

Appendix B

Average Annual (1991-2011) Chlorophyll-*a* and Chlorophyll-*a* Lake Grades

Average Annual (1991-2011) Total Phosphorus and Total Phosphorus Lake Grades

Average Annual (1991-2011) Secchi Disk Transparency and Secchi Disk Transparency Lake Grades

Average Annual (1990-2011) Combined Lake Grades

Average Annual (1991-2011) Chlorophyll-a and Chlorophyll-a Lake Grades

L																									Region Value 5-22 ug/l Average	# of Years Sampled		
Lake Name	DNR ID #	Parameter	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011					
Barker	82-0076	CL-a (ug/l)							33	35	54	20	31												75	41	6	
		Lake Grade								C	C	D	C	C													D	C
Bass	82-0035	CL-a (ug/l)						36	23	16	18	18	18		11	9	11	15	13								17	11
		Lake Grade							C	C	B	B	B	B		B	B	B	B	B								B
Big Carnelian	82-0049	CL-a (ug/l)				8		6	6	5	9	6	7	8	8	7	7	6	5				3				6	14
		Lake Grade				A		A	A	A	A	A	A	A	A	A	A	A	A	A				A				A
Big Marine	82-0052	CL-a (ug/l)				7		11	9	6	9	5	6	9	7	6	8	23	9								9	13
		Lake Grade				A		B	A	A	A	A	A	A	A	A	A	A	C	B								A
Carol	82-0017	CL-a (ug/l)						12	3	5	5	3	7		13	10	11	7	5								7	11
		Lake Grade						B	A	A	A	A	A		B	B	B	A	A								A	11
Cty Rd. 7 Wetland	82-0301W	CL-a (ug/l)														7	41	17	29								24	4
		Lake Grade															A	C	B	C								C
East Boot	82-0034	CL-a (ug/l)						10	14	11	27	32	19	30	33	16	14	26	20	13	9	7	8			18	16	
		Lake Grade						B	B	B	C	C	B	C	C	B	B	C	C	C	B	A	A	A	A		B	16
Fish Lake	82-0064	CL-a (ug/l)								139	105	140	91	69	77	89	40	53	52	46	24	47	45			73	14	
		Lake Grade									F	F	F	F	D	D	F	C	D	D	C	C	C	C			D	14
German Lake	82-0056	CL-a (ug/l)													8	5	6	5	15	6						7	6	
		Lake Grade														A	A	A	B	A							A	6
Jellum's Lake	82-5202	CL-a (ug/l)						95	55	60	59	104	79	82	89	35	55	39	27	38	9	41	34			56	16	
		Lake Grade						F	D	D	D	F	F	F	F	C	D	C	C	C	A	C	C			D	16	
Little Carnelian	82-0014	CL-a (ug/l)						4	4	2	4	3	4	3	3	3	3	2	2							3	12	
		Lake Grade						A	A	A	A	A	A	A	A	A	A	A	A	A							A	12
Long Lake	82-0068	CL-a (ug/l)								8	65	228	47	36	72	62	36	19	30	5	43	33	48			52	14	
		Lake Grade								A	D	F	D	C	D	D	C	B	C	A	C	C	C			D	14	
Loon	82-0015	CL-a (ug/l)						91	121	126	105	75	73	77	118	98	83	124	129	168	112	91			106	15		
		Lake Grade						F	F	F	F	D	D	D	D	F	F	F	F	F	F	F	F			F	15	
Loon Wetland	82-0015W	CL-a (ug/l)														24	56	37	44						40	4		
		Lake Grade															C	D	C	C						C	4	
Louise	82-0025	CL-a (ug/l)						48	53	19	43	18	46	34							37	84	44	32		42	11	
		Lake Grade						D	D	B	C	B	C	C							C	F	C	C			C	11
Maple Marsh	82-0038	CL-a (ug/l)								80	92	43	43	60												64	5	
		Lake Grade								F	F	C	C	D												D	5	
Mud	82-0026	CL-a (ug/l)						76	89	109	95	172	129										35	97	100	8		
		Lake Grade						D	F	F	F	F	F										C	F		F	8	
North Twin	82-0018	CL-a (ug/l)						25	13	12	6	3	16		5	4	7	7	3						9	11		
		Lake Grade						C	B	B	A	A	B		A	A	A	A	A							B	11	
Silver	82-0016	CL-a (ug/l)						28	24	34	42	19	14			8	9	22	23	26	7				21	12		
		Lake Grade						C	C	C	C	C	B			A	A	C	C	C	A					C	12	
South Twin	82-0019	CL-a (ug/l)						54	64	76	79	39	64		13	14	35	32	38	40	25	8	26		41	15		
		Lake Grade						D	D	D	F	C	D		B	B	C	C	C	C	C	A	A	C		C	15	
Staples	82-0028	CL-a (ug/l)							12	7	9	19	16			7	4	4	11						10	9		
		Lake Grade							B	A	A	C	B			A	A	A	B							B	9	
Turtle	82-0036	CL-a (ug/l)						36	30	30	15	16	13		13										22	7		
		Lake Grade						C	C	C	B	B	B		B											C	7	
West Boot	82-0044	CL-a (ug/l)						12	24	7	4	6	7	5	8	4	4	3	4						7	12		
		Lake Grade						B	C	A	A	A	A	A	A	A	A	A	A							A	12	
205th St. Wetland	82-0062W	CL-a (ug/l)														4	4	4	11						6	4		
		Lake Grade															A	A	A	B						A	4	
Goose	82-0059	CL-a (ug/l)															49	38	56	37	30	26	47		40	7		
		Lake Grade															D	C	D	D	C	C	C	C		C	7	
Hay	82-0065	CL-a (ug/l)									115	81		32	63	92	20	40	33	26	20	25	50		50	11		
		Lake Grade									F	F		C	D	F	C	C	C	C	C	B	C		D	11		
Long Lake	82-0030	CL-a (ug/l)									12	20	16	8	4	16	10	10	9	7	11	5			11	12		
		Lake Grade									B	C		B	A	A	B	B	B	A	B	A	B	A		B	12	
Sand	82-0067	CL-a (ug/l)												13	34	19	55	13	15	37	12	19	75		29	10		
		Lake Grade													B	C	D	B	B	B	B	B	D		C	10		
Square	82-0046	CL-a (ug/l)									4	3	3	3	2	4	4	4	4				4	4	3	10		
		Lake Grade									A	A	A	A	A	A	A	A	A	A			A	A		A	10	
Terrapin	82-0031	CL-a (ug/l)													3	4	4	4					5		4	5		
		Lake Grade														A	A	A	A					A		A	5	
Clear	82-0045	CL-a (ug/l)																		3	3	2			3	3		
		Lake Grade																			A	A	A			A	3	
Mays	82-0033	CL-a (ug/l)																		3	3	2			3	3		
		Lake Grade																			A	A	A			A	3	
Twin	82-0048	CL-a (ug/l)																		5	5				5	2		
		Lake Grade																			A	A				A	2	

