

August 16<sup>th</sup>. 2022

The ponds at Crimson Hollow are currently playing host to *Oscillatoria*, a cyanobacteria which forms large mats on the pond's bottom. When the outside temperatures increase, gasses which have collected under the *Oscillatoria* mats cause them to rise. It is these *Oscillatoria* mats which can currently be seen on the pond, particularly gathered around the edges. *Oscillatoria* is not only unsightly, but it is also extremely difficult to control. Unlike other forms of filamentous algae which respond to contact algaecides and which can be treated with relative ease, *Oscillatoria* is very resistant to chemical applications. *Oscillatoria* is so named for the algal cells' tendency to oscillate, covering themselves in organic matter while doing so. It is this shield of organic matter which makes the *Oscillatoria* so hearty and difficult to treat—the chemistries often cannot penetrate to the algal cell.

So this begs the question: *What is to be done about it?* The honest answer is that there is currently *no guaranteed solution* for *Oscillatoria*. Some ponds seem to respond to treatments, while the *Oscillatoria* in others remains extremely resilient throughout the entire season. Applying large doses of chemistry can be akin to treading water. Our current best course of action is to proceed with measures to rebalance the ecology of the pond, such as applying heavy doses of bacteria. From there, the natural bacteria colonies will have the chance to break down the organic matter which protects the *Oscillatoria* from chemical treatments. This is a slow process, one which may take multiple seasons to achieve results.

We have also seen a greater resistance to *Oscillatoria* in ponds which contain other types of growth, such as healthy beds of vegetation and branched algae like *Chara*. There is currently some growth of pondweeds in the ponds, and although its presence near the surface may be unsightly to some, I believe it is serving the purpose of staving off further *Oscillatoria* growth. It is imperative that we preserve good growth in the system, because unfortunately, at this point in time there is no way to have a pond that is both free of vegetation and not at risk for *Oscillatoria*. Based on our observations, if there are multiple other forms of growth in the pond to outcompete the *Oscillatoria* for nutrients, it is less likely to take over the entire system. This, in addition to other factors such as water chemistry, is why not every pond contains *Oscillatoria*. Those ponds which are able to balance themselves seem to have a lower incidence of the cyanobacteria. Dealing with *Oscillatoria* is a practice in patience, both for the pond manager and for those who live on the pond. We absolutely understand (and feel!) the frustration regarding its presence. We will continue to work toward a solution to the problem, and we appreciate your support!

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