

LAKE: BEECH HILL P (VLMP 09)
 TOWN: OTIS
 COUNTY: HANCOCK

MIDAS: 4352
 TRUE BASIN: 1
 SAMPLE STATION: 1

WHOLE LAKE INFORMATION

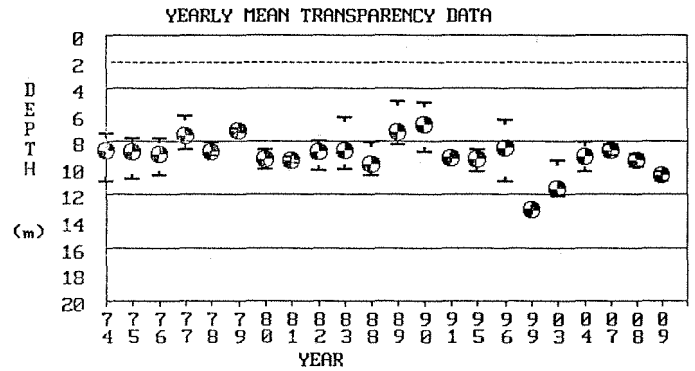
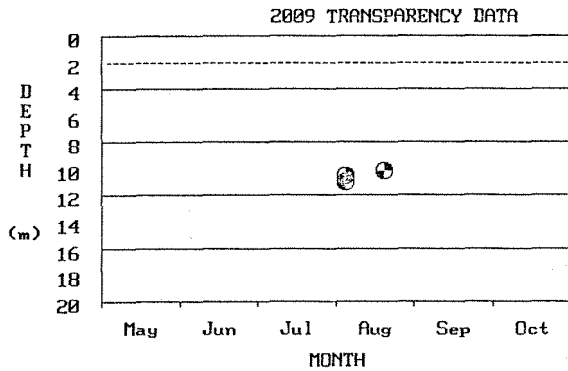
MAX. DEPTH: 32 m. (104 ft.)
 MEAN DEPTH: 13 m. (44 ft.)
 DELORME ATLAS #: 24
 USGS QUAD: BEECH HILL POND
 IFW REGION C: Grand Lake Stream (Machias)
 IFW FISH. MANAGMENT: Coldwater

TRUE BASIN CHARACTERISTICS

SURFACE AREA: 547.0 ha. (1351.6 a.)
 FLUSHING RATE: 0.23 flushes/yr.
 VOLUME: 64100000.0 cu. m. (51998 ac.-ft.)
 DIRECT DRAINAGE AREA: 20.13 sq. km. (7.77 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. BEECH HILL 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 visable at bottom of lake (or one reading used in calculation was visable)].

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	SURF	BOT.	PRO.	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	C	G	SEC	CHI
1974	-	-	-	-	-	-	4	-	7.3	8.6	10.9	5	0.7	1.4	1.8	-	-	23	23
1975	-	-	-	-	-	-	5	-	7.7	8.7	10.7	7	0.8	1.5	2.2	-	-	22	24
1976	13	6.40	5.0	26	6	-	-	-	7.7	8.9	10.5	7	0.9	1.6	2.1	30	-	21	25
1977	-	-	-	-	-	-	-	2	6.0	7.5	8.5	4	-	-	-	-	-	-	-
1978	-	-	-	-	-	-	-	-	8.0	8.7	9.0	3	-	-	-	-	-	-	-
1979	-	-	-	-	-	-	-	-	7.0	7.1	7.2	1	-	-	-	-	-	-	-
1980	15	6.40	4.0	24	6	-	9	-	8.5	9.3	10.0	4	1.2	1.2	1.2	-	-	-	-
1981	-	-	-	-	-	-	-	-	9.1	9.4	9.5	5	-	-	-	-	-	19	-
1982	-	-	-	-	-	-	-	-	7.9	8.7	10.1	6	-	-	-	-	-	22	-
1983	15	6.80	5.0	-	6	-	6	-	6.1	8.6	10.0	4	1.1	1.1	1.1	-	-	-	-
1988	7	-	5.0	24	4	-	10	-	8.0	9.6	10.5	2	-	-	-	-	-	-	-
1989	-	-	-	-	-	-	-	-	4.9	7.2	8.2	6	-	-	-	-	-	30	-
1990	-	-	-	-	-	-	-	-	5.0	6.7	8.7	4	-	-	-	-	-	-	-
1991	8	6.82	6.0	24	4	-	-	-	9.2	9.2	9.2	1	-	-	-	-	-	-	-
1995	12	-	9.0	-	3	-	-	-	8.5	9.3	10.2	3	-	-	-	-	-	-	-

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YEAR	MEAN COLOR (SPU)	MEAN pH	MEAN ALK (mg/l)	MEAN COND. (/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.	C	G	SEC	CHL
1996	11	-	7.0	30	5	-	5	-	6.3	8.4	10.9	5	1.6	1.8	2.0	-	-	24	-
1999	10	-	5.5	31	5	-	-	-	13.1	13.1	13.1	1	1.7	1.7	1.7	-	-	-	-
2003	-	-	-	-	-	-	-	-	9.4	11.5	12.1	3	-	-	-	-	-	-	-
2004	6	6.93	8.0	34	4	-	-	-	8.0	9.1	10.2	3	1.8	1.8	1.8	-	-	-	-
2007	-	-	-	-	-	-	-	-	8.2	8.6	9.0	3	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	8.9	9.4	9.8	2	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	10.2	10.5	10.9	1	-	-	-	-	-	-	-
SUMMARY:	11	6.61	6.1	27	5	5	6	-	4.9	9.0	13.1	22	0.7	1.5	2.2	30	-	23	24