Lake grade system developed by Dick Osgood formerly of Metropolitan Council (A-F); Records from Metropolitan Council CAMP, MPCA's CLMP, and CMWD

Average Annual (1991-2011) Total Phosphorus and TP Lake Grades

Lake Name	DNR ID #	Parameter	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Region Value .025-.050 mg/l	# of Years Sampled	
Barker	82-0076	TP (mg/l)							0.056	0.070	0.073	0.064	0.080							0.121				0.077	6	
		Lake Grade								C	D	D	C	D							D				D	6
Bass	82-0035	TP (mg/l)						0.050	0.062	0.051	0.060	0.052	0.044		0.042	0.030	0.035	0.041	0.031					0.045	11	
		Lake Grade						C	C	C	C	C	C			C	B	C	C	C					C	11
Big Carnelian	82-0049	TP (mg/l)				0.019		0.014	0.014	0.018	0.031	0.019	0.020	0.026	0.018	0.023	0.020	0.033	0.019				0.013	0.021	14	
		Lake Grade				A		A	A	A	B	A	A	B	A	B	A	C	A				A		A	14
Big Marine	82-0052	TP (mg/l)				0.019		0.020	0.018	0.019	0.023	0.018	0.016	0.029	0.021	0.020	0.018	0.035	0.024					0.021	13	
		Lake Grade				A		A	A	A	B	A	A	B	A	A	A	C	B						A	13
Carol	82-0017	TP (mg/l)						0.024	0.038	0.043	0.037	0.018	0.024		0.032	0.036	0.043	0.036	0.024					0.032	11	
		Lake Grade						B	C	C	C	A	B			C	C	C	C	B					C	11
Cty Rd. 7 Wetland	82-0301W	TP (mg/l)														0.049	0.093	0.101	0.082					0.081	4	
		Lake Grade															C	D	D	D					D	4
East Boot	82-0034	TP (mg/l)						0.030	0.038	0.038	0.036	0.047	0.034	0.047	0.045	0.038	0.040	0.072	0.056	0.038	0.024	0.032	0.033	0.040	16	
		Lake Grade						B	C	C	C	C	C	C	C	C	C	D	C	C	B	B	C	C	C	16
Fish Lake	82-0064	TP (mg/l)								0.108	0.098	0.118	0.087	0.094	0.098	0.118	0.095	0.129	0.125	0.089	0.074	0.104	0.063	0.100	14	
		Lake Grade								D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	14
German Lake	82-0056	TP (mg/l)												0.032	0.025	0.025	0.028	0.036	0.022					0.028	6	
		Lake Grade													C	B	B	B	C	B					B	6
Jellum's Lake	82-5202	TP (mg/l)					0.090	0.070	0.085	0.082	0.112	0.071	0.082	0.111	0.075	0.112	0.132	0.061	0.076	0.053	0.077	0.091	0.086	0.086	16	
		Lake Grade					D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	D	D	D	D	16
Little Carnelian	82-0014	TP (mg/l)					0.010	0.010	0.011	0.019	0.011	0.015	0.016	0.015	0.013	0.013	0.020	0.018						0.014	12	
		Lake Grade					A	A	A	A	A	A	A	A	A	A	A	A	A						A	12
Long Lake	82-0068	TP (mg/l)							0.099	0.115	0.150	0.059	0.053	0.096	0.087	0.091	0.084	0.064	0.035	0.048	0.073	0.092	0.082	0.082	14	
		Lake Grade								D	D	D	C	C	D	D	D	C	C	C	C	D	D	D	D	14
Loon	82-0015	TP (mg/l)					0.098	0.096	0.117	0.104	0.105	0.077	0.113	0.160	0.140	0.129	0.184	0.171	0.169	0.162	0.086			0.127	15	
		Lake Grade					D	D	D	D	D	D	D	D	F	D	D	F	F	F	F	D			D	15
Loon Wetland	82-0015W	TP (mg/l)														0.066	0.100	0.115	0.138					0.105	4	
		Lake Grade															C	D	D	D					D	4
