Appendix 1.1. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Precipitation, stream stage and velocity-discharge.
[--, no data available]

Watershed	Subwatershed	MMSD								USGS ADAPS			
		Precipitation				River Stage				Velocity-Discharge			
		Sites per subwatershed	Count of results	Earliest sample date	Latest sample date	Sites per subwatershed	Count of results	Earliest sample date	Latest sample date	Sites per subwatershed	Count of results	Earliest sample date	Latest sample date
Fox River	Muskego Lake	--	--	--	--	--	--	--	--	2	3,532	10/01/1987	11/06/2001
Kinnickinnic River	Kinnickinnic River	1	74,573	01/01/1993	08/05/2001	1	41,682	06/02/1994	08/05/2001	4	9,650	07/01/1976	11/06/2001
	West Milwaukee Ditch	1	74,572	01/01/1993	08/05/2001	--	--	--	--	--	--	--	--
	Wilson Park Creek	--	--	--	--	--	--	--	--	5	5,295	11/12/1996	11/06/2001
Lake Michigan Tributary	Lake Michigan Tributary	1	73,962	01/01/1993	08/05/2001	--	--	--	--	--	--	--	--
Menomonee River	Honey Creek	1	74,572	01/01/1993	08/05/2001	--	--	--	--	4	2,592	12/01/1974	06/29/1982
	Little Menomonee River	2	149,145	01/01/1993	08/05/2001	--	--	--	--	4	5,285	11/01/1974	09/30/1990
	Menomonee River - Lower	3	223,749	01/01/1993	08/05/2001	--	--	--	--	6	16,608	01/01/1970	11/06/2001
	Menomonee River - Upper	1	74,658	01/01/1993	08/05/2001	--	--	--	--	4	13,086	11/01/1974	11/06/2001
	Underwood Creek	1	73,106	01/01/1993	08/05/2001	--	--	--	--	1	9,655	11/01/1974	11/06/2001
Milwaukee River	Cedar Creek - Lower	1	35,239	01/01/1997	08/05/2001	--	--	--	--	--	--	--	--
	Lincoln Creek	2	149,146	01/01/1993	08/05/2001	1	60,104	09/06/1994	08/05/2001	3	1,272	03/26/1981	06/30/1997
	Milwaukee River - Lower	2	149,146	01/01/1993	08/05/2001	2	114,636	06/02/1994	08/05/2001	4	20,481	01/01/1970	11/06/2001
Oak Creek	Mitchell Field Drainage Ditch	--	--	--	--	--	--	--	--	1	1,654	11/12/1996	11/06/2001
	North Branch Oak Creek	2	110,747	01/01/1993	08/05/2001	--	--	--	--	--	--	--	--
	Oak Creek - Lower	--	--	--	--	--	--	--	--	1	11,633	01/01/1970	11/06/2001
Root River	Root River - Middle	--	--	--	--	--	--	--	--	1	11,633	01/01/1970	11/06/2001
	Root River - Upper	1	74,573	01/01/1993	08/05/2001	--	--	--	--	2	1,148	03/02/1999	09/30/2000
	Whitnall Park Creeks	1	74,569	01/01/1993	08/05/2001	--	--	--	--	--	--	--	--

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Appendix 1.2. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: pH.

[--, no data available; values are in standard units; values rounded to nearest hundredth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	16	0	3,687	10	3,697	0	10/17/1986	08/29/2001	5.50[a]	7.40	7.61	8.10	8.07	8.40	8.70	9.90
Kinnickinnic River	Kinnickinnic River	7	4,725	2	6	4,733	0	05/21/1979	11/27/2001	6.30[a]	7.30	7.50	7.73	7.79	8.00	8.40	9.60
	Wilson Park Creek	3	0	0	74	74	0	01/11/1999	09/22/2000	5.06	7.09	7.59	7.81	7.67	7.95	8.09	8.50
Menomonee River	Butler Ditch	2	0	0	3	3	0	04/21/1999	04/24/2001	7.96	8.01	8.09	8.21	8.19	8.31	8.37	8.41
	Honey Creek	4	12	1	0	13	0	07/10/1995	08/21/2001	7.68	7.72	7.94	8.15	8.15	8.31	8.52	8.85
	Little Menomonee River	2	0	6	0	6	0	07/10/1995	10/18/2001	7.52	7.54	7.59	7.74	7.77	7.94	8.04	8.09
	Menomonee River - Lower	7	4,675	0	0	4,675	0	05/21/1979	11/27/2001	5.10	7.40	7.60	7.80	7.82	8.10	8.30	9.50
	Menomonee River - Upper	3	1,021	0	0	1,021	0	05/24/1982	11/27/2001	5.20[a]	7.60	7.70	7.90	7.92	8.10	8.30	11.00
	Willow Creek	1	0	5	0	5	0	05/24/2001	10/18/2001	7.45	7.46	7.47	7.87	7.79	7.98	8.09	8.17
	Lincoln Creek	6	340	54	0	394	0	08/31/1992	03/20/2002	6.85	7.39	7.52	7.76	7.78	8.00	8.21	9.08
	Milwaukee River - Lower	17	9,317	335	7	9,659	0	01/25/1973	03/20/2002	5.20[a]	7.60	7.80	8.10	8.08	8.30	8.50	9.30
Oak Creek	Mitchell Field Drainage Ditch	2	0	0	15	15	0	01/11/1999	09/22/2000	5.33	6.45	7.34	7.49	7.34	7.66	7.89	8.30
	Oak Creek - Lower	4	1,003	1	0	1,004	0	03/21/1985	11/19/2001	6.90[a]	7.50	7.68	7.80	7.83	8.00	8.20	9.54
	Oak Creek - Middle	2	509	0	0	509	0	03/21/1985	11/19/2001	7.10	7.40	7.50	7.70	7.69	7.90	8.00	8.90
	Oak Creek - Upper	1	254	0	0	254	0	03/21/1985	11/19/2001	6.64	7.03	7.21	7.60	7.48	7.70	7.80	8.00
Root River	Root River - Lower	1	26	0	0	26	0	08/25/1999	10/10/2001	7.36	7.55	7.61	7.77	7.76	7.86	7.97	8.18
	Root River - Middle	1	28	0	0	28	0	08/25/1999	10/10/2001	7.39	7.51	7.63	7.82	7.79	7.92	8.04	8.27
	Root River - Upper	4	111	0	0	111	0	08/25/1999	10/10/2001	6.48	7.00	7.15	7.38	7.35	7.58	7.69	8.06

[a]The minimum value was below 4.00 standard units, below which concentrations were considered to be outliers, and was replaced with the next highest minimum value equal to or above 4.00 standard units.

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Appendix 1.3. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Alkalinity.

[--, no data available; DL, detection limit value; values are expressed in milligrams per liter as calcium carbonate (mg/L as $CaCO_3$); values rounded to the nearest whole number; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	2	0	0	4	4	0	--	04/18/2001	08/29/2001	146	148	150	152	168	162	181	193
Kinnickinnic River	Kinnickinnic River	5	4,138	0	0	4,138	0	--	04/26/1982	11/27/2001	11	112	130	160	170	209	244	989
Menomonee River	Butler Ditch	2	0	0	3	3	0	--	04/21/1999	04/24/2001	185	188	194	202	200	208	211	213
	Honey Creek	1	0	0	1	1	1	10	06/25/1975	06/25/1975	--	--	--	--	--	--	--	DL
	Little Menomonee River	1	0	0	1	1	1	10	07/19/1977	07/19/1977	--	--	--	--	--	--	--	DL
	Menomonee River - Lower	6	4,068	0	1	4,069	1	10	08/20/1975	11/27/2001	5	128	160	206	206	254	282	460
	Menomonee River - Upper	3	996	0	0	996	0	--	10/04/1982	11/27/2001	4	180	226	271	260	300	326	457
Milwaukee River	Lincoln Creek	7	331	45	6	382	0	--	04/16/1993	03/20/2002	0	69	120	162	168	210	260	460
	Milwaukee River - Lower	15	7,681	137	2	7,820	0	--	04/26/1982	03/20/2002	5	131	168	224	217	264	290	1,112
Oak Creek	Oak Creek - Lower	4	959	0	0	959	0	--	03/21/1985	11/19/2001	9	150	215	262	250	300	326	401
	Oak Creek - Middle	2	488	0	0	488	0	--	03/21/1985	11/19/2001	7	135	190	246	235	287	318	382
	Oak Creek - Upper	1	243	0	0	243	0	--	03/21/1985	11/19/2001	36	147	232	278	261	312	333	365
Root River	Root River - Lower	1	25	0	0	25	0	--	08/25/1999	10/10/2001	73	188	230	260	245	280	298	320
	Root River - Middle	1	27	0	0	27	0	--	08/25/1999	10/10/2001	70	174	241	270	253	280	307	360
	Root River - Upper	4	106	0	0	106	0	--	08/25/1999	10/10/2001	49	120	266	325	294	358	390	435

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Appendix 1.4. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total Hardness.

[--, no data available; values are expressed in milligrams per liter as calcium carbonate (mg/L as $CaCO_3$); values rounded to the nearest hundredth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	3	0	48	0	48	0	04/07/1987	04/19/2001	186.00	208.40	230.00	258.00	248.38	263.25	272.90	306.00
Kinnickinnic River	Kinnickinnic River	6	2,435	0	4	2,439	0	06/01/1982	11/14/2001	2.23	147.21	172.38	225.51	236.47	291.58	346.36	923.81
	Wilson Park Creek	3	0	0	53	53	0	01/11/1999	09/22/2000	.30	.92	140.00	370.00	362.04	500.00	708.00	1,000.00
Menomonee River	Little Menomonee River	2	0	25	0	25	0	02/01/1990	06/29/1990	19.00	20.00	24.00	63.00	58.76	89.00	110.00	129.00
	Menomonee River - Lower	8	2,210	111	0	2,321	0	06/01/1982	11/14/2001	4.98	167.43	218.95	280.54	277.05	340.55	384.68	750.07
	Menomonee River - Upper	3	567	0	0	567	0	08/23/1982	11/14/2001	26.60	212.02	300.00	348.92	330.33	381.07	403.71	750.07
	Underwood Creek	1	0	12	0	12	0	02/01/1990	06/29/1990	48.00	74.90	86.75	129.50	123.50	145.00	178.00	200.00
Milwaukee River	Lincoln Creek	5	266	145	0	411	0	03/11/1993	11/27/2001	33.60	81.30	136.50	221.00	223.78	289.83	370.00	617.51
	Milwaukee River - Lower	16	4,541	286	2	4,829	0	01/25/1973	11/15/2001	.00	171.51	220.74	274.11	267.65	317.60	345.38	1,058.40
Oak Creek	Mitchell Field Drainage Ditch	2	0	0	13	13	0	01/11/1999	09/22/2000	.20	11.56	93.00	300.00	368.49	590.00	874.00	970.00
	Oak Creek - Lower	4	542	0	0	542	0	03/21/1985	11/19/2001	.41	210.08	296.00	380.77	368.72	439.99	480.51	1,208.08
	Oak Creek - Middle	2	279	0	0	279	0	03/21/1985	11/19/2001	94.36	194.91	268.92	361.95	348.84	419.88	460.00	877.47
	Oak Creek - Upper	1	139	0	0	139	0	03/21/1985	11/19/2001	105.23	238.53	352.82	450.00	436.00	530.25	576.79	1,002.32
Root River	Root River - Lower	1	23	0	0	23	0	08/25/1999	10/10/2001	170.00	304.12	340.00	362.25	355.03	395.22	410.00	440.00
	Root River - Middle	1	25	0	0	25	0	08/25/1999	10/10/2001	180.00	238.00	340.00	391.61	372.14	427.61	433.30	540.00
	Root River - Upper	5	98	0	1	99	0	10/17/1996	10/10/2001	.00	160.00	341.97	430.00	392.47	480.00	510.00	640.00

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Appendix 1.5. Summary statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Specific conductance

[--,no data available; values are expressed in microsiemens per centimeter (µS/cm); for the purposes of statistical calculations, values reported below a detection limit were set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all samples	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentil	90th Percentil	Maximum
Fox River	Muskego Lake	17	0	3,714	9	3,723	--	10/17/1986	08/29/2001	21[a]	505	594	648	654	713	814	1,450
Kinnickinnic River	Kinnickinnic River	10	4,828	114	6	4,948	--	01/15/1975	11/27/2001	64[a]	350	420	576	666	785	1,062	8,280
	Wilson Park Creek	5	0	34	0	34	--	11/06/1996	01/16/2002	88[a]	789	1,052	1,290	2,842	4,470	6,088	12,100
Menomonee River	Butler Ditch	1	0	0	2	2	--	04/21/1999	04/19/2001	552[a]	557	564	577	577	590	597	602
	Honey Creek	4	12	28	0	40	--	12/19/1977	08/21/2001	135	584	821	1,050	1,303	1,448	1,803	4,700
	Little Menomonee River	3	0	35	0	35	--	03/13/1978	10/18/2001	265	528	638	800	809	955	1,125	1,400
	Menomonee River - Lower	9	4,840	217	0	5,057	--	06/10/1975	11/27/2001	29[a]	458	581	729	771	907	1,067	5,950
	Menomonee River - Upper	5	1,021	97	0	1,118	--	03/14/1978	11/27/2001	232	644	781	888	872	985	1,060	2,091
	Underwood Creek	1	0	102	0	102	--	12/19/1977	08/04/1994	270	900	1,020	1,180	1,394	1,408	1,913	8,000
	Willow Creek	1	0	5	0	5	--	05/24/2001	10/18/2001	867	886	914	935	937	969	989	1,002
Milwaukee River	Lincoln Creek	6	339	199	0	538	--	08/31/1992	03/20/2002	86	238	460	757	849	1,054	1,423	12,800
	Milwaukee River - Lower	17	9,819	677	7	10,503	--	01/25/1973	03/20/2002	26[a]	394	492	608	598	685	763	2,400
Oak Creek	Mitchell Field Drainage Ditch	1	0	7	0	7	--	11/06/1996	01/14/2002	251[a]	271	448	796	1,986	2,625	4,910	6,710
	Oak Creek - Lower	4	999	143	0	1,142	--	10/29/1976	11/19/2001	191[a]	674	939	1,128	1,111	1,280	1,410	5,500
	Oak Creek - Middle	2	506	0	0	506	--	03/21/1985	11/19/2001	120	646	928	1,139	1,125	1,322	1,524	2,330
	Oak Creek - Upper	1	252	0	0	252	--	03/21/1985	11/19/2001	256	716	1,110	1,350	1,286	1,523	1,640	2,375
Root River	Root River - Lower	1	26	0	0	26	--	08/25/1999	10/10/2001	371	770	883	946	950	1,024	1,182	1,275
	Root River - Middle	2	28	129	0	157	--	10/25/1976	10/10/2001	54	729	870	1,030	1,084	1,177	1,458	4,100
	Root River - Upper	5	108	1	0	109	--	03/11/1999	10/10/2001	99	592	1,064	1,361	1,364	1,728	2,001	2,820

[a]The minimum value was below 20 µS/cm, below which concentrations were considered to be outliers, and was replaced with the next highest minimum value equal to or above 20 µS/cm.

