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Butler County Stream Team

August News - 2011

Volunteer Stream Monitoring in Southwest Ohio

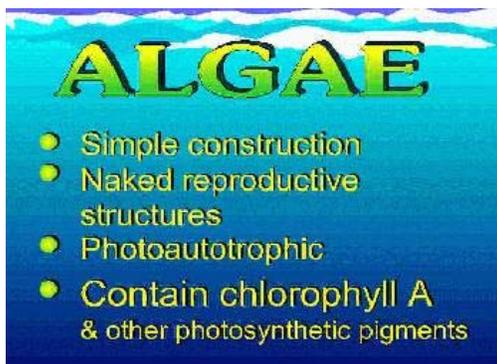
Next Sampling Day - August 13th



Algae

Recently several volunteers alerted me to an [article](#) in the Dayton Daily News about "a substance resembling thick, dirty soap scum" on the Great Miami River in mid-July. It turns out it was an algal bloom, a profusion of microscopic golden-brown algae called diatoms. Although a resident stated he had never seen such a bloom in the 20+ years he's lived near the river, it is a naturally-occurring event. It may have been caused by the extremely hot weather, which decreases the doubling time of microorganisms, plus lots of nutrients, probably from lawn, road and farm runoff.

Of course the first thing in observers' minds was that this might be something awful like the blue-green algae that caused such problems recently in Grand Lake St. Mary's. It isn't, but algae blooms can cause problems. So, we thought we'd talk a little about algae this month. Here goes ...



Algae are photosynthetic organisms that range in size from microscopic to giant kelp many meters long. Because they are photosynthetic, they were once

Volunteer Educational Opportunities

If you are interested in learning more about streams, in particular about how storm water contributes to them, here are a few opportunities you won't want to miss.

Rainwater Harvesting as a Stormwater Management Practice:

The Butler County Storm Water District is hosting the 2011 webcast series produced by the Center for Watershed Protection free of charge.

Don't miss out! Bring your lunch and take advantage of a great training opportunity.

When: Wed. Sept. 14th, 12-2 p.m.

Where: Butler County Engineers Office
1921 Fairgrove Ave,
Hamilton
Cost: FREE!!!

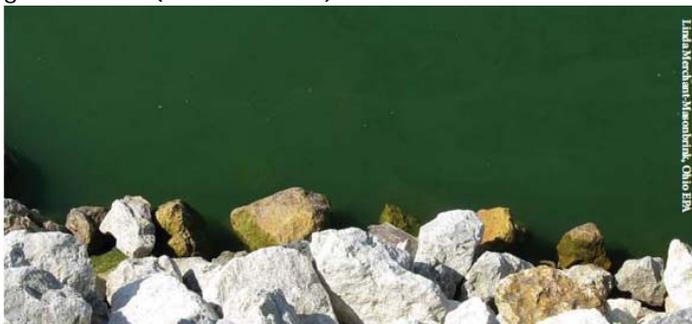
