

Synopsis of 2025 Halfmoon Lake Summary and 2024-2025 Lake Testing Results

Chart #1 lists and explains the parameters tested. It gives the recent results of May 2025 and the monthly results from 2023 and 2024 for comparison. This allows us to follow trends that happen within a year.

Chart #2 lists results by year for the last 5 years. These numbers are averages of samples taken from the deep part of the lake throughout the summer months. Results from the 2024 monthly samples are also included for comparisons. These results allow us to determine trends over long term (years).

SUMMARY: Our lake remains fairly stable and in good (not great) shape. The areas of concern are the following:

Phosphorus

Total phosphorus is the most important water quality parameter measured in our lake. High levels can lead to cyanobacteria blooms. Total phosphorus levels in the middle and top layer of the deep spot of Halfmoon Lake are STABLE but slightly greater than the threshold for oligotrophic lakes. Total phosphorus at the bottom layer of the lake is trending upward year after year. It also trends upward month to month throughout the summer months. This is called "internal loading". It is the result of phosphorus that enters our lake and settles to the bottom. It is released or leached out under low oxygen conditions which occurs as our lake warms up during the summer months. Increase in release of phosphorus from the bottom of the lake can also occur from wind driven wave action or physical disturbance of the sedimentation (boat props, pulling weeds ...) Phosphorus comes from several sources. The greatest source is drains from our shores and in the water ways that flow into the lake. These are defined as the watershed area. Our watershed area is large, 4,352 acres.

Phosphorus sources:

| | |
|------------------|-----|
| Watershed area. | 74% |
| Septic System | 10% |
| Internal Loading | 9% |
| Atmosphere | 5% |
| Waterfowl. | 3% |

We cannot prevent Phosphorus from entering Halfmoon Lake but there are ways to help minimize our contribution to the problem. Look for areas of erosion on your land where water enters the lake. Stop using phosphorus containing products such as fertilizers or soaps that can be washed into lake with heavy rainfalls. Houses are getting larger and more numerous on our shores. More people are using septic systems. Make sure your septic system is working properly by getting it inspected periodically by a professional.

Conductivity/ Chloride levels

Conductivity of our lake water is a direct measure of the amount of chloride or electrolytes in the water. Conductivity has increased over the last several years and attains a high level in inlets along roadsides. Route 28, North Barnstead Rd and Prospect Mountain Road all have elevated levels that are highest in the early part of the year. The culprit seems to be salt from the roads and driveways. We are not in at a level to be too concerned but the trend is going in the wrong direction. Again, the population around the lake and the use of our roads is increasing year to year.