</i>	N	P	
black redhorse	<i>Moxostoma duquesnei</i>	N	U (1924)	
golden redhorse	<i>Moxostoma erythrurum</i>	N	P	X
shorthead redhorse	<i>Moxostoma macrolepidotum</i>	N	P	
Bullhead catfishes	Ictaluridae			
black bullhead	<i>Ameiurus melas</i>	N	P	X
yellow bullhead	<i>Ameiurus natalis</i>	N	P	X
brown bullhead	<i>Ameiurus nebulosus</i>	N	P	X
channel catfish	<i>Ictalurus punctatus</i>	N	P	X
stonecat	<i>Noturus flavus</i>	N	P	X
tadpole madtom	<i>Noturus gyrinus</i>	N	P	X
brindled madtom ( <b>special concern</b> )	<i>Noturus miurus</i>	N	P	
northern madtom	<i>Noturus stigmosus</i>	N	P	X
Pikes	Esocidae			
grass pickerel	<i>Esox americanus</i>	N	P	X
northern pike	<i>Esox lucius</i>	N	P	X
muskellunge	<i>Esox masquinongy</i>	I	O	
Mudminnows	Umbridae			
central mudminnow	<i>Umbra limi</i>	N	P	X
Smelts				
rainbow smelt	<i>Osmerus mordax</i>	I	P	
Trouts	Salmonidae			
cisco (lake herring) ( <b>threatened</b> )	<i>Coregonus artedi</i>	N	P	
lake whitefish	<i>Coregonus clupeaformis</i>	I	O	
kokanee salmon	<i>Oncorhynchus nerka</i>	I	O	
coho salmon	<i>Oncorhynchus kisutch</i>	I	O	
rainbow trout	<i>Oncorhynchus mykiss</i>	I	P	X
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	I	P	
cutthroat Trout	<i>Salmo clarki</i>			
brown trout	<i>Salmo trutta</i>	I	P	X
brook trout	<i>Salvelinus fontinalis</i>	I	P	X
splake	<i>Salvelinus fontinalis x S. namaycush</i>	I	P	
lake trout	<i>Salvelinus namaycush</i>	I	P	
Killifishes	Fundulidae			
western banded killifish	<i>Fundulus diaphanous</i>	N	P	X
Silversides	Atherinidae			
brook silverside	<i>Labidesthes sicculus</i>	N	P	
Sticklebacks	Gasterosteidae			
brook stickleback	<i>Culaea inconstans</i>	N	P	X
ninespine stickleback	<i>Pungitius pungitius</i>	N	U (1939)	

Table 15.–Continued.

Common name	Scientific name	Origin	Status	2001/2002
Sculpins	Cottidae			
mottled sculpin	<i>Cottus bairdii</i>	I	P	X
Striped basses	Moronidae			
white perch	<i>Morone americana</i>	C	P	
white bass	<i>Morone chrysops</i>	N	P	
Sunfishes	Centrarchidae			
rock bass	<i>Ambloplites rupestris</i>	N	P	X
green sunfish	<i>Lepomis cyanellus</i>	N	P	X
pumpkinseed	<i>Lepomis gibbosus</i>	N	P	X
warmouth	<i>Lepomis gulosus</i>	N	P	
bluegill	<i>Lepomis macrochirus</i>	N	P	X
reardear sunfish	<i>Lepomis microlophus</i>	I	P	
longear sunfish	<i>Lepomis peltastes</i>	N	P	X
smallmouth bass	<i>Micropterus dolomieu</i>	N	P	X
largemouth bass	<i>Micropterus salmoides</i>	N	P	X
white crappie	<i>Pomoxis annularis</i>	N	P	X
black crappie	<i>Pomoxis nigromaculatus</i>	N	P	X
Perches	Percidae			
greenside darter	<i>Etheostoma blennioides</i>	N	P	X
rainbow darter	<i>Etheostoma caeruleum</i>	N	P	X
Iowa darter	<i>Etheostoma exile</i>	N	P	X
faintail darter	<i>Etheostoma flabellare</i>	N	P	X
least darter	<i>Etheostoma microperca</i>	N	P	X
johnny darter	<i>Etheostoma nigrum</i>	N	P	X
orangethroat darter	<i>Etheostoma spectabile</i>	N	P	
yellow perch	<i>Perca flavescens</i>	N	P	X
logperch	<i>Percina caprodes</i>	N	P	X
channel darter ( <b>endangered</b> )	<i>Percina copelandi</i>	N	P	
blackside darter	<i>Percina maculata</i>	N	P	X
walleye	<i>Sander vitreus</i>	N	P	X
Drums	Sciaenidae			
freshwater drum	<i>Aplodinotus grunniens</i>	N	P	X
Gobies	Gobiidae			
round goby	<i>Neogobius melanostomus</i>	I	P	X

Table 16.–Relative abundance of fish species (percent of total) found in Headwaters Segment of the Clinton River in 2001. Dash (–) indicates species not collected. Number of collection sites per stream is indicated in parentheses, at the top of the column.

Fish species	Clinton River (1 site)
longnose gar	–
bowfin	–
gizzard shad	–
central stoneroller	–
goldfish	–
spotfin shiner	–
common carp	–
brassy minnow	–
common shiner	–
horneyhead chub	–
golden shiner	–
emerald shiner	–
blackchin shiner	6.2
spottail shiner	–
rosyface shiner	–
bluntnose minnow	–
fathead minnow	–
blacknose dace	–
creek chub	1.2
white sucker	10.5
lake chubsucker	–
northern hog sucker	–
spotted sucker	–
golden redhorse	–
black bullhead	–
yellow bullhead	–
brown bullhead	0.6
channel catfish	–
stonecat	–
tadple madtom	–
northern madtom	–
grass pickerel	12.3
northern pike	–
central mudminnow	3.1
rainbow trout	–

Table 16.–Continued.

Fish species	Clinton River (1 site)
brown trout	–
brook trout	–
banded killifish	–
brook stickleback	–
mottled sculpin	–
rock bass	2.5
green sunfish	3.7
pumpkinseed	5.6
bluegill	4.9
longear sunfish	–
smallmouth bass	–
largemouth bass	14.2
white crappie	–
black crappie	–
greenside darter	–
rainbow darter	20.4
Iowa darter	–
fantail darter	14.2
least darter	0.6
johnny darter	–
yellow perch	–
logperch	–
blackside darter	–
walleye	–
freshwater drum	–
round goby	–
Total catch	162
Total number of species	14
Total length sampled (ft)	1,176
Total time sampled (hrs)	1.6

Clinton River Assessment

Table 17.—Relative abundance of fish species (percent of total) found in Upper Segment of the Clinton River in 2001. Dash (–) indicates species not collected. Number of collection sites per stream is indicated in parentheses, at the top of the column.

