

LAKE: PENNESSEEWASSEE (LT) (VLMP 17)
 TOWN: NORWAY
 COUNTY: OXFORD

MIDAS: 367
 TRUE BASIN: 1
 SAMPLE STATION: 1

WHOLE LAKE INFORMATION

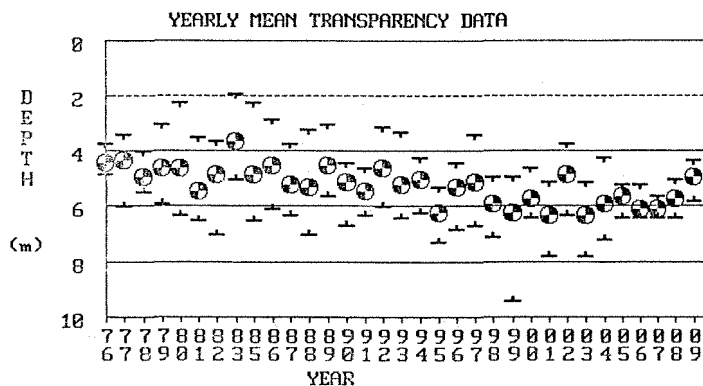
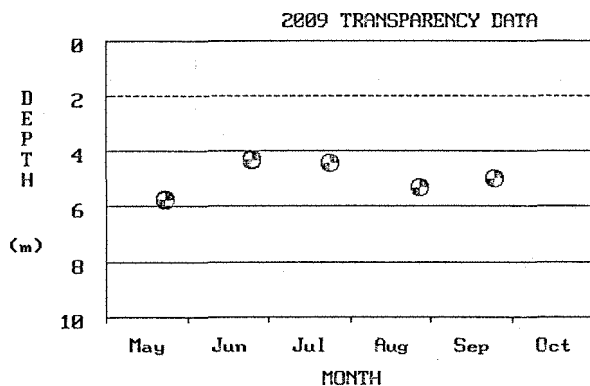
MAX. DEPTH: 9 m. (31 ft.)
 MEAN DEPTH: 5 m. (17 ft.)
 DELORME ATLAS #: 10
 USGS QUAD: NORWAY
 IFW REGION A: Sebago Lake (Gray)
 IFW FISH. MANAGMENT: Warmwater & Coldwater

TRUE BASIN CHARACTERISTICS

SURFACE AREA: 39.0 ha. (96.4 a.)
 FLUSHING RATE: 0.77 flushes/yr.
 VOLUME: 2211953.4 cu. m. (1794 ac.-ft.)
 DIRECT DRAINAGE AREA: 3.12 sq. km. (1.20 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. PENNESSEEWASSEE (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 (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
1976	-	6.95	15.0	50	11	-	-	12	3.7	4.4	4.8	4	12.1	12.1	12.1	-	-	-	-
1977	-	6.77	-	-	12	-	-	-	3.4	4.3	6.0	4	-	-	-	-	-	-	-
1978	-	6.55	-	-	-	-	-	-	4.0	4.9	5.5	3	-	-	-	-	-	-	-
1979	-	6.84	-	-	-	-	-	-	3.0	4.6	5.9	5	-	-	-	-	-	53	-
1980	-	6.87	15.0	60	9	-	35	-	2.2	4.6	6.3	6	1.7	1.7	1.7	-	-	53	-
1981	-	7.11	-	-	-	-	-	-	3.5	5.4	6.5	4	-	-	-	-	-	-	-
1982	-	7.07	-	-	-	-	-	-	3.6	4.8	7.0	5	-	-	-	-	-	50	-
1983	18	7.00	12.8	68	-	-	-	-	1.9	3.6	5.0	6	1.7	1.7	1.7	-	-	66	-
1984	-	-	-	-	-	-	-	-	-	-	-	-	1.6	3.7	7.3	-	-	-	45
1985	-	7.13	-	-	-	-	-	-	2.2	4.8	6.5	5	-	-	-	-	-	50	-
1986	18	7.10	12.0	45	7	-	27	-	2.8	4.5	6.1	5	-	-	-	-	-	54	-
1987	-	7.10	10.5	-	-	-	-	-	3.7	5.2	6.3	6	4.1	4.1	4.1	-	-	46	-
1988	-	-	-	-	13	-	-	-	3.2	5.3	7.0	6	-	-	-	-	-	45	-
1989	-	6.90	-	-	17	-	-	-	3.0	4.5	5.6	6	-	-	-	-	-	54	-
1990	-	-	-	-	16	-	-	-	4.4	5.1	6.7	6	-	-	-	-	-	47	-

WATER QUALITY SUMMARY

Pennesseewassee Pond (Little Pennesseewassee or Hobbs Pond), Norway

Midas: 0367, Basin: Primary

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 algal blooms, and determine water quality trends. This dataset does not include bacteria, mercury, toxics or nutrients other than phosphorus.

Phosphorus is considered the primary limiting nutrient for algal growth in Maine lakes.

Water quality monitoring data for Pennesseewassee Pond have been collected since 1976. During this period, 19 years of basic chemical information was collected in addition to Secchi Disk Transparencies (SDT). In summary, the water quality of Pennesseewassee Pond is considered to be average based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance algal blooms on Pennesseewassee Pond is moderate.

Water Quality Measures: Pennesseewassee Pond is a non-colored lake (average color 13 SPU) with an average SDT of 5.0 m (16.7 ft). The range of water column TP for Pennesseewassee Pond is 7-17 parts per billion (ppb) with an average of 11 ppb, while Chla ranges from 1.3-12.1 ppb with an average of 5.0 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. Deep water phosphorus samples (often > 15 ppb) indicate that this is one source, in addition to the watershed, of slightly elevated phosphorus levels in the surface waters.

This lake is managed for both cold- and warm-water fish species by DIFW. Oxygen levels below 5 parts per million (ppm) stress certain cold water fish and a persistent loss of oxygen may eliminate habitat for sensitive cold water species. While significant volumes of water show DO of less than 3-4 ppm during late summer, the average deep water oxygen profiles still maintain about 5 ppm, indicating that some of the mid-level water still has adequate DO during late summer.

The SDT trend, from 1976- 2003, in Little Pennesseewassee Pond water quality shows a moderate improvement or positive water quality trend, but this could easily change with increased development pressure and changes in regional weather patterns. A watershed survey was conducted in 1997. This is the initial step towards implementing watershed improvements that would protect the pond from future declines in water quality.

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>.