



Volunteer Lake Assessment Program Individual Lake Reports

TARLETON, LAKE, PIERMONT, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	4,807	Max. Depth (m):	20	Flushing Rate (yr ¹)	1.1	Year	Trophic class	
Surface Area (Ac.):	315	Mean Depth (m):	8.5	P Retention Coef:	0.56	1979	OLIGOTROPHIC	
Shore Length (m):	6,000	Volume (m ³):	10,881,500	Elevation (ft):	1305	1991	OLIGOTROPHIC	

TROPHIC CLASSIFICATION

KNOWN EXOTIC SPECIES

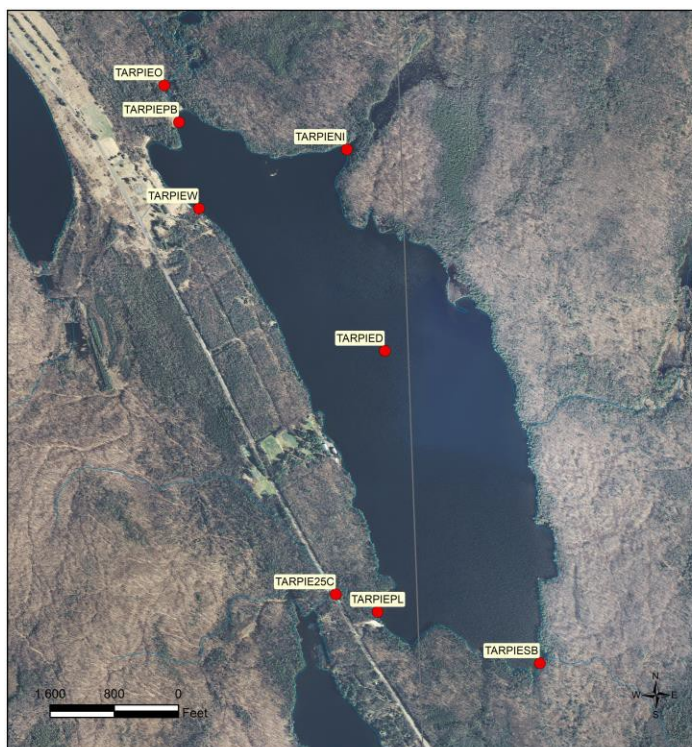
The Waterbody Report Card tables are generated from the DRAFT 2020 305(b) report on the status of N.H. waters, and are based on data collected from 2010-2019. Detailed waterbody assessment and report card information can be found at [NHDES' Water Quality Assessment Website](#).

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	Sampling data is better than the water quality standards or thresholds for this parameter.
	pH	Slightly Bad	Data periodically exceed water quality standards or thresholds for this parameter by a small margin.
	Oxygen, Dissolved	Encouraging	Limited data for this parameter predicts water quality standards or thresholds are being met; however more data are necessary to fully assess the parameter.
	Dissolved oxygen satura	Encouraging	Limited data for this parameter predicts water quality standards or thresholds are being met; however more data are necessary to fully assess the parameter.
	Chlorophyll-a	Good	Sampling data is better than the water quality standards or thresholds for this parameter.
Primary Contact Recreation	Escherichia coli	Very Good	All sampling data meet water quality standards or thresholds for this parameter.
	Chlorophyll-a	Very Good	All sampling data meet water quality standards or thresholds for this parameter.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

LAKE TARLETON - LAKE TARLETON STATE PARK BEACH	Escherichia coli	Good	Sampling data commonly meet water quality standards or thresholds for this parameter.
LAKE TARLETON - KINGSWOOD CAMP BEACH	Escherichia coli	Very Good	All sampling data meet water quality standards or thresholds for this parameter.

VLAP SAMPLE STATION MAP: This map depicts the location of routine sampling stations discussed on page two of the report.



**LAKE TARLETON
PIERMONT
VOLUNTEER LAKE ASSESSMENT PROGRAM**

STATIONID	STATION NAME
TARPIED	DEEP SPOT
TARPIEIO	DAM OUTLET
TARPIEPB	PUBLIC BEACH
TARPIEPL	PUBLIC LAUNCH
TARPIENI	NORTHEAST INLET
TARPIE25C	RTE 25C INLET
TARPIESB	SAWDUST BEACH
TARPIEW	WEST SHORE

Source: The data layers are derived from NHDES data and are under constant revision. NHDES is not responsible for the use or interpretation of this information. Not intended for legal use. NHDES Watershed Management Bureau Date: 2/17/2021