Fish species	Clinton River (2 sites)	Sashabaw Creek (1 site)
longnose gar	–	–
bowfin	–	–
gizzard shad	–	–
central stoneroller	–	–
goldfish	–	–
spotfin shiner	0.1	–
common carp	0.4	–
brassy minnow	–	–
common shiner	0.4	–
honeyhead chub	–	–
golden shiner	–	–
emerald shiner	–	–
blackchin shiner	–	–
spottail shiner	–	–
rosyface shiner	–	–
bluntnose minnow	1.3	–
fathead minnow	–	–
blacknose dace	–	–
creek chub	26.1	1.5
white sucker	0.3	–
lake chubsucker	–	0.4
northern hog sucker	7.1	–
spotted sucker	–	–
golden redhorse	–	–
black bullhead	0.4	–
yellow bullhead	0.6	2.7
brown bullhead	0.1	–
channel catfish	–	–
stonecat	0.1	–
tadpole madtom	–	–
northern madtom	–	–
grass pickerel	0.7	1.9
northern pike	1.1	0.4
central mudminnow	0.4	9.1
rainbow trout	–	–
brown trout	–	–

Table 17.–Continued.

Fish species	Clinton River (2 sites)	Sashabaw Creek (1 site)
brook trout	–	–
banded killifish	3.2	–
brook stickleback	–	–
mottled sculpin	–	–
rock bass	4.5	9.8
green sunfish	0.6	3.0
pumpkinseed	3.4	3.4
bluegill	19.1	58.7
longear sunfish	0.6	–
smallmouth bass	0.4	–
largemouth bass	11.8	1.5
white crappie	–	–
black crappie	–	–
greenside darter	0.8	–
rainbow darter	–	7.6
Iowa darter	–	–
fantail darter	0.1	–
least darter	–	–
johnny darter	6.0	–
yellow perch	6.4	–
logperch	4.0	–
blackside darter	–	–
walleye	–	–
freshwater drum	–	–
round goby	–	–
Total catch	1,412	264
Total number of species	27	12
Total length sampled (ft)	2,400	1,200
Total time sampled (hrs)	4.0	2.3

Clinton River Assessment

Table 18.—Relative abundance of fish species (percent of total) found in Middle Segment of the Clinton River in 2001 and 2002. Dash (–) indicates species not collected. Number of collection sites per stream is indicated in parentheses, at the top of the column.

Fish species	Clinton River (3)	Galloway Creek (1)	Sargents Creek (1)	Paint Creek (1)	West Branch Stony Creek (2)	McClure Drain (1)
longnose gar	–	–	–	–	–	–
bowfin	–	–	–	–	–	–
gizzard shad	–	–	–	–	–	–
central stoneroller	–	2.7	6.5	–	0.7	–
goldfish	–	–	–	–	–	–
spotfin shiner	–	–	–	–	–	–
common carp	0.5	–	–	–	–	–
brassy minnow	–	–	–	–	–	–
common shiner	–	0.4	–	–	6.5	–
horneyhead chub	0.7	–	–	–	5.1	–
golden shiner	–	–	–	–	–	–
emerald shiner	0.1	–	–	–	–	–
blackchin shiner	–	–	–	–	–	–
spottail shiner	0.1	–	–	–	–	–
rosyface shiner	–	–	–	–	–	–
bluntnose minnow	0.2	–	–	–	0.1	–
fathead minnow	0.1	0.4	–	0.5	–	–
blacknose dace	4.3	4.9	20.8	1.1	2.3	–
creek chub	11.6	64.6	68.5	22.1	44.4	66.0
white sucker	40.8	17.9	2.3	13.4	10.8	3.0
lake chubsucker	–	–	–	–	–	–
northern hog sucker	29.1	–	–	2.5	1.0	–
spotted sucker	–	–	–	–	–	–
golden redhorse	–	–	–	–	–	–
black bullhead	–	–	–	–	0.1	–
yellow bullhead	–	–	–	–	2.7	–
brown bullhead	–	–	–	–	–	–
channel catfish	0.1	–	–	–	–	–
stonecat	–	–	–	–	–	–
tadple madtom	–	–	–	–	0.4	–
northern madtom	–	–	–	–	–	–
grass pickerel	–	–	–	–	0.9	–
northern pike	–	–	–	–	–	–
central mudminnow	–	1.5	–	–	6.3	–
rainbow trout	0.4	2.3	–	0.8	–	–
brown trout	–	0.4	–	7.9	–	–

Table 18.–Continued.

Fish species	Clinton River (3)	Galloway Creek (1)	Sargents Creek (1)	Paint Creek (1)	West Branch Stony Creek (2)	McClure Drain (1)
brook trout	–	–	–	–	–	–
banded killifish	–	–	–	–	–	–
brook stickleback	0.5	0.8	–	–	0.1	–
mottled sculpin	0.2	–	–	46.7	–	–
rock bass	0.5	–	–	–	0.9	–
green sunfish	1.1	0.4	–	0.1	0.4	–
pumpkinseed	0.1	–	–	–	0.2	–
bluegill	2.5	–	1.1	0.4	0.7	1.0
longear sunfish	–	–	–	–	–	–
smallmouth bass	0.1	–	–	–	–	–
largemouth bass	1.1	0.4	0.8	1.3	2.5	–
white crappie	–	–	–	–	–	–
black crappie	0.1	–	–	–	–	–
greenside darter	0.5	–	–	–	0.1	11.0
rainbow darter	2.0	1.9	–	3.0	10.2	3.0
Iowa darter	0.1	–	–	–	–	–
fantail darter	0.5	–	–	–	–	8.0
least darter	–	–	–	–	–	–
johnny darter	3.0	1.5	–	–	1.7	8.0
yellow perch	–	–	–	–	–	–
logperch	–	–	–	–	–	–
blackside darter	–	–	–	–	–	–
walleye	–	–	–	–	–	–
freshwater drum	–	–	–	–	–	–
round goby	–	–	–	–	–	–
Total catch	1,909	263	355	798	1,156	100
Total number of species	26	14	6	12	22	7
Total length sampled (ft)	3,200	610	500	1,200	1,020	800
Total time sampled (hrs)	5.7	1.7	1.0	2.9	3.5	1.1

Table 19.–List of Michigan fish species classified as intolerant to pollution (MDEQ 2002b).