Louise	82-0025	TP (mg/l)					0.098	0.097	0.077	0.242	0.090	0.102	0.100								0.151	0.180	0.119	0.124	0.125	11
		Lake Grade					D	D	D	F	D	D	D	D							D	F	D	D	D	D
Maple Marsh	82-0038	TP (mg/l)						0.140	0.176	0.189	0.138	0.146												0.158	5	
		Lake Grade						D	F	F	D	D													F	5
Mud	82-0026	TP (mg/l)					0.098	0.100	0.172	0.130	0.264	0.142										0.079	0.138	0.140	8	
		Lake Grade					D	D	F	D	F	D											D	D	D	8
North Twin	82-0018	TP (mg/l)					0.080	0.036	0.089	0.027	0.028	0.032			0.026	0.022	0.026	0.037	0.027					0.039	11	
		Lake Grade					D	C	D	B	B	C				B	B	B	C	B					C	11
Silver	82-0016	TP (mg/l)					0.040	0.049	0.060	0.071	0.055	0.036				0.029	0.036	0.068	0.049	0.041	0.036			0.048	12	
		Lake Grade					C	C	C	D	C	C					B	C	D	C	C	C			C	12
South Twin	82-0019	TP (mg/l)					0.058	0.040	0.089	0.077	0.066	0.070		0.057	0.044	0.064	0.094	0.082	0.080	0.070	0.039	0.075	0.067	0.067	15	
		Lake Grade					C	C	D	D	C	D				C	C	D	D	D	D	C	D	C	C	15
Staples	82-0028	TP (mg/l)						0.038	0.029	0.031	0.042	0.032				0.035	0.020	0.037	0.028					0.032	9	
		Lake Grade						C	B	B	C	C					C	A	C	B					C	9
Turtle	82-0036	TP (mg/l)					0.070	0.076	0.096	0.062	0.074	0.056		0.095										0.076	7	
		Lake Grade					D	D	D	C	D	C				D									D	7
West Boot	82-0044	TP (mg/l)					0.016	0.028	0.039	0.022	0.020	0.020	0.016	0.027	0.020	0.020	0.020	0.020	0.026					0.023	12	
		Lake Grade					A	B	C	A	A	A	A	A	B	A	A	A	B						B	12
205th St. Wetland	82-0062V	TP (mg/l)														0.024	0.026	0.022	0.044					0.029	4	
		Lake Grade															B	B	A	C					B	4
Goose	82-0059	TP (mg/l)															0.070	0.093	0.051	0.049	0.054	0.038	0.054	0.058	7	
		Lake Grade															D	D	C	C	C	C	C	C	C	7
Hay	82-0065	TP (mg/l)									0.143	0.084		0.091	0.087	0.098	0.086	0.092	0.052	0.057	0.042	0.054	0.081	11		
		Lake Grade									D	D		D	D	D	D	D	D	D	C	C	C	D	D	11
Long Lake	82-0030	TP (mg/l)									0.051	0.054	0.048	0.045	0.028	0.044	0.053	0.037	0.035	0.031	0.033	0.035	0.041	0.041	12	
		Lake Grade									C	C	C	C	C	C	C	C	C	B	C	C	C	C	C	12
Sand	82-0067	TP (mg/l)												0.052	0.060	0.032	0.068	0.055	0.032	0.041	0.038	0.040	0.062	0.048	10	
		Lake Grade													C	C	C	D	C	C	C	C	C	C	C	10
Square	82-0046	TP (mg/l)									0.011	0.013	0.018	0.011	0.013	0.012	0.021	0.015					0.014	0.010	0.014	10
		Lake Grade									A	A	A	A	A	A	A	A					A	A	A	A
Terrapin	82-0031	TP (mg/l)														0.024	0.023	0.044	0.027				0.019	0.027	5	
		Lake Grade															B	B	C	B			A		B	5
Clear	82-0045	TP (mg/l)																		0.022	0.017	0.014		0.018	3	
		Lake Grade																			A	A	A		A	3
Mays	82-0033	TP (mg/l)																		0.012	0.018	0.018		0.016	3	
		Lake Grade																			A	A	A		A	3
Twin	82-0048	TP (mg/l)																		0.017	0.017			0.017	2	
		Lake Grade																			A	A			A	2

