

LAKE: COBBOSSECONTEE (LT) (VLMP CWD )  
 TOWN: WINTHROP  
 COUNTY: KENNEBEC

MIDAS: 8065  
 TRUE BASIN: 1  
 SAMPLE STATION: 1

WHOLE LAKE INFORMATION

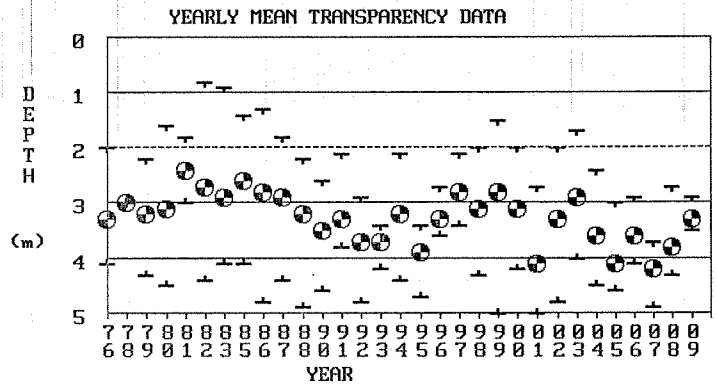
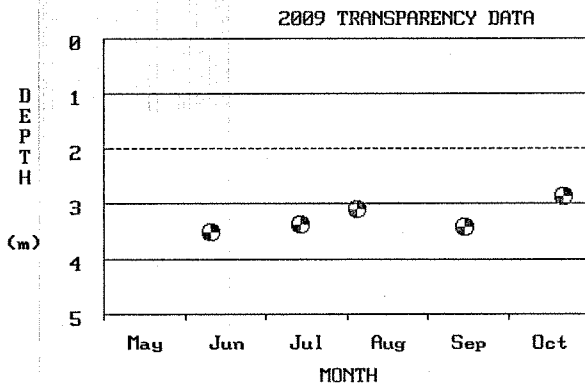
MAX. DEPTH: 10 m. (33 ft.)  
 MEAN DEPTH: 5 m. (17 ft.)  
 DELORME ATLAS #: 12  
 USGS QUAD: WINTHROP  
 IFW REGION B: Belgrade Lakes (Augusta)  
 IFW FISH. MANAGMENT: Warmwater

TRUE BASIN CHARACTERISTICS

SURFACE AREA: 32.0 ha. (79.1 a.)  
 FLUSHING RATE: 4.62 flushes/yr.  
 VOLUME: 1102867.0 cu. m. (895 ac.-ft.)  
 DIRECT DRAINAGE AREA: 6.85 sq. km. (2.64 sq. mi.)

PLEASE NOTE THE FOLLOWING: The SAMPLE STATION # refers to the location sampled. The term TRUE BASIN is used to define areas within a lake that are separated by shallow reefs or shoals and therefore function as separate lakes. There are approximately 50 lakes in the state that have more than 1 True Basin. True Basin Characteristics are now being included in the first section of these reports to enable users of the Phosphorous Loading Methodology to better evaluate the data. If there is no data for a particular True Basin, True Basin Characteristics must be obtained from the DEP. COBBOSSECONTEE (LT) has 1 True Basin(s).

SECCHI DISK TRANSPARENCY GRAPHS:



Note: 2009 graphs may indicate multiple readings taken on a given day.

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

[\* indicates that Secchi disk was visible at bottom of lake (or one reading used in calculation was visible)].