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Common name

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Lampreys

- sea lamprey (ammocete)
- silver lamprey (ammocete and adult)
- northern brook lamprey (ammocete and adult)
- chestnut lamprey (ammocete and adult)
- American brook lamprey (ammocete and adult)

Sturgeons

- lake sturgeon

Paddlefish

- paddlefish

Mooneyes

- mooneye

Trouts

- rainbow trout
- brown trout
- brook trout
- coho salmon
- Chinook salmon
- pink salmon
- cisco
- lake whitefish
- bloater
- deepwater cisco
- kiyi
- blackfin cisco
- shortnose cisco
- shortjaw cisco
- pygmy whitefish
- round whitefish
- Atlantic salmon
- lake trout
- Arctic grayling

Pikes

- muskellunge

Minnnows and carp

- bigeye chub
- river chub
- pugnose shiner
- bigeye shiner
- ironcolor shiner
- weed shiner
- blackchin shiner
- blacknose shiner
- spottail shiner

Table 19.–Continued

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Common name
Minnnows and carp – continued.
silver shiner
rosyface shiner
southern redbelly dace
longnose dace
redside dace
pearl dace
silver chub
pugnose minnow
Sculpins
mottled sculpin
slimy sculpin
spoonhead sculpin
deepwater sculpin
Suckers
longnose sucker
creek chubsucker
northern hog sucker
black buffalo
spotted sucker
silver redhorse
river redhorse
black redhorse
shorthead redhorse
greater redhorse
Bullhead, catfish
stonecat
Topminnows
banded killifish
Sticklebacks
ninespine stickleback
Sunfish
rock bass
smallmouth bass
Perch
eastern sand darter
rainbow darter
Iowa darter
least darter
orangethroat darter
banded darter
channel darter

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Table 20.—Relative abundance of fish species (percent of total) found in Lower Segment in 2001 and 2002. Dash (–) indicates species not collected. Number of collection sites per stream is shown in parentheses, at the top of the column.

Fish species	Clinton River (3)	Red Run Drain (2)	Plum Brook (2)	Gibson Drain (1)	Big Beaver Creek (1)	Middle Branch Clinton River (3)	Coon Creek (3)	East Branch Coon Creek (2)	North Branch (3)	Apel Drain (1)	Kidder Creek (1)
longnose gar	–	–	–	–	–	–	–	–	–	–	–
bowfin	–	–	–	–	–	–	–	–	–	–	–
gizzard shad	0.6	0.1	0.2	–	–	0.3	–	–	11.8	–	–
central stoneroller	–	–	0.5	7.8	–	1.3	5.7	7.2	6.8	0.9	–
goldfish	–	0.1	–	–	–	–	–	–	–	–	–
spotfin shiner	6.1	0.1	–	–	–	–	–	–	0.1	–	–
common carp	1.7	13.0	6.7	0.2	42.9	0.1	–	–	–	–	–
brassy minnow	–	–	–	–	–	–	0.5	–	–	–	–
common shiner	–	2.1	2.3	–	–	0.1	1.5	13.1	31.9	9.6	–
horneyhead chub	0.2	–	–	–	–	–	0.1	–	6.4	–	–
golden shiner	–	0.1	–	–	–	–	–	–	–	–	–
emerald shiner	–	–	–	–	–	0.1	–	–	0.3	–	–
blackchin shiner	–	–	–	–	–	–	–	–	–	–	–
spottail shiner	0.1	0.9	–	–	–	–	–	–	0.1	–	–
rosyface shiner	–	–	–	–	–	–	–	–	0.2	–	–
bluntnose minnow	8.5	0.7	14.1	5.0	–	0.5	0.2	11.5	0.4	–	–
fathead minnow	0.1	6.3	14.6	0.2	14.3	0.1	0.2	–	–	–	–
blacknose dace	–	–	12.0	18.1	42.9	0.8	4.2	0.4	1.2	17.9	12.9
creek chub	2.1	0.1	17.7	9.1	–	34.6	36.8	10.5	15.6	35.7	4.3
white sucker	10.9	54.7	29.1	10.8	–	43.0	8.9	12.3	6.7	6.7	–
lake chubsucker	–	–	–	–	–	–	–	–	–	–	–
northern hog sucker	14.4	–	–	–	–	1.5	–	–	2.3	–	–
spotted sucker	0.1	–	–	–	–	–	–	–	0.1	–	–
golden redbhorse	0.9	–	–	–	–	0.2	–	–	0.4	–	–
black bullhead	–	–	–	–	–	0.2	–	–	–	–	–
yellow bullhead	–	–	0.2	–	–	–	–	–	–	–	–

Table 20.–Continued.

Fish species	Clinton River (3)	Red Run Drain (2)	Plum Brook (2)	Gibson Drain (1)	Big Beaver Creek (1)	Middle Branch Clinton River (3)	Coon Creek (3)	East Branch Coon Creek (2)	North Branch (3)	Apel Drain (1)	Kidder Creek (1)
brown bullhead	–	0.3	–	–	–	–	–	–	–	–	–
channel catfish	–	–	–	–	–	–	–	–	–	–	–
stonecat	–	–	–	–	–	–	–	–	0.1	–	–
tadpole madtom	–	–	–	–	–	–	–	0.1	–	–	–
northern madtom	–	–	–	–	–	–	–	–	–	–	–
grass pickerel	–	–	–	–	–	–	–	0.3	–	–	–
northern pike	–	–	–	–	–	0.2	–	–	0.4	–	–
central mudminnow	–	–	–	0.8	–	2.8	1.5	0.1	0.3	–	42.9
rainbow trout	0.1	–	–	–	–	–	–	–	–	–	–
brown trout	–	–	–	–	–	–	–	–	–	–	1.4
brook trout	–	–	–	–	–	–	–	–	–	–	8.6
banded killifish	–	–	–	–	–	–	–	–	–	–	–
brook stickleback	–	–	–	–	–	0.1	7.0	0.7	–	0.2	7.1
mottled sculpin	–	–	–	–	–	–	–	–	–	–	–
rock bass	10.3	10.9	–	–	–	2.0	–	0.3	3.1	–	–
green sunfish	–	5.2	1.3	0.8	–	1.8	0.7	0.2	0.1	0.7	–
pumpkinseed	1.2	3.7	1.1	0.2	–	0.8	–	1.2	–	–	–
bluegill	3.5	1.6	–	–	–	4.5	–	–	0.7	8.0	–
longear sunfish	–	–	–	–	–	–	–	0.1	–	–	–
smallmouth bass	0.1	–	–	–	–	–	–	–	0.8	–	–
largemouth bass	3.1	–	–	–	–	0.2	–	–	0.6	0.2	–
white crappie	–	–	–	–	–	–	–	–	–	–	–
black crappie	0.1	–	–	–	–	0.1	–	–	–	–	–
greenside darter	7.4	–	–	–	–	0.6	4.5	–	3.2	0.2	–
rainbow darter	–	–	–	–	–	–	0.6	6.0	4.5	12.9	–
Iowa darter	–	–	–	–	–	–	–	–	–	0.9	12.9

Table 20.–Continued.

