

**Special Town Meeting - October 16, 2023**

**Article 32 - Alum Treatment at Pilgrim Lake  
Finance Committee Vote on 10/5/23: 4-2-1**

**On Behalf of the Finance Committee “Aye” Votes: Constance Kremer**

*“Watershed management is an essential element of protecting and managing lakes. In cases where watershed phosphorus reductions are neither adequate nor timely, alum is an appropriate tool to accomplish meaningful water quality objectives.”*

*- as quoted from the North American Lake Management Society’s stance on Alum dated 2004, which still stands as their stance in 2023.*

Alum has been discussed as a preventative measure for Orlean’s impaired lakes and ponds since 2019.

Together with the Marine Fresh Water Quality Committee and SMAST, who have studied and compiled years of studies, the “aye” votes of the Finance Committee on this Article support the use of Alum treatment as a potential one-day remediation that is supported by retrieved water samples, lake-layer studies and science. We have recently seen a cyanobacteria bloom this past August in Pilgrim Lake, which closed it to any recreational use for one month. Now, Crystal Lake is also currently closed.

You will undoubtedly hear different sides of this Article from varying points of view. You will hear from the Select Board, from citizens on the floor, others on the Finance Committee as well as scientists who have done the work and studied the effects of watershed/waterway pollution and wildlife impact from nutrient loading and specifically cyanobacteria blooms and alum treatments. I will leave the scientists to speak to science and data-driven facts.

At the Annual Orleans Town Meeting in 2021, only 10 people voted against Article 18 - Fund Comprehensive Water Resources Management Plan - Fresh & Saltwater Ponds Adaptive Management with \$156,400 in funding. The idea was that that Article could fund non-construction-related wastewater management planning activities - including \$40,000 for Freshwater Pond remediation.

**This is what we based our votes on. Pilgrim Lake is:**

a critical spawning and nursery habitat for river herring. The health of which is intertwined with that of the lake, and Alum applications can and should be designed and controlled to avoid concerns with toxicity to aquatic life.

It is home to our Town’s recreation program swimming lessons and science tells us that Cyanobacteria give off a toxin. **This makes the water unsafe for dogs and kids.** Adults may end up with a rash.

If we decide not to go forward with an Alum treatment, more financial resources will need to be put towards upping recreation program staff at swim lessons to watch for imminent blooms in order to continue to run safe swim lessons through the summer season. If the water samples are deemed unsafe next spring and or early summer, suggestions for that alternative are not obvious.

**What studies have told us:**

In 2019, SMAST has listed Alum as one of four safe ways to prevent and deal with a cyanobacteria bloom and a preventative for further potential blooms with the other options being costly I/A septic tanks, landscape remediation to stop and embed storm runoff and moving to Town sewers which is already underway in phases.

Aeration as an alternative to alum has been studied, and of the 4 aeration examples on Cape Cod, most have been abandoned due to the stirring of the water column making the conditions worse, operation and maintenance costs, as well as the time it takes to see progress, which have been less than stellar. 3 cases ended or were abandoned, then remediated in one day with an alum treatment.

There have been 17 alum treatments to date on the Cape. The overwhelming evidence is that alum is a safe interim treatment for Pilgrim Lake and any other lake that has a bloom while our sewers are phased and the trace nutrients in the old septic tanks take additional years to work through the groundwater.

We respect the concerns of those who urge caution. However, these concerns seem to have been answered over the years. Alum is a safe and effective lake management tool. We need to ensure that Pilgrim Lake waters are safe for our kids, for our community and visitors, who swim there. Now is the time to act.

Thank you.