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Appendix 1.6. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Dissolved oxygen (DO).

[--, no data available; values are expressed in milligrams per liter (mg/L); values rounded to the nearest hundredth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	16	0	3689	6	3,695	0	--	10/17/1986	08/29/2001	0.00	0.10	1.00	7.97	6.82	10.40	12.30	24.10
Kinnickinnic River	Kinnickinnic River	7	4806	2	7	4,815	0	--	06/10/1975	11/27/2001	.00	2.20	5.00	7.38	7.75	9.90	14.00	21.00
Menomonee River	Honey Creek	4	12	1	0	13	0	--	07/10/1995	08/21/2001	6.44	7.05	8.30	9.47	10.64	11.49	17.23	18.45
	Little Menomonee River	2	0	6	0	6	0	--	07/10/1995	10/18/2001	5.33	6.49	7.74	8.70	8.25	9.46	9.55	9.62
	Menomonee River - Lower	8	4691	0	1	4,692	0	--	06/10/1975	11/27/2001	.00	1.20	3.58	6.50	6.63	9.50	11.80	20.50
	Menomonee River - Upper	3	920	0	0	920	0	--	06/01/1982	11/27/2001	1.60	6.30	7.40	9.10	9.31	11.00	13.00	17.60
	Willow Creek	1	0	5	0	5	0	--	05/24/2001	10/18/2001	3.94	5.97	9.01	9.81	9.16	10.91	11.64	12.12
Milwaukee River	Lincoln Creek	6	338	51	0	389	1	8.34	08/31/1992	03/20/2002	.12	5.62	6.99	8.21	8.51	9.90	11.49	18.90
	Milwaukee River - Lower	17	9629	290	5	9,924	0	--	01/25/1973	03/20/2002	.00	5.00	6.80	8.70	8.79	10.90	12.80	22.20
Oak Creek	Oak Creek - Lower	4	990	1	0	991	0	--	03/21/1985	11/19/2001	.40	5.80	7.43	9.00	9.04	10.59	12.30	18.10
	Oak Creek - Middle	2	504	0	0	504	0	--	03/21/1985	11/19/2001	.90	4.60	6.00	7.40	7.80	9.40	11.80	17.30
	Oak Creek - Upper	1	251	0	0	251	0	--	03/21/1985	11/19/2001	.32	3.00	5.00	7.30	7.19	9.40	11.06	15.20
Root River	Root River - Lower	1	25	0	0	25	0	--	08/25/1999	10/10/2001	5.23	5.95	6.49	7.14	7.96	8.42	12.05	13.29
	Root River - Middle	1	28	0	0	28	0	--	08/25/1999	10/10/2001	2.56	4.90	6.76	7.49	7.95	8.56	11.49	14.05
	Root River - Upper	4	111	0	0	111	0	--	08/25/1999	10/10/2001	.00	1.76	3.13	5.13	5.28	6.39	8.02	15.59

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Appendix 1.7. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Biochemical Oxygen Demand (BOD), 5-day

[--, no data available; DL, detection limit value; values are expressed in milligrams per liter (mg/L); values rounded to the nearest hundredth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Deer Creek	1	0	0	1	1	1	8	10/09/1979	10/09/1979	--	--	--	--	--	--	--	DL
	Muskego Lake	2	0	0	4	4	0	--	04/28/1994	09/22/1994	.00	.00	.00	.00	.00	.00	.00	.00
Kinnickinnic River	Kinnickinnic River	10	4,429	122	12	4,563	223	0.2, 2, 12, 24, 120	01/15/1975	11/27/2001	.00	1.20	2.00	2.20	4.72	3.50	6.28	669.00
	West Milwaukee Ditch	1	0	0	1	1	1	200	05/10/1977	05/10/1977	--	--	--	--	--	--	--	DL
	Wilson Park Creek	6	0	323	80	403	86	0, 0.2, 2, 3, 4, 6, 12, 15, 20, 24, 60, 120, 200, 300, 600	11/06/1996	01/16/2002	.00	3.00	9.90	100.00	376.11	372.50	959.20	5,790.00
Lake Michigan Direct	Lake Michigan Direct	1	0	0	1	1	0	--	11/23/1977	11/23/1977	130.00	130.00	130.00	130.00	130.00	130.00	130.00	130.00
Lake Michigan Tributary	Lake Michigan Tributary	2	0	0	6	6	6	3, 6, 8	03/10/1976	04/23/1981	--	--	--	--	--	--	--	DL
Menomonee River	Menomonee River - Lower	7	4,362	103	5	4,470	225	0.2, 1, 2, 3	07/17/1975	11/27/2001	.00	1.40	2.00	2.40	3.01	3.60	5.50	26.00
	Menomonee River - Upper	3	982	0	0	982	65	0.2, 2	10/04/1982	11/27/2001	.10	1.10	2.00	2.00	2.27	2.50	3.40	8.60
	South Branch Underwood Creek	1	0	0	1	1	1	10	07/21/1982	07/21/1982	--	--	--	--	--	--	--	DL
Milwaukee River	Lincoln Creek	7	340	82	29	451	60	0.2, 1, 2	03/11/1993	11/27/2001	.00	.73	1.20	2.50	3.96	4.50	7.40	73.00
	Milwaukee River - Lower	16	7,450	0	11	7,461	411	0.2, 2, 20	01/15/1975	11/27/2001	.00	1.50	2.00	2.30	2.93	3.60	5.40	23.00

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Appendix 1.7. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Biochemical Oxygen Demand (BOD), 5-day

[- -, no data available; DL, detection limit value; values are expressed in milligrams per liter (mg/L); values rounded to the nearest hundredth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Oak Creek	Mitchell Field Drainage Ditch	2	0	68	16	84	6	0, 120, 200, 600, 1200	11/06/1996	01/16/2002	.0	43.00	551.25	1,865.00	3,600.51	4,377.50	7,315.00	38,600.00
	Oak Creek - Lower	5	994	0	1	995	90	0.2, 2, 3	10/26/1982	11/19/2001	.10	1.00	2.00	2.00	2.24	2.30	3.60	7.80
	Oak Creek - Middle	2	502	0	0	502	45	0.2, 2	03/21/1985	11/19/2001	.10	1.00	2.00	2.00	2.18	2.30	3.40	8.40
	Oak Creek - Upper	1	251	0	0	251	23	0.2, 2	03/21/1985	11/19/2001	.10	1.00	2.00	2.00	2.33	2.20	4.20	8.10
Root River	Root River - Lower	1	25	0	0	25	11	0.2, 2	08/25/1999	10/10/2001	.10	.10	.10	1.10	1.54	2.20	3.12	6.20
	Root River - Middle	2	28	0	2	30	18	0.2, 2, 4	09/03/1981	10/10/2001	.10	.10	.10	1.00	1.40	1.90	2.87	6.40
	Root River - Upper	4	111	0	0	111	52	0.2, 2	08/25/1999	10/10/2001	.10	.10	.55	1.20	2.36	3.60	6.40	9.50

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Appendix 1.8. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total suspended solids.

[--, no data available; values are expressed in milligrams per liter (mg/L); values rounded to the nearest whole number; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	1	0	0	1	1	0	04/18/2001	04/18/2001	458	458	458	458	458	458	458	458
Kinnickinnic River	Kinnickinnic River	6	4583	0	4	4,587	0	03/31/1980	11/27/2001	2	231	278	380	434	510	690	7210
	Wilson Park Creek	3	0	0	36	36	0	12/23/1999	09/22/2000	5	5	5	13	30	32	48	263
Menomonee River	Butler Ditch	2	0	0	2	2	0	04/19/2001	04/24/2001	320	321	322	325	325	328	329	330
	Menomonee River - Lower	6	4495	0	0	4,495	0	03/31/1980	11/27/2001	1	309	380	480	499	587	703	2630
	Menomonee River - Upper	3	1001	0	0	1,001	0	05/24/1982	11/27/2001	202	439	530	590	583	650	708	1200
	Willow Creek	1	0	0	5	5	0	06/12/2000	08/08/2000	5	5	5	7	9	13	15	16
Milwaukee River	Lincoln Creek	5	333	0	0	333	0	06/18/1997	11/27/2001	118	240	359	500	540	680	874	1600
	Milwaukee River - Lower	16	8306	0	6	8,312	0	03/31/1980	11/27/2001	3	281	354	418	413	468	514	7800
Oak Creek	Mitchell Field Drainage Ditch	2	0	0	7	7	0	01/03/2000	09/22/2000	5	13	20	23	51	27	112	234
	Oak Creek - Lower	4	962	0	0	962	0	03/21/1985	11/19/2001	290	497	602	738	733	860	956	1430
	Oak Creek - Middle	2	489	0	0	489	0	03/21/1985	11/19/2001	41	470	602	745	745	887	1000	1402
	Oak Creek - Upper	1	245	0	0	245	0	03/21/1985	11/19/2001	156	467	695	875	852	1032	1174	1450
Root River	Root River - Lower	1	26	0	0	26	0	08/25/1999	10/10/2001	440	564	635	685	676	743	767	800
	Root River - Middle	1	28	0	0	28	0	08/25/1999	10/10/2001	440	549	665	716	726	780	885	1200
	Root River - Upper	4	111	0	0	111	0	08/25/1999	10/10/2001	210	410	620	810	835	1100	1200	1500

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Appendix 1.9. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Residue on evaporation.

[--, no data available; DL, detection limit value; values are expressed in milligrams per liter (mg/L); values rounded to whole numbers; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	3	0	45	0	45	0	--	04/07/1987	04/19/2001	254	319	344	372	373	398	453	466
Menomonee River	Dousman Ditch	3	0	0	3	3	3	10	10/13/1993	10/15/1993	--	--	--	--	--	--	--	DL
	Menomonee River - Lower	1	0	128	5	133	5	10	06/14/1991	04/07/1994	5	364	422	530	545	626	684	2,100
Milwaukee River	Lincoln Creek	2	0	137	1	138	1	10	08/07/1980	09/13/2001	5	197	298	412	546	594	834	7,400
	Milwaukee River - Lower	2	0	259	1	260	0	--	01/25/1973	09/11/2001	39	322	372	410	418	450	523	1,250
Oak Creek	North Branch Oak Creek	7	0	0	13	13	12	10	08/05/1993	11/12/1993	5	5	5	5	17	5	5	162
Root River	Root River - Lower	6	0	0	6	6	5	10	09/30/1993	11/12/1993	5	5	5	5	17	5	42	78
	Root River - Middle	1	0	0	1	1	1	0.004	01/26/1982	01/26/1982	--	--	--	--	--	--	--	DL
	Root River - Upper	2	0	23	0	23	0	--	04/11/1999	09/10/2000	130	157	220	354	1,440	2,835	3,850	5,104

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Appendix 1.10. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Dissolved sodium.

[--, no data available; values are expressed in milligrams per liter (mg/L); values are rounded to the nearest whole number; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	4	0	48	1	49	0	04/07/1987	04/19/2001	1	21	25	33	34	40	56	61
Menomonee River	Butler Ditch	2	0	0	3	3	0	04/21/1999	04/24/2001	16	18	20	25	22	25	25	25
Milwaukee River	Lincoln Creek	1	0	36	0	36	0	04/16/1993	09/13/2001	5	30	51	71	129	103	176	1,300
	Milwaukee River - Lower	3	0	286	0	286	0	01/25/1973	09/11/2001	6	16	21	29	33	38	50	280

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Appendix 1.11. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total chloride.

[--, no data available; DL, detection limit value; values are expressed in milligrams per liter as chlorine (mg/L as Cl); values rounded to the nearest whole number; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	7	4661	0	11	4,672	4	1	07/18/1977	11/27/2001	1	24	34	54	77	89	158	999
	Wilson Park Creek	1	0	0	4	4	4	1	08/13/1977	08/13/1977	--	--	--	--	--	--	--	DL
Lake Michigan Direct	Lake Michigan Direct	1	0	0	8	8	8	1	08/13/1977	11/23/1977	--	--	--	--	--	--	--	DL
Menomonee River	Dousman Ditch	1	0	0	1	1	1	1	09/19/1976	09/19/1976	--	--	--	--	--	--	--	DL
	Menomonee River - Lower	7	4598	0	4	4,602	4	1	08/20/1975	11/27/2001	1	40	54	75	90	101	148	94
	Menomonee River - Upper	8	1018	0	78	1,096	78	1, 3	06/06/1977	11/27/2001	1	37	70	90	93	110	142	653
	Willow Creek	1	0	0	5	5	0	--	06/12/2000	08/08/2000	48	48	50	50	52	55	56	57
Milwaukee River	Lincoln Creek	5	330	0	10	340	3	0.1	08/10/1994	11/27/2001	0	28	65	104	133	160	271	647
	Milwaukee River - Lower	16	9174	0	8	9,182	0	--	05/21/1979	11/27/2001	1	25	33	42	48	57	76	570
Oak Creek	Oak Creek - Lower	4	990	0	0	990	0	--	03/21/1985	11/19/2001	2.	78	100	135	145	174	216	943
	Oak Creek - Middle	2	502	0	0	502	0	--	03/21/1985	11/19/2001	6	85	117	162	179	222	273	932
	Oak Creek - Upper	1	251	0	0	251	0	--	03/21/1985	11/19/2001	4	86	126	170	170	206	250	455
Root River	Root River - Lower	1	26	0	0	26	0	--	08/25/1999	10/10/2001	34	73	93	100	109	120	160	210
	Root River - Middle	1	28	0	0	28	0	--	08/25/1999	10/10/2001	49	79	98	135	145	163	256	320
	Root River - Upper	4	111	0	0	111	0	--	08/25/1999	10/10/2001	2	56	107	190	219	335	430	560

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Appendix 1.12. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Dissolved potassium.

[--, no data available; values are expressed in milligrams per liter (mg/L); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	4	0	44	1	45	0	04/07/1987	04/19/2001	1.3	2.0	2.2	2.5	2.4	2.6	2.8	3.3
Menomonee River	Butler Ditch	2	0	0	3	3	0	04/21/1999	04/24/2001	1.6	1.8	2.1	2.6	2.3	2.7	2.8	2.8
Milwaukee River	Lincoln Creek	1	0	36	0	36	0	04/16/1993	09/13/2001	1.2	2.0	2.4	2.9	3.0	3.3	3.7	11.0
	Milwaukee River - Lower	3	0	287	0	287	0	01/25/1973	09/11/2001	1.6	2.4	2.6	3.1	3.2	3.5	3.9	19.0

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Appendix 1.13. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total nitrogen.