Fish species	Clinton River (3)	Red Run Drain (2)	Plum Brook (2)	Gibson Drain (1)	Big Beaver Creek (1)	Middle Branch Clinton River (3)	Coon Creek (3)	East Branch Coon Creek (2)	North Branch (3)	Apel Drain (1)	Kidder Creek (1)
fantail darter	–	–	–	–	–	–	0.8	–	–	–	–
least darter	–	–	–	–	–	–	1.2	0.4	–	–	–
johnny darter	7.2	–	0.3	47.1	–	1.0	24.9	35.8	1.7	6.0	10.0
yellow perch	0.3	–	–	–	–	2.6	–	–	0.2	–	–
logperch	0.2	–	–	–	–	0.7	0.5	0.1	0.1	–	–
blackside darter	–	–	–	–	–	0.1	0.1	–	–	–	–
walleye	0.1	–	–	–	–	–	–	–	–	–	–
freshwater drum	0.1	–	–	–	–	–	–	–	0.1	–	–
round goby	20.8	–	–	–	–	–	–	–	–	–	–
Total catch	1,009	763	618	603	7	1,050	1,276	1,132	1,816	448	70
Total number of species	26	16	13	11	3	27	19	18	29	13	8
Total length sampled (ft)	3,825	2,500	1,594	800	430	2,430	1,500	1,400	3,500	500	550
Total time sampled (hrs)	4.3	3.5	2.6	1.8	0.5	4.7	7.8	4.2	3.8	2.0	1.0

Table 21.—Relative abundance of fish species (percent of total) found in Mouth Segment in 2002. Dash (–) indicates species not collected. Number of collection sites per stream is shown in parentheses, at the top of the column.

Fish species	Clinton River	
	Clinton River (2)	Cut-off channel (1)
longnose gar	0.4	1.8
bowfin	1.5	0.9
gizzard shad	16.3	16.0
central stoneroller	–	–
goldfish	–	9.1
spotfin shiner	–	–
common carp	47.1	26.9
brassy minnow	–	–
common shiner	–	0.5
horneyhead chub	–	–
golden shiner	7.6	10.0
emerald shiner	1.5	–
blackchin shiner	–	–
spottail shiner	0.8	–
rosyface shiner	–	–
bluntnose minnow	–	1.4
fathead minnow	–	–
blacknose dace	–	–
creek chub	–	–
white sucker	–	0.9
lake chubsucker	–	–
northern hog sucker	–	–
spotted sucker	0.4	1.4
golden redhorse	–	–
black bullhead	–	–
yellow bullhead	–	–
brown bullhead	0.4	–
channel catfish	–	–
stonecat	–	–
tadpole madtom	–	–
northern madtom	–	–
grass pickerel	–	–
northern pike	0.4	0.9
central mudminnow	–	–
rainbow trout	–	–

Table 21.–Continued.

Fish species	Clinton River (2)	Clinton River Cut-off channel (1)
brown trout	–	–
brook trout	–	–
banded killifish	–	–
brook stickleback	–	–
mottled sculpin	–	–
rock bass	0.4	–
green sunfish	–	–
pumpkinseed	6.5	3.7
bluegill	3.4	7.3
longear sunfish	–	–
smallmouth bass	–	–
largemouth bass	11.8	11.4
white crappie	–	0.5
black crappie	–	0.9
greenside darter	–	–
rainbow darter	–	–
Iowa darter	–	–
fantail darter	–	–
least darter	–	–
johnny darter	–	–
yellow perch	1.1	0.9
logperch	–	–
blackside darter	–	–
walleye	–	0.9
freshwater drum	–	4.6
round goby	–	–
Total catch	263	219
Total number of species	15	19
Total length sampled (ft)	2,985	1,585
Total time sampled (hrs)	2.0	1.5

Table 22.—Reptiles and amphibians found in the Clinton River watershed (Harding 1997).

Common name	Scientific name
<b>Turtles</b>	
snapping turtle	<i>Chelydra serpentine</i>
common musk turtle	<i>Sternotherus odoratus</i>
spotted turtle ( <b>threatened</b> )	<i>Clemmys guttata</i>
eastern box turtle ( <b>special concern</b> )	<i>Terrapene carolina Carolina</i>
Blandings turtle ( <b>special concern</b> )	<i>Emydoidea blandingii</i>
common map turtle	<i>Graptemys geographica</i>
painted turtle	<i>Chrysemys picta</i>
red-eared slider	<i>Trachemys scripta elegans</i>
spiny softshell	<i>Apalone spinifera</i>
<b>Lizards</b>	
five-lined skink	<i>Eumeces fasciatus</i>
<b>Snakes</b>	
northern water snake	<i>Nerodia sipedon sipedon</i>
queen snake	<i>Regina septemvittata</i>
brown snake	<i>Storeria dekayi</i>
northern red-bellied snake	<i>Storeria occipitomaculata occipitomaculata</i>
common garter snake	<i>Thamnophis sirtalis sirtalis</i>
Butler's garter snake	<i>Thamnophis butleri</i>
northern ribbon snake	<i>Thamnophis sauritus septentrionalis</i>
northern ringneck snake	<i>Diadophis punctatus edwardsi</i>
eastern hognose snake	<i>Heterodon platyrhinos</i>
blue racer	<i>Coluber constrictor foxi</i>
black rat snake ( <b>special concern</b> )	<i>Elaphe obsoleta obsoleta</i>
eastern fox snake ( <b>threatened</b> )	<i>Elaphe gloydi</i>
eastern milk snake	<i>Lampropeltis triangulum triangulum</i>
eastern smooth green snake	<i>Opheodrys vernalis vernalis</i>
eastern massasauga rattlesnake ( <b>special concern</b> )	<i>Sistrurus catenatus catenatus</i>
<b>Salamanders</b>	
mudpuppy	<i>Necturus maculosus maculosus</i>
eastern newt	<i>Notophthalmus viridescens</i>
spotted salamander	<i>Ambystoma maculatum</i>
blue-spotted salamander	<i>Ambystoma laterale</i>
eastern tiger salamander	<i>Ambystoma tigrinum tigrinum</i>
red-backed salamander	<i>Plethodon cinereus</i>
four-toed salamander	<i>Hemidactylium scutatum</i>
<b>Frogs and Toads</b>	
eastern American toad	<i>Bufo americanus americanus</i>
Blanchard's cricket frog ( <b>special concern</b> )	<i>Acris crepitans blanchardi</i>
striped chorus frog	<i>Pseudacris triseriata</i>
northern spring peeper	<i>Pseudacris crucifer crucifer</i>
gray treefrog	<i>Hyla versicolor</i>
bullfrog	<i>Rana catesbeiana</i>
green frog	<i>Rana clamitans melanota</i>
wood frog	<i>Rana sylvatica</i>
northern leopard frog	<i>Rana pipiens</i>
pickerel frog	<i>Rana palustris</i>

Table 23.–Breeding birds in the Clinton River watershed (Brewer et al. 1991).