YEAR	MEAN COLOR	MEAN pH	MEAN ALK	MEAN COND.	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES			
	(SPU)		(mg/l)	(us	EPI	SURF	BOT.	PRO.	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	C	G	SEC	CHL
				/cm)	CORE	GRAB	GRAB	GRAB											
1976	-	-	-	-	51	-	-	-	2.0	3.3	4.1	6	2.6	5.2	7.7	87	-	71	-
1978	-	-	-	-	28	-	-	-	3.0	3.0	3.0	2	-	-	-	-	-	-	-
1979	-	7.07	-	-	22	-	-	33	2.2	3.2	4.3	6	3.1	8.2	17.4	-	75	73	67
1980	-	-	-	-	46	-	-	95	1.6	3.1	4.5	5	5.9	20.0	59.7	-	105	75	92
1981	-	-	-	-	-	-	-	75	1.8	2.4	3.0	5	8.4	14.0	23.9	-	98	89	82
1982	-	-	-	-	51	-	-	45	0.8	2.7	4.4	6	5.4	21.6	45.6	-	84	83	94
1983	35	6.80	19.0	80	28	-	-	-	0.9	2.9	4.1	5	4.0	16.0	48.8	-	-	78	86
1985	-	8.60	-	62	20	-	-	-	1.4	2.6	4.1	5	-	-	-	-	-	85	-
1986	-	7.19	-	-	27	-	-	-	1.3	2.8	4.8	5	-	-	-	-	-	80	-
1987	-	7.20	17.5	-	38	-	-	-	1.8	2.9	4.4	5	-	-	-	-	-	78	-
1988	-	6.80	13.0	-	-	-	-	-	2.2	3.2	4.9	6	-	-	-	-	-	73	-
1990	-	6.95	23.0	-	-	-	-	-	2.6	3.5	4.6	3	-	-	-	-	-	-	-
1991	-	6.96	16.8	-	-	-	-	145	2.1	3.3	3.8	5	-	-	-	-	-	71	-
1992	-	7.08	19.4	-	-	-	-	-	2.9	3.7	4.8	5	-	-	-	-	-	65	-
1993	-	7.01	19.9	-	-	-	-	127	3.4	3.7	4.2	5	1.1	5.0	10.0	-	114	65	53

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YEAR	MEAN COLOR (SPU)	MEAN pH	MEAN ALK (mg/l)	MEAN COND. (uS /cm)	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES			
					EPI CORE	SURF GRAB	BOT. GRAB	PRO. GRAB	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	EPI C	PHOS G	SEC	CHL
1994	25	6.91	19.0	-	-	-	-	130	2.1	3.2	4.4	5	9.5	15.9	28.6	-	115	73	85
1995	-	6.80	18.0	-	-	-	-	91	3.4	3.9	4.7	5	-	-	-	-	104	62	-
1996	-	-	-	-	-	-	-	76	2.7	3.3	3.6	5	1.6	11.6	18.0	-	99	71	76
1997	-	6.80	19.9	-	-	-	-	58	2.1	2.8	3.4	5	7.5	11.0	14.5	-	91	80	75
1998	-	-	-	-	-	-	-	103	2.0	3.1	4.3	6	2.7	22.8	53.6	-	108	75	96
1999	-	-	-	-	-	-	-	96	1.5	2.8	5.0	6	5.3	23.7	58.1	-	106	80	97
2000	-	6.99	16.2	-	-	16	-	99	2.0	3.1	4.2	6	5.1	10.6	15.0	-	107	75	74
2001	30	7.01	16.6	-	-	-	-	58	2.7	4.1	5.0	6	3.9	8.6	16.6	-	91	59	68
2002	-	6.97	16.4	-	25	-	88	63	2.0	3.3	4.8	7	2.5	9.9	15.6	67	93	71	72
2003	24	7.14	20.0	-	140	-	-	85	1.7	2.9	4.0	6	8.9	13.9	27.5	-	102	78	81
2004	15	7.03	16.5	-	-	-	-	93	2.4	3.6	4.5	4	5.2	9.2	14.2	-	-	-	-
2005	-	-	17.3	-	-	-	-	87	3.0	4.1	4.6	5	6.6	8.1	12.1	-	103	59	66
2006	35	6.79	22.0	74	-	-	-	160	2.9	3.6	4.1	4	4.0	7.0	10.0	-	-	-	-
2007	-	7.13	20.1	-	-	-	-	88	3.7	4.2	4.9	4	3.5	6.9	11.0	-	-	-	-
2008	-	6.87	20.0	-	-	-	-	50	2.7	3.8	4.3	6	3.6	9.7	21.0	-	87	63	71
2009	-	-	23.8	-	-	-	-	44	2.9	3.3	3.5	5	6.8	12.0	24.0	-	83	71	77
SUMMARY:	27	6.98	18.7	72	43	16	88	86	0.8	3.3	5.0	31	1.1	12.3	59.7	77	98	73	78