Lake grade system developed by Dick Osgood formerly of Metropolitan Council (A-F); Records from Metropolitan Council CAMP, MPCA's CLMP, and CMWD

Average Annual (1991-2011) Secchi Disk Transparency and Secchi Disk Transparency Lake Grades

Lake Name	DNR ID#	Parameter	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Eco-Region Value 4.9-10.5 ft Average	# of Years Sampled	
Barker	82-0076	Transparency (ft)							3.9	4.1	5.0	6.5	6.0	4.5	4.9	4.5	4.1	5.3	3.5	2.8	2.3			4.4	13	
		Lake Grade							D	C	C	C	C	C	C	C	C	C	C	D	D	F			C	13
Bass	82-0035	Transparency (ft)	5.3	5.3	4.0	6.3	5.3	6.1	5.1	5.0	5.7	6.8	6.4	7.6	7.2	8.5	7.4	6.9	6.7	7.4	6.9				6.3	19
		Lake Grade	C	C	C	C	C	C	C	C	C	C	C	C	B	B	B	B	C	C	B	C				C
Big Carnelian	82-0049	Transparency (ft)	8.9	9.4	13.0	8.3	8.5	8.1	7.7	11.9	8.9	11.5	12.4	9.8	9.8	12.3	14.2	11.5	14.8	11.6	21.9	11.8			11.3	20
		Lake Grade	B	B	A	B	B	B	B	B	A	B	A	A	B	B	A	A	A	A	A	A	A			A
Big Marine	82-0052	Transparency (ft)	10.0	11.3	11.7	9.2			11.7	13.0	10.6	9.2	12.5	12.5	10.1	10.7	11.2	12.5	9.9	8.6	11.6	11.1	11.7		10.8	20
		Lake Grade	A	A	A	B			A	A	A	B	A	A	A	A	A	A	A	B	A	A	A			A
Carol *	82-0017	Transparency (ft)							4.8	4.3	4.4	3.4	3.8	4.0	3.9	4.0	3.5	3.6	3.4	3.9	3.6	4.0			3.9	14
		Lake Grade							B	B	B	C	C	B	B	B	C	D	D	C	D	C			B	14
Cty Rd. 7 Wetland	82-0301W	Transparency (ft)														6.9	5.1	4.9	5.6						5.6	4
		Lake Grade														C	C	C	C							C
East Boot	82-0034	Transparency (ft)						8.4	13.3	8.7	5.4	6.6	7.0	9.5	7.4	10.2	10.6	7.2	8.1	8.6	8.1	10.4	11.0		8.8	16
		Lake Grade						B	A	B	C	C	C	B	B	A	A	B	B	B	B	A	A			B
Fish	82-0064	Transparency (ft)								1.8	1.7	1.4	3.3	2.5	2.1	2.5	3.4	2.5	3.6	5.3	5.0	2.6	4.4		3.0	14
		Lake Grade								F	F	F	D	D	D	F	D	D	D	C	C	C	D	C		D
German	82-0056	Transparency (ft)												7.6	8.0	8.6	7.7	7.3	5.8	6.0	4.3			6.9	8	
		Lake Grade													B	B	B	B	B	C	C	C			C	8
Jellum's	82-5202	Transparency (ft)						3.8	2.6	2.2	1.8	1.6	2.4	2.6	2.6	4.1	3.4	3.6	5.6	5.4	8.9	3.9	4.6		3.7	16
		Lake Grade						D	D	F	F	F	D	D	D	D	C	D	D	C	C	B	D	C		D
Little Carnelian	82-0014	Transparency (ft)	13.3	18.8	14.0	12.0	13.9	15.9	15.9	19.2	14.8	18.2	19.2	14.7	16.4	19.9	22.3	21.5	23.4	21.0	23.0	18.9			17.8	20
		Lake Grade	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A
Long	82-0068	Transparency (ft)								1.6	1.5	1.2	3.5	3.6	2.0	2.9	3.6	4.5	4.8	7.4	3.8	3.3	3.5		3.4	14
		Lake Grade								F	F	F	D	D	D	F	D	D	C	B	D	D	D		D	14
Loon	82-0015	Transparency (ft)						2.1	1.6	1.5	1.8	2.3	2.3	1.8	1.4	1.8	2.4	1.5	1.4	0.9	1.8	1.2			1.7	15
		Lake Grade						F	F	F	F	F	D	F	F	F	D	F	F	F	F	F			F	15
Loon Wetland	82-0015W	Transparency (ft)														4.9	3.5	4.5	3.1						4.0	4
		Lake Grade															D	C	D							C
Louise	82-0025	Transparency (ft)						7.8	6.1	5.1	4.0	6.3	3.3	5.3	7.9	7.1	3.1	2.9	2.3	2.5	4.2	2.5	6.6		4.8	16
