

LAKE: CRYSTAL (BEALS) P (VLMP 17)
 TOWN: TURNER
 COUNTY: ANDROSCOGGIN

MIDAS: 3626
 TRUE BASIN: 1
 SAMPLE STATION: 1

WHOLE LAKE INFORMATION

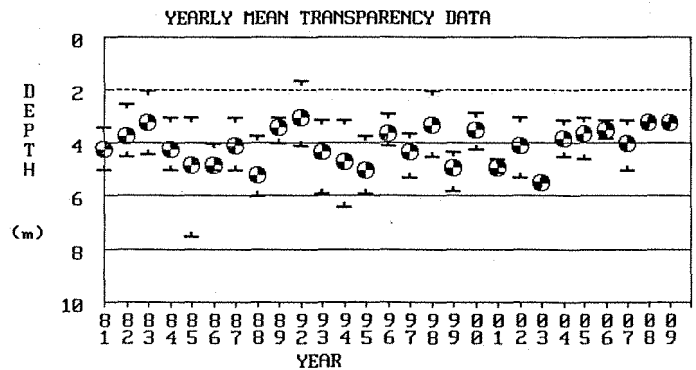
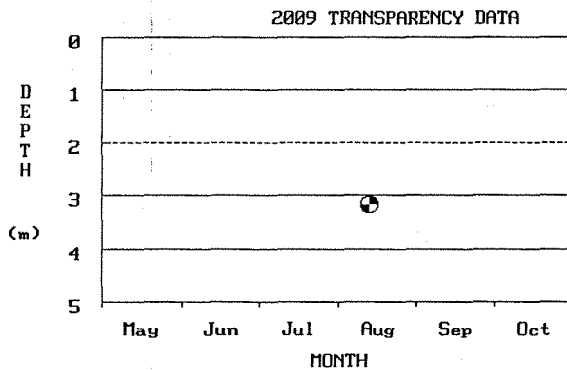
MAX. DEPTH: 12 m. (39 ft.)
 MEAN DEPTH: 5 m. (16 ft.)
 DELORME ATLAS #: 11
 USGS QUAD: BUCKFIELD
 IFW REGION B: Belgrade Lakes (Augusta)
 IFW FISH. MANAGMENT: Warmwater & Coldwater

TRUE BASIN CHARACTERISTICS

SURFACE AREA: 14.0 ha. (34.6 a.)
 FLUSHING RATE: 1.10 flushes/yr.
 VOLUME: 641131.6 cu. m. (520 ac.-ft.)
 DIRECT DRAINAGE AREA: 1.15 sq. km. (0.44 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. CRYSTAL (BEALS) P 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.				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES				
	(SPU)		(mg/l)	TOTAL PHOS.		MEANS (ppb)		MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	EPI PHOS		SEC	CHL	
				EPI	SURF	BOT.	PRO.								C	G			
1981	15	7.60	29.0	92	27	-	17	-	3.4	4.2	5.0	3	3.5	3.5	3.5	-	-	-	-
1982	25	7.50	23.0	95	10	-	60	-	2.5	3.7	4.5	4	4.5	7.8	14.4	-	-	-	65
1983	-	-	-	-	-	-	-	-	2.0	3.2	4.4	4	-	-	-	-	-	-	-
1984	45	7.40	18.0	-	14	-	35	-	3.0	4.2	5.0	5	10.2	10.3	10.3	-	-	-	-
1985	-	-	-	-	-	-	-	-	3.0	4.8	7.5	6	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-	4.0	4.8	5.0	5	-	-	-	-	-	-	-
1987	20	7.80	27.0	70	14	-	22	-	3.0	4.1	5.0	4	-	-	-	-	-	-	-
1988	-	-	-	-	-	-	-	-	3.7	5.2	6.0	4	-	-	-	-	-	-	-
1989	-	-	-	-	-	-	-	-	3.0	3.4	4.0	4	-	-	-	-	-	-	-
1992	-	-	-	-	-	-	-	-	1.6	3.0	4.1	7	-	-	-	-	-	-	-
1993	-	-	-	-	7	-	51	-	3.1	4.3	5.9	6	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	3.1	4.7	6.4	5	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	3.7	5.0	5.9	6	-	-	-	-	-	-	-
1996	40	7.58	18.8	-	22	-	86	56	2.9	3.6	4.1	4	5.3	5.3	5.3	-	-	-	-
1997	19	7.20	25.0	-	9	-	230	-	3.6	4.3	5.3	5	2.2	2.2	2.2	-	-	-	-