Common name	Scientific name
Pied-billed Grebe	<i>Podilymbus podiceps</i>
American Bittern	<i>Botaurus lentiginosus</i>
Least Bittern	<i>Ixobrychus exilis</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Egret	<i>Casmerodius albus</i>
Green-backed Heron	<i>Butorides striatus</i>
Mute Swan	<i>Cygnus olor</i>
Canada Goose	<i>Branta canadensis</i>
Wood Duck	<i>Aix sponsa</i>
American Black Duck	<i>Anas rubripes</i>
Mallard	<i>Anas platyrhynchos</i>
Blue-winged Teal	<i>Anas discors</i>
Turkey Vulture	<i>Cathartes aura</i>
Northern Harrier	<i>Circus cyaneus</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Red-shouldered Hawk	<i>Buteo lineatus</i>
Broad-winged Hawk	<i>Buteo platypterus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
American Kestrel	<i>Falco sparverius</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Ruffed Grouse	<i>Bonasa umbellus</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Northern Bobwhite	<i>Colinus virginianus</i>
Sora	<i>Porzana carolina</i>
American Coot	<i>Fulica americana</i>
Killdeer	<i>Charadrius vociferus</i>
Spotted Sandpiper	<i>Actitis macularia</i>
Common Snipe	<i>Gallinago gallinago</i>
American Woodcock	<i>Scolopax minor</i>
Black Tern	<i>Chlidonias niger</i>
Rock Dove	<i>Columba livia</i>
Mourning Dove	<i>Zenaida macroura</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Eastern Screech-owl	<i>Otus asio</i>
Great Horned Owl	<i>Bubo virginianus</i>
Barred Owl	<i>Strix varia</i>
Common Nighthawk	<i>Chordeiles minor</i>
Chimney Swift	<i>Chaetura pelagica</i>
Ruby-throated Hummingbird	<i>Archilochus colubris</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Northern Flicker	<i>Colaptes auratus</i>

Table 23.–Continued.

Common name	Scientific name
Eastern Wood-pewee	<i>Contopus virens</i>
Acadian Flycatcher	<i>Empidonax virescens</i>
Alder Flycatcher	<i>Empidonax alnorum</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Least Flycatcher	<i>Empidonax minimus</i>
Eastern Phoebe	<i>Sayornis phoebe</i>
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Horned Lark	<i>Eremophila alpestris</i>
Purple Martin	<i>Progne subis</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Bank Swallow	<i>Riparia riparia</i>
Barn Swallow	<i>Hirundo rustica</i>
Blue Jay	<i>Cyanocitta cristata</i>
American Crow	<i>Corvus brachyrhynchos</i>
Black-capped Chickadee	<i>Parus atricapillus</i>
Tufted Titmouse	<i>Parus bicolor</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
Brown Creeper	<i>Certhia americana</i>
House Wren	<i>Troglodytes aedon</i>
Marsh Wren	<i>Cistothorus palustris</i>
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
Eastern Bluebird	<i>Sialia sialis</i>
Veery	<i>Catharus fuscescens</i>
Wood Thrush	<i>Hylocichla mustelina</i>
American Robin	<i>Turdus migratorius</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Brown Thrasher	<i>Toxostoma rufum</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
European Starling	<i>Sturnus vulgaris</i>
White-eyed Vireo	<i>Vireo griseus</i>
Yellow-throated Vireo	<i>Vireo flavifrons</i>
Warbling Vireo	<i>Vireo gilvus</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Blue-winged Warbler	<i>Vermivora pinus</i>
Golden-winged Warbler	<i>Vermivora chrysoptera</i>
Yellow Warbler	<i>Dendroica petechia</i>
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>
Black-throated Green Warbler	<i>Dendroica virens</i>
Cerulean Warbler	<i>Dendroica cerulean</i>
Black-and-white Warbler	<i>Mniotilta varia</i>
American Redstart	<i>Setophaga ruticilla</i>
Prothonotary Warbler	<i>Protonotaria citrea</i>
Ovenbird	<i>Seiurus aurocapillus</i>
Northern Waterthrush	<i>Seiurus noveboracensis</i>

Table 23.–Continued.

Common name	Scientific name
Common Yellowthroat	<i>Geothlypis trichas</i>
Hooded Warbler	<i>Wilsonia citrine</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Scarlet Tanager	<i>Piranga olivacea</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>
Indigo Bunting	<i>Passerina cyanea</i>
Dickcissel	<i>Spiza americana</i>
Rufous-sided Towhee	<i>Pipilo erythrophthalmus</i>
Chipping Sparrow	<i>Spizella passerine</i>
Field Sparrow	<i>Spizella pusilla</i>
Vesper Sparrow	<i>Pooecetes gramineus</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Henslow's Sparrow ( <b>threatened</b> )	<i>Ammodramus henslowii</i>
Song Sparrow	<i>Melospiza melodia</i>
Swamp Sparrow	<i>Melospiza georgiana</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Eastern Meadowlark	<i>Sturnella magna</i>
Western Meadowlark	<i>Sturnella neglecta</i>
Common Grackle	<i>Quiscalus quiscula</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Orchard Oriole	<i>Icterus spurius</i>
Northern Oriole	<i>Icterus galbula</i>
House Finch	<i>Carpodacus mexicanus</i>
Pine Siskin	<i>Cardeulis pinus</i>
American Goldfinch	<i>Cardeulis tristis</i>
House Sparrow	<i>Passer domesticus</i>

Table 24.-Mammals found in the Clinton River watershed (Burt 1957).

Common name	Scientific name
opossum	<i>Didelphis marsupialis</i>
eastern mole	<i>Scalopus aquaticus</i>
starnose mole	<i>Condylura cristata</i>
masked shrew	<i>Sorex cinereus</i>
least shrew ( <b>threatened</b> )	<i>Cryptotis parva</i>
shorttail shrew	<i>Blarina brevicauda</i>
little brown bat	<i>Myotis lucifugus</i>
Indiana bat ( <b>endangered</b> )	<i>Myotis sodalist</i>
keen myotis	<i>Myotis keeni</i>
silver-haired bat	<i>Lasionycteris noctivagans</i>
big brown bat	<i>Eptesicus fuscus</i>
red bat	<i>Lasiurus borealis</i>
hoary bat	<i>Lasiurus cinereus</i>
raccoon	<i>Procyon lotor</i>
longtail weasel	<i>Mustela frenata</i>
least weasel	<i>Mustela rixosa</i>
mink	<i>Mustela vison</i>
river otter	<i>Lutra canadensis</i>
badger	<i>Taxidea taxus</i>
striped skunk	<i>Mephitis mephitis</i>
red fox	<i>Vulpes fulva</i>
gray fox	<i>Urocyon cinereoargenteus</i>
coyote	<i>Canis latrans</i>
woodchuck	<i>Marmota monax</i>
thirteen-lined ground squirrel	<i>Citellus tridecemlineatus</i>
eastern chipmunk	<i>Tamias striatus</i>
red squirrel	<i>Tamiascirus hudsonicus</i>
eastern gray squirrel	<i>Sciurus carolinensis</i>
eastern fox squirrel	<i>Sciurus niger</i>
southern flying squirrel	<i>Glaucomys volans</i>
beaver	<i>Castor canadensis</i>
deer mouse	<i>Peromyscus maniculatus</i>
white-footed mouse	<i>Peromyscus leucopus</i>
southern bog lemming	<i>Synaptomys cooperi</i>
meadow vole	<i>Microtus pennsylvanicus</i>
pine vole	<i>Pitymys pinetorum</i>
muskrat	<i>Ondatra zibethica</i>
Norway rat	<i>Rattus norvegicus</i>
house mouse	<i>Mus musculus</i>
meadow jumping mouse	<i>Zapus hudsonius</i>
eastern cottontail	<i>Sylvilagus floridanus</i>
whitetail deer	<i>Odocoileus virginianus</i>

Table 25.–Fish stocked in the Clinton River watershed, 1934–2002.

