

CHLORIDE LEVELS IN SARATOGA LAKE

What Influences Chloride Levels in Saratoga Lake and What the Data Shows About Saratoga Lake's Chloride Levels

Each year, the New York State Department of Environmental Conservation (NYSDEC) partners with SLPID through the [Citizens Statewide Lake Assessment Program \(CSLAP\)](#) to monitor Saratoga Lake's water quality—including chloride levels. Chloride levels are influenced by several factors, including natural groundwater inputs, the underlying geology that determines mineral content, and the use of winter road salt. With a decade of CSLAP data behind us, Saratoga Lake's chloride levels remain well below DEC thresholds for aquatic life or drinking water concerns.

The lake's median chloride concentration is 65.7 parts per million (ppm), and has remained stable for the past decade, showing no upward trend. CSLAP samples are taken eight times during the summer months, May-September

One important factor contributing to this stability is the lake's natural flushing rate. Saratoga Lake replaces its

water approximately 1.4 times per year, meaning that incoming water—and any dissolved materials, such as chloride—moves through the system quickly. Because of this, chloride from stormwater runoff does not linger long enough to accumulate to concerning levels.

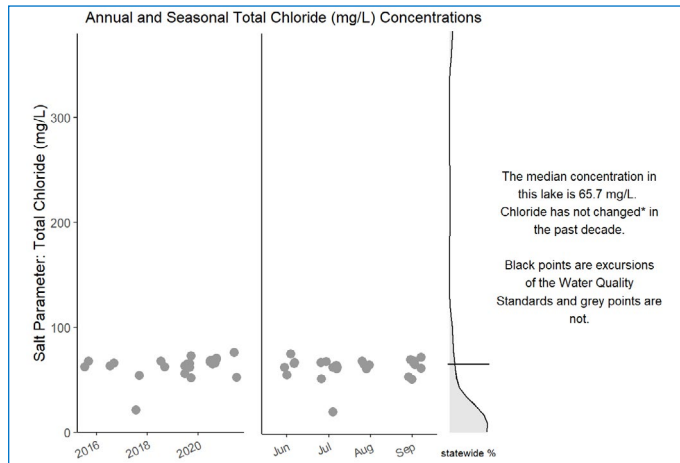
How Road Salt Use Is Changing in New York

Across the region, municipalities and the New York State Department of Transportation (NYSDOT) have been updating their winter road maintenance practices to reduce salt use without compromising safety. NYSDOT now uses equipment that monitors road temperature and conditions in real time, along with, brining technology, which applies a liquid salt solution that adheres to pavement and requires significantly less salt, that use calibrated spreaders to ensure precise application instead of over-salting

These modern tools reduce the amount of chloride entering streams and stormwater systems, which eventually discharge into Saratoga Lake. Municipalities around the lake are taking similar steps to continually improve winter road management.



CHLORIDE LEVELS IN SARATOGA LAKE cont.



The Bigger Issue for Saratoga Lake is Nutrient Inputs, Not Chloride.

While chloride levels can be an ecological concern, the more pressing challenge both short and long term for Saratoga Lake is nutrient loading, particularly phosphorus and nitrogen, from stormwater runoff.

These nutrients come primarily from: Shoreline runoff from individual properties and shoreline erosion, roof leaders directed into the lake from personal properties, Lawn fertilizers, herbicides, pesticides, stormwater

carried by streams flowing directly into the lake.

Excess nutrients lead to algae growth, including Harmful Algae Blooms (HABs), reduced water clarity, and lower oxygen levels that directly affect recreation, fish habitat, and the overall health of the lake.

SLPID is working with local municipalities and the state to develop improved approaches to reducing nutrient inputs, especially along the shoreline and in stream corridors.

Property owners can also help protect the lake by reducing or eliminating the use of de-icing salts on driveways and walkways, maintaining vegetated buffers along the shoreline, managing stormwater on their own property to limit runoff, and adopting lake-friendly landscaping practices that prevent pollutants from entering the lake.

While monitoring chloride is important, the everyday choices made by property owners have a far greater influence on Saratoga Lake's long-term health. By working together to reduce nutrient runoff from our own properties, we can make a significantly larger and more immediate impact on water quality.