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SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

YEAR	MEAN	MEAN	MEAN	MEAN	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES			
	COLOR	pH	ALK	COND.	EPI	SURF	BOT.	PRO.	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	EPI PHOS			
	(SPU)		(mg/l)	(uS /cm)	CORE	GRAB	GRAB	GRAB								C	G	SEC	CHL
1998	50	7.17	16.5	70	18	22	63	21	2.0	3.3	4.5	5	11.6	15.3	19.0	-	-	-	-
1999	-	-	-	-	-	-	-	-	4.3	4.9	5.8	4	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	2.8	3.5	4.2	3	-	-	-	-	-	-	-
2001	14	7.20	23.0	-	14	-	59	-	4.6	4.9	5.1	3	3.3	3.3	3.3	-	-	-	-
2002	-	7.20	25.5	-	8	-	37	-	3.0	4.1	5.3	3	3.9	3.9	3.9	-	-	-	-
2003	9	7.30	28.0	-	10	-	54	-	5.5	5.5	5.5	1	2.4	2.4	2.4	-	-	-	-
2004	25	7.40	25.5	-	9	-	170	-	3.1	3.8	4.5	5	4.1	4.1	4.1	-	-	-	-
2005	33	-	-	92	13	-	101	-	3.0	3.6	4.6	3	5.1	5.1	5.1	-	-	-	-
2006	37	7.76	22.0	-	12	-	120	-	3.1	3.5	3.8	2	15.0	15.0	15.0	-	-	-	-
2007	23	7.00	24.0	-	17	-	83	-	3.1	4.0	5.0	5	4.0	4.0	4.0	-	-	-	-
2008	60	7.00	21.0	-	19	-	170	-	3.2	3.2	3.2	1	7.5	7.5	7.5	-	-	-	-
2009	54	-	20.5	-	16	-	100	11	3.2	3.2	3.2	1	7.8	7.8	7.8	-	-	-	-
SUMMARY:	31	7.30	23.1	84	14	22	86	29	1.6	4.1	7.5	27	2.2	6.5	19.0	-	-	-	65

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

DEPTH	SAMPLE DATE																	
	08/29/02		08/21/03		08/09/04		08/18/05		08/16/06		08/14/07		08/05/08		08/12/09			
	m	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	
0.0	23.0	8.6	27.1	8.0	23.4	8.3	23.8	8.4	22.4	8.7	23.6	8.5	25.1	8.4	25.5	9.0		
1.0	22.9	8.6	26.2	8.1	23.0	8.3	23.4	8.3	22.3	8.7	23.6	8.5	24.3	8.5	24.0	8.4		
2.0	22.5	8.4	25.6	8.1	22.6	8.4	23.0	8.2	21.6	9.2	23.1	8.5	23.2	7.7	19.5	7.0		
3.0	22.2	8.7	23.4	9.8	21.4	10.8	15.6	12.0	17.6	4.3	20.2	11.7	20.6	8.7	14.3	0.1		
4.0	16.1	6.7	17.2	13.3	15.1	13.7	9.8	1.5	12.1	0.8	12.8	3.3	14.0	12.5	10.5	0.0		
5.0	11.5	1.2	11.6	9.7	9.8	1.3	8.0	1.4	9.6	0.9	9.1	0.1	10.0	1.5	8.6	0.0		
6.0	8.8	0.3	8.4	1.5	7.9	1.3	6.9	1.1	8.3	0.9	7.3	0.0	8.1	0.1	7.4	0.0		
7.0	8.0	0.1	7.0	1.2	7.0	1.3	6.4	1.1	7.4	0.9	6.4	0.0	6.6	0.0	6.8	0.0		
8.0	7.2	0.1	6.3	1.0	6.4	1.2	6.0	1.1	6.9	0.9	5.9	0.0	6.1	0.0	6.4	0.0		
9.0	6.7	0.1	5.8	1.0	5.9	1.2	5.7	1.1	6.6	0.9	5.6	0.0	5.7	0.0	5.9	0.0		
10.0	-	-	5.6	0.9	5.6	1.3	5.5	1.1	6.5	0.9	5.5	0.0	5.5	0.0	5.7	0.0		
11.0	-	-	5.5	0.9	5.5	1.2	5.4	1.1	-	-	5.4	0.0	5.5	0.0	5.6	0.0		
12.0	-	-	-	-	-	-	5.3	1.1	-	-	-	-	5.4	0.0	-	-		

WATER QUALITY SUMMARY

CRYSTAL or BEALS POND, TURNER

Midas: 3626, Basin 1, Sample Station 1

The Maine Department of Environmental Protection (ME-DEP) and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of lake data to evaluate present water quality, track algae blooms, and determine water quality trends. This dataset does not include bacteria, mercury, or nutrients other than phosphorus.