[--, no data available; values are expressed in milligrams per liter as nitrogen (mg/L as N); values are rounded to the nearest hundredth; total nitrogen values were available for some data, in most cases total nitrogen was derived by adding total nitrate plus kjeldahl nitrogen, or total nitrate plus ammonia plus total organic nitrogen; for the purpose of statistical calculations, values of total nitrate, kjeldahl nitrogen, ammonia, or total organic nitrogen reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero; due to the complexity of the total nitrogen calculations, indications of values that were used in the calculation of total nitrogen that were below the detection limit have not been carried through to the total nitrogen values]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	8	0	12	64	76	10/17/1986	8/29/2001	0.53	0.91	1.06	1.27	1.43	1.73	2.32	2.84
Kinnickinnic River	Kinnickinnic River	12	4,681	1	100	4,782	06/11/1981	11/27/2001	.11	.80	1.04	1.39	1.55	1.80	2.33	19.70
	Wilson Park Creek	5	0	0	168	168	11/06/1996	01/04/1998	.66	2.30	3.30	6.37	20.11	19.45	58.99	562.00
Menomonee River	Butler Ditch	2	0	0	7	7	04/21/1999	04/24/2001	.86	.87	.88	1.21	1.11	1.28	1.32	1.35
	Honey Creek	1	0	0	2	2	07/10/1995	07/11/1995	.33	.33	.33	.33	.33	.33	.33	.33
	Little Menomonee River	2	0	0	7	7	07/10/1995	10/18/2001	1.14	1.76	2.31	3.32	3.63	3.87	6.09	8.62
	Menomonee River - Lower	7	4,574	0	2	4,576	05/21/1979	11/27/2001	.17	.94	1.23	1.58	1.65	1.96	2.38	42.52
	Menomonee River - Upper	3	1,034	0	0	1,034	05/24/1982	11/27/2001	.13	.78	1.11	1.56	1.66	2.11	2.66	5.78
	Willow Creek	2	0	0	11	11	06/12/2000	10/18/2001	.89	1.19	1.32	1.85	1.82	2.21	2.50	2.71
Milwaukee River	Lincoln Creek	8	316	0	48	364	08/07/1980	03/13/2002	.08	.68	.89	1.24	1.36	1.66	2.20	4.10
	Milwaukee River - Lower	20	9,115	1	308	9,424	01/25/1973	03/13/2002	.20	.97	1.30	1.68	1.76	2.10	2.56	17.86
Oak Creek	Mitchell Field Drainage Ditch	1	0	0	37	37	11/06/1996	04/12/1997	4.24	7.36	25.30	53.70	53.31	69.20	83.70	170.01
	North Branch Oak Creek	1	0	1	0	1	08/05/1993	08/05/1993	.10	.10	.10	.10	.10	.10	.10	.10
	Oak Creek - Lower	4	979	0	0	979	03/21/1985	11/19/2001	.15	.62	.85	1.20	1.41	1.57	2.21	97.15
	Oak Creek - Middle	2	494	0	0	494	03/21/1985	11/19/2001	.11	.62	.79	1.07	1.22	1.48	2.01	4.38
	Oak Creek - Upper	1	249	0	0	249	03/21/1985	11/19/2001	.10	.67	.87	1.18	1.39	1.69	2.33	6.60
Root River	Root River - Lower	2	25	1	0	26	09/30/1993	10/10/2001	.10	1.43	2.12	3.10	3.07	3.90	5.05	5.70
	Root River - Middle	1	28	0	0	28	08/25/1999	10/10/2001	.31	.64	.78	1.19	1.25	1.51	1.97	3.10
	Root River - Upper	6	102	0	24	126	04/11/1999	10/10/2001	.39	.69	1.01	1.44	1.51	1.96	2.45	4.03

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Appendix 1.14. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Dissolved Nitrate.

[--, no data available; DL, detection limit value; values are expressed in milligrams per liter as nitrogen (mg/L as N); values rounded to the nearest hundredth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watersehd	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Deer Creek	1	0	0	2	2	2	0.2	08/16/1978	10/09/1979	--	--	--	--	--	--	--	DL
	Muskego Lake	8	0	65	26	91	28	0.007, 0.01, 0.02, 0.1	05/25/1977	08/29/2001	.00	.00	.01	.10	.20	.31	.40	2.00
Kinnickinnic River	Kinnickinnic River	13	4,723	94	27	4,844	25	0, 0.01, 0.02, 0.2	09/15/1975	11/27/2001	.00	.20	.30	.47	.55	.73	1.03	5.17
	Wilson Park Creek	7	0	168	5	173	5	0.01, 0.02	09/15/1975	01/04/1998	.01	.34	.57	.98	1.36	1.43	2.97	10.70
Lake Michigan Direct	Lake Michigan Direct	1	0	0	1	1	1	0.1	05/08/1978	05/08/1978	--	--	--	--	--	--	--	DL
Lake Michigan Tributary	Lake Michigan Tributary	2	0	0	8	8	8	0.02, 0.1	05/25/1977	08/14/1981	--	--	--	--	--	--	--	DL
Menomonee River	Butler Ditch	2	0	0	9	9	2	0, 0.02	04/17/1989	08/21/2001	.00	.01	.02	.10	.16	.37	.37	.37
	Honey Creek	4	12	2	2	16	3	0.01, 0.02	10/13/1975	08/21/2001	.01	.01	.03	.17	.41	.78	1.05	1.40
	Little Menomonee River	4	0	7	10	17	10	0.01, 0.02	10/13/1975	10/18/2001	.01	.01	.01	.01	1.15	1.72	2.84	7.94
	Menomonee River - Lower	11	4,617	94	54	4,765	53	0.007, 0.01, 0.02	09/02/1975	11/27/2001	.00	.14	.30	.52	.62	.86	1.21	7.11
	Menomonee River - Upper	9	1,044	0	12	1,056	12	0.01, 0.02, 0.1	07/14/1975	11/27/2001	.01	.12	.34	.64	.72	1.03	1.40	2.95
	Underwood Creek	1	0	0	5	5	5	0.02	08/04/1976	06/27/1977	--	--	--	--	--	--	--	DL
	Willow Creek	2	0	6	5	11	0	--	06/12/2000	10/18/2001	.34	.63	.66	.78	.97	1.24	1.61	1.82

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Appendix 1.14. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Dissolved Nitrate.

[--, no data available; DL, detection limit value; values are expressed in milligrams per liter as nitrogen (mg/L as N); values rounded to the nearest hundredth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watersehd	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Milwaukee River	Combined Sewer Service Area	1	0	0	8	8	8	0.02	05/07/1981	01/27/1982	--	--	--	--	--	--	--	DL
	Lincoln Creek	9	327	220	14	561	23	0.007, 0.01, 0.02, 0.05	08/07/1980	03/13/2002	.00	.07	.25	.45	.56	.77	1.20	2.30
	Milwaukee River - Lower	23	9,225	564	48	9,837	75	0.007, 0.01, 0.02, 0.05, 0.1	01/25/1973	03/13/2002	.00	.13	.30	.59	.70	.98	1.40	5.76
Oak Creek	Mitchell Field Drainage Ditch	1	0	37	0	37	1	0.01	11/06/1996	04/12/1997	.01	.16	.23	.46	.59	.76	1.16	3.08
	North Branch Oak Creek	3	0	0	4	4	4	0.007, 0.01, 0.02	09/15/1975	08/05/1993	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	4	990	1	1	992	5	0.01	09/15/1975	11/19/2001	.01	.15	.27	.47	.53	.68	.91	2.56
	Oak Creek - Middle	2	501	0	0	501	3	0.01	03/21/1985	11/19/2001	.01	.07	.17	.33	.42	.54	.86	2.10
	Oak Creek - Upper	1	251	0	0	251	2	0.01	03/21/1985	11/19/2001	.01	.12	.23	.50	.63	.80	1.39	3.42
Root River	Root River - Lower	2	26	0	1	27	2	0.007, 0.01	09/30/1993	10/10/2001	.00	.49	1.19	1.90	1.88	2.40	3.48	3.80
	Root River - Middle	3	28	0	16	44	17	0.01, 0.02, 0.1	06/11/1976	10/10/2001	.01	.01	.01	.14	.35	.57	.99	1.30
	Root River - Upper	7	103	24	1	128	7	0.01, 0.02, 0.2	08/16/1978	10/10/2001	.01	.05	.25	.47	.51	.71	1.00	2.16

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Appendix 1.15. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total phosphorus

[--, no data available; DL, detection limit value; values are expressed in milligrams per liter as phosphorus (mg/L as P); values rounded to the nearest thousandth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	26	0	1,552	329	1,881	2	0.005	10/17/1986	11/28/2001	0.003	0.026	0.038	0.075	0.109	0.142	0.227	1.430
Kinnickinnic River	Kinnickinnic River	7	4,774	1	12	4,787	7	0.011, 0.02	01/15/1975	11/27/2001	.005	.030	.050	.070	.093	.110	.160	3.600
	Wilson Park Creek	4	0	76	60	136	6	0	10/16/1997	09/22/2000	.000	.028	.035	.066	.101	.136	.229	.450
Menomonee River	Butler Ditch	2	0	0	40	40	1	0.02	07/26/1989	08/21/2001	.009	.010	.012	.028	.031	.036	.046	.255
	Dousman Ditch	1	0	0	1	1	1	0.02	10/13/1993	10/13/1993	--	--	--	--	--	--	--	DL
	Honey Creek	1	0	2	1	3	1	5	06/05/1977	07/11/1995	.020	.024	.030	.040	.853	1.270	2.008	2.500
	Little Menomonee River	4	0	7	8	15	8	0.02	06/05/1977	10/18/2001	.010	.010	.010	.010	.047	.082	.104	.150
	Menomonee River - Lower	10	4,740	128	11	4,879	14	0.01, 0.011, 0.02, 0.042	06/10/1975	11/27/2001	.002	.050	.070	.100	.120	.140	.200	3.500
	Menomonee River - Upper	5	1,019	0	4	1,023	10	0.011, 0.02, 0.042	06/05/1977	11/27/2001	.006	.030	.050	.090	.111	.140	.210	1.120
	South Branch Underwood Creek	1	0	0	1	1	1	0.042	04/18/1985	04/18/1985	--	--	--	--	--	--	--	DL
	Willow Creek	2	0	6	5	11	0	--	06/12/2000	10/18/2001	.030	.035	.039	.067	.064	.070	.112	.115
Milwaukee River	Combined Sewer Service Area	1	0	0	1	1	1	0.02	02/03/1975	02/03/1975	--	--	--	--	--	--	--	DL
	Lincoln Creek	9	334	165	26	525	18	0.008, 0.011, 0.02	08/07/1980	03/13/2002	.004	.030	.050	.100	.137	.170	.288	1.110
	Milwaukee River - Lower	19	9,633	400	14	10,047	14	0.011, 0.02	01/25/1973	03/13/2002	.004	.050	.070	.100	.122	.150	.210	2.310
Oak Creek	Mitchell Field Drainage Ditch	2	0	25	15	40	2	0, 0.005	11/06/1996	09/22/2000	.000	.037	.059	.112	.167	.244	.353	.629
	North Branch Oak Creek	1	0	0	1	1	1	0.02	08/05/1993	08/05/1993	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	7	994	1	3	998	4	0.02	04/20/1977	11/19/2001	.004	.020	.030	.060	.086	.100	.160	1.760
	Oak Creek - Middle	2	503	0	0	503	0	--	03/21/1985	11/19/2001	.008	.030	.040	.070	.099	.110	.168	4.000
	Oak Creek - Upper	1	253	0	0	253	0	--	03/21/1985	11/19/2001	.003	.020	.030	.050	.070	.080	.150	.460

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Appendix 1.15. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total phosphorus

[--, no data available; DL, detection limit value; values are expressed in milligrams per liter as phosphorus (mg/L as P); values rounded to the nearest thousandth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	Root River - Lower	2	26	0	1	27	1	0.02	09/30/1993	10/10/2001	.010	.065	.099	.140	.143	.180	.210	.300
	Root River - Middle	3	28	0	8	36	2	0.02, 0.042	06/24/1985	10/10/2001	.010	.030	.045	.061	.151	.103	.175	2.488
	Root River - Upper	7	110	24	1	135	2	--	08/14/1996	10/10/2001	.010	.041	.060	.100	.132	.170	.258	.763
	Whitnall Park Creeks	1	0	0	4	4	0	--	07/25/1996	09/10/1996	.013	.013	.014	.350	.452	.788	.972	1.095

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Appendix 1.16. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Dissolved phosphorus.

[--, no data available; values are expressed in milligrams per liter as phosphorus (mg/L as P); values rounded to the nearest thousandth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	4	0	3	2	5	1	0.004	12/17/1987	09/20/2000	0.002	0.005	0.009	0.010	0.160	0.248	0.417	0.530
Kinnickinnic River	Kinnickinnic River	5	4,463	0	0	4,463	46	0.011, 0.02	06/04/1980	11/27/2001	.002	.010	.010	.020	.033	.040	.070	1.010
Menomonee River	Honey Creek	1	0	2	0	2	0	--	07/10/1995	07/11/1995	.010	.011	.013	.015	.015	.018	.019	.020
	Little Menomonee River	1	0	6	0	6	0	--	05/24/2001	10/18/2001	.026	.039	.052	.059	.056	.068	.071	.073
	Menomonee River - Lower	6	4,392	0	0	4,392	14	0.011, 0.02	06/04/1980	11/27/2001	.002	.010	.020	.030	.040	.050	.074	.970
	Menomonee River - Upper	3	986	0	0	986	13	0.011, 0.02	05/24/1982	11/27/2001	.003	.010	.020	.030	.050	.060	.094	3.000
	Willow Creek	1	0	6	0	6	0	--	05/24/2001	10/18/2001	.025	.035	.044	.057	.057	.073	.080	.085
Milwaukee River	Lincoln Creek	5	319	35	0	354	30	0.01, 0.011, 0.02	04/16/1993	11/27/2001	.003	.010	.020	.040	.057	.072	.130	.360
	Milwaukee River - Lower	16	8,706	212	0	8,918	65	0.006, 0.01, 0.011, 0.02, 0.05	09/20/1977	11/27/2001	.002	.010	.020	.030	.046	.060	.098	1.330
Oak Creek	Oak Creek - Lower	4	961	0	0	961	41	0.011, 0.02	03/21/1985	11/19/2001	.003	.007	.010	.020	.028	.030	.055	1.150
	Oak Creek - Middle	2	492	0	0	492	10	0.011, 0.02	03/21/1985	11/19/2001	.003	.010	.010	.030	.035	.040	.070	.230
	Oak Creek - Upper	1	238	0	0	238	9	0.011, 0.02	03/21/1985	11/19/2001	.003	.008	.010	.020	.025	.030	.050	.170
Root River	Root River - Lower	1	26	0	0	26	2	0.02	08/25/1999	10/10/2001	.010	.029	.040	.055	.074	.082	.150	.210
	Root River - Middle	1	27	0	0	27	8	0.011, 0.02	08/25/1999	10/10/2001	.006	.010	.010	.020	.036	.059	.085	.130
	Root River - Upper	4	109	0	0	109	25	0.011, 0.02	08/25/1999	10/10/2001	.006	.010	.010	.030	.049	.065	.112	.310

