

LAKE: COLD STREAM P(UPPER) (VLMP 19)
 TOWN: LINCOLN
 COUNTY: PENOBSCOT

MIDAS: 2232
 TRUE BASIN: 1
 SAMPLE STATION: 1

WHOLE LAKE INFORMATION

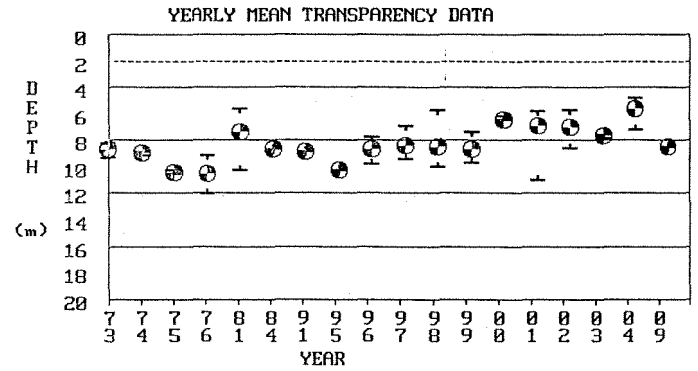
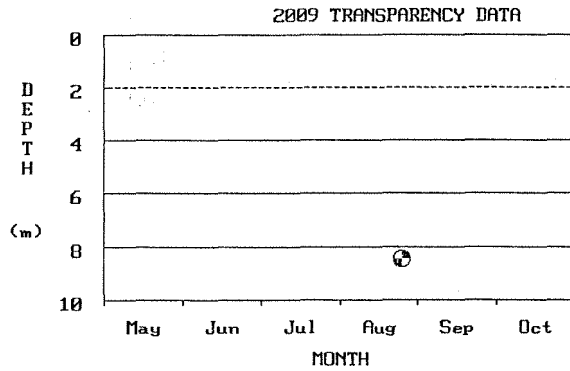
MAX. DEPTH: 20 m. (66 ft.)
 MEAN DEPTH: 9 m. (28 ft.)
 DELORME ATLAS #: 34
 USGS QUAD: LINCOLN EAST
 IFW REGION F: Penobscot (Enfield)
 IFW FISH. MANAGMENT: Coldwater

TRUE BASIN CHARACTERISTICS

SURFACE AREA: 186.0 ha. (459.6 a.)
 FLUSHING RATE: 0.42 flushes/yr.
 VOLUME: 17243452.0 cu. m. (13988 ac.-ft.)
 DIRECT DRAINAGE AREA: 6.65 sq. km. (2.57 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. COLD STREAM P(UPPER) has 2 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	CHL
1973	-	-	-	-	-	-	-	-	8.2	8.6	9.3	2	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-	-	8.8	8.9	9.1	3	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-	10.2	10.4	10.5	3	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-	9.1	10.5	11.9	2	-	-	-	-	-	-	-
1981	10	6.70	6.0	39	6	-	15	12	5.5	7.3	10.2	4	1.2	1.2	1.2	-	-	-	-
1984	10	7.00	6.0	-	8	-	7	-	8.6	8.6	8.6	1	1.7	1.7	1.7	-	-	-	-
1991	3	7.45	17.0	29	4	-	-	-	8.8	8.8	8.8	1	-	-	-	-	-	-	-
1995	3	-	9.5	-	3	-	-	-	10.2	10.2	10.2	1	-	-	-	-	-	-	-
1996	-	6.89	5.3	34	7	-	10	-	7.7	8.6	9.7	5	0.7	1.3	2.5	32	-	23	22
1997	-	6.95	12.5	35	6	-	8	-	6.9	8.3	9.4	6	1.3	1.9	2.3	29	-	24	29
1998	10	6.86	6.0	36	8	-	47	-	5.7	8.4	9.9	4	0.3	1.2	2.8	35	-	-	20
1999	7	6.66	6.3	34	4	-	8	-	7.3	8.6	9.6	4	0.9	1.5	2.3	-	-	-	-
2000	-	-	-	-	-	-	-	-	6.1	6.4	6.4	2	-	-	-	-	-	-	-
2001	9	7.30	6.0	34	7	-	-	-	5.8	6.9	10.9	4	1.3	1.3	1.3	-	-	-	-
2002	-	6.90	2.0	36	7	8	11	-	5.7	7.0	8.5	3	1.2	1.5	1.8	-	-	-	-

WATER QUALITY SUMMARY

UPPER COLD STREAM POND, Lincoln

Midas: 2232, Basin 1, Sample Station 1 (West Basin)

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 Upper Cold Stream Pond (west basin) have been collected since 1973. During this period, 12 years of basic chemical information was collected in addition to Secchi Disk Transparencies (SDT). These data were collected by DIFW, DEP, and the Town of Lincoln. In summary, the water quality of Upper Cold Stream Pond is considered to be well above average, based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance algae blooms on Upper Cold Stream Pond is low.

