

# Pond Water Quality – Problem Areas and Solutions

## Part 2

*By Albert V. Short, Fairfax Master Gardener Intern*

This is a continuation of an article from last month that addressed water balance and water sources.

Crystal clear water is not always safe for fish. Another unseen culprit in clear water is high ammonia levels, which are often associated with Koi. Overfeeding results in excess fish waste in the pond and high and sometimes fatal levels of ammonia. Again, a test kit will show ammonia levels. A quick fix to eliminate ammonia is to do a partial water change (remember to use dechlor) and repeat until the ammonia level is zero. There are also commercially available chemical compounds that will lower ammonia levels. The presence of ammonia cannot be detected except by use of a test kit. Ammonia is not usually an issue with goldfish.

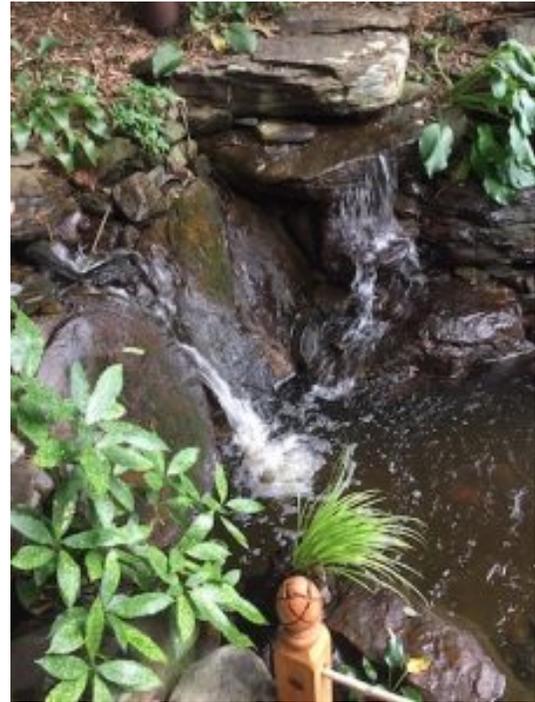
Algae is the bane of pond keepers. You look at your pond, and it's turning green. What do you do? Algae is a one-celled plant that flourishes in warm water, having the presence of nutrients (i.e. nitrogen) and algae spores that are blowing in the wind by the billions. You put these three elements together and algae blooms.

A typical problem is spring algae bloom. As soon as water temperature exceeds 60 degrees F, the nutrients that have built up in the pond water over the winter react with the algae spores, and in a matter of days the pond is green. Your first reaction may be to dump the water to get rid of the algae. This is the wrong solution, as the new water will have the same conditions... nutrients, warm water and algae spores, and that just starts another bloom cycle. Be patient and let the cycle play out. The algae will eventually consume the available nutrients, die off and you will have clear water.

You can control algae by using commercial compounds to treat the pond water, but that's like putting a Band-Aid on a hemorrhage. Go to the root cause. Nitrogen in pond water is a direct result of decayed vegetation, uneaten fish food and fish waste. Control these factors and you limit the presence of algae. Algae is not a threat to fish health. It is an aesthetic issue if you cannot see your fish or the water looks bad.

I owned a pond design/build company for 25 years, and there were three things that always caused problems in garden ponds:

1. Too small a pond structure to support the fish load
2. Too many fish and too much feeding of fish
3. Too much debris in the pond



The “KISS” principle applies to enjoyable pond keeping. Keep it simple and avoid the three “sins” above. Don’t have too many fish for the size of the pond and feed them only what they eat in about three minutes a day. Recognize as fish grow, especially Koi, their food requirements increase, and their byproduct output increases exponentially.... this is the source of ammonia and nitrogen that can impact fish health and feeds algae. Also, seasonal pond cleaning is essential to remove accumulated leaf and other vegetative debris that decays and produces nitrogen.

To answer the two questions posed in Part 1 of this article:  
*Is Your Garden Pond Ready for Winter?*

My pond water is clear as glass, so can I assume it is safe for my fish? YES or NO

My pond water is green with algae. Will it hurt my fish? YES or NO

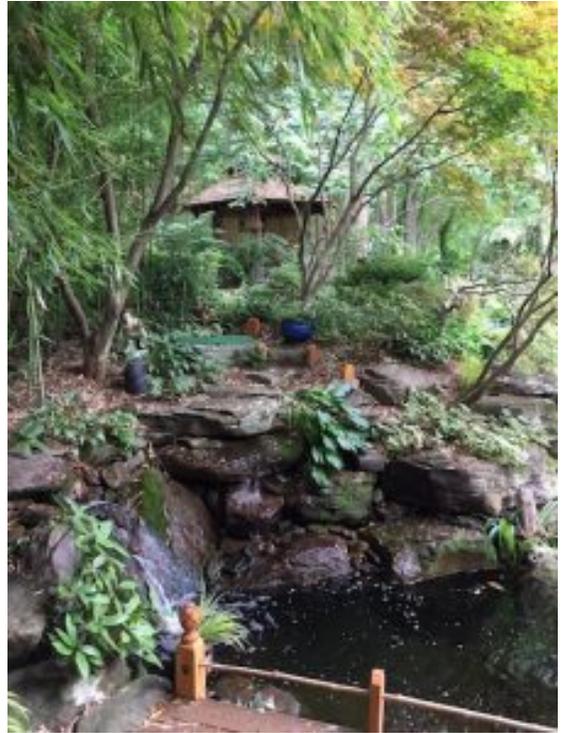


Photo: by author

The answer to both questions is NO. What you see is not always what you have. Just because your pond water is clear, it may not be safe for your fish. Always test for chlorine and ammonia. On the other hand, algae that you may consider unattractive is not harmful. It is mainly an aesthetic issue.

If you follow the few simple rules above, you will have an enjoyable experience with your garden pond, and it will be an attractive addition to the garden landscape.

### References

Frequently Asked Questions, Customer Service, Fairfax Water