

LAKE: PORTER L (VLMP 07 )  
 TOWN: STRONG  
 COUNTY: FRANKLIN

MIDAS: 12  
 TRUE BASIN: 1  
 SAMPLE STATION: 1

WHOLE LAKE INFORMATION

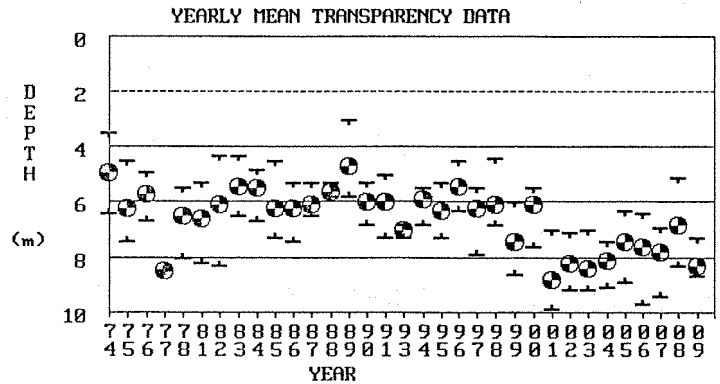
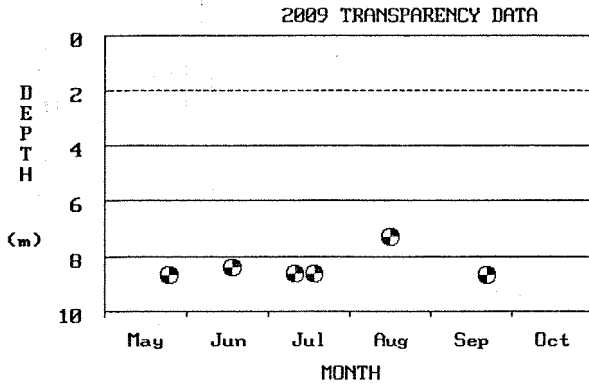
MAX. DEPTH: 26 m. (86 ft.)  
 MEAN DEPTH: 8 m. (27 ft.)  
 DELORME ATLAS #: 20  
 USGS QUAD: STRONG  
 IFW REGION D: Rangeley Lakes (Strong)  
 IFW FISH. MANAGMENT: Coldwater

TRUE BASIN CHARACTERISTICS

SURFACE AREA: 213.0 ha. (526.3 a.)  
 FLUSHING RATE: 0.42 flushes/yr.  
 VOLUME: 16000000.0 cu. m. (12979 ac.-ft.)  
 DIRECT DRAINAGE AREA: 12.13 sq. km. (4.68 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. PORTER L 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 (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.	C	G	SEC	CHL
1974	-	-	-	-	-	7	-	-	3.5	4.9	6.4	6	2.4	3.7	6.4	-	-	49	45
1975	18	6.79	6.0	16	-	6	-	-	4.5	6.2	7.4	7	2.0	3.0	4.4	-	-	37	40
1976	-	-	-	-	7	-	13	-	4.9	5.7	6.7	6	2.1	3.1	4.3	34	-	42	41
1977	-	-	-	-	-	-	-	-	8.5	8.5	8.5	1	-	-	-	-	-	-	-
1978	-	-	-	-	-	9	-	-	5.5	6.5	8.0	3	2.4	2.4	2.4	-	-	-	-
1981	12	6.40	6.0	23	6	-	11	-	5.3	6.6	8.2	5	1.5	1.5	1.5	-	-	34	-
1982	-	-	-	-	-	-	-	-	4.3	6.1	8.3	7	-	-	-	-	-	38	-
1983	-	-	-	-	-	-	-	-	4.3	5.4	6.5	6	-	-	-	-	-	44	-
1984	15	7.20	6.0	-	6	-	7	-	4.8	5.5	6.7	6	3.3	3.3	3.3	-	-	43	-
1985	-	-	-	-	-	-	-	-	4.5	6.2	7.3	5	-	-	-	-	-	37	-
1986	-	-	-	-	-	-	-	-	5.3	6.2	7.4	5	-	-	-	-	-	37	-
1987	12	6.90	8.0	26	-	-	-	-	5.3	6.1	6.5	5	-	-	-	-	-	38	-
1988	-	-	-	-	-	-	-	-	5.3	5.6	5.8	4	-	-	-	-	-	-	-
1989	-	-	-	-	-	-	-	-	3.0	4.7	5.8	6	-	-	-	-	-	52	-
1990	-	-	-	-	-	-	-	-	5.3	6.0	6.8	5	-	-	-	-	-	39	-