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Appendix 1.17. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total cadmium in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as cadmium (µg/L as Cd); for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	10	1382	0	144	1,526	233	0.1, 0.2, 0.7, 3, 10, 20	04/30/1975	11/14/2001	0.05	0.10	0.11	3.00	2.08	3.00	3.00	60.00
	West Milwaukee Ditch	2	0	0	2	2	2	0.2	09/30/1975	10/02/1975	--	--	--	--	--	--	--	DL
	Wilson Park Creek	6	0	0	50	50	32	0, 0.2	05/27/1975	01/03/2000	.00	.05	.10	.10	.28	.10	.52	5.60
Lake Michigan Direct	Lake Michigan Direct	1	0	0	1	1	1	0.2	06/16/1977	06/16/1977	--	--	--	--	--	--	--	DL
Menomonee River	Honey Creek	1	0	0	1	1	1	0.2	07/01/1977	07/01/1977	--	--	--	--	--	--	--	DL
	Little Menomonee River	4	0	22	18	40	36	0.2, 1	09/03/1975	06/29/1990	.10	.10	.10	.50	.42	.50	.55	2.00
	Menomonee River - Lower	11	1398	53	10	1,461	144	0.1, 0.2, 1	09/03/1975	11/14/2001	.05	.10	1.00	3.00	2.21	3.00	3.00	41.00
	Menomonee River - Upper	5	408	0	7	415	70	0.1, 0.2	09/03/1975	11/14/2001	.05	.05	.11	1.00	1.43	3.00	3.00	9.00
	Underwood Creek	2	0	13	1	14	8	0.2, 1	09/03/1975	06/29/1990	.10	.50	.50	.50	1.47	1.00	3.10	9.00
Milwaukee River	Combined Sewer Service Area	1	0	0	1	1	1	0.2	02/03/1975	02/03/1975	--	--	--	--	--	--	--	DL
	Lincoln Creek	7	262	0	23	285	104	0.1, 0.2, 0.3	05/19/1975	11/27/2001	.05	.05	.05	.10	.15	.11	.20	2.50
	Milwaukee River - Lower	23	2813	21	205	3,039	491	0.1, 0.2, 0.3, 1, 2	07/18/1974	11/15/2001	.00	.10	.11	3.00	2.29	3.00	3.00	942.00
Oak Creek	Mitchell Field Drainage Ditch	2	0	0	8	8	1	0	01/11/1999	01/03/2000	.00	.07	.32	.46	2.34	1.58	6.96	12.00
	North Branch Oak Creek	2	0	0	24	24	24	0.2	04/17/1975	12/11/1990	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	4	364	0	11	375	84	0.1, 0.2, 0.7	05/27/1975	11/19/2001	.05	.05	.15	1.00	1.92	3.00	3.00	14.00
	Oak Creek - Middle	2	186	0	0	186	38	0.1	03/21/1985	11/19/2001	.05	.05	1.00	3.00	1.94	3.00	3.00	11.00
	Oak Creek - Upper	1	92	0	0	92	17	0.1	03/21/1985	11/19/2001	.05	.05	1.00	3.00	1.92	3.00	3.00	8.00

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Appendix 1.17. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total cadmium in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as cadmium (µg/L as Cd); for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	East Branch Root River	1	0	0	12	12	12	0.2	05/27/1975	04/12/1976	--	--	--	--	--	--	--	DL
	Root River - Lower	1	23	0	0	23	14	0.1	08/25/1999	10/10/2001	.05	.05	.05	.05	.08	.11	.12	.22
	Root River - Middle	1	25	0	0	25	14	0.1	08/25/1999	10/10/2001	.05	.05	.05	.05	.09	.11	.16	.38
	Root River - Upper	6	98	0	2	100	59	0.1	10/17/1996	10/10/2001	.05	.05	.05	.05	.08	.11	.11	.69

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Appendix 1.18. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total cadmium in sediment.

[--, no data available; values are expressed in micrograms per gram as cadmium (µg/g as Cd); for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	1	0	0	2	2	1	0.4	07/07/1994	07/07/1994	0.20	0.25	0.33	0.45	0.45	0.58	0.65	0.70
Kinnickinnic River	Kinnickinnic River	14	0	0	0	14	0	--	04/26/1984	08/21/1993	1.80	2.11	3.15	4.45	4.41	5.20	5.45	9.50
Menomonee River	Lilly Creek	3	0	3	0	3	0	--	11/01/1989	11/01/1989	1.00	1.00	1.00	1.00	1.33	1.50	1.80	2.00
	Little Menomonee Creek	1	0	1	0	1	0	--	11/07/1989	11/07/1989	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Little Menomonee River	1	0	1	0	1	0	--	11/01/1989	11/01/1989	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	Menomonee River - Lower	25	0	2	1	25	1	1	07/29/1980	08/20/1993	.50	2.74	3.12	3.90	4.61	5.60	8.00	9.40
	Menomonee River - Upper	6	0	6	0	6	1	1	10/31/1989	11/08/1989	.50	.75	1.25	2.00	1.58	2.00	2.00	2.00
Milwaukee River	Lincoln Creek	1	0	1	0	1	0	--	11/01/1989	11/01/1989	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	Milwaukee River - Lower	17	0	6	1	17	1	1	08/15/1973	08/21/1993	.50	1.18	1.68	3.00	2.92	3.50	5.40	6.10
Root River	Root River - Middle	1	0	1	0	1	0	--	10/03/1973	10/03/1973	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

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Appendix 1.19. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Mercury in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as mercury (µg/L as Hg); values rounded to the nearest thousandth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	8	212	0	57	269	238	0.04, 0.045, 0.1, 0.2, 0.22	04/30/1975	11/14/2001	0.020	0.020	0.023	0.023	0.069	0.100	0.110	0.440
	West Milwaukee Ditch	3	0	0	3	3	3	0.2	09/30/1975	10/02/1975	--	--	--	--	--	--	--	DL
	Wilson Park Creek	2	0	0	25	25	25	0.2	05/27/1975	04/12/1976	--	--	--	--	--	--	--	DL
Menomonee River	Honey Creek	1	0	0	10	10	10	0.2	09/03/1975	06/05/1977	--	--	--	--	--	--	--	DL
	Little Menomonee River	3	0	0	23	23	23	0.002, 0.2	06/25/1975	06/05/1977	--	--	--	--	--	--	--	DL
	Menomonee River - Lower	11	222	0	45	267	190	0.04, 0.045, 0.2, 0.22	06/25/1975	11/14/2001	.020	.023	.023	.100	.091	.100	.220	.780
	Menomonee River - Upper	5	125	0	12	137	76	0.04, 0.045, 0.2, 0.22	06/25/1975	11/14/2001	.020	.023	.023	.100	.115	.150	.250	.530
	Underwood Creek	1	0	0	8	8	8	0.2	09/03/1975	06/05/1977	--	--	--	--	--	--	--	DL
Milwaukee River	Combined Sewer Service Area	1	0	0	1	1	1	0.1	02/03/1975	02/03/1975	--	--	--	--	--	--	--	DL
	Lincoln Creek	7	174	0	22	196	160	0.04, 0.045, 0.2, 0.22	05/19/1975	11/27/2001	.020	.020	.023	.023	.067	.100	.210	.500
	Milwaukee River - Lower	20	495	0	86	581	406	0.04, 0.045, 0.2, 0.22, 2.2, 3	05/28/1975	11/15/2001	.020	.023	.023	.074	.102	.110	.220	1.500
Oak Creek	North Branch Oak Creek	2	0	0	23	23	23	0.03, 0.2	04/17/1975	10/30/1996	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	4	90	0	12	102	61	0.045, 0.2	05/27/1975	11/19/2001	.023	.023	.023	.050	.082	.100	.199	.610
	Oak Creek - Middle	2	46	0	0	46	29	0.045	04/18/2000	11/19/2001	.023	.023	.023	.023	.075	.081	.150	.520
	Oak Creek - Upper	1	22	0	0	22	13	0.045	04/18/2000	11/19/2001	.023	.023	.023	.023	.074	.069	.128	.600
Root River	East Branch Root River	1	0	0	12	12	12	0.2	05/27/1975	04/12/1976	--	--	--	--	--	--	--	DL
	Root River - Lower	1	20	0	0	20	10	0.04, 0.045	09/20/1999	10/10/2001	.020	.023	.023	.034	.077	.088	.205	.340
	Root River - Middle	1	20	0	0	20	13	0.04, 0.045	09/20/1999	10/10/2001	.020	.022	.023	.023	.105	.101	.284	.660
	Root River - Upper	6	80	0	3	83	43	0.03, 0.04, 0.045	10/17/1996	10/10/2001	.015	.020	.023	.023	.089	.092	.200	.890

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Appendix 1.20. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Mercury in sediment.

[--, no data available; values are expressed in micrograms per gram as mercury (µg/g as Hg); values rounded to the nearest thousandth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	15	0	0	3	16	9	0.1, 0.2, 0.4	06/21/1973	08/21/1993	0.050	0.100	0.100	0.200	0.689	0.888	2.095	3.150
Menomonee River	Lilly Creek	3	0	3	0	3	0	--	11/01/1989	11/01/1989	.040	.040	.040	.040	.040	.040	.040	.040
	Little Menomonee Creek	1	0	1	0	1	0	--	11/07/1989	11/07/1989	.060	.060	.060	.060	.060	.060	.060	.060
	Little Menomonee River	1	0	1	0	1	0	--	11/01/1989	11/01/1989	.200	.200	.200	.200	.200	.200	.200	.200
	Menomonee River - Lower	26	0	2	3	27	10	0.09, 0.1, 0.2, 0.4	06/21/1973	08/20/1993	.045	.100	.100	.460	.971	1.710	2.788	3.550
	Menomonee River - Upper	6	0	6	0	6	0	--	10/31/1989	11/08/1989	.060	.060	.065	.120	.125	.183	.195	.200
Milwaukee River	Lincoln Creek	1	0	1	0	1	0	--	11/01/1989	11/01/1989	.070	.070	.070	.070	.070	.070	.070	.070
	Milwaukee River - Lower	18	0	6	2	18	5	0.1, 0.2, 0.4	06/21/1973	08/21/1993	.050	.088	.115	.270	.957	1.610	2.944	3.350
Root River	Root River - Middle	1	0	1	0	1	0	--	10/03/1973	10/03/1973	.020	.020	.020	.020	.020	.020	.020	.020

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Appendix 1.21. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total copper in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as copper (µg/L as Cu); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Deer Creek	1	0	0	1	1	1	3	03/11/1981	03/11/1981	--	--	--	--	--	--	--	DL
Kinnickinnic River	Kinnickinnic River	11	1375	6	32	1,413	73	3, 10, 15	04/30/1975	11/14/2001	1.5	3.0	3.0	7.0	10.7	12.0	21.0	275.0
	Wilson Park Creek	7	0	0	61	61	14	0, 3	10/13/1975	09/22/2000	.0	.0	1.5	3.0	6.4	9.0	14.0	59.0
Lake Michigan Direct	Lake Michigan Direct	1	0	0	2	2	2	3	08/13/1977	08/13/1977	--	--	--	--	--	--	--	DL
Lake Michigan Tributary	Lake Michigan Tributary	1	0	0	1	1	1	3	09/28/1981	09/28/1981	--	--	--	--	--	--	--	DL
Menomonee River	Honey Creek	1	0	0	4	4	4	3	06/30/1977	07/18/1977	--	--	--	--	--	--	--	DL
	Little Menomonee River	3	0	22	4	26	4	3	09/03/1975	06/29/1990	1.5	1.5	6.0	8.0	14.5	15.8	26.0	99.0
	Menomonee River - Lower	18	1365	63	11	1,439	27	3, 10, 20, 50	09/03/1975	11/14/2001	1.5	3.0	4.0	9.1	14.3	14.0	25.0	600.0
	Menomonee River - Upper	6	419	0	5	424	55	3, 10	06/25/1975	11/14/2001	1.5	3.0	3.8	7.0	9.5	10.0	15.7	321.0
	Underwood Creek	1	0	13	0	13	0	--	02/01/1990	06/29/1990	12.0	15.4	18.0	19.0	30.6	24.0	40.4	140.0
Milwaukee River	Combined Sewer Service Area	2	0	0	2	2	2	3, 5	02/03/1975	02/24/1982	--	--	--	--	--	--	--	DL
	Lincoln Creek	7	267	0	21	288	59	0.7, 10	10/05/1994	11/27/2001	.4	5.0	5.0	10.0	9.1	10.0	14.0	32.0
	Milwaukee River - Lower	23	2759	44	81	2,884	266	2, 3, 10, 20	01/25/1973	11/15/2001	1.0	3.0	3.0	6.0	9.6	10.0	18.0	478.0
Oak Creek	Mitchell Field Drainage Ditch	2	0	0	13	13	1	0	01/11/1999	09/22/2000	.0	1.0	3.0	5.0	8.5	12.0	23.4	27.0
	North Branch Oak Creek	2	0	0	11	11	11	3, 4	04/17/1975	09/05/1990	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	4	477	0	7	484	64	3, 10	05/27/1975	11/19/2001	1.5	3.0	3.0	5.4	8.3	10.0	16.7	97.0
	Oak Creek - Middle	2	245	0	0	245	29	10	03/21/1985	11/19/2001	2.0	3.0	3.0	6.0	7.8	10.0	13.6	37.0
	Oak Creek - Upper	1	122	0	0	122	16	10	03/21/1985	11/19/2001	2.0	3.0	3.0	5.8	8.9	10.0	16.0	111.0

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Appendix 1.21. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total copper in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as copper (µg/L as Cu); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	East Branch Root River	1	0	0	3	3	3	3	06/16/1975	08/05/1975	--	--	--	--	--	--	--	DL
	Root River - Lower	1	23	0	0	23	8	10	08/25/1999	10/10/2001	5.0	5.0	5.0	7.0	7.9	10.0	11.6	16.0
	Root River - Middle	1	25	0	0	25	14	10	08/25/1999	10/10/2001	5.0	5.0	5.0	5.0	7.4	10.0	11.0	16.0
	Root River - Upper	5	98	0	1	99	50	10	10/17/1996	10/10/2001	4.0	5.0	5.0	5.0	8.2	10.0	13.0	55.0

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Appendix 1.22. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total copper in sediment.