		Lake Grade						B	C	C	C	C	C	C	B	C	D	D	D	D	C	D	C			C
Maple Marsh	82-0038	Transparency (ft)							3.1	1.6	3.3	3.2	3.3	5.3	4.1	4.3	3.6	2.9	3.8						3.5	11
		Lake Grade							D	F	D	D	D	C	C	C	D	D	D						D	11
Mud*	82-0026	Transparency (ft)					1.5	1.5	1.8	1.5	1.3	0.8	1.4	2.7	4.1	4.1	2.9	2.6	2.9			0.7	1.5		2.1	15
		Lake Grade					F	F	F	F	F	F	F	D	C	C	D	D	D			C	F		F	15
North Twin*	82-0018	Transparency (ft)						4.6	5.2	3.9	4.2	3.8	4.5	4.3	4.4	4.1	3.9	3.9	3.6	3.5	3.0	3.4			4.0	15
		Lake Grade						B	B	C	B	C	B	B	B	B	C	D	B	B	B	B			B	15
Silver	82-0016	Transparency (ft)						6.2	3.4	3.9	3.2	5.4	6.8	6.7	8.8	7.7	7.4	6.2	5.8	6.9	5.4	5.4			5.9	15
		Lake Grade						C	D	D	D	C	C	C	B	B	B	C	C	C	C	C			C	15
South Twin	82-0019	Transparency (ft)						3.1	2.8	2.2	2.1	3.3	2.0	3.1	7.1	6.8	4.6	3.3	2.8	3.0	4.5	7.5			3.9	15
		Lake Grade						D	D	F	F	D	F	D	C	C	C	D	D	D	C	B			D	15
Staples	82-0028	Transparency (ft)						8.3	9.8	8.7	8.7	8.8	8.9	7.1	8.6	9.6	9.8	9.4	8.2	8.2			5.8		8.6	14
		Lake Grade						B	B	B	B	B	B	B	B	B	B	B	B	B			C			B
Turtle*	82-0036	Transparency (ft)	1.0	2.0	3.6	4.8	3.7	3.6	2.9	3.4	4.4	5.3	5.3	4.9	5.0	4.4	4.3	4.0	9.4	4.2	3.9	5.0			4.3	20
		Lake Grade	F	F	D	C	D	D	D	D	C	C	C	C	C	C	C	C	B	C	C	C			C	20
West Boot	82-0044	Transparency (ft)						8.2	6.9	8.3	10.1	10.4	12.5	10.6	10.9	14.1	14.9	12.3	12.0	15.0	12.5	14.1			11.5	15
		Lake Grade						B	C	B	A	A	A	A	A	A	A	A	A	A	A	A			A	15
205th St. Wetland	82-0062W	Transparency (ft)													10.1	9.5	9.7	7.5							9.2	4
		Lake Grade														A	B	B	B							B
Goose	82-0059	Transparency (ft)														5.7	4.4	3.6	5.3	4.8	5.1	5.2			4.9	7
		Lake Grade															C	C	D	D	C	C	C			C
Hay*	82-0065	Transparency (ft)							2.2	2.6				4.7	3.5	2.7	5.5	4.5	6.0	5.6	5.2	5.4			4.4	11
		Lake Grade							F	D					C	D	D	C	C	B	B	C			C	11
Long	82-0030	Transparency (ft)							8.0	7.0	6.7	7.5	8.9	8.0	8.5	7.5	7.5	7.6	9.0	9.3					7.9	12
		Lake Grade							B	C	C	B	B	B	B	B	B	B	B	B	B	B			B	12
Sand	82-0067	Transparency (ft)												5.8	4.1	6.5	4.1	5.2	8.0	6.0	9.5	5.5	6.3		6.1	10
		Lake Grade													C	C	C	C	B	B	B	C	C		C	10
Square	82-0046	Transparency (ft)							19.5	19.8	18.2	18.0	17.1	16.2	16.0	17.8	16.0	21.6	16.6	17.7	17.9				17.9	12
		Lake Grade							A	A	A	A	A	A	A	A	A	A	A	A	A	A			A	12
Terrapin	82-0031	Transparency (ft)												10.5	9.2	11.9	9.0	10.8	9.6	10.5	13.1			10.6	8	
		Lake Grade													A	B	A	B	B	A	A	A			A	8
Clear	82-0045	Transparency (ft)																	18.6	19.7	18.8	19.0			19.0	4
		Lake Grade																		A	A	A	A			A
Mays	82-0033	Transparency (ft)																	17.9	19.0	20.3	21.0			19.6	4
		Lake Grade																		A	A	A	A			A
Twin	82-0048	Transparency (ft)																		15.2	14.4				14.7	4
		Lake Grade																		A	A	A	A			A