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

DEPTH m	08/24/04		08/05/07		08/20/07		09/04/07		09/16/07		09/13/08		08/04/09		08/19/09	
	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
0.0	21.5	8.2	25.5	8.1	20.3	8.8	20.7	8.8	18.6	8.6	19.5	8.7	23.6	8.4	26.4	7.7
1.0	21.5	8.2	25.5	8.3	20.4	8.9	20.8	8.9	18.5	8.5	19.4	8.7	23.6	8.4	26.4	7.8
2.0	21.5	8.2	25.5	8.1	20.4	8.8	20.8	9.0	18.5	8.6	19.4	8.7	23.4	8.4	26.1	7.8
3.0	21.5	8.2	25.4	8.3	20.4	8.9	20.8	9.0	18.4	8.6	19.4	8.7	23.4	8.4	24.9	8.2
4.0	21.5	8.2	25.4	8.2	20.4	8.9	20.8	9.0	18.3	8.7	19.4	8.8	23.2	8.4	23.2	8.3
5.0	21.5	8.2	25.4	8.2	20.4	8.9	20.8	8.9	18.3	8.7	19.4	8.8	22.6	8.5	22.5	8.2
6.0	21.5	8.2	22.2	8.5	20.4	9.0	20.8	9.1	18.2	8.7	19.3	8.8	20.2	8.3	22.0	8.1
7.0	21.5	8.2	21.3	8.7	20.4	9.0	20.8	9.0	18.2	8.7	19.3	8.9	18.6	8.3	21.0	8.0
8.0	21.5	8.2	15.7	9.1	20.4	8.9	20.9	8.8	18.2	8.7	19.3	8.9	17.7	8.2	18.8	7.8
9.0	21.5	8.2	15.7	9.5	17.1	9.1	20.8	8.7	18.1	8.7	19.3	8.9	16.8	8.2	16.2	7.8
10.0	16.3	7.6	11.7	10.2	12.4	9.6	16.2	8.8	18.1	8.7	18.3	9.0	15.3	8.3	14.6	7.8
11.0	-	-	10.8	10.4	11.2	9.8	12.4	9.3	12.1	8.6	13.0	9.7	13.3	8.5	13.8	8.0
12.0	12.5	7.3	9.7	10.5	10.1	10.0	10.4	9.4	10.4	8.5	11.1	9.6	12.2	8.7	12.3	8.2
13.0	-	-	9.2	10.6	9.4	10.0	9.7	9.4	9.5	8.6	9.9	9.3	11.5	9.0	11.4	8.5
14.0	11.3	7.5	9.0	10.6	9.0	10.2	8.9	9.3	9.0	8.7	10.5	8.3	10.7	9.2	10.8	8.7
15.0	-	-	8.7	10.7	8.8	10.1	8.7	9.3	8.6	8.7	10.1	8.2	10.4	9.3	10.3	8.9
16.0	10.5	7.8	8.4	10.7	8.3	10.1	8.1	9.4	8.3	8.7	9.9	8.0	-	-	10.0	8.9
17.0	-	-	8.2	10.8	8.1	10.2	7.8	9.6	7.9	9.0	9.7	7.9	-	-	9.9	8.9
18.0	-	-	7.9	10.9	7.9	10.2	7.6	9.7	7.9	9.0	9.4	7.8	-	-	9.5	9.0
19.0	-	-	7.7	11.0	7.8	10.2	7.5	9.7	7.5	9.1	9.3	7.9	-	-	9.3	9.1
20.0	9.2	8.0	7.6	11.0	7.6	10.3	7.3	9.7	7.3	9.1	9.1	8.0	8.7	9.6	8.7	9.1
21.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.0	8.4	7.8	6.9	10.7	7.1	10.1	7.3	9.7	7.0	8.6	8.5	7.5	8.3	6.0	8.2	8.6
26.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2	8.1
30.0	-	-	6.8	10.8	7.1	10.1	7.3	9.8	6.9	8.7	8.4	7.4	-	-	-	-
31.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.0	-	-	-	-	-	-	-	-	-	-	8.4	7.3	-	-	-	-

WATER QUALITY SUMMARY

BEECH HILL POND, OTIS

Midas: 4352, 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 water quality, track algal blooms, and determine water quality trends. This dataset does not include data for bacteria, mercury, or nutrients other than phosphorus.

Water quality monitoring data have been collected from Beech Hill Pond since 1974. During this period, 8 years of basic chemical information was collected in addition to Secchi Disk Transparencies (SDT). In summary, the water quality of Beech Hill Pond is considered to be above average based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance algae blooms on Beech Hill Pond is low.

Water Quality Measures: Beech Hill Pond is a non-colored lake (average color 11 SPU) with an average SDT of 8.9m (28.8ft). The range of water column TP for Beech Hill Pond is 3-6 parts per billion (ppb) with an average of 5 ppb, while Chla ranges from 0.7-2.2 ppb with an average of 1.5 ppb. Recent dissolved oxygen (DO) profiles show low 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 low. 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.

See 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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