[--, no data available; values are expressed in micrograms per gram as copper (µg/g as Cu); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	14	0	0	0	14	0	04/26/1984	08/21/1993	60.0	63.6	65.8	74.5	87.4	107.0	124.9	143.0
Menomonee River	Lilly Creek	3	0	3	0	3	0	11/01/1989	11/01/1989	23.0	26.4	31.5	40.0	34.7	40.5	40.8	41.0
	Little Menomonee Creek	1	0	1	0	1	0	11/07/1989	11/07/1989	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
	Little Menomonee River	1	0	1	0	1	0	11/01/1989	11/01/1989	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0
	Menomonee River - Lower	24	0	2	0	24	0	04/25/1984	08/20/1993	49.0	71.1	84.5	140.0	134.2	164.8	207.0	254.0
	Menomonee River - Upper	6	0	6	0	6	0	10/31/1989	11/08/1989	2.0	14.0	27.8	37.0	33.3	46.2	49.0	50.0
Milwaukee River	Lincoln Creek	1	0	1	0	1	0	11/01/1989	11/01/1989	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
	Milwaukee River - Lower	16	0	6	0	16	0	08/15/1973	08/21/1993	23.0	37.5	44.2	69.0	64.3	80.5	90.4	110.0

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Appendix 1.23. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total lead in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as lead (µg/L as Pb); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	11	1380	6	106	1,492	130	1.9, 3, 40, 78	04/30/1975	11/14/2001	1.0	1.5	3.0	17.0	45.4	44.2	105.0	1400.0
	West Milwaukee Ditch	1	0	0	2	2	2	50	04/29/1975	04/29/1975	--	--	--	--	--	--	--	DL
	Wilson Park Creek	7	0	0	63	63	19	0, 3	05/27/1975	09/22/2000	.0	.0	.0	1.5	5.6	3.6	12.0	67.0
Lake Michigan Direct	Lake Michigan Direct	1	0	0	2	2	2	3	08/13/1977	08/13/1977	--	--	--	--	--	--	--	DL
Menomonee River	Honey Creek	1	0	0	1	1	1	3	07/01/1977	07/01/1977	--	--	--	--	--	--	--	DL
	Little Menomonee River	4	0	22	32	54	32	3	06/25/1975	06/29/1990	1.5	1.5	1.5	1.5	11.5	12.8	27.2	150.0
	Menomonee River - Lower	17	1401	60	7	1,468	13	1.9, 3	06/05/1977	11/14/2001	1.0	2.0	5.0	19.0	52.0	50.0	120.0	2200.0
	Menomonee River - Upper	5	407	0	7	414	17	1.9, 3	06/25/1975	11/14/2001	1.0	1.4	2.1	5.8	28.6	23.0	66.0	550.0
	Underwood Creek	2	0	13	1	14	1	3	04/26/1976	06/29/1990	1.5	12.3	14.2	24.5	51.1	45.5	65.9	340.0
Milwaukee River	Combined Sewer Service Area	1	0	0	1	1	1	3	02/24/1982	02/24/1982	--	--	--	--	--	--	--	DL
	Lincoln Creek	9	261	6	48	315	52	0.4, 1.9, 3	05/20/1975	11/27/2001	.2	.9	1.4	2.2	5.4	5.0	12.1	100.0
	Milwaukee River - Lower	24	2831	74	116	3,021	181	0.2, 1.9, 2, 3, 20	01/25/1973	11/15/2001	.0	1.5	3.2	15.0	35.0	36.0	88.0	700.0
Oak Creek	Mitchell Field Drainage Ditch	2	0	0	13	13	1	0	01/11/1999	09/22/2000	.0	.0	1.6	2.4	8.6	9.5	26.2	41.0
	North Branch Oak Creek	2	0	0	7	7	7	3, 6	05/27/1975	09/05/1990	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	4	365	0	6	371	22	1.9, 3	07/08/1975	11/19/2001	1.0	1.0	2.2	15.0	42.4	41.5	124.0	464.0
	Oak Creek - Middle	2	185	0	0	185	14	1.9	03/21/1985	11/19/2001	1.0	1.0	1.8	16.0	40.1	39.0	133.2	394.0
	Oak Creek - Upper	1	92	0	0	92	5	1.9	03/21/1985	11/19/2001	1.0	1.0	3.3	16.0	43.0	41.2	92.0	415.0

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Appendix 1.23. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total lead in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as lead (µg/L as Pb); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	East Branch Root River	1	0	0	5	5	5	3	05/27/1975	01/27/1976	--	--	--	--	--	--	--	DL
	Root River - Lower	1	23	0	0	23	5	1.9	08/25/1999	10/10/2001	1.0	1.0	1.2	2.5	5.8	4.8	11.8	43.0
	Root River - Middle	2	25	0	1	26	5	1.9, 3	02/24/1982	10/10/2001	1.0	1.0	1.5	2.8	5.1	7.2	11.5	23.4
	Root River - Upper	4	98	0	0	98	20	1.9	08/25/1999	10/10/2001	1.0	1.0	1.0	2.4	4.2	6.2	9.0	22.0

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Appendix 1.24. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total lead in sediment.

[--, no data available; values are expressed in micrograms per gram as lead (µg/g as Pb); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	2	0	0	2	2	0	--	07/07/1994	07/07/1994	6.0	6.1	6.2	6.5	6.5	6.8	6.9	7.0
Kinnickinnic River	Kinnickinnic River	14	0	0	0	14	0	--	04/26/1984	08/21/1993	170.0	193.0	220.0	271.0	298.3	372.5	420.4	530.0
Menomonee River	Honey Creek	1	0	1	0	1	0	--	05/28/1980	05/28/1980	4100.0	4100.0	4100.0	4100.0	4100.0	4100.0	4100.0	4100.0
	Lilly Creek	3	0	3	0	3	0	--	11/01/1989	11/01/1989	20.0	22.0	25.0	30.0	33.3	40.0	46.0	50.0
	Little Menomonee Creek	1	0	1	0	1	0	--	11/07/1989	11/07/1989	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
	Little Menomonee River	1	0	1	0	1	0	--	11/01/1989	11/01/1989	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0
	Menomonee River - Lower	24	0	2	0	24	0	--	04/25/1984	08/20/1993	40.0	122.3	203.0	225.0	277.2	345.0	452.0	610.0
	Menomonee River - Upper	6	0	6	0	6	1	10	10/31/1989	11/08/1989	5.0	17.5	32.5	45.0	45.8	57.5	75.0	90.0
Milwaukee River	Lincoln Creek	1	0	1	0	1	0	--	11/01/1989	11/01/1989	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
	Milwaukee River - Lower	16	0	6	1	17	1	3	08/15/1973	08/21/1993	1.5	60.0	85.0	150.0	151.3	180.0	256.2	350.0
Root River	Root River - Middle	1	0	1	0	1	0	--	10/03/1973	10/03/1973	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0

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Appendix 1.25. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total arsenic in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as arsenic (µg/L as As); values rounded to the nearest tenth;for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	7	335	0	26	361	123	1.9, 10	01/25/1977	11/14/2001	1.0	1.0	1.0	1.9	1.9	1.9	3.0	9.5
Lake Michigan Tributary	Lake Michigan Tributary	1	0	0	3	3	3	10	06/24/1981	02/24/1982	--	--	--	--	--	--	--	DL
Menomonee River	Honey Creek	1	0	0	20	20	20	10, 20	09/03/1975	07/19/1977	--	--	--	--	--	--	--	DL
	Little Menomonee River	4	0	22	128	150	134	1, 10	06/25/1975	06/29/1990	.5	1.0	5.0	5.0	4.4	5.0	5.0	5.0
	Menomonee River - Lower	15	347	19	125	491	218	1, 1.9, 10	06/25/1975	11/14/2001	.5	1.0	1.0	1.9	2.5	5.0	5.0	5.4
	Menomonee River - Upper	5	194	0	32	226	85	0, 1.9, 10	06/25/1975	11/14/2001	.0	1.0	1.0	1.9	2.4	2.3	5.0	52.0
	Underwood Creek	2	0	13	10	23	11	1, 10	06/25/1975	06/29/1990	.5	1.0	1.0	3.0	3.0	5.0	5.0	5.0
Milwaukee River	Combined Sewer Service Area	1	0	0	1	1	1	1	02/03/1975	02/03/1975	--	--	--	--	--	--	--	DL
	Lincoln Creek	5	262	0	0	262	87	1.9	06/18/1997	11/27/2001	1.0	1.0	1.0	1.9	1.8	1.9	2.3	15.2
	Milwaukee River - Lower	18	804	39	69	912	290	1, 1.9, 10	01/25/1973	11/15/2001	1.0	1.0	1.0	1.9	2.0	2.0	4.0	14.0
Oak Creek	Oak Creek - Lower	4	98	0	0	98	59	1.9	05/14/1991	11/19/2001	1.0	1.0	1.0	1.0	1.7	1.9	3.0	9.1
	Oak Creek - Middle	2	50	0	0	50	32	1.9	05/14/1991	11/19/2001	1.0	1.0	1.0	1.0	1.4	1.2	2.2	4.1
	Oak Creek - Upper	1	24	0	0	24	18	1.9	05/14/1991	11/19/2001	1.0	1.0	1.0	1.0	1.4	1.0	2.8	4.9
Root River	Root River - Lower	1	23	0	0	23	11	1.9	08/25/1999	10/10/2001	1.0	1.0	1.0	1.2	1.4	1.9	2.0	2.2
	Root River - Middle	2	25	0	1	26	15	1.9, 10	02/24/1982	10/10/2001	1.0	1.0	1.0	1.0	1.5	1.9	2.2	5.0
	Root River - Upper	6	98	0	2	100	42	1, 1.9	10/17/1996	10/10/2001	.0	1.0	1.0	1.2	1.6	1.9	3.1	5.5

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Appendix 1.26. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total arsenic in sediment.

[--, no data available; values are expressed in micrograms per gram as arsenic (µg/g as As); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	13	0	0	0	13	0	04/26/1984	08/21/1993	3.5	4.2	5.5	6.1	7.0	8.4	10.2	14.0
Menomonee River	Lilly Creek	3	0	3	0	3	0	11/01/1989	11/01/1989	2.0	3.6	6.0	10.0	8.0	11.0	11.6	12.0
	Little Menomonee Creek	1	0	1	0	1	0	11/07/1989	11/07/1989	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
	Little Menomonee River	1	0	1	0	1	0	11/01/1989	11/01/1989	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Menomonee River - Lower	24	0	2	0	24	0	04/25/1984	08/20/1993	3.4	5.1	5.9	7.0	8.2	8.9	10.5	25.0
	Menomonee River - Upper	6	0	6	0	6	0	10/31/1989	11/08/1989	1.0	2.0	3.2	4.0	3.7	4.8	5.0	5.0
Milwaukee River	Lincoln Creek	1	0	1	0	1	0	11/01/1989	11/01/1989	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	Milwaukee River - Lower	16	0	6	0	16	0	08/15/1973	08/21/1993	2.0	3.4	4.0	5.1	5.3	6.8	7.4	7.8
Root River	Root River - Middle	1	0	1	0	1	0	10/03/1973	10/03/1973	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

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Appendix 1.27. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total chromium in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as chromium (µg/L as Cr); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	14	1,420	6	128	1,554	234	0.2, 3, 9.4, 20, 100	04/30/1975	11/14/2001	0.1	2.0	5.0	5.0	11.1	9.4	18.0	581.0
	West Milwaukee Ditch	3	0	0	3	3	3	0.2, 3	09/30/1975	10/02/1975	--	--	--	--	--	--	--	DL
	Wilson Park Creek	4	0	0	51	51	51	3	05/27/1975	11/23/1977	--	--	--	--	--	--	--	DL
Lake Michigan Direct	Lake Michigan Direct	1	0	0	4	4	4	3	06/16/1977	08/13/1977	--	--	--	--	--	--	--	DL
Lake Michigan Tributary	Lake Michigan Trib-utary	2	0	0	3	3	3	3	09/12/1977	02/24/1982	--	--	--	--	--	--	--	DL
Menomonee River	Honey Creek	1	0	0	1	1	1	3	06/30/1977	06/30/1977	--	--	--	--	--	--	--	DL
	Little Menomonee River	4	0	22	72	94	73	1, 3, 30	06/25/1975	06/29/1990	.5	1.5	1.5	1.5	2.8	1.5	4.7	28.0
	Menomonee River - Lower	17	1,447	58	13	1,518	138	1, 3, 9.4	09/03/1975	11/14/2001	.5	4.7	5.0	6.0	14.5	10.0	28.0	600.0
	Menomonee River - Upper	5	420	0	14	434	82	3, 9.4	06/25/1975	11/14/2001	1.5	4.7	4.7	5.0	8.1	9.4	12.0	90.0
	Underwood Creek	2	0	13	3	16	3	3	04/26/1976	06/29/1990	1.5	1.5	4.8	7.0	11.2	12.8	17.5	60.0
Milwaukee River	Combined Sewer Service Area	2	0	0	2	2	2	3, 5	02/03/1975	02/24/1982	--	--	--	--	--	--	--	DL
	Lincoln Creek	10	267	0	47	314	125	0.5, 3, 9.4	05/20/1975	11/27/2001	.2	1.4	4.7	5.8	6.6	9.4	9.4	51.0
	Milwaukee River - Lower	26	2,888	34	179	3,101	512	3, 9.4, 10, 20	01/25/1973	11/15/2001	1.5	4.7	5.0	5.0	15.4	9.4	22.0	8,866.4
Oak Creek	North Branch Oak Creek	2	0	0	22	22	22	3	04/17/1975	12/11/1990	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	4	477	0	4	481	79	3, 9.4	10/13/1975	11/19/2001	1.5	4.7	5.0	5.0	7.7	9.4	12.0	40.0
	Oak Creek - Middle	2	245	0	0	245	42	9.4	03/21/1985	11/19/2001	2.0	4.7	5.0	5.0	7.4	9.4	11.0	39.0
	Oak Creek - Upper	1	122	0	0	122	20	9.4	03/21/1985	11/19/2001	2.0	4.7	5.0	6.0	7.9	9.4	12.9	34.0

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Appendix 1.27. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total chromium in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as chromium (µg/L as Cr); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	East Branch Root River	1	0	0	6	6	6	3	10/13/1975	04/12/1976	--	--	--	--	--	--	--	DL
	Root River - Lower	1	23	0	0	23	15	9.4	08/25/1999	10/10/2001	4.7	4.7	4.7	4.7	12.6	9.4	20.8	69.0
	Root River - Middle	2	25	0	1	26	15	3, 9.4	02/24/1982	10/10/2001	1.5	4.7	4.7	4.7	9.9	9.4	16.0	72.0
	Root River - Upper	6	98	0	2	100	59	2, 9.4	10/17/1996	10/10/2001	1.0	4.7	4.7	4.7	10.5	9.4	17.0	84.0

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Appendix 1.28. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total chromium in sediment.

