



Lake Management
Services, L.P.

Problematic Algae in Urban Waters

By
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All lakes and ponds experience algae. If you quit putting chlorine in a swimming pool, algae will grow and very fast at that. This growth is determined by water clarity, sunlight, depth, nutrients and temperature. In other words, the clearer and shallower the water, the more algae you will experience. Typical species of algae, primarily planktonic and filamentous, are treated with an EPA-approved algaecide that has little residual. The products are very safe but, unfortunately, control only what is present on the day of application and then biodegrade and are gone within a matter of a couple of days. Therefore, you are simply treating a symptom and there is nothing to keep the algae from growing right back within days.



The above picture shows typical green filamentous algae that is controlled but never eradicated by standard algaecides. All filamentous algae species start out growing on the bottom and produce oxygen which becomes trapped within the dense mat. As the algae dies, it becomes buoyant, breaks loose from the bottom and floats where it is then stockpiled by the prevailing winds. This algae can be treated with both a granular and/or liquid product.

When urban waters also serve as retention for flood control, the incoming storm water runoff, when it rains, introduces huge nutrient loads from fertilizers. Once the weather clears and the sun comes out, these nutrients provide the fuel for rapid daily algae growth. If several days elapse between our visits, the algae can bloom significantly and become unsightly. The denser the mats the more difficult to control.

Unfortunately, there are several species of algae that our conventional EPA-approved products will not control. Due to the structure of the algae cells and other unique characteristics, these products are simply not strong enough to cause immediate damage to the algae.



Blue-green algae, such as *Lyngbya* and diatoms occasionally bloom in urban waters. There are no fact-base reasons or predictions as to why or when this may occur. These “globs” of algae have a silica membrane that protect the algae cells inside, rendering penetration of conventional algaecides near impossible. When these species occur, you simply have to treat with what is available until the species runs its course and goes away. We have had some success using lake dye to help reduce sunlight penetration as well as oxidizing products to try and disrupt the membrane facilitating some penetration of the algaecide. Physical removal is only partially successful because the algae, which grows on the bottom before breaking loose and floating to the surface, breaks into tiny pieces when disturbed. In addition to being extremely labor intensive and costly, physical removal is difficult due to the algal mass consisting mostly of water weight.

We do tend to see these species more often in waters that have concrete lined edges which is also where sheets of diatoms begin as well. Diatoms produce a thin brown “scum” covering on the concrete and then also break loose and float. This is similar to the typical “mustard” algae you see in swimming pools. Conventional products will not control diatoms.

Tilapia, a warm-water fish commonly grown commercially for food, will eat algae. Unfortunately, they will not eat blue-green species, such as *Lyngbya* and, Tilapia cannot eat faster than the algae grows and are susceptible to cold water in the winter. Therefore, Tilapia must be stocked every year and the sight of dead floating fish is usually not appealing to residents.

There is no preventative product or method available to prevent algae growth. Fortunately, these problematic species do not occur on a frequent basis. However, when they do, the lack of education can lead to finger pointing. Obviously, we make a profit when we apply these products. Therefore, it would be somewhat foolish to think we would neglect this opportunity if we had products that would control the problem. Educating the residents makes for much better customer relations and fewer headaches and phone calls for everyone.