Water quality monitoring datasets for Crystal Pond have been collected since 1981. During this period, 12 years of basic chemical information was collected, in addition to Secchi Disk Transparencies (SDT). In summary, the water quality of Crystal Pond is considered to be slightly below average, based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance alga blooms on Crystal Pond is moderate to high.

Water Quality Measures: Crystal Pond is a slightly colored lake (average color 27 SPU) with an average SDT of 4.2m (13.6ft). The range of water column TP for Crystal Pond is 7-27 parts per billion (ppb) with an average of 13 ppb, while Chla ranges from 2.2-19.0 ppb with an average of 5.7 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 moderate to high. Crystal Pond has both a warmwater and coldwater fishery. Oxygen levels below 5 parts per million stress certain cold water fish, and a persistent loss of oxygen may eliminate or reduce habitat for sensitive cold water species. Warmwater species are generally not affected by loss of oxygen in the deeper waters of the pond.

Crystal Pond had a severe bloom in 1992 and near blooms in 1983 and 1998. Martin Stream can, adversely affect the water quality of Crystal Pond. Martin Stream, at times of high flow can back-up into Crystal Pond. The watershed of Martin Stream drains areas that are intensely used for agriculture. Phosphorus in the stream can be very high during high flows.

See the ME-DEP 'Explanation of Lake Water Quality Monitoring Report' for measured variable explanations. Additional lake information can be found on the World Wide Web at <http://www.pearl.maine.edu> and/or <http://www.maine.gov/dep/blwq/lake.htm>, or telephone the ME-DEP at 207-287-3901 or the VLMP at 207-783-7733.

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MIDAS: 3626
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 SAMPLE STATION: 2

WHOLE LAKE INFORMATION

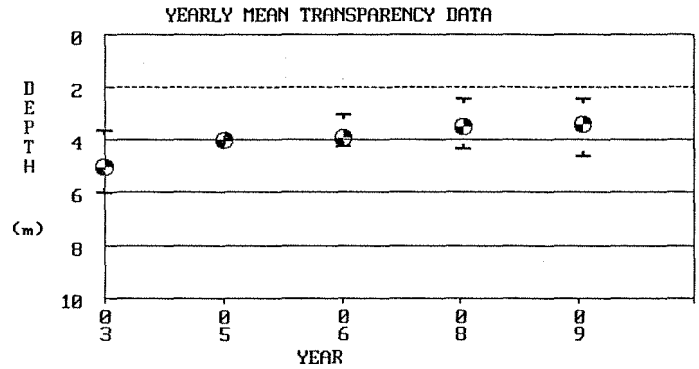
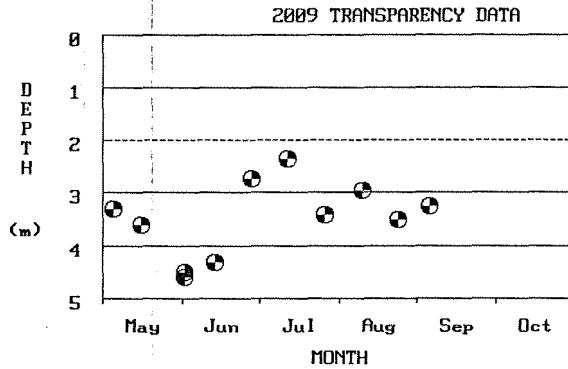
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	(SPU)		(mg/l)	(uS)												C	G		
2003	-	-	-	-	-	-	-	-	3.6	5.0	6.0	5	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	4.0	4.0	4.0	2	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	3.0	3.9	4.2	3	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	2.4	3.5	4.3	5	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	2.4	3.4	4.6	5	-	-	-	-	-	-	-
SUMMARY:	-	-	-	-	-	-	-	-	2.4	4.0	6.0	5	-	-	-	-	-	-	-