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

DEPTH m	SAMPLE DATE															
	08/02/05		09/06/05		08/30/06		08/28/07		08/22/08		09/29/08		08/04/09		09/14/09	
	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
0.0	25.2	8.2	23.0	8.3	21.4	8.2	23.8	8.8	23.3	9.6	17.7	9.1	24.9	7.6	20.0	8.4
1.0	24.7	8.1	23.0	8.3	20.3	8.3	23.2	8.9	22.3	10.0	17.6	9.1	23.9	7.3	19.9	8.2
2.0	24.6	8.3	22.8	8.3	20.1	8.3	23.0	8.9	22.1	9.9	17.1	8.5	22.6	4.5	19.8	8.2
3.0	22.0	8.3	22.8	8.4	20.0	8.1	22.0	9.5	21.3	8.1	16.9	7.9	20.2	1.8	19.8	8.2
4.0	15.1	2.5	21.1	4.4	19.5	7.3	20.5	8.4	19.0	0.5	16.8	6.2	17.8	1.4	16.8	0.4
5.0	12.0	1.4	15.1	9.0	15.3	2.1	16.5	5.1	14.7	0.3	16.2	5.4	15.5	0.2	14.2	0.3
6.0	10.5	0.4	11.4	0.6	12.7	0.3	11.2	0.4	10.6	0.3	13.4	0.4	12.7	0.2	11.9	0.2
7.0	9.8	0.4	10.2	0.5	11.3	0.3	9.3	0.3	8.5	0.3	9.4	0.3	10.1	0.2	10.1	0.2
8.0	9.4	0.4	9.9	0.5	10.8	0.3	8.5	0.2	7.6	0.3	8.2	0.3	8.9	0.2	9.2	0.2
9.0	9.1	0.4	9.4	0.5	10.6	0.3	8.2	0.2	7.3	0.3	7.8	0.2	8.2	0.2	9.0	0.2
10.0	-	-	-	-	-	-	-	-	-	-	-	-	8.0	0.2	8.9	0.2
11.0	-	-	-	-	-	-	-	-	-	-	-	-	7.9	0.2	-	-

## WATER QUALITY SUMMARY

### **Little Cobbosseecontee (Cobbossee) Lake, Winthrop**

Midas: 8065, Basin: Primary 01

The Cobbossee Watershed District (CWD), the Maine Department of Environmental Protection (Maine DEP) and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of Little Cobbossee Lake data to evaluate present water quality, track algal blooms, and determine historical water quality trends. This dataset does not include bacteria, mercury, or nutrients other than total phosphorus.

Water quality monitoring data for Little Cobbossee Lake has been collected since 1976. During this period, 18 years of basic chemical information was collected in addition to 26 years of Secchi Disk Transparency (SDT) measures. In summary, the water quality of Little Cobbossee Lake is considered to be very poor based on measures of SDT, total phosphorus (TP), and chlorophyll-a (Chla). The potential for nuisance summertime algal blooms on Little Cobbossee Lake is high.

Water Quality Measures: Little Cobbossee Lake is a slightly colored lake (average color 26 SPU) with an average SDT of 3.2 meters (10.5 feet). The range of upper water column TP for Little Cobbossee Lake is 20 - 51 parts per billion (ppb) with an average of 34 ppb, while Chla ranges from 1.1- 59.7 ppb with an average of 13.4 ppb. Recent dissolved oxygen (DO) profiles show high DO depletion in deep areas of the lake. The potential for TP to leave the bottom sediments and become available to algae in the water column (internal loading) is high. Oxygen levels below 5 parts per million stress certain coldwater fish, and a persistent loss of oxygen may eliminate or reduce habitat for sensitive coldwater species (e.g., lake trout/togue and landlocked Atlantic salmon).

Comments: Little Cobbossee Lake is actively managed and routinely monitored directly by the Cobbossee Watershed District and is on the state listing of Maine lakes in non-attainment of water quality standards due to excessive total phosphorus watershed loads.

Nutrient Management : A Little Cobbossee Lake combined Phosphorus Control Action Plan (PCAP) and Total Maximum Daily (Annual Phosphorus) Load (TMDL) report was prepared by Maine DEP during 2003-05, under contract with CWD - with assistance from the Maine Association of Conservation Districts (MACD) project team. Following lake stakeholder and public reviews, this document was approved by US-EPA (New England) on March 16, 2005. This final report, along with the EPA-New England review summary and letter of approval, can be found on the Maine DEP webpage at: <http://www.maine.gov/dep/blwq/docmonitoring/tmdl2.htm>.

Further Information: See Maine DEP Lake Water Quality Monitoring Report for measured variable explanations. Additional lake information can be obtained by contacting CWD at 207-377-2234, Maine DEP at 207-287-3901 or VLMP at 207-783-7733 or on the Internet at: <http://www.pearl.maine.edu> and/or <http://www.maine.gov/dep/blwq/lake.htm>.

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