* Lake grade adjusted for shallow lake

Lake grade system developed by Dick Osgood formerly of Metropolitan Council (A-F); Records from Metropolitan Council CAMP, MPCA's CLMP, and CMWD

Average Annual (1990-2011) Combined Lake Grades

Lake Name	DNR ID #	Parameter	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	1990 -2011 Average	# of Years Sampled					
Barker	82-0076	CL-e								C	C	D	C	C							D				C-	6					
		TP									C	D	D	C	D							D				D+	6				
		SD									D	C	C	C	C	C	C	C	C	C	D	D	F			C-	13				
		Average									C-	C-	D+	C	C-	C	C	C	C	C	D	D	F			C-					
Bass	82-0035	CL-e							C	C	B	B	B	B		B	B	B	B	B						B	11				
		TP							C	C	C	C	C	C	C		C	B	C	C	C					C	11				
		SD		C	C	C	C	C	C	C	C	C	C	C	C	B	B	B	B	C	C	C	B	C			C+	19			
		Average		C	C	C	C	C	C	C	C	C+	C+	C+	C+	B	B-	B	B-	C+	C+	C+	B	C			C+				
Big Carnelian	82-0049	CL-e					A		A	A	A	A	A	A	A	A	A	A	A	A			A			A	14				
		TP					A		A	A	A	B	A	A	B	A	B	A	A	C	A			A			A-	14			
		SD		B	B	A	B	B	B	A	B	A	A	A	B	B	A	A	A	A	A	A	A	A	A			A-	20		
		Average		B	B	A	A-	B	A-	A-	A-	A	B+	A	A	B+	A-	A-	A	A	B+	A	A	A	A			A-			
Big Marine	82-0052	CL-e					A		B	A	A	A	A	A	A	A	A	A	C	B						A-	13				
		TP					A		A	A	A	B	A	A	B	A	A	A	A	C	B						A-	13			
		SD	C	A	A	A	B		A	A	A	B	A	A	A	A	A	A	A	A	B	A	A	A			A	20			
		Average	C	A	A	A	A-		A-	A	A	B+	A	A	A	A-	A	A	A	B-	B	A	A	A			A-				
Carol *	82-0017	CL-e							B	A	A	A	A	A		B	B	B	A	A						A-	11				
		TP							B	C	C	C	A	B		C	C	C	C	B						C+	11				
		SD							B	B	B	C	C	B	B	B	B	C	D	D	C	D	C				C	14			
		Average							B	B	B	B-	B+	B+	B	B-	B-	C+	C	C+	B	D	C				B-				
Cty Rd. 7 Wetland	82-0301W	CL-e															A	C	B	C						B	4				
		TP															C	D	D	D							D+	4			
		SD															C	C	C	C							C	4			
		Average															B-	C-	C	C-							C				
East Boot	82-0034	CL-e							B	B	B	C	C	B	C	C	B	B	C	C	B	A	A	A		B-	16				
		TP							B	C	C	C	C	C	C	C	C	C	D	C	C	B	B	C		C	16				
		SD							B	A	B	C	C	C	B	B	A	A	B	B	B	B	A	A		B	16				
		Average							B	B	B-	C	C	C+	C+	C+	B	B	C	C+	B-	B+	A-	B+			B-				
Fish Lake	82-0064	CL-e															F	F	F	D	D	C	C	C		D	14				
		TP															D	D	D	D	D	D	D	D	C	D	D	14			
		SD															F	F	F	D	D	F	D	D	C	C	D	14			
		Average															F+	F+	F+	D-	D	D-	D-	D-	D+	D	D	C-	C-	D+	C
German Lake	82-0056	CL-e														A	A	A	A	B	A					A	6				
		TP														C	B	B	B	C	B						B-	6			
		SD														B	B	B	B	B	C	C	C				B-	8			
		Average														B	B+	B+	B+	B-	B	C	C				B				
Jellum's Lake	82-5202	CL-e							F	D	D	D	F	F	F	F	C	D	C	C	C	A	C	C		D	16				
		TP							D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	D	D		D	16			
		SD							D	D	F	F	F	D	D	D	D	C	D	C	C	F	B	D	C	D	D	16			
		Average							D-	D	D-	D-	F+	D-	D-	D-	C-	D	D+	C	C-	C+	D+	C-			D				
Little Carnelian	82-0014	CL-e							A	A	A	A	A	A	A	A	A	A	A	A							A	12			
		TP							A	A	A	A	A	A	A	A	A	A	A	A							A	12			
		SD		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A	20		
		Average		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A			
Long Lake	82-0068	CL-e															A	D	F	D	C	D	C	C		C	14				
		TP															D	D	D	C	C	D	D	D	C	C	D	D	D+	14	
		SD															F	F	F	D	D	F	D	D	C	C	B	D	D	D	14
		Average															C-	D-	F+	D+	C-	D-	D	D+	C	C	C+	C-	D+	D+	D+

