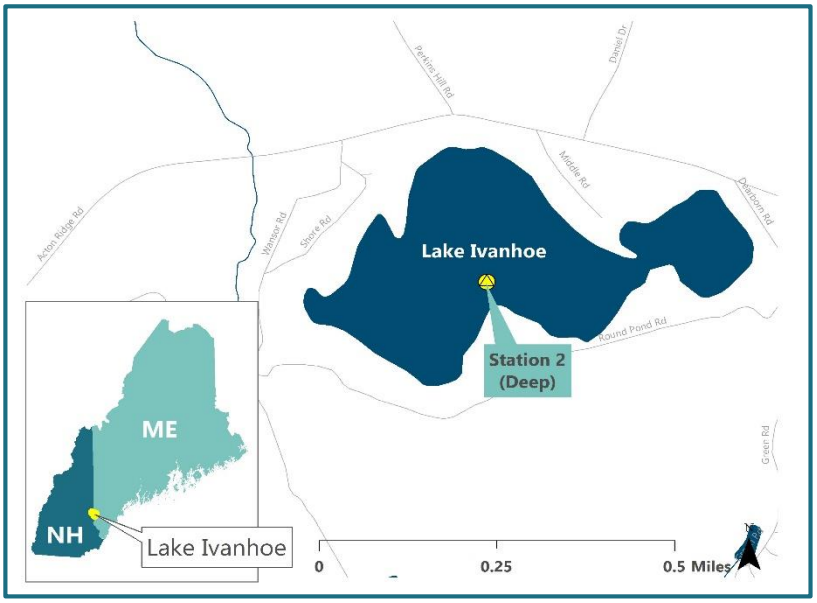
LAKE IVANHOE

LAKE WATER QUALITY REPORT



LAKE QUICK FACTS

Towns/States/Co.:	Wakefield, NH (Carroll Co.)
Total Watershed Area:	0.71 square miles
Lake Area:	68 acres
Shore Length:	1.7 miles
Max Depth:	20 ft
Mean Depth:	12 ft
Lake Volume:	992,000 cubic meters
Flushing Rate:	0.9 times per year
Lake Elevation:	596 ft
Trophic Classification:	Oligotrophic
Impairments:	None

Invasives: Lake Ivanhoe is not significantly impacted by variable milfoil. The lake is part of the Lake Host program that inspects boats for invasive fauna and flora before they are put in the water.

Station 2 (Deep) Parameter	Historical Trend	Overall Condition
Water Clarity	🟡	🔵
Total Phosphorus	🟡	🔴
Chlorophyll-a	🟡	🟡
Color	🟡	🟡

The current status of each water quality trend or condition is presented as "Stoplights."

🔴 **DEGRADING / POOR**

🟡 **STABLE / GOOD**

🔵 **IMPROVING / EXCELLENT**

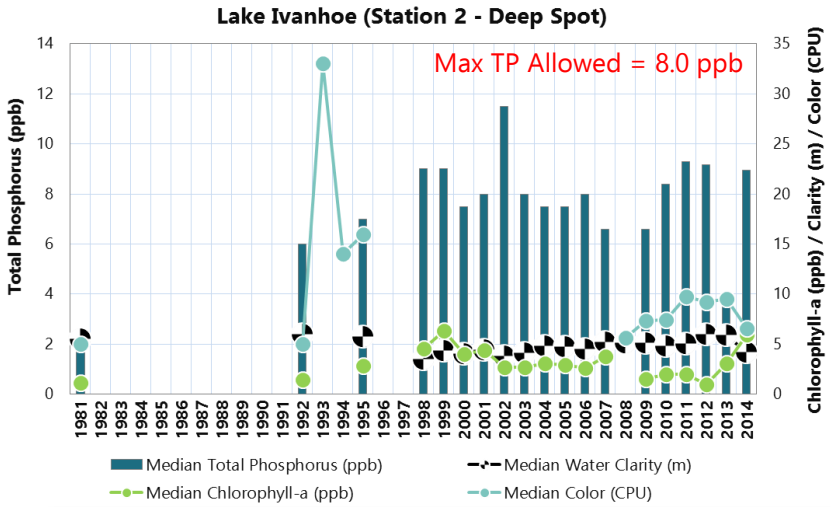
Watershed restoration efforts began in 2008 to help improve water quality. Much work is still needed to achieve water quality goals and assess trends.

YCC PROJECTS

BEFORE

AFTER

WATER QUALITY



WATERSHED EFFORTS

Number YCC Projects:	3
Number Erosion Control Features:	16
Technical Assistance Visits:	8
Amount Sediment Reduced:	2.1 tons
Amount Phosphorus Reduced:	1.8 lbs.