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Tarleton Lake, Piermont

2020 Data Summary

Recommended Actions: Great job sampling in 2020! Lake quality remains representative of oligotrophic, or high quality, conditions. Drought conditions in 2020 did not negatively impact water quality and water clarity measured with the viewscope was the highest (best) measured since 2006. The improving chlorophyll levels are a positive sign, however nutrient (phosphorus) levels have remained within a higher range since 2016. Evaluate any management activities within the watershed that may be affecting nutrient levels in the lake, such as any changes to water level management. Consult with NHDES' Watershed Assistance Section to assist with efforts to develop a watershed management plan for Lake Tarleton and Armington to identify and quantify pollutant loads and make recommendations on ways to prevent and control pollutant loading to the lakes. For more information contact the VLAP Coordinator. Keep up the great work!

Observations (Refer to Table 1 and Historical Deep Spot Data Graphics)

- ◆ **Chlorophyll-a:** Chlorophyll level was low in June and decreased in August. Average chlorophyll level decreased slightly from 2019 and was much less than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates significantly decreasing (improving) chlorophyll levels since monitoring began.
- ◆ **Conductivity/Chloride:** Epilimnetic (upper water layer), Metalimnetic (middle water layer), Hypolimnetic (lower water layer) conductivity and/or chloride levels were within a low range with conductivity levels less than the state median and chloride levels slightly greater than the state median. Historical trend analysis indicates stable epilimnetic conductivity levels since monitoring began. Rte. 25C Inlet conductivity levels were greater than deep spot conductivity levels and the state median however remained within a low range for NH lakes.
- ◆ **Color:** Apparent color measured in the epilimnion indicates the water was lightly tea colored, or light brown, in June and then decreased to within a clear range in August.
- ◆ **Total Phosphorus:** Epilimnetic phosphorus level was very low in June and increased slightly in August. Average epilimnetic phosphorus level decreased from 2019 and was much less than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates stable, yet variable, epilimnetic phosphorus levels since monitoring began. Metalimnetic phosphorus level was low in June and increased to a moderate level in August. Hypolimnetic phosphorus level was moderate in June and decreased to a low level in August. Rte. 25C Inlet phosphorus level was low in June.
- ◆ **Transparency:** Transparency measured without the viewscope (NVS) was within an average range for the lake in June and then increased (improved) in August. Average NVS transparency remained stable with 2019 and was much higher (better) than the state median. Historical trend analysis indicates relatively stable NVS transparency since monitoring began. Viewscope transparency (VS) was much higher (better) than NVS transparency and a better measure of actual conditions.
- ◆ **Turbidity:** Epilimnetic, Metalimnetic, Hypolimnetic, and Rte. 25C Inlet turbidity levels fluctuated within a low range from June to August.
- ◆ **pH:** Epilimnetic pH levels were within the desirable range 6.5-8.0 units and historical trend analysis indicates stable epilimnetic pH levels since monitoring began. Metalimnetic and Rte. 25C Inlet pH levels were approximately equal to the low end of the desirable range. Hypolimnetic pH level was acidic and potentially critical to aquatic life.

Station Name	Table 1. 2020 Average Water Quality Data for LAKE TARLETON - PIERMONT									
	Alk. (mg/L)	Chlor-a (ug/L)	Chloride (mg/L)	Color (pcu)	Cond. (us/cm)	Total P (ug/L)	Trans. (m)		Turb. (ntu)	pH
							NVS	VS		
Epilimnion	4.0	1.16	8	25	34.6	4	5.25	7.75	0.26	6.81
Metalimnion					33.1	8			0.30	6.44
Hypolimnion					33.9	9			0.45	5.92
Rte. 25C Inlet					52.5	8			0.43	6.48

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.5 mg/L
Chlorophyll-a: 4.39 ug/L
Conductivity: 42.3 uS/cm
Chloride: 5 mg/L
Total Phosphorus: 11 ug/L
Transparency: 3.3 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: > 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: between 6.5-8.0 (unless naturally occurring)

Historical Water Quality Trend Analysis

Parameter	Trend	Explanation	Parameter	Trend	Explanation
Conductivity	Stable	Trend not significant; data show low variability.	Chlorophyll-a	Improving	Data significantly decreasing.
pH (epilimnion)	Stable	Trend not significant; data show low variability.	Transparency	Stable	Trend not significant; data moderately variable.
			Phosphorus (epilimnion)	Stable	Trend not significant; data highly variable.