Segment	Township	Water body	Species	Years	Number stocked in period
Headwater					
	Independence Twp.	Cranberry Lake	bluegill	1934–37, 1939–45	59,900
			largemouth bass	1934, 1934, 1937–39, 1943–45	3,250
			yellow perch	1934, 1935, 1937, 1939, 1941	20,600
		Crooked Lake	northern pike	1973, 1974, 1976–80	9,700
			rainbow trout	1981, 1982	11,400
		Round Lake	bluegill	1944, 1945	4,400
			largemouth bass	1944, 1945	600
			yellow perch	1935	2,000
	Brandon Twp.	Seymour Lake	bluegill	1934, 1936–43, 1945	83,000
			largemouth bass	1937–39, 1941, 1943, 1945	2,500
			yellow perch	1934, 1937, 1939, 1940	13,000
Upper					
	Independence Twp.	Bridge Lake	bluegill	1940	10,000
			Cemetery Lake	bluegill	1934–43, 1945
			brown trout	1968	2,000
			largemouth bass	1935, 1937–39, 1944, 1945	4,250
			rainbow trout	1948, 1950–56, 1958–64, 1966, 1967	25,800
			yellow perch	1934, 1935, 1937	6,800
		Clinton River	rainbow trout	1943	100
		Deer Lake	bluegill	1934–45	115,800
			brown trout	1968	6,500
			crayfish	1937	1,429
			cutthroat trout	1939	400
			rainbow trout	1939, 1947, 1948, 1950–56, 1958–67, 1977–80, 1983–85	118,152
			smallmouth bass	1937, 1942–44	4,000
			splake	1971–74	52,007
		walleye	1935–37, 1983, 1985, 1989, 1991	450,473	
		yellow perch	1934, 1937, 1939, 1941	20,600	
		Dollar Lake	bluegill	1934–37, 1939	12,500
			largemouth bass	1935	500
			yellow perch	1934, 1937	2,800
		Clarkston Pond	bluegill	1942, 1943	14,000
			largemouth bass	1940, 1943	800
			yellow perch	1941	10,000

Table 25.–Continued.

Segment Township Water body	Species	Years	Number stocked in period
Greens Lake	bluegill	1934, 1936, 1937–45	80,200
	largemouth bass	1935, 1936, 1939–41, 1943–45	4,075
	smallmouth bass	1940	175
	yellow perch	1934, 1939, 1940	7,950
Park Lake	bluegill	1938–39	8,000
	largemouth bass	1938–39	700
	yellow perch	1939	1,500
Sashebaw Creek	rainbow trout	1943	350
Townsend Lake	largemouth bass	1935	500
	northern pike	1969, 1970	55,000
	rainbow trout	1947, 1948, 1950, 1951	3,500
Waterford Mill Pond	bluegill	1944, 1945	3,000
	largemouth bass	1945	320
Orion Twp. Mill Lake	bluegill	1940–43, 1945	16,200
	largemouth bass	1942, 1945	900
	yellow perch	1940	5,000
Pontiac Twp. Crystal Lake	bluegill	1979	213
	crappie	1979	70
	largemouth bass	1979, 1980	18,216
	rainbow trout	1980–82	16,000
Springfield Twp. Bridge Lake	bluegill	1934, 1939, 1942, 1943	24,000
	largemouth bass	1935, 1944	1,000
	rainbow trout	1949–52, 1958–60	5,500
	smallmouth bass	1943	1,060
Waterford Twp. Chillman Pond	bluegill	1944	1,350
	largemouth bass	1944	140
Clinton River	brown trout	1938, 1941, 1944, 1953, 1955–58, 1960–68	20,907
	coho salmon	1979	50,000
	rainbow trout	1939–41, 1943–64, 1973–77	168,970
	walleye	1975, 1980, 1990–92	123,329
Crescent Lake	bluegill	1935–45, 1976	120,200
	crayfish	1939	11,250
	largemouth bass	1936, 1938–41, 1943, 1945, 1976– 76	12,787
	rainbow trout	1967–69, 1975–80	63,001
	walleye	1937, 1985, 1990, 1997–99, 2001	242,518
	yellow perch	1934, 1934, 1937	6,000

Table 25.–Continued.

Segment Township Water body	Species	Years	Number stocked in period
Eagle Lake	bluegill	1944, 1945	2,100
	largemouth bass	1943–45	1,000
Elizabeth Lake	bluegill	1934–45	225,850
	brown trout	1968	7,820
	crayfish	1939	11,250
	largemouth bass	1936–41, 1944, 1945	10,650
	rainbow trout	1954–58, 1960–69	112,800
	smallmouth bass	1934–37, 1041–44	9,000
	walleye	1935, 1937, 1938	498,000
	yellow perch	1934–37, 1939	29,700
Geneva Lake	bluegill	1944	2,000
	largemouth bass	1944, 1945	600
Huntoon Lake	bluegill	1934–38, 1940–45	45,650
	largemouth bass	1935, 1937, 1939, 1943, 1945	2,570
	yellow perch	1936, 1941	9,000
Lake Oakland	bluegill	1934–45	158,300
	crappie	1939	500
	crayfish	1937	1,429
	largemouth bass	1935–42, 1945	18,650
	smallmouth bass	1942–44	3,600
	walleye	1955, 1956, 1983, 1984, 1986	917,790
Loon Lake	yellow perch	1934, 1937, 1939	26,100
	bluegill	1934–45	202,800
	brown trout	1973, 1974	16,000
	crappie	1938, 1939	2,600
	crayfish	1937, 1939, 1941	12,929
	largemouth bass	1935, 1937, 1939–41, 1945	6,450
	northern pike	1956, 1982, 1995–97, 2001	13,128
	rainbow trout	1973–74	32,000
	smallmouth bass	1942–44	5,500
	walleye	1935, 1937, 1938, 1944, 1946, 1953, 1955, 1983, 1984, 1986, 1990, 1992	768,388
	yellow perch	1934, 1935, 1937, 1939–41	24,800
Lotus Lake	bluegill	1937, 1939–42, 1945	41,250
	largemouth bass	1939–41, 1945	1,780
	rainbow trout	1948	1,000
	yellow perch	1935	4,000
Maceday Lake	bluegill	1934, 1935, 1937–45	169,650
	brown trout	1991	10,287
	lake trout	1949–56, 1969–72, 1994–96	48,776
	largemouth bass	1935–41, 1944	8,900

Table 25.–Continued.