Water Quality Measures: Upper Cold Stream Pond is an uncolored lake (average color 7 SPU) with an average SDT of 8.3 m (27.3 ft). The water column TP ranges from 3-8 ppb (parts per billion) with an average of 5 ppb. Chla ranges from 0.3 to 2.8 ppb with an average of 1.4 ppb. Recent dissolved oxygen (DO) profiles show very little 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. DIFW manages Upper Cold Stream Pond primarily for cold water fish.

See the ME-DEP *Explanation of Lake Water Quality Monitoring Report* for measured variable explanations. Additional lake information can be obtained by contacting the Maine DEP at 207-287-3901 or the 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>.

Filename: uppe2232_01, Revised: 3/06, By: JP

LAKE: COLD STREAM P (UPPER) (VLMP 19)
 TOWN: LINCOLN
 COUNTY: PENOBSCOT

MIDAS: 2232
 TRUE BASIN: 2
 SAMPLE STATION: 2

WHOLE LAKE INFORMATION

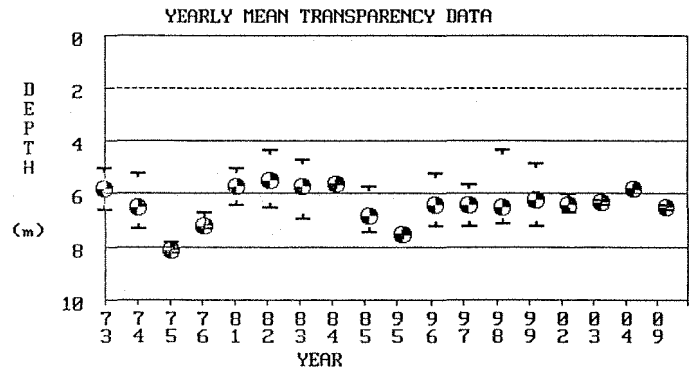
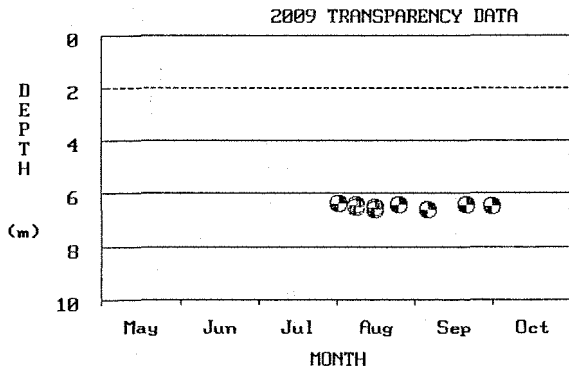
MAX. DEPTH: 20 m. (66 ft.)
 MEAN DEPTH: 9 m. (28 ft.)
 DELORME ATLAS #: 34
 USGS QUAD: LINCOLN EAST
 IPW REGION F: Penobscot (Enfield)
 IPW FISH. MANAGMENT: Coldwater

TRUE BASIN CHARACTERISTICS

SURFACE AREA: 72.0 ha. (177.9 a.)
 FLUSHING RATE: 0.81 flushes/yr.
 VOLUME: 3608375.0 cu. m. (2927 ac.-ft.)
 DIRECT DRAINAGE AREA: 3.17 sq. km. (1.22 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. COLD STREAM P (UPPER) has 2 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 /cm)	EPI CORE	SURF GRAB	BOT. GRAB	PRO. GRAB	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	C	G	SEC	CHL
1973	-	-	-	-	-	-	-	-	5.0	5.8	6.6	2	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-	-	5.2	6.5	7.3	3	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-	7.8	8.1	8.2	3	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-	6.7	7.2	7.3	2	-	-	-	-	-	-	-
1981	20	6.60	6.0	39	-	-	-	-	5.0	5.7	6.4	4	2.4	2.4	2.4	-	-	-	-
1982	-	-	-	-	-	-	-	-	4.3	5.5	6.5	6	-	-	-	-	-	43	-
1983	-	-	-	-	-	-	-	-	4.7	5.7	6.9	5	-	-	-	-	-	42	-
1984	-	-	-	-	-	-	-	-	5.6	5.6	5.6	1	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	5.7	6.8	7.4	4	-	-	-	-	-	-	-
1995	2	-	8.0	-	6	-	-	-	7.5	7.5	7.5	1	-	-	-	-	-	-	-
1996	-	6.77	3.7	30	7	-	9	-	5.2	6.4	7.2	5	1.6	2.3	5.6	33	-	36	33
1997	-	6.85	11.8	31	6	-	28	-	5.6	6.4	7.2	6	2.0	2.5	3.4	31	-	36	35
1998	10	6.90	26.0	32	8	-	16	-	4.3	6.5	7.1	5	0.9	1.8	2.8	37	-	35	28
1999	7	6.59	6.3	31	6	-	14	-	4.8	6.2	7.2	4	1.0	1.7	3.1	-	-	-	-
2002	-	6.85	2.0	33	8	5	18	-	6.0	6.4	6.7	2	3.1	3.1	3.1	-	-	-	-