[--, no data available; values are expressed in micrograms per gram as chromium (µg/L as Cr); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	14	0	0	0	14	0	04/26/1984	08/21/1993	69.3	99.6	197.5	330.0	392.0	462.5	625.6	1,320.0
Menomonee River	Lilly Creek	3	0	3	0	3	0	11/01/1989	11/01/1989	20.0	20.0	20.0	20.0	23.3	25.0	28.0	30.0
	Little Menomonee Creek	1	0	1	0	1	0	11/07/1989	11/07/1989	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
	Little Menomonee River	1	0	1	0	1	0	11/01/1989	11/01/1989	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	Menomonee River - Lower	24	0	2	0	24	0	04/25/1984	08/20/1993	30.0	66.2	110.2	162.0	190.3	225.0	328.0	570.0
	Menomonee River - Upper	6	0	6	0	6	0	10/31/1989	11/08/1989	20.0	20.0	22.5	30.0	28.3	30.0	35.0	40.0
Milwaukee River	Lincoln Creek	1	0	1	0	1	0	11/01/1989	11/01/1989	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
	Milwaukee River - Lower	16	0	6	0	16	0	08/15/1973	08/21/1993	20.0	31.0	50.0	117.0	177.3	269.8	380.0	540.0
Root River	Root River - Middle	1	0	1	0	1	0	10/03/1973	10/03/1973	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0

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Appendix 1.29. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total nickel in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as nickel (µg/L as Ni); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Deer Creek	1	0	0	4	4	4	20, 100	04/24/1985	05/08/1985	--	--	--	--	--	--	--	DL
Kinnickinnic River	Kinnickinnic River	13	701	0	86	787	209	14.3, 20, 30	04/30/1975	11/14/2001	5.0	7.2	10.0	10.0	12.2	14.0	14.3	710.0
	West Milwaukee Ditch	4	0	0	5	5	5	20, 30	04/29/1975	12/22/1975	--	--	--	--	--	--	--	DL
	Wilson Park Creek	4	0	0	74	74	74	20	05/27/1975	11/23/1977	--	--	--	--	--	--	--	DL
Lake Michigan Direct	Lake Michigan Direct	1	0	0	8	8	8	10, 20	06/16/1977	11/23/1977	--	--	--	--	--	--	--	DL
Lake Michigan Tributary	Lake Michigan Tributary	1	0	0	2	2	2	20, 40	09/28/1981	02/24/1982	--	--	--	--	--	--	--	DL
Menomonee River	Honey Creek	1	0	0	17	17	17	20	06/25/1975	07/19/1977	--	--	--	--	--	--	--	DL
	Little Menomonee River	4	0	22	113	135	113	20	06/25/1975	06/29/1990	2.0	5.4	10.0	10.0	9.4	10.0	10.0	25.0
	Menomonee River - Lower	14	758	19	97	874	224	1, 14.3, 20	06/25/1975	11/14/2001	.5	7.2	10.0	10.0	11.2	13.0	14.3	150.0
	Menomonee River - Upper	5	307	0	25	332	99	14.3, 20	06/25/1975	11/14/2001	5.0	7.2	7.2	10.0	11.0	14.0	14.3	116.0
	Underwood Creek	2	0	13	7	20	7	20	06/25/1975	06/29/1990	3.0	5.0	5.8	10.0	9.7	10.0	11.2	36.0
Milwaukee River	Combined Sewer Service Area	1	0	0	1	1	1	20	02/24/1982	02/24/1982	--	--	--	--	--	--	--	DL
	Lincoln Creek	7	267	0	24	291	138	14.3, 20	05/19/1975	11/27/2001	7.2	7.2	7.2	14.0	11.5	14.3	14.3	110.0
	Milwaukee River - Lower	23	1476	21	193	1,690	529	10, 14.3, 20	05/28/1975	11/15/2001	1.0	7.2	7.2	10.0	13.0	11.0	14.3	3810.8
Oak Creek	North Branch Oak Creek	2	0	0	24	24	24	20	04/17/1975	04/12/1976	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	4	319	0	12	331	91	14.3, 20	05/27/1975	11/19/2001	5.0	7.2	7.2	10.0	10.6	14.0	14.3	32.6
	Oak Creek - Middle	2	165	0	0	165	44	14.3	05/21/1990	11/19/2001	5.0	7.2	7.2	10.0	11.0	14.0	14.3	81.0
	Oak Creek - Upper	1	82	0	0	82	22	14.3	05/21/1990	11/19/2001	7.0	7.2	7.2	10.0	13.7	14.0	14.3	270.0

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Appendix 1.29. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total nickel in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as nickel (µg/L as Ni); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	East Branch Root River	1	0	0	12	12	12	20	05/27/1975	04/12/1976	--	--	--	--	--	--	--	DL
	Root River - Lower	1	23	0	0	23	15	14.3	08/25/1999	10/10/2001	7.2	7.2	7.2	7.2	10.9	14.3	21.0	240
	Root River - Middle	2	25	0	1	26	17	14.3, 20	02/24/1982	10/10/2001	7.2	7.2	7.2	7.2	10.7	14.3	18.2	240
	Root River - Upper	6	98	0	2	100	61	14.3	10/17/1996	10/10/2001	.0	7.2	7.2	7.2	10.6	14.3	17.4	270
	Whitnall Park Creeks	1	0	0	1	1	1	20	05/24/1976	05/24/1976	--	--	--	--	--	--	--	DL

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Appendix 1.30. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total nickel in sediment.

[--, no data available; values are expressed in micrograms per gram as nickel (µg/g as Ni); values rounded to the nearest tenth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	13	0	0	0	13	0	--	04/26/1984	08/21/1993	22.0	24.4	27.0	30.0	29.9	32.0	36.5	41.5
Menomonee River	Lilly Creek	3	0	3	0	3	0	--	11/01/1989	11/01/1989	20.0	20.0	20.0	20.0	23.3	25.0	28.0	30.0
	Little Menomonee Creek	1	0	1	0	1	0	--	11/07/1989	11/07/1989	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
	Little Menomonee River	1	0	1	0	1	0	--	11/01/1989	11/01/1989	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	Menomonee River - Lower	24	0	2	0	24	0	--	04/25/1984	08/20/1993	14.5	22.4	26.2	29.0	30.8	34.2	42.1	49.0
	Menomonee River - Upper	6	0	6	0	6	1	10	10/31/1989	11/08/1989	5.0	12.5	20.0	20.0	20.8	27.5	30.0	30.0
Milwaukee River	Lincoln Creek	1	0	1	0	1	0	--	11/01/1989	11/01/1989	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
	Milwaukee River - Lower	15	0	5	0	15	0	--	04/26/1984	08/21/1993	16.0	18.7	20.1	23.0	24.2	29.5	30.0	40.0

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Appendix 1.31. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total zinc in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as zinc (µg/L as Zn); values rounded to the nearest whole number; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	7	1,382	0	2	1,384	2	20	07/08/1975	11/14/2001	4	5	11	19	31	36	63	710
	West Milwaukee Ditch	1	0	0	1	1	1	20	10/02/1975	10/02/1975	--	--	--	--	--	--	--	DL
	Wilson Park Creek	6	0	0	54	54	16	0, 20	05/27/1975	04/07/2000	0	0	0	23	51	66	137	440
Lake Michigan Tributary	Lake Michigan Tributary	2	0	0	3	3	3	20	03/10/1976	09/28/1981	--	--	--	--	--	--	--	DL
Menomonee River	Little Menomonee River	4	0	22	19	41	19	20	06/25/1975	06/29/1990	10	10	10	30	57	70	130	450
	Menomonee River - Lower	9	1,429	53	4	1,486	9	10, 20	06/25/1975	11/14/2001	5	6	10	18	31	30	56	1500
	Menomonee River - Upper	5	416	0	5	421	5	20	06/25/1975	11/14/2001	3	5	6	11	20	21	36	350
	Underwood Creek	1	0	13	0	13	0	--	02/01/1990	06/29/1990	60	62	80	90	155	170	242	670
Milwaukee River	Combined Sewer Service Area	1	0	0	1	1	1	5	02/03/1975	02/03/1975	--	--	--	--	--	--	--	DL
	Lincoln Creek	10	267	6	58	331	42	8, 20	06/18/1975	11/27/2001	4	6	13	22	32	40	75	200
	Milwaukee River - Lower	22	2,838	50	147	3,035	157	10, 20, 30	01/25/1973	11/15/2001	2	5	7	12	19	21	40	330
Oak Creek	Mitchell Field Drainage Ditch	2	0	0	12	12	1	0	01/11/1999	02/23/2000	0	21	42	80	75	112	129	140
	North Branch Oak Creek	2	0	0	8	8	8	10, 20	04/17/1975	12/11/1990	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	4	477	0	4	481	9	4.3, 20	07/08/1975	11/19/2001	2	5	7	13	21	23	49	212
	Oak Creek - Middle	2	245	0	0	245	2	4.3	03/21/1985	11/19/2001	2	5	9	15	21	26	43	122
	Oak Creek - Upper	1	121	0	0	121	1	4.3	03/21/1985	11/19/2001	2	5	8	14	20	27	41	110

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Appendix 1.31. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total zinc in water.

[--, no data available; DL, detection limit value; values are expressed in micrograms per liter as zinc (µg/L as Zn); values rounded to the nearest whole number; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	East Branch Root River	1	0	0	8	8	8	20	05/27/1975	04/12/1976	--	--	--	--	--	--	--	DL
	Root River - Lower	1	23	0	0	23	0	--	08/25/1999	10/10/2001	8	9	12	17	20	24	31	60
	Root River - Middle	1	25	0	0	25	0	--	08/25/1999	10/10/2001	7	8	10	15	18	21	27	50
	Root River - Upper	4	98	0	0	98	1	4.3	08/25/1999	10/10/2001	2	9	12	18	22	28	44	70

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Appendix 1.32. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Total zinc in sediment.

[--, no data available; values are expressed in micrograms per gram as zinc (µg/g as Zn); values rounded to the nearest whole number; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	13	0	0	0	13	0	04/26/1984	08/21/1993	340	384	490	540	528	600	628	677
Menomonee River	Lilly Creek	3	0	3	0	3	0	11/01/1989	11/01/1989	77	88	104	130	132	160	178	190
	Little Menomonee Creek	1	0	1	0	1	0	11/07/1989	11/07/1989	93	93	93	93	93	93	93	93
	Little Menomonee River	1	0	1	0	1	0	11/01/1989	11/01/1989	540	540	540	540	540	540	540	540
	Menomonee River - Lower	24	0	2	0	24	0	04/25/1984	08/20/1993	212	281	392	503	486	580	620	850
	Menomonee River - Upper	6	0	6	0	6	0	10/31/1989	11/08/1989	93	106	125	140	167	222	255	260
Milwaukee River	Lincoln Creek	1	0	1	0	1	0	11/01/1989	11/01/1989	160	160	160	160	160	160	160	160
	Milwaukee River - Lower	16	0	6	0	16	0	08/15/1973	08/21/1993	87	138	235	318	294	350	400	500
Root River	Root River - Middle	1	0	1	0	1	0	10/03/1973	10/03/1973	52	52	52	52	52	52	52	52

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Appendix 1.33. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Selected pesticides in sediment, tissue and water.
[--, no data available; refer to text for list of selected pesticides included in this summary]

Watershed	Subwatershed	Sediment								Tissue							Water						
		Sites per subwatershed	Count of samples	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Sites per subwatershed	Count of samples	Count of STORET results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Sites per subwatershed	Count of samples	Count of USGS results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date
Kinnickinnic River	Kinnickinnic River	32	33	0	0	190	189	04/1984	06/1994	6	29	111	111	111	08/1978	05/1988	--	--	--	--	--	--	--
	Wilson Park Creek	--	--	--	--	--	--	--	--	1	3	16	16	16	05/1988	05/1988	--	--	--	--	--	--	--
Lake Michigan Direct	Lake Michigan Direct	--	--	--	--	--	--	--	--	1	1	5	5	5	10/1986	10/1986	--	--	--	--	--	--	--
Menomonee River	Honey Creek	--	--	--	--	--	--	--	--	1	1	8	8	8	08/1992	08/1992	--	--	--	--	--	--	--
	Lilly Creek	3	3	15	0	15	5	11/1989	11/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Little Menomonee Creek	1	1	5	0	5	1	11/1989	11/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Little Menomonee River	1	1	5	0	5	0	11/1989	11/1989	1	3	7	7	7	03/1987	03/1987	--	--	--	--	--	--	--
	Menomonee River - Lower	28	34	10	7	126	113	04/1984	08/2993	2	9	32	32	32	07/1979	05/1993	--	--	--	--	--	--	--
	Menomonee River - Upper	6	6	30	0	30	4	10/1989	11/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Milwaukee River	Combined Sewer Service Area	--	--	--	--	--	--	--	--	1	2	8	8	8	05/1988	05/1988	--	--	--	--	--	--	--
	Lincoln Creek	2	13	5	14	19	14	11/1989	06/1994	4	14	63	63	63	08/1992	05/1993	1	10	63	63	23	05/2001	02/2002
	Milwaukee River - Lower	24	25	35	0	201	174	05/1982	08/1993	11	64	296	296	292	08/1978	08/1993	1	91	583	583	130	04/1993	02/2002
Oak Creek	North Branch Oak Creek	1	4	0	5	5	5	08/1993	11/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Oak Creek - Lower	--	--	--	--	--	--	--	--	3	5	28	28	28	03/1987	05/1993	--	--	--	--	--	--	--
Root River	Root River - Middle	1	1	5	0	5	0	10/1973	10/1973	1	1	6	6	6	10/1992	10/1992	--	--	--	--	--	--	--

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Appendix 1.34. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: All polychlorinated biphenyls (PCBs) in water.
[--, no data available]

Watershed	Subwatershed	Sites per subwatershed	Count of samples	Count of MMSD results	Count of USGS results	Count of STORET results	Count of WDNR results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date
Kinnickinnic River	Kinnickinnic River	28	140	1,498	6	7	1,313	2,824	1,498	05/27/1975	07/18/2001
	Wilson Park Creek	4	9	0	0	9	0	9	9	05/27/1975	05/17/1988
Menomonee River	Honey Creek	1	2	0	0	2	0	2	2	06/11/1975	09/09/1975
	Little Menomonee River	4	27	0	14	13	0	27	26	06/11/1975	06/29/1990
	Menomonee River - Lower	20	174	1,540	24	36	21	1,621	1569	06/11/1975	07/18/2001
	Menomonee River - Upper	4	69	923	0	3	0	926	919	06/11/1975	07/18/2001
	Underwood Creek	2	12	0	10	2	0	12	10	06/11/1975	06/29/1990
Milwaukee River	Combined Sewer Service Area	1	1	0	0	5	0	5	5	02/03/1975	02/03/1975
	Lincoln Creek	10	83	1,050	0	8	0	1,058	1,050	05/29/1975	07/18/2001
	Milwaukee River - Lower	41	390	2,982	8,396	5,160	383	16,921	8,987	05/28/1975	07/18/2001
Oak Creek	North Branch Oak Creek	3	11	0	0	11	0	11	11	05/27/1975	11/12/1993
	Oak Creek - Lower	2	3	0	0	3	0	3	3	05/27/1975	05/17/1993
Root River	East Branch Root River	1	2	0	0	2	0	2	2	05/27/1975	06/16/1975
	Root River - Lower	1	6	84	0	0	0	84	84	09/20/1999	07/11/2001
	Root River - Middle	3	8	84	1	1	0	86	85	10/03/1973	07/11/2001
	Root River - Upper	4	24	336	0	0	0	336	336	09/20/1999	07/11/2001

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Appendix 1.35. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: All polychlorinated biphenyls (PCBs) in sediment and tissue.