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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		SEC	CHL
	(SPU)		(mg/l)	(uS	/cm)	CORE	GRAB	GRAB	GRAB								C	G	
1991	12	6.97	13.0	29	9	-	-	-	5.0	6.0	7.3	6	-	-	-	-	-	39	-
1993	-	-	-	-	-	-	-	-	6.8	7.0	7.3	3	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	5.5	5.9	6.8	3	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	5.3	6.3	7.3	5	-	-	-	-	-	37	-
1996	-	-	-	-	-	-	-	-	4.5	5.4	6.3	6	-	-	-	-	-	44	-
1997	16	7.04	7.5	30	5	-	-	-	5.5	6.2	7.9	6	1.0	1.0	1.0	-	-	37	-
1998	8	-	-	-	-	-	-	-	4.4	6.1	6.8	4	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	6.0	7.4	8.6	5	-	-	-	-	-	29	-
2000	-	-	-	-	-	-	-	-	5.5	6.1	7.6	5	-	-	-	-	-	38	-
2001	-	-	-	-	-	-	-	-	7.0	8.8	9.9	5	-	-	-	-	-	22	-
2002	13	-	9.5	32	4	-	-	-	7.1	8.2	9.2	3	2.0	2.0	2.0	-	-	-	-
2003	-	-	-	-	-	-	-	-	7.0	8.4	9.2	5	-	-	-	-	-	24	-
2004	-	-	-	-	-	-	-	-	7.4	8.1	9.1	5	-	-	-	-	-	25	-
2005	-	-	-	-	-	-	-	-	6.3	7.4	8.9	3	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	6.4	7.6	9.7	4	-	-	-	-	-	-	-
2007	14	6.90	5.8	28	4	-	14	-	6.9	7.8	9.4	4	1.9	1.9	1.9	-	-	-	-
2008	-	-	-	-	-	-	-	-	5.1	6.8	8.3	4	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	7.3	8.3	8.7	5	-	-	-	-	-	24	-
SUMMARY:	13	6.81	7.7	26	6	7	11	-	3.0	6.6	9.9	33	1.0	2.4	6.4	34	-	37	42