LAKE: COLD STREAM P(UPPER) (VLMP 19)
 TOWN: LINCOLN
 COUNTY: PENOBSCOT

MIDAS: 2232
 *TRUE BASIN: 2
 *SAMPLE STATION: 2

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

YEAR	MEAN	MEAN	MEAN	MEAN	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPIC STATE INDICES			
	COLOR (SPU)	pH	ALK (mg/l)	COND. (uS /cm)	EPI	SURF	BOT.	PRO.	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	EPI PHOS		SEC	CHL
2003	-	6.72	3.0	32	6	-	11	-	6.2	6.3	6.4	2	1.2	1.6	2.0	-	-	-	-
2004	-	6.70	1.0	32	4	-	8	-	5.8	5.8	5.8	1	1.5	1.5	1.5	-	-	-	-
2009	-	-	-	-	-	4	-	-	6.4	6.5	6.6	2	-	-	-	-	-	-	-
SUMMARY:	10	6.74	7.5	32	6	5	15	-	4.3	6.4	8.2	18	0.9	2.1	5.6	34	-	38	32

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

DEPTH	SAMPLE DATE															
	08/14/98		08/26/98		09/24/98		09/30/98		08/17/99		09/24/99		08/27/02		08/13/03	
m	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
0.0	23.2	8.5	23.0	8.4	17.3	8.8	22.7	8.2	22.8	8.5	19.0	7.9	23.5	8.0	25.5	8.2
1.0	23.2	8.4	22.8	8.4	17.3	8.3	22.7	8.2	22.8	8.5	18.8	7.9	23.5	8.0	25.2	8.2
2.0	23.2	8.4	22.7	8.4	17.2	8.3	22.5	8.2	22.6	8.5	18.6	7.9	23.5	8.0	24.9	8.2
3.0	23.0	8.3	22.5	8.4	17.1	8.2	22.5	8.2	22.3	8.5	18.3	8.0	23.5	8.0	24.6	8.3
4.0	23.0	8.1	22.2	8.4	17.0	8.3	22.5	8.2	22.0	8.5	18.2	8.2	23.4	8.0	23.4	8.3
5.0	21.8	8.1	21.2	8.3	17.0	8.3	21.0	8.5	21.9	8.5	18.1	8.2	23.2	8.1	20.5	9.1
6.0	17.5	9.0	18.1	8.6	17.0	8.3	15.0	9.5	21.1	8.0	18.1	8.3	22.0	8.1	15.8	10.4
7.0	13.0	3.8	13.2	3.4	17.0	8.3	12.8	6.2	18.0	6.1	18.0	8.3	16.9	4.6	11.8	5.9
8.0	11.2	1.4	11.9	0.5	13.0	0.8	11.0	3.2	13.9	2.2	18.0	8.2	15.8	4.8	10.0	3.7
9.0	10.5	1.0	11.0	0.3	11.0	0.4	10.3	2.4	12.6	0.6	12.1	0.4	13.5	0.3	9.0	2.1
10.0	10.1	0.4	9.8	0.2	10.1	0.3	-	-	11.8	0.5	11.0	0.2	13.0	0.1	8.8	1.3
11.0	9.8	0.2	9.7	0.2	-	-	-	-	-	-	10.7	0.1	12.7	0.1	8.5	1.0
12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	0.8

WATER QUALITY SUMMARY

UPPER COLD STREAM POND, Lincoln

Midas: 2232, Basin: 2, Sample Station 2 (East Basin)

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 Upper Cold Stream Pond (east basin) have been collected since 1973. During this period, 8 years of basic chemical information was collected in addition to Secchi Disk Transparencies (SDT). These data were collected by DIFW, DEP, and the Town of Lincoln. In summary, the water quality of Upper Cold Stream 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 Upper Cold Stream Pond is low-moderate.

Water Quality Measures: Upper Cold Stream Pond is an uncolored lake (average color 10 SPU) with an average SDT of 6.4 m (21 ft). The water column TP ranges from 4-8 ppb (parts per billion) with an average of 6 ppb. Chla ranges from 0.9 to 5.6 ppb with an average of 2.1 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 to moderate. Some evidence of this is seen in the deep water samples in late summer, which range around 12-28 ppb.

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. The Department of Inland Fisheries and Wildlife manages Upper Cold Stream Pond primarily for cold water fish. To date, the DO loss in late summer is probably not severe enough to significantly stress fish. However, further reductions in DO could pose a problem in that regard.

See the ME-DEP *Explanation of Lake Water Quality Monitoring Report* for measured variable explanations. Additional lake information can be obtained by contacting the Maine DEP at 207-287-3901 or the 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>.

Filename: uppe2232_02, Revised: 3/06, By: JP