

BROADACRES VILLAGE RESIDENTS COMMITTEE



COMMUNIQUÉ - 129

Pond News

8th April 2019

Dear Residents,

Update on Ponds Project - Eutrophication

Our objective is to convert the current smelly, algae infested ponds into odour-free visually pleasing and eco-friendly water features for the benefit of the residents.

We are all aware of the severe algae/duckweed bloom we have experienced recently and, in case someone has missed it, the photo below confirms it!



We sought advice from several experts in the field of water management. In summary some prerequisites to improving the water quality were identified:

1. Increase water movement and aeration
2. Increased water volume (pond depth) in order to lower water temperature
3. Periodic physical removal of invasive weeds

We have had some success in achieving all three objectives, but our actions are treating the symptoms and not addressing the cause. The cause is EUTROPHICATION. Sadly, most of us contribute in one way or another to the eutrophication of our ponds

What is eutrophication? Simply put it is the excessive concentration of nitrates and phosphates in a body of water resulting in an algae bloom - the rapid growth of algae and surface plants which thrive on high nitrates and phosphates (fertilizer) in the water. As can be seen in the photo the 'green carpet' eventually covers the entire water surface. When this occurs, the water is deprived of sunlight which is necessary for water plant photosynthesis (converting CO_2 into O_2) The water becomes anoxic (devoid of oxygen) causing the death of all plants and living organisms in the water and resulting in putrefaction, high toxicity and smell.

How do we (in our Village) contribute to the problem? The primary contributor is excessive or careless application of fertilizer. This finds its way into the ponds through ground water seepage and run-off from the myriad drains which, in Phases 2 & 3 drain directly into the top pond and Phase 1 into the stream below.

While it is not suggested that we discontinue tending our gardens and using fertilizer (preferably organic), we should use it sparingly and, above all, be careful not to spill raw fertilizer into the drains or paved areas.

Admittedly the two recent sewage spills into the lower pond exacerbated the problem, but without paying attention to the cause, we will continue to fight a losing battle in attempting to convert our ponds into sustainable, pleasing, eco-friendly, living assets

Basil Bold

Note: It is worthwhile Googling "Eutrophication." There is a wealth of information on the topic which, incidentally, is a worldwide problem with serious ecological implications. Let us do our bit to help clean up our little piece of the planet!

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