Designed by L. Diemer, FB Environmental

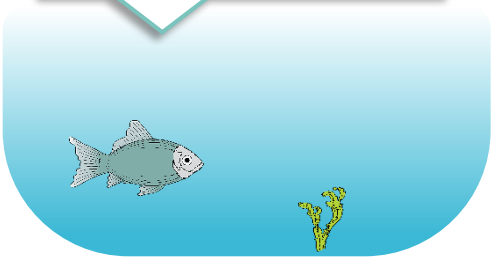
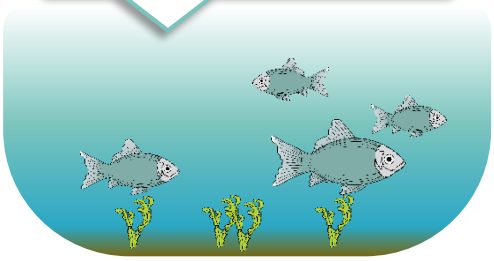
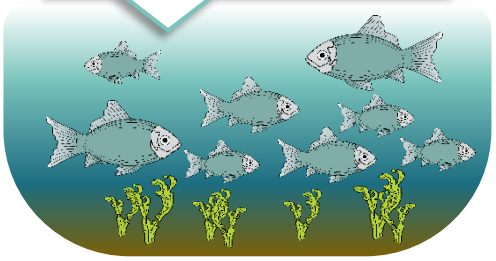
WATER QUALITY REVIEW

LEARN MORE ABOUT LAKE HEALTH

HELP PROTECT YOUR LAKE

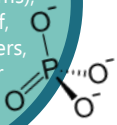
http://awwatersheds.org/

The **degree of lake productivity** is determined by multiple factors, including water clarity, phosphorus, chlorophyll-a, plant growth, and dissolved oxygen in bottom waters.

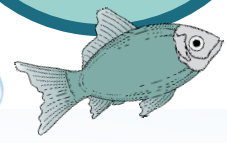
OLIGOTROPHIC	MESOTROPHIC	EUTROPHIC
		
Deep Water Clarity	Reduced Water Clarity	Shallow Water Clarity
Low Phosphorus	Moderate Phosphorus	High Phosphorus
Low Chlorophyll-a	Moderate Chlorophyll-a	High Chlorophyll-a
Minimal Plant Growth	Moderate Plant Growth	Abundant Plant Growth
High Oxygen Throughout Entire Water Column	Occasional Oxygen Depletion in Bottom Waters	Frequent Oxygen Depletion in Bottom Waters

Lakes naturally age or become more productive over thousands of years. In recent geologic time, humans have enhanced the rate of nutrient enrichment and lake productivity, speeding up this natural process to tens or hundreds of years.

Excess phosphorus enters the lake in eroding sediment, groundwater (e.g. aging septic systems), or stormwater runoff, which contains fertilizers, detergents, or other phosphorus-based products.



Decomposition of excess algae and plant material depletes oxygen in the lake, leading to fish kills. Low oxygen in bottom waters can then release phosphorus back into the water column.



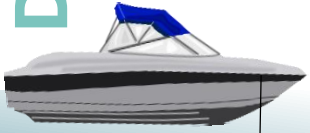
DEFINITIONS

Water Clarity is a vertical measure of water transparency (ability of light to penetrate water) obtained by lowering a black and white disk into the water until it is no longer visible. Water clarity is used as an indirect measure of algal productivity.

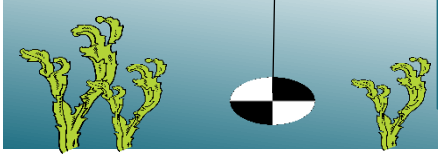
Phosphorus is a key nutrient that stimulates algal blooms and excessive plant growth, particularly for invasive species.

Chlorophyll-a is a measurement of the green pigment found in plants, and is used as an estimate of algal biomass.

Color measures the influence of suspended and dissolved particles in water from weathered geologic material, vegetation cover, and land use activity. Colored lakes (>25 CPU) can have reduced water clarity and increased phosphorus concentrations.



Dissolved Oxygen is a measure of the amount of oxygen dissolved in water. Low oxygen can kill or stress organisms and release phosphorus from bottom sediments.



Algal blooms and uncontrolled sediment erosion along the shoreline can decrease water clarity, which can reduce shoreline property values.

Town of Wakefield

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