MORPHOMETRIC DATA

					TROPHIC CLASSIFICATION	KNOWN EXOTIC SPECIES
Watershed Area (Ac.):	738	Max. Depth (m):	5.5	Flushing Rate (yr⁻¹)	10.7	Year	Trophic class	
Surface Area (Ac.):	15	Mean Depth (m):	2.4	P Retention Coef:	0.45	1993	OLIGOTROPHIC	
Shore Length (m):	1,000	Volume (m³):	141,500	Elevation (ft):	1081			

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)	Cautionary	Limited data for this parameter predicts exceedance of water quality standards or thresholds; however more data are necessary to fully assess the parameter.
	pH	Slightly Bad	Data periodically exceed water quality standards or thresholds for this parameter by a small margin.
	Oxygen, Dissolved	Cautionary	Limited data for this parameter predicts exceedance of water quality standards or thresholds; however more data are necessary to fully assess the parameter.
	Dissolved oxygen satura	Cautionary	Limited data for this parameter predicts exceedance of water quality standards or thresholds; however more data are necessary to fully assess the parameter.
	Chlorophyll-a	Very Good	Sampling data is 50 percent better than the water quality standards or thresholds for this parameter.
Primary Contact Recreation	Escherichia coli	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	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.

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

COLD POND
ANDOVER
VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
COLANDD	DEEP SPOT
COLANDI1	MAIN INLET
COLANDI2	2ND INLET
COLANDO	DAM OUTLET
COLANDB	BEACH

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

Recommended Actions: Great job sampling in 2020! Increase monitoring frequency, generally once per month in the summer, to better assess seasonal and annual variations in water quality. Pond chlorophyll (algal growth) levels remain very low however nutrient (phosphorus) levels tend to fluctuate around the threshold for oligotrophic lakes. The increased frequency and intensity of storm events, earlier ice-out and warmer water temperatures highlight the importance of managing stormwater runoff, erosion and pollutant loading to the pond. Evaluate areas prone to stormwater runoff such as beaches and boat launches and install stormwater management devices to better protect the pond. NHDES' "NH Homeowner's Guide to Stormwater Management" is a great resource. Keep up the great work!

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

⬧ **Chlorophyll-a:** Chlorophyll level was within a very low range in July, decreased slightly from 2019, and was much less than the state median and the threshold for oligotrophic lakes. Visual inspection of historical data indicates relatively stable chlorophyll levels since monitoring began.

⬧ **Conductivity/Chloride:** Epilimnetic (upper water layer), Hypolimnetic (lower water layer), 2nd Inlet, Beach, and Outlet conductivity and/or chloride levels remained within a low range for NH lakes and were less than the state medians. Visual inspection of historical data indicates decreasing (improving) epilimnetic conductivity levels since monitoring began.

⬧ **Color:** Apparent color measured in the epilimnion indicates the water was clear, with little to no tea, or brown coloring.

⬧ **Total Phosphorus:** Epilimnetic and Outlet phosphorus levels were within a low range. Epilimnetic phosphorus level decreased slightly from 2019, was less than the state median, and was approximately equal to the threshold for oligotrophic lakes. Visual inspection of historical data indicates variable epilimnetic phosphorus levels since monitoring began. Hypolimnetic and Beach phosphorus levels were within a moderate range for oligotrophic lakes. 2nd Inlet phosphorus level was slightly elevated, the turbidity of the sample was also elevated, and lab data noted organic matter in the sample.

⬧ **Transparency:** Transparency measured with (VS) and without (NVS) the viewscope was high (good) and within an average range for the pond. NVS transparency increased (improved) slightly from 2019 and was much higher (better) than the state median. Visual inspection of historical data indicates stable NVS transparency since monitoring began.

⬧ **Turbidity:** Epilimnetic, Beach and Outlet turbidity levels were within a low range. Hypolimnetic phosphorus level was within a low range, but was slightly above average for this station. 2nd Inlet turbidity level was elevated and organic matter was noted in the sample.

⬧ **pH:** Epilimnetic pH level was within the desirable range 6.5-8.0 units. Visual inspection of historical data indicates variable epilimnetic pH levels since monitoring began. Hypolimnetic, 2nd Inlet, Beach, and Outlet pH levels were slightly acidic and potentially critical to aquatic life.

Station Name	Table 1. 2020 Average Water Quality Data for COLD POND - ANDOVER									
	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	3.4	0.78	3	20	11.8	8	5.40	5.85	0.17	6.99
Hypolimnion					12.2	11			0.73	5.64
2nd Inlet					12.4	15			12.2	5.61
Beach					12.0	10			0.29	5.85
Dam Outlet					12.0	8			0.19	6.04

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	N/A	Ten years of consecutive data necessary for trend analysis.	Chlorophyll-a	N/A	Ten years of consecutive data necessary for trend analysis.
pH (epilimnion)	N/A	Ten years of consecutive data necessary for trend analysis.	Transparency	N/A	Ten years of consecutive data necessary for trend analysis.
			Phosphorus (epilimnion)	N/A	Ten years of consecutive data necessary for trend analysis.

Historical Trend Epilimnetic Conductivity and pH

Historical Chlorophyll-a, Epilimnetic Phosphorus & Transparency Data