Segment Township Water body	Species	Years	Number stocked in period
Maceday Lake – continued	rainbow trout	1947, 1948, 1950–64, 1968–70, 1972, 1976–79, 1981–2002	489,415
	smallmouth bass splake	1936, 1942–44 1966, 1968–72, 1975–77, 1981– 88, 1990, 1992–2002	5,300 331,326
	steelhead	1968, 1975, 1980	29,469
	walleye	1937, 1938, 1983, 1984, 1986, 1989, 1991, 1993, 1995	349,387
	yellow perch	1934–36, 1939	18,000
	Mohawk Lake	rainbow trout	1947, 1948, 1950, 1958–60
Schoolhouse Lake	bluegill	1934–45	80,500
	largemouth bass	1935–37, 1939–41, 1943–45	6,400
	rainbow trout	1948, 1950, 1958–60, 1964–67	11,800
	yellow perch	1934, 1936, 1937, 1939	9,800
Scott Lake	bluegill	1934, 1935, 1937–45	86,200
	largemouth bass	1934–41, 1943–45	10,050
	yellow perch	1934, 1935, 1937, 1939, 1941	18,500
Silver Lake (upper and lower)	bluegill	1935–45, 1977	184,100
	brown trout	1968, 1971, 1981, 1982	6,620
	crappie	1939	900
	largemouth bass	1935, 1937, 1939–41, 1944, 1945, 1976–78	24,636
	rainbow trout	1948–52, 1958–60, 1964–67, 1969, 1977–80	29,115
	smallmouth bass	1942, 1943	1,500
	yellow perch	1934, 1937, 1939, 1941	20,500
	Van Norman Lake	bluegill	1939
	largemouth bass	1939	1,000
Watkins Lake	bluegill	1934, 1935, 1937–45	147,300
	largemouth bass	1935–41, 1945	5,350
	smallmouth bass	1935–37, 1942–44	7,050
	walleye	1937, 1938	328,000
	yellow perch	1934, 1937, 1939, 1941	19,500
Williams Lake	bluegill	1934, 1935, 1937–45	121,050
	largemouth bass	1934–41, 1944, 1945	13,650
	northern pike	1974, 1975	4,000
	smallmouth bass	1942, 1943	2,500
	walleye	1937, 1938	168,000
	yellow perch	1934–36, 1939, 1941	21,500

Table 25.–Continued.

Segment Township Water body	Species	Years	Number stocked in period	
Woodhull Lake	bluegill	1934–45	91,159	
	crappie	1939	300	
	crayfish	1937, 1939	15,679	
	largemouth bass	1935–37, 1939–41, 1943–45	8,250	
	yellow perch	1934, 1937, 1939	13,100	
Wormer Lake	bluegill	1934–43, 1945	58,500	
	largemouth bass	1935–37, 1939–41, 1943, 1945	4,450	
	yellow perch	1934, 1937, 1939	6,800	
W. Bloomfield Twp. Cass Lake	bluegill	1934, 1936–45	213,200	
	brown trout	1968, 1983–86	118,700	
	crayfish	1938–1940	9,825	
	kokanee salmon	1969–71, 1976	738,947	
	Lake trout	1954, 1955, 1972–74, 1976, 1979, 1996–98	108,114	
	Lake whitefish	1973	275	
	largemouth bass	1935–42, 1944, 1945	24,450	
	northern pike	1978	1,000	
	rainbow trout	1972, 1978, 1980	60,327	
	redeer sunfish	1995–96	71,017	
	smallmouth bass	1942–44	9,000	
	splake	1964–66, 1981, 1982, 1984, 1985	206,180	
	walleye	1934, 1937, 1938, 1972, 1973, 1982, 1983, 1985, 1990, 1992, 1994, 1995, 1997, 1999, 2001	1,400,844	
	yellow perch	1934–37, 1939	42,200	
	Orchard Lake	bluegill	1934, 1935, 1937–40, 1942	158,500
		brown trout	1981–83	57,000
Chinook salmon		1975	51,800	
crayfish		1939–40	5,825	
largemouth bass		1935, 1937–40	5,875	
rainbow trout		1943–48, 1950–58, 1960–72, 1975, 1979–80	329,292	
smallmouth bass		1935, 1939, 1942	2,550	
rainbow smelt		1975	3,600	
walleye		1934, 1937–38	706,000	
yellow perch		1934–35, 1937, 1939	37,200	
Pine Lake	bluegill	1934–39, 1941, 1942, 1944, 1945	132,250	
	largemouth bass	1935–39, 1941, 1944, 1945	10,050	
	rainbow trout	1965, 1966	23,000	
	smallmouth bass	1944	1,000	
	walleye	1934, 1937, 1938	736,000	
	yellow perch	1934–37, 1939	36,100	

Table 25.–Continued.

Segment			Number stocked in period
Township	Water body	Species	Years
	Sylvan Lake	bluegill	1934–45
		crayfish	1939, 1940
		largemouth bass	1935–37, 1939–41, 1944, 1945
		rainbow trout	1951
		smallmouth bass	1942, 1943
		walleye	1937, 1938
		yellow perch	1934, 1935, 1937, 1939
Middle			
Addison Twp.			
	Echo Lake	yellow perch	1934
	Indian Lake	bluegill	1937
		largemouth bass	1937
	Lakeville Lake	bluegill	1934–45
		largemouth bass	1934–45
		northern pike	1956, 1982, 1999, 2000, 2002
		walleye	1937, 1999, 2001, 2002
		yellow perch	1934–37, 1939, 1940
	Stony Creek	brown trout	1987–91
		walleye	1989
Avon Twp.			
	Maxon Pond	smallmouth bass	1946
	Paint Creek (Avon and Oakland twps.)	brook trout	1941
		brown trout	1938, 1949, 1953, 1954, 1956–70, 1972–2002
		crayfish	1940, 1941
		rainbow trout	1941–64, 1986, 1987
	Rochester Pond	bluegill	1969
		largemouth bass	1969
		pumpkinseed	1969
Bruce Twp.			
	Stony Creek	brown trout	1982–91
Independence Twp.			
	Walters Lake	bluegill	1934–45
		largemouth bass	1934–41, 1943–45
		smallmouth bass	1936
		walleye	1935, 1937
		yellow perch	1934, 1935, 1937, 1939, 1941
Oakland Twp.			
	Chamberlain Lake	rainbow trout	1962–66
	Graham Lake	northern pike	1960
		rainbow trout	1962–66

Table 25.–Continued.