[--, no data available]

Watershed	Subwatershed	Sediment										Tissue									
		Sites per subwatershed	Count of samples	Count of MMSD results	Count of USGS results	Count of STORET results	Count of WDNR results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Sites per subwatershed	Count of samples	Count of MMSD results	Count of USGS results	Count of STORET results	Count of WDNR results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date
Kinnickinnic River	Kinnickinnic River	39	40	0	1	13	1,691	1,705	77	07/29/1980	06/08/1994	1	1	0	0	1	0	1	1	10/08/1986	10/08/1986
Lake Michigan Direct	Lake Michigan Direct	--	--	--	--	--	--	--	--	--	--	1	1	0	0	1	0	1	1	10/08/1986	10/08/1986
Menomonee River	Lilly Creek	3	3	0	3	0	0	3	2	11/01/1989	11/01/1989	--	--	--	--	--	--	--	--	--	--
	Little Menomonee Creek	1	1	0	1	0	0	1	1	11/07/1989	11/07/1989	--	--	--	--	--	--	--	--	--	--
	Little Menomonee River	1	1	0	1	0	0	1	0	11/01/1989	11/01/1989	1	2	0	0	7	0	7	7	03/24/1987	11/01/1991
	Menomonee River - Lower	29	30	0	2	2	175	179	104	07/29/1980	08/20/1993	1	1	0	0	5	0	5	5	06/29/1988	06/29/1988
	Menomonee River - Upper	6	6	0	6	0	0	6	4	10/31/1989	11/08/1989	1	1	0	0	2	0	2	2	04/11/1988	04/11/1988
Milwaukee River	Combined Sewer Service Area	--	--	--	--	--	--	--	--	--	--	1	1	0	0	1	0	1	1	05/11/1988	05/11/1988
	Lincoln Creek	6	12	0	2	0	10	12	6	11/01/1989	10/09/1995	2	4	0	1	0	3	4	0	09/06/1995	10/09/1995
	Milwaukee River - Lower	79	162	0	8	284	2,676	2,968	204	07/29/1980	08/12/1997	9	10	0	2	1	12	15	1	06/20/1985	08/19/1997
Oak Creek	Oak Creek - Lower	--	--	--	--	--	--	--	--	--	--	1	1	0	0	1	0	1	1	05/19/1988	05/19/1988
Root River	Root River - Middle	--	--	--	--	--	--	--	--	--	--	1	1	0	0	1	0	1	1	06/03/1986	06/03/1986

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Appendix 1.36. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Toxic polychlorinated biphenyls (PCBs) in sediment and water.

[--, no data available]

Watershed	Subwatershed	Sediment										Water									
		Sites per subwatershed	Count of samples	Count of MMSD results	Count of USGS results	Count of STORET results	Count of WDNR results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date	Sites per subwatershed	Count of samples	Count of MMSD results	Count of USGS results	Count of STORET results	Count of WDNR results	Count of all results	Count of non-detects	Earliest sample date	Latest sample date
Kinnickinnic River	Kinnickinnic River	19	20	0	0	0	723	723	9	09/25/1990	06/08/1994	23	127	214	0	0	431	645	214	09/25/1990	07/18/2001
Menomonee River	Menomonee River - Lower	4	4	0	0	0	18	18	0	10/02/1990	10/23/1990	9	114	220	0	0	12	232	220	10/02/1990	07/18/2001
	Menomonee River - Upper	--	--	--	--	--	--	--	--	--	--	3	66	132	0	0	0	132	132	06/19/1995	07/18/2001
Milwaukee River	Lincoln Creek	--	--	--	--	--	--	--	--	--	--	5	75	150	0	0	0	150	150	06/23/1997	07/18/2001
	Milwaukee River - Lower	24	41	0	0	11	672	683	0	09/25/1990	09/28/1995	25	358	426	1,540	680	211	2,857	1,035	09/25/1990	07/18/2001
Root River	Root River - Lower	--	--	--	--	--	--	--	--	--	--	1	6	12	0	0	0	12	12	09/20/1999	07/11/2001
	Root River - Middle	--	--	--	--	--	--	--	--	--	--	1	6	12	0	0	0	12	12	09/20/1999	07/11/2001
	Root River - Upper	--	--	--	--	--	--	--	--	--	--	4	24	48	0	0	0	48	48	09/20/1999	07/11/2001

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Appendix 1.37. Summary of statistics of benthic invertebrate measures for the MMSD planning area, 1970-2002: EPT Index.
[--, no data available; values are expressed as a percentage; values rounded to the nearest whole number]

Watershed	Subwatershed	Count of samples	Sites per subwatershed	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Deer Creek	1	1	05/01/1990	05/01/1990	1	1	1	1	1	1	1	1
	Muskego Lake	6	6	10/06/1992	10/06/1992	6	11	18	26	24	33	35	35
Kinnickinnic River	Kinnickinnic River	9	3	09/29/1987	10/08/1997	0	0	0	0	5	2	16	30
	Wilson Park Creek	2	2	10/09/1997	10/09/1997	0	0	0	0	0	0	0	0
Menomonee River	Honey Creek	5	5	05/18/1979	10/08/1997	0	0	1	17	21	31	47	58
	Lilly Creek	1	1	05/01/1997	05/01/1997	5	5	5	5	5	5	5	5
	Little Menomonee Creek	1	1	05/01/1997	05/01/1997	7	7	7	7	7	7	7	7
	Little Menomonee River	43	11	05/18/1979	05/01/1997	0	0	0	0	3	2	10	47
	Menomonee River - Lower	17	11	05/18/1979	05/16/1997	0	0	0	8	20	48	52	57
	Menomonee River - Upper	31	15	05/18/1979	10/08/1997	0	0	2	28	24	43	49	69
	Nor-X-Way Channel	1	1	05/29/1997	05/29/1997	1	1	1	1	1	1	1	1
	Underwood Creek	1	1	05/16/1997	05/16/1997	2	2	2	2	2	2	2	2
	West Branch Menomonee River	9	5	05/12/1979	09/29/1999	4	5	6	28	27	45	47	52
	Willow Creek	5	3	05/13/1997	09/29/1999	5	6	8	12	13	13	21	26
Milwaukee River	Cedar Creek	7	5	04/21/1986	09/24/1998	7	7	20	40	37	55	63	65
	Lincoln Creek	17	5	05/11/1992	10/08/1997	0	0	0	0	1	1	1	3
	Milwaukee River - Lower	110	46	05/13/1980	12/01/1999	0	0	4	19	28	52	64	82
Oak Creek	Mitchell Field Drainage Ditch	2	2	11/25/1985	10/08/1996	0	5	13	26	26	38	46	51
	North Branch Oak Creek	7	7	05/17/1979	10/09/1997	0	0	1	1	9	12	27	36
	Oak Creek - Lower	10	10	05/17/1979	10/08/1996	0	4	6	24	29	46	60	74
	Oak Creek - Middle	10	9	05/17/1979	10/09/1997	5	7	23	40	37	50	67	71
	Oak Creek - Upper	3	3	05/17/1979	10/08/1996	1	1	2	2	3	4	6	7

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Appendix 1.37. Summary of statistics of benthic invertebrate measures for the MMSD planning area, 1970-2002: EPT Index.
[--, no data available; values are expressed as a percentage; values rounded to the nearest whole number]

Watershed	Subwatershed	Count of samples	Sites per subwatershed	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	East Branch Root River	5	5	05/21/1979	10/16/1996	0	0	0	1	4	5	10	14
	Root River - Lower	6	6	05/31/1979	10/22/1996	6	21	38	51	52	74	86	92
	Root River - Middle	6	6	05/31/1979	10/16/1996	10	21	36	50	42	54	55	55
	Root River - Upper	12	12	05/31/1979	10/08/1997	0	0	0	3	12	23	28	47
	Whitnall Park Creeks	7	7	05/31/1979	10/11/1996	0	7	13	18	23	36	45	47

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Appendix 1.38. Summary of statistics of benthic invertebrate measures for the MMSD planning area, 1970-2002: Hilsenhoff Biotic Index (HBI).

[--, no data available; values rounded to the nearest hundredth; values on the scale of 0.00-3.50 (excellent, no apparent organic pollution), 3.51-4.25 (very good, possible slight organic pollution), 4.26-5.00 (good, some organic pollution probable), 5.01-5.75 (fair, fairly substantial pollution likely), 5.76-6.50 (fairly poor, substantial pollution likely), 6.51-7.25 (poor, very substantial pollution likely), 7.26-10.0 (very poor, severe organic pollution likely)]

Watershed	Subwatershed	Count of samples	Sites per subwatershed	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Deer Creek	1	1	05/01/1990	05/01/1990	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67
	Muskego Lake	6	6	10/06/1992	10/06/1992	5.09	5.13	5.27	5.80	5.79	6.28	6.45	6.53
Kinnickinnic River	Kinnickinnic River	7	3	09/29/1987	10/08/1997	5.52	5.81	6.00	6.11	6.28	6.17	6.92	8.00
	Wilson Park Creek	2	2	10/09/1997	10/09/1997	6.20	6.25	6.32	6.45	6.45	6.57	6.64	6.69
Menomonee River	Honey Creek	4	4	11/09/1979	10/08/1997	6.00	6.02	6.04	6.15	6.58	6.69	7.48	8.00
	Lilly Creek	1	1	05/01/1997	05/01/1997	6.09	6.09	6.09	6.09	6.09	6.09	6.09	6.09
	Little Menomonee Creek	1	1	05/01/1997	05/01/1997	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80
	Little Menomonee River	40	11	05/18/1979	05/01/1997	4.61	5.57	6.99	8.00	7.86	9.05	9.44	9.61
	Menomonee River - Lower	17	11	05/18/1979	05/16/1997	4.85	5.41	5.91	6.21	6.43	7.07	7.80	8.00
	Menomonee River - Upper	31	15	05/18/1979	10/08/1997	4.52	4.91	5.15	5.68	6.26	7.19	8.66	9.00
	Nor-X-Way Channel	1	1	05/29/1997	05/29/1997	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
	Underwood Creek	1	1	05/16/1997	05/16/1997	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10
	West Branch Menomonee River	9	5	05/12/1979	09/29/1999	4.43	4.57	5.45	6.09	6.04	6.57	7.61	7.67
	Willow Creek	5	3	05/13/1997	09/29/1999	4.74	4.79	4.87	4.87	5.23	5.30	5.95	6.38
Milwaukee River	Cedar Creek	7	5	04/21/1986	09/24/1998	4.92	5.01	5.08	5.16	5.48	5.40	6.27	7.31
	Lincoln Creek	17	5	05/11/1992	10/08/1997	5.72	5.87	6.00	6.20	6.67	7.62	7.83	7.98
	Milwaukee River - Lower	110	46	05/13/1980	12/01/1999	4.32	4.66	5.09	5.72	5.88	6.35	7.65	8.67
Oak Creek	Mitchell Field Drainage Ditch	2	2	11/25/1985	10/08/1996	4.38	4.75	5.31	6.24	6.24	7.16	7.72	8.09
	North Branch Oak Creek	7	7	05/17/1979	10/09/1997	5.31	5.82	6.68	7.85	7.26	8.07	8.11	8.15
	Oak Creek - Lower	10	10	05/17/1979	10/08/1996	5.44	5.73	6.33	6.64	6.67	7.18	7.64	7.71
	Oak Creek - Middle	10	9	05/17/1979	10/09/1997	5.37	5.72	6.06	6.58	6.80	7.50	7.98	8.96
	Oak Creek - Upper	3	3	05/17/1979	10/08/1996	6.62	6.88	7.26	7.90	7.48	7.91	7.92	7.92

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Appendix 1.38. Summary of statistics of benthic invertebrate measures for the MMSD planning area, 1970-2002: Hilsenhoff Biotic Index (HBI).

[--, no data available; values rounded to the nearest hundredth; values on the scale of 0.00-3.50 (excellent, no apparent organic pollution), 3.51-4.25 (very good, possible slight organic pollution), 4.26-5.00 (good, some organic pollution probable), 5.01-5.75 (fair, fairly substantial pollution likely), 5.76-6.50 (fairly poor, substantial pollution likely), 6.51-7.25 (poor, very substantial pollution likely), 7.26-10.0 (very poor, severe organic pollution likely)]

Watershed	Subwatershed	Count of samples	Sites per subwatershed	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	East Branch Root River	5	5	05/21/1979	10/16/1996	7.05	7.35	7.80	7.80	7.76	8.03	8.08	8.12
	Root River - Lower	6	6	05/31/1979	10/22/1996	6.11	6.33	6.57	6.68	6.84	6.83	7.51	8.15
	Root River - Middle	6	6	05/31/1979	10/16/1996	5.65	5.76	5.97	6.29	6.28	6.46	6.79	7.06
	Root River - Upper	12	12	05/31/1979	10/08/1997	5.67	6.43	6.71	7.13	7.24	7.85	8.25	8.92
	Whitnall Park Creeks	7	7	05/31/1979	10/11/1996	4.15	4.54	4.98	5.21	5.39	5.76	6.50	6.91

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Appendix 1.39. Summary of statistics for fish for the MMSD planning area, 1970-2002.
[--, no data available; IBI = Warmwater Index of Biotic Integrity]