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

DEPTH	SAMPLE DATE															
	08/21/78		09/05/81		09/13/84		08/11/87		08/22/91		08/11/97		08/15/02		08/28/07	
	m	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C
0.0	23.0	99.9	21.5	9.1	18.2	9.5	21.5	8.8	21.0	9.6	23.2	8.1	26.4	8.2	22.1	7.0
1.0	-	-	-	-	18.5	9.4	21.5	8.8	21.0	9.6	24.5	8.2	26.1	8.2	22.0	7.0
2.0	-	-	21.5	9.1	18.5	9.3	21.5	8.8	21.0	9.6	23.5	8.2	25.5	8.3	22.0	7.0
3.0	-	-	-	-	18.5	9.3	21.5	8.7	21.0	9.6	23.5	8.2	24.4	8.5	21.8	7.0
4.0	-	-	21.5	9.0	18.5	9.3	21.5	8.7	20.8	9.5	23.1	8.4	23.8	8.5	21.4	7.1
5.0	-	-	-	-	-	-	21.5	8.7	20.8	9.5	22.5	8.4	23.0	8.6	20.6	7.0
6.0	-	-	21.2	8.8	17.8	8.3	20.5	9.0	20.5	9.4	17.8	10.4	20.1	10.4	18.9	7.3
7.0	-	-	-	-	13.5	5.7	16.0	11.0	17.8	9.3	14.0	9.2	16.5	11.1	13.2	8.2
8.0	-	-	18.5	7.8	11.2	5.4	12.5	8.7	12.8	7.5	11.8	7.6	13.0	4.8	10.8	7.6
9.0	-	-	-	-	-	-	11.5	7.7	10.6	7.1	10.7	7.0	11.8	4.9	9.1	6.8
10.0	-	-	11.5	5.9	9.7	4.6	10.5	6.6	9.2	6.8	10.0	6.7	11.0	5.4	8.1	6.7
11.0	-	-	-	-	-	-	10.0	6.0	-	-	9.5	6.6	10.5	5.2	7.6	6.5
12.0	-	-	9.0	4.4	9.0	4.5	9.0	5.8	8.0	5.9	9.2	6.0	10.2	4.7	7.3	6.2
13.0	-	-	-	-	-	-	8.8	5.8	-	-	9.1	5.8	9.9	4.4	7.1	6.1
14.0	-	-	8.0	3.9	8.8	4.3	8.5	5.8	-	-	8.9	5.8	9.8	4.1	7.0	6.1
15.0	-	-	-	-	-	-	8.5	5.8	7.1	5.1	8.8	5.8	9.6	4.3	6.9	5.9
16.0	-	-	8.0	3.7	8.3	4.1	8.5	5.7	-	-	8.8	5.6	9.5	4.4	-	-
17.0	-	-	-	-	-	-	-	-	7.0	5.0	8.7	5.4	9.4	4.3	-	-
18.0	-	-	7.5	3.2	8.0	3.8	8.2	5.5	-	-	8.5	5.2	9.3	4.1	-	-
19.0	-	-	-	-	-	-	-	-	6.9	4.7	8.5	5.0	9.2	4.0	-	-
20.0	-	-	7.5	2.8	8.0	3.6	8.0	5.4	-	-	8.5	4.9	9.2	3.7	-	-
21.0	-	-	-	-	-	-	-	-	-	-	8.5	4.9	9.2	3.6	-	-

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	08/21/78		09/05/81		09/13/84		08/11/87		08/22/91		08/11/97		08/15/02		08/28/07	
	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm	°C	ppm
22.0	-	-	-	-	8.0	2.0	8.0	5.2	-	-	8.5	4.9	9.2	3.5	-	-
23.0	-	-	-	-	-	-	-	-	-	-	8.5	4.8	9.1	3.5	-	-
24.0	-	-	7.5	2.4	-	-	-	-	-	-	8.5	4.7	9.1	3.5	-	-
25.0	-	-	-	-	-	-	-	-	-	-	8.4	4.6	9.1	3.5	-	-
26.0	-	-	7.5	1.4	-	-	-	-	-	-	8.5	4.6	-	-	-	-

## WATER QUALITY SUMMARY

### PORTER LAKE, STRONG

Midas: 0012, Sample Station # 1, northwest of outlet.

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 data for Porter Lake has been collected since 1974. During this period, 7 years of basic chemical information was collected, in addition to Secchi Disk Transparencies (SDT). In summary, the water quality of Porter Lake is considered to be above average, based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance alga blooms on Porter Lake is low.

Water Quality Measures: Porter Lake is a non-colored lake (average color 13 SPU) with an average SDT of 6.2m (20.4ft). The range of water column TP for Porter Lake is 5-7 parts per billion (ppb) with an average of 7 ppb (State average 12 ppb), while Chla ranges from 1.5-6.4 ppb with an average of 2.8 ppb (State average 4.8 ppb). Recent dissolved oxygen (DO) profiles show no 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.

Water quality is excellent and appears to be stable if not slightly improving. Inland Fisheries and Wildlife manage this lake 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: port0012, Revised: 02, By: jp