Segment Township Water body	Species	Years	Number stocked in period
Hart Lake	largemouth bass	1964	800
Shoe Lake	rainbow trout	1962–66	1,850
Bald Mountain Pond	brook trout	1964, 1965	125
	brown trout	1965, 1966, 1968	5,512
	rainbow trout	1947, 1948, 1950–55, 1957–67, 1969–71	28,473
	redeer x green sunfish	1969	5,000
Orion Twp.			
Buckhorn Lake	bluegill	1936	1,500
Clam Lake	bluegill	1940	5,000
Elkhorn Lake	bluegill	1934, 1935, 1937–45	47,700
	largemouth bass	1935, 1939–45	3,100
	smallmouth bass	1939	300
	yellow perch	1934, 1937, 1939, 1940	14,300
Heather or Dennis Lake	northern pike	1959	200
Indianwood Lake	bluegill	1939	1,500
	largemouth bass	1939, 1940, 1943	1,825
Lake Orion	bluegill	1934–45	200,100
	largemouth bass	1934–42, 1945	13,700
	northern pike	1956, 1984	16,000
	smallmouth bass	1943, 1944	2,200
	yellow perch	1934–37, 1939, 1940	46,800
	walleye	1935, 1937, 1996–98, 2000, 2002	1,031,276
Long Lake	bluegill	1934–37, 1939–41, 1943–45	60,500
	largemouth bass	1935, 1936, 1939, 1944, 1945	2,450
	smallmouth bass	1943	500
	yellow perch	1935–37, 1939	25,000
Square Lake	bluegill	1936, 1939–45	46,750
	largemouth bass	1939, 1940, 1942–45	3,000
	northern pike	1960	2,300
	yellow perch	1939, 1940	7,000
Taylor Lake	bluegill	1934–45	60,200
	largemouth bass	1934–45	6,300
	yellow perch	1934–36, 1939, 1940	19,300
Trout Creek	brook trout	1941–64	26,500
	brown trout	1974–79, 1982–93	34,356
Upper Trout Lake	brook trout	1964	1,000
	brown trout	1968	2,000
	rainbow trout	1965, 1967, 1969, 1971	8,825
Lower Trout Lake	rainbow trout	1964–66	21,500

Table 25.–Continued.

Segment Township Water body	Species	Years	Number stocked in period
Oxford Twp.			
Bailey Lake	smallmouth bass	1941	500
	largemouth bass	1936	350
Little Fish Lake	bluegill	1941, 1942	4,000
	largemouth bass	1942	1,000
	yellow perch	1940	5,000
Long Lake	bluegill	1943–45	7,900
	largemouth bass	1934, 1935, 1944	800
	smallmouth bass	1934, 1935, 1944	1,400
	yellow perch	1934, 1936	4,400
Stoney Lake	bluegill	1934–45	73,900
	largemouth bass	1935–42, 1945	6,150
	rainbow trout	1961–63	8,650
	smallmouth bass	1939, 1943, 1944	1,100
	walleye	1937	130,000
	yellow perch	1934–37, 1939, 1940	29,900
Clinton River (Pontiac and Avon twps.)	brown trout	1983–94	41,091
	channel catfish	1975	100,000
	northern pike	1975, 1980	229,999
	smallmouth bass	1975, 1980	6,110
	steelhead	1998, 2000, 2002	292,035
	walleye	1975, 1983, 1984	136,463
Pontiac Twp.			
Galloway Lake	largemouth bass	1940	500
Shelby Twp.			
Clinton River	brown trout	1983–86, 1990	6,523
	steelhead	1985–02	1,039,276
	walleye	1982–85, 1994, 1995, 1997	1,006,380
Handsome Lake (OC)	largemouth bass	1939	375
Washington Twp.			
Stony Creek	brown trout	1943, 1982–91	16,358
Stony Creek Impoundment	bluegill	1999	40,082
	channel catfish	1996, 2001	10,212
	muskellunge	1964	18,986
	northern pike	1980	4,000
	walleye	1981, 1983, 1985, 1987–89, 1991, 1993, 1995, 2001	185,638

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Table 25.–Continued.

Segment				Number stocked in period
Township	Water body	Species	Years	
W. Bloomfield				
	Pine Lake	bluegill	1940, 1943	59,000
		crayfish	1940	1,625
		largemouth bass	1935, 1940	1,500
		rainbow trout	1964	3,000
		smallmouth bass	1942, 1943	4,000
Lower				
Bruce Twp.				
	East Pond Creek	brown trout	1971–91	51,143
	Frantz Lake	bluegill	1937	5,000
	Hidden Lake	smallmouth bass	1939, 1942	790
	Kidder Creek	brown trout	1972	500
	Nolan Lake	bluegill	1939–41	14,000
		largemouth bass	1939–41	3,000
Ray Twp.				
	Cascade Lake	bluegill	1939–41	17,500
		largemouth bass	1939, 1940	3,500
Shelby Twp.				
	Bowman Lake	largemouth bass	1946	126
	Dufty Pond	largemouth bass	1946	500
Sterling Heights Twp.				
	Clinton River	walleye	1990–92	67,751
Washington Twp.				
	Cusik Lake	bluegill	1934, 1937, 1939, 1940	28,000
		largemouth bass	1934, 1939, 1940, 1941	3,600
		rainbow trout	1948, 1949	2,500

Table 26.—Comparison of angler catch rates, pressure, and success at select Oakland County lakes (two standard errors in parentheses) (Waybrant and Thomas 1988, Thomas 1990).

Lake	Acres	Year surveyed	Total catch	Total effort	Catch per acre	Angler hours per acre	Catch per hour
Cass	1,280	1986	17,753	39,205	13.9 (2.9)	30.6 (3.8)	0.45 (0.11)
Kent	1,000	1987	276,906	231,000	282.2 (42.7)	231.0 (23.0)	1.22 (0.22)
Orchard	788	1986	8,649	24,422	11.0 (2.5)	31.0 (5.3)	0.35 (0.10)
White	540	1987	15,692	40,257	33.4 (9.5)	74.5 (10.0)	0.45 (0.14)
Maceday/Lotus	419	1986	40,283	37,010	96.1 (16.0)	88.3 (10.0)	1.09 (0.22)

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Table 27.—Public lands in the Clinton River watershed listed by 15 categories sorted from largest land area to least. Data from Southeast Michigan Council of Governments.

Public land category	Number of parcels	Total land area (acres)	Percent of all public land	Cumulative percent
Municipal park	334	8,030	23.1	23.1
Golf course	48	6,884	19.8	43.0
Metro park	4	5,724	16.5	59.5
State recreation area	5	5,163	14.9	74.3
County park	6	2,375	6.8	81.2
Open public	30	1,955	5.6	86.8
State Park	4	1,014	2.9	89.7
Camp or campground	5	740	2.1	91.9
Nature preserve	15	690	2.0	93.8
Private recreation	11	680	2.0	95.8
Unknown	10	484	1.4	97.2
Ski area	3	413	1.2	98.4
Hunt club	6	398	1.1	99.5
Dedicated open space	3	106	0.3	99.8
Nature trail	1	55	0.2	100.0
Total acreage	485	34,710		

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