*Lake grade adjusted for shallow lake
 Lake grade system developed by Dick Osgood formerly of Metropolitan Council (A-F); Records from Metropolitan Council CAMP, MPCA's CLMP, and CMWD

Average Annual (1990-2011) Combined Lake Grades (continued)

Lake Name	DNR ID #	Parameter	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	1990 -2011 Average	# of Years Sampled		
Loon	82-0015	CL-a							F	F	F	F	D	D	D	F	F	F	F	F	F	F	F	F	F	F		15
		TP							D	D	D	D	D	D	D	D	F	D	D	F	F	F	F	D			D-	15
		SD							F	F	F	F	F	D	F	F	F	D	F	F	F	F	F	F			F	15
		Average							F+	F+	F+	F+	D-	D	D-	F	F+	D-	F	F	F	F	F	F			F+	
Loon Wetland	82-0015W	CL-a																C	D	C	C					C	4	
		TP																C	D	D	D					D+	4	
		SD																C	D	C	D					C-	4	
		Average																C	D	C-	D+					C-		
Louise	82-0025	CL-a							D	D	B	C	B	C	C								C	C	C	C	11	
		TP							D	D	D	F	D	D	D									D	D	D	D	11
		SD							B	C	C	C	C	D	C	B	C	D	D	D	D	D	C	D	C	C-	C-	16
		Average							C-	D+	C	D+	C	D+	C-	B	C	D	D	D	D	D	C	D+	C-	C-	C-	
Maple Marsh	82-0038	CL-a							F	F	C	C	D													D	5	
		TP							D	F	F	F	D	D												D-	5	
		SD							D	F	D	D	D	C	C	C	C	D	D	D	D					D	11	
		Average							D-	F	D	D+	D	C	C	C	D	D	D							D		
Mud	82-0026	CL-a							D	F	F	F	F	F									C	F		F+	8	
		TP							D	D	F	D	F	D										D	D	D-	8	
		SD						F	F	F	F	F	F	F	D	C	C	C	D	D	D			C	F	D-	15	
		Average						F	D-	F+	F	F+	F	F+	D	C	C	C	D	D	D			C-	F+	D		
North Twin *	82-0018	CL-a							C	B	B	A	A	B			A	A	A	A	A					A-	11	
		TP							D	C	D	B	B	C			B	B	B	C	B					C+	11	
		SD							B	B	C	B	C	B	B	B	B	B	C	D	B	B	B	B		B-	15	
		Average							C	B-	C	B+	B	B-	B	B+	B+	B	C+	B+	B	B	B	B		B		
Silver	82-0016	CL-a							C	C	C	C	C	B			A	A	C	C	C	A				B-	12	
		TP							C	C	C	D	C	C				B	C	D	C	C	C			C	12	
		SD							C	D	D	D	C	C	C	B	B	B	C	C	C	C	C	C		C	15	
		Average							C	C-	C-	D+	C	C+	C	B	B+	B	C-	C	C	C	B-	C		C		
South Twin	82-0019	CL-a							D	D	D	F	C	D			B	B	C	C	C	C	A	C		C	15	
		TP							C	C	D	D	C	D			C	C	C	D	D	D	D	C	D	C-	15	
		SD							D	D	F	F	D	F	D	C	C	C	D	D	D	D	C	B	C	D	15	
		Average							D+	D+	D-	F+	C-	D-	D	C+	C+	C	D+	D+	D+	C-	B	C-		D+		
Staples	82-0028	CL-a								B	A	A	C	B			A	A	A	B						B+	9	
		TP								C	B	B	C	C			C	A	C	B						B-	9	
		SD								B	B	B	B	B	B	C	B	B	B	B	B	B	B			B	14	
		Average								B-	B+	B+	C+	B-	B	C	B	A-	B	B	B	B				B		
Turtle	82-0036	CL-a							C	C	C	B	B	B			B									B-	7	
		TP							D	D	D	C	D	C			D									D+	7	
		SD		F	F	D	C	D	D	D	D	C	C	C	C	C	C	C	C	C	B	C	C	C		C-	20	
		Average		F	F	D	C	D	D+	D+	D+	C+	C	C+	C	C	C	C	C	C	B	C	C	C		C-		
West Boot	82-0044	CL-a							B	C	A	A	A	A	A	A	A	A	A	A						A	12	
		TP							A	B	C	A	A	A	A	B	A	A	A	B						A-	12	
		SD							B	C	B	A	A	A	A	A	A	A	A	A	A	A	A	A		A-	15	
		Average							B+	C+	B	A	A	A	A	A	A-	A	A	A	A-	A	A	A		A-		
205th St. Wetland	82-0062W	CL-a																A	A	A	B					A	4	
		TP																B	B	A	C					B	4	
		SD																A	B	B	B					B+	4	
		Average																A-	B+	A-	B-					B+		