Watershed	Subwatershed	1970-1979					1980-1989					1990-2002					
		Count of sites	Count of samples	Count of distinct taxon	Earliest sample date	Latest sample date	Count of sites	Count of samples	Count of distinct taxon	Earliest sample date	Latest sample date	Count of sites	Count of samples	Count of distinct taxon	Earliest sample date	Latest sample date	Median IBI scores
Fox River	Deer Creek	--	--	--	--	--	--	--	--	--	--	1	1	5	08/23/1990	08/23/1990	--
	Muskego Lake	10	15	37	10/16/1972	07/13/1978	--	--	--	--	--	5	9	28	12/27/1999	03/30/2000	--
Kinnickinnic River	Holmes Avenue Creek	--	--	--	--	--	1	1	5	08/18/1981	08/18/1981	--	--	--	--	--	--
	Kinnickinnic River	2	2	12	11/10/1977	10/09/1979	1	1	6	08/20/1981	08/20/1981	2	4	13	07/16/1997	08/04/1997	20
	Wilson Park Creek	1	1	1	09/08/1975	09/08/1975	1	2	10	08/19/1981	08/31/1981	3	15	20	01/19/2000	04/07/2000	--
Lake Michigan Direct	Lake Michigan Direct	--	--	--	--	--	1	2	6	08/18/1981	08/31/1981	--	--	--	--	--	--
Lake Michigan Tributary	Fish Creek	1	1	4	09/09/1975	09/09/1975	--	--	--	--	--	--	--	--	--	--	--
Menomonee River	Butler Ditch	--	--	--	--	--	1	1	2	05/24/1984	05/24/1984	--	--	--	--	--	--
	Dousman Ditch	--	--	--	--	--	1	1	4	10/04/1984	10/04/1984	--	--	--	--	--	--
	Honey Creek	2	2	5	08/07/1973	09/10/1973	2	3	14	08/19/1981	07/27/1984	2	5	13	06/05/1991	06/17/1993	20
	Lilly Creek	--	--	--	--	--	6	10	20	05/10/1984	09/13/1985	1	3	12	06/20/1991	06/02/1993	19
	Little Menomonee Creek	2	2	7	08/07/1973	08/07/1973	--	--	--	--	--	--	--	--	--	--	--
	Little Menomonee River	2	2	8	08/07/1973	08/07/1973	4	4	12	05/16/1984	07/25/1984	--	--	--	--	--	--
	Menomonee River - Lower	7	7	13	08/07/1973	09/10/1973	6	6	18	08/18/1981	08/26/1988	4	6	26	06/11/1991	03/28/2000	15
	Menomonee River - Upper	8	8	19	08/07/1973	08/07/1973	7	7	26	05/17/1984	07/27/1984	--	--	--	--	--	--
	South Branch Underwood Creek	1	1	8	09/10/1973	09/10/1973	2	3	12	08/17/1981	10/04/1984	--	--	--	--	--	--
	Underwood Creek	1	1	4	08/07/1973	08/07/1973	3	4	12	05/23/1984	10/04/1984	1	4	11	06/19/1991	06/09/1994	15
	West Branch Menomonee River	1	1	10	08/07/1973	08/07/1973	--	--	--	--	--	--	--	--	--	--	--
	Willow Creek	1	1	12	08/07/1973	08/07/1973	1	1	12	05/17/1984	05/17/1984	--	--	--	--	--	--
Milwaukee River	Cedar Creek	3	5	23	06/24/1975	08/15/1978	--	--	--	--	--	--	--	--	--	--	--
	Lincoln Creek	2	2	13	09/09/1975	09/09/1975	4	5	23	08/17/1981	07/27/1984	7	8	8	06/03/1992	06/03/1994	10
	Milwaukee River - Lower	17	17	40	10/10/1970	10/09/1979	20	22	49	09/16/1981	05/05/1986	21	39	58	06/08/1994	09/05/2001	62

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Appendix 1.39. Summary of statistics for fish for the MMSD planning area, 1970-2002.
[--, no data available; IBI = Warmwater Index of Biotic Integrity]

Watershed	Subwatershed	1970-1979					1980-1989					1990-2002					
		Count of sites	Count of samples	Count of distinct taxon	Earliest sample date	Latest sample date	Count of sites	Count of samples	Count of distinct taxon	Earliest sample date	Latest sample date	Count of sites	Count of samples	Count of distinct taxon	Earliest sample date	Latest sample date	Median IBI scores
Oak Creek	Mitchell Field Drainage Ditch	1	1	6	09/08/1975	09/08/1975	--	--	--	--	--	3	6	14	02/22/2000	08/02/2001	--
	North Branch Oak Creek	1	1	6	09/08/1975	09/08/1975	--	--	--	--	--	--	--	--	--	--	--
	Oak Creek - Lower	2	2	7	03/22/1973	09/08/1975	1	2	9	08/18/1981	08/31/1981	1	3	10	06/12/1991	06/03/1993	17
	Oak Creek - Middle	1	1	7	09/08/1975	09/08/1975	--	--	--	--	--	--	--	--	--	--	--
	Oak Creek - Upper	3	3	6	03/22/1973	09/05/1975	--	--	--	--	--	--	--	--	--	--	--
Root River	East Branch Root River	2	2	5	09/08/1975	08/04/1976	1	2	8	08/19/1981	08/26/1981	--	--	--	--	--	--
	Root River - Lower	2	2	19	09/05/1975	06/06/1979	3	5	8	08/20/1981	08/31/1981	--	--	--	--	--	--
	Root River - Middle	9	10	24	09/25/1971	05/10/1979	1	2	13	08/19/1981	08/26/1981	1	1	5	09/04/2001	09/04/2001	--
	Root River - Upper	3	3	6	07/27/1976	05/10/1979	--	--	--	--	--	2	9	11	02/18/2000	04/07/2000	10
	Whitnall Park Creeks	2	3	19	07/27/1976	05/10/1979	1	2	10	08/20/1981	08/27/1981	1	1	6	07/31/2001	07/31/2001	--

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Appendix 1.40. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Chlorophyll-*a*, corrected for pheophytin.

[--, no data available; values are expressed in milligrams per cubic meter (mg/m^3); values rounded to the nearest hundredth; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	5	4,431	0	0	4,431	0	--	05/21/1979	11/27/2001	0.02	1.17	2.24	4.62	8.40	9.53	17.69	358.52
Menomonee River	Menomonee River - Lower	6	4,345	0	0	4,345	1	0.11	05/21/1979	11/27/2001	.06	1.56	2.79	5.99	9.71	12.12	21.34	159.41
	Menomonee River - Upper	3	980	0	0	980	0	--	05/24/1982	11/27/2001	.34	1.75	3.12	5.67	8.13	9.88	16.23	318.23
Milwaukee River	Lincoln Creek	5	330	0	0	330	0	--	06/18/1997	11/27/2001	.50	1.42	2.59	5.07	10.73	10.04	23.84	141.64
	Milwaukee River - Lower	14	8,866	0	0	8,866	2	0.11	04/18/1979	11/27/2001	.06	2.20	4.61	11.70	23.48	27.22	59.30	628.41
Oak Creek	Oak Creek - Lower	4	988	0	0	988	0	--	03/21/1985	11/19/2001	.02	.98	2.08	3.74	5.71	6.74	12.40	116.00
	Oak Creek - Middle	2	499	0	0	499	0	--	03/21/1985	11/19/2001	.02	.62	1.03	2.07	2.96	3.74	6.06	40.70
	Oak Creek - Upper	1	250	0	0	250	0	--	03/21/1985	11/19/2001	.04	.65	1.08	2.14	3.95	3.78	6.45	178.90
Root River	Root River - Lower	1	25	0	0	25	0	--	09/07/1999	10/10/2001	1.66	2.23	3.02	5.15	8.69	7.15	17.12	48.90
	Root River - Middle	1	27	0	0	27	0	--	09/07/1999	10/10/2001	1.90	2.88	4.58	7.17	7.33	9.24	13.01	16.00
	Root River - Upper	4	107	0	0	107	0	--	09/07/1999	10/10/2001	.14	.31	.78	1.46	2.95	2.74	5.90	57.61

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Appendix 1.41. Summary of WDNR habitat assessment and MMSD geomorphic data collected for the MMSD planning area, 1970-2002.
[--, no data available]

Watershed	Subwatershed	MMSD Channel Measurements				WDNR Habitat Assessments			
		Count of site visits	Sites per sub-watershed	Earliest measurement date	Latest measurement date	Count of assess-ments	Sites per subwa-tershed	Earliest assess-ment date	Latest assess-ment date
Kinnickinnic River	Kinnickinnic River	--	--	--	--	1	1	06/15/1997	06/15/1997
	Wilson Park Creek	--	--	--	--	1	1	06/17/1997	06/17/1997
Menomonee River	Butler Ditch	1	14	05/07/2000	07/01/2000	1	1	06/10/1997	06/10/1997
	Dousman Ditch	1	4	05/06/2000	09/01/2000	--	--	--	--
	Honey Creek	1	22	05/10/2000	07/01/2000	6	4	06/04/1991	07/29/1997
	Lilly Creek	--	--	--	--	4	2	06/19/1991	06/02/1993
	Little Menomonee River	1	36	03/25/2000	05/08/2001	8	2	06/01/1995	05/28/1998
	Menomonee River - Lower	1	43	05/08/2000	09/06/2000	3	1	06/03/1991	06/04/1993
	Menomonee River - Upper	1	59	03/29/2000	08/09/2000	1	1	06/16/1997	06/16/1997
	South Branch Underwood Creek	1	1	08/15/2000	08/15/2000	--	--	--	--
	Underwood Creek	1	30	05/03/2000	08/30/2000	20	4	06/19/1991	06/02/1998
Milwaukee River	Cedar Creek	--	--	--	--	1	1	09/12/2001	09/12/2001
	Lincoln Creek	--	--	--	--	40	9	06/03/1992	05/30/1998
	Milwaukee River - Lower	--	--	--	--	5	5	06/03/1994	06/17/1997
Oak Creek	Mitchell Field Drainage Ditch	--	--	--	--	2	2	06/17/1997	08/02/2001
	North Branch Oak Creek	--	--	--	--	1	1	07/29/1997	07/29/1997
	Oak Creek - Lower	--	--	--	--	4	2	06/11/1991	06/02/1993
	Oak Creek - Middle	--	--	--	--	1	1	07/29/1997	07/29/1997
Root River	East Branch Root River	--	--	--	--	1	1	06/17/1997	06/17/1997
	Root River - Middle	--	--	--	--	3	3	06/11/1997	09/04/2001
	Root River - Upper	--	--	--	--	1	1	06/11/1997	06/11/1997
	Whitnall Park Creeks	--	--	--	--	1	1	07/31/2001	07/31/2001

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Appendix 1.42. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Fecal coliform

[--, no data available; DL, detection limit value; values are expressed in colony forming units per one hundred milliliters (CFU/100ml); for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Fox River	Muskego Lake	1	0	0	2	2	2	10	03/29/1977	05/23/1979	--	--	--	--	--	--	--	DL
Kinnickinnic River	Kinnickinnic River	7	2,496	0	3	2,499	9	2, 3, 10	01/15/1975	11/27/2001	1	43	230	930	10,888	4,300	23,000	1,100,000
	West Milwaukee Ditch	1	0	0	1	1	1	20	04/29/1975	04/29/1975	--	--	--	--	--	--	--	DL
	Wilson Park Creek	1	0	0	1	1	1	10	02/16/1976	02/16/1976	--	--	--	--	--	--	--	DL
Lake Michigan Direct	Lake Michigan Direct	1	0	0	2	2	2	10	04/25/1979	11/18/1981	--	--	--	--	--	--	--	DL
Lake Michigan Tributary	Lake Michigan Tributary	1	0	0	2	2	2	10	10/21/1976	05/02/1978	--	--	--	--	--	--	--	DL
Menomonee River	Honey Creek	3	12	0	0	12	0	--	08/09/2001	08/21/2001	210	1,580	4,025	16,650	45,542	43,000	139,300	240,000
	Menomonee River - Lower	12	2,487	36	15	2,538	16	2, 3, 10, 10000	06/10/1975	11/27/2001	1	90	430	2,300	28,998	9,300	46,000	2,400,000
	Menomonee River - Upper	7	1,027	0	6	1,033	5	10	09/01/1976	11/27/2001	4	43	150	430	2,324	1,500	4,600	110,000
	Underwood Creek	1	0	0	1	1	0	--	06/24/1975	06/24/1975	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Milwaukee River	Lincoln Creek	7	339	69	11	419	15	2, 10	09/17/1975	11/27/2001	1	40	230	1,500	12,837	6,900	25,000	1,100,000
	Milwaukee River - Lower	22	5,546	154	14	5,714	13	1, 2, 10, 100	01/26/1973	11/27/2001	1	50	210	460	8,574	2,400	15,000	1,350,000
Oak Creek	North Branch Oak Creek	2	0	0	3	3	3	10	03/22/1976	04/12/1976	--	--	--	--	--	--	--	DL
	Oak Creek - Lower	6	990	0	2	992	2	10	04/20/1977	11/19/2001	5	93	230	750	4,038	2,300	4,600	240,000
	Oak Creek - Middle	2	501	0	0	501	0	--	03/21/1985	11/19/2001	3	70	230	430	2,401	1,500	4,600	110,000
	Oak Creek - Upper	1	250	0	0	250	0	--	03/21/1985	11/19/2001	9	90	230	930	3,017	2,400	7,680	46,000

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Appendix 1.42. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: Fecal coliform

[--, no data available; DL, detection limit value; values are expressed in colony forming units per one hundred milliliters (CFU/100ml); for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit(s)	Earliest sample date	Latest sample date	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Root River	Root River - Lower	1	26	0	0	26	0	--	08/25/1999	10/10/2001	23	59	93	430	2,078	670	3,350	24,000
	Root River - Middle	2	27	0	2	29	1	10	06/10/1977	10/10/2001	5	30	43	230	15,883	930	10,440	400,000
	Root River - Upper	4	111	0	0	111	1	2	08/25/1999	10/10/2001	1	93	230	750	15,027	2,400	24,000	240,000

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Appendix 1.43. Summary of statistics for constituents in surface water, by category, for the MMSD planning area, 1970-2002: *Escherichia coli*.

[--, no data available; values are expressed in colony forming units per one hundred milliliters (CFU/100ml); values rounded to the nearest whole number; for the purpose of statistical calculations, values reported below detection limit are set at one half the value of the detection limit value; some values below the detection limit were reported as a value of zero]

Watershed	Subwatershed	Sites per subwatershed	Count of MMSD results	Count of USGS results	Count of STORET results	Count of all results	Count of non-detects	Detection limit	Earliest sample date (result)	Latest sample date (result)	Minimum	10th Percentile	25th Percentile	Median	Mean	75th Percentile	90th Percentile	Maximum
Kinnickinnic River	Kinnickinnic River	3	72	0	0	72	2	1	10/01/2000	11/27/2001	1	88	200	780	6,260	3,050	11,660	160,000
Menomonee River	Honey Creek	3	11	0	0	11	1	1	08/09/2001	08/21/2001	1	410	795	2,400	17,427	8,200	27,000	140,000
	Menomonee River - Lower	4	78	0	0	78	4	1	10/01/2000	11/27/2001	1	88	332	915	4,982	4,100	9,810	98,000
	Menomonee River - Upper	1	23	0	0	23	0	--	10/01/2000	11/27/2001	34	59	100	300	7,894	1,400	2,780	160,000
Milwaukee River	Lincoln Creek	2	41	0	0	41	0	--	10/01/2000	11/27/2001	39	190	690	1,300	4,929	3,000	9,800	77,000
	Milwaukee River - Lower	7	138	0	0	138	7	1	10/01/2000	11/27/2001	1	54	92	220	1,863	960	2,590	69,000

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