*Lake grade adjusted for shallow lake
 Lake grade system developed by Dick Osgood formerly of Metropolitan Council (A-F); Records from Metropolitan Council CAMP, MPCA's CLMP, and CMWD

Average Annual (1990-2011) Combined Lake Grades (continued)

Lake Name	DNR ID #	Parameter	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	1990 -2011 Average	# of Years Sampled		
Goose	82-0059	CL-a																D	C	D	D	C	C	C	C-	7		
		TP																	D	D	C	C	C	C	C	C-	7	
		SD																	C	C	D	D	C	C	C	C-	7	
		Average																	D+	C-	D+	D+	C	C	C	C-		
Hay	82-0065	CL-a											F	F		C	D	F	C	C	C	C	B	C	D+	11		
		TP											D	D		D	D	D	D	D	D	D	C	C	C	D	11	
		SD											F	D		C	D	D	C	C	C	C	B	B	B	C-	11	
		Average											F+	D-		C-	D	D-	C-	C-	C-	C-	C+	B-	C+	D+		
Long Lake	82-0030	CL-a											B	C	B	A	A	B	B	B	B	A	B	A	B	12		
		TP											C	C	C	C	B	C	C	C	C	C	B	C	C	C	12	
		SD											B	C	C	B	B	B	B	B	B	B	B	B	B	B	12	
		Average											B-	C	C+	B	B+	B-	B-	B-	B-	B+	B-	C	B-			
Sand	82-0067	CL-a													B	C	C	D	B	B	B	B	B	D	B-	10		
		TP														C	C	C	D	C	C	C	C	C	C	C	10	
		SD														C	C	C	C	C	B	B	B	C	C	C+	10	
		Average														C+	C	C	D+	C+	B-	B-	B-	C+	C-	C+		
Square	82-0046	CL-a											A	A	A	A	A	A	A	A			A	A	A	10		
		TP											A	A	A	A	A	A	A	A			A	A	A	A	10	
		SD											A	A	A	A	A	A	A	A	A	A	A	A	A	A	12	
		Average											A	A	A	A	A	A	A	A	A	A	A	A	A	A		
Terrapin	82-0031	CL-a															A	A	A	A			A		A	5		
		TP																B	B	C	B			A		B	5	
		SD																A	B	A	B	B	B	A	A	B+	8	
		Average																A-	B+	B+	B+	B	B	A	A	B+		
Clear	82-0045	CL-a																				A	A	A		A	3	
		TP																					A	A	A		A	3
		SD																					A	A	A	A	A	4
		Average																					A	A	A	A	A	
Mays	82-0033	CL-a																				A	A	A		A	3	
		TP																					A	A	A		A	3
		SD																					A	A	A	A	A	4
		Average																					A	A	A	A	A	
Twin	82-0048	CL-a																				A	A			A	2	
		TP																					A	A			A	2
		SD																					A	A	A	A	A	4
		Average																					A	A	A	A	A	

*Lake grade adjusted for shallow lake

Lake grade system developed by Dick Osgood formerly of Metropolitan Council (A-F); Records from Metropolitan Council CAMP, MPCA's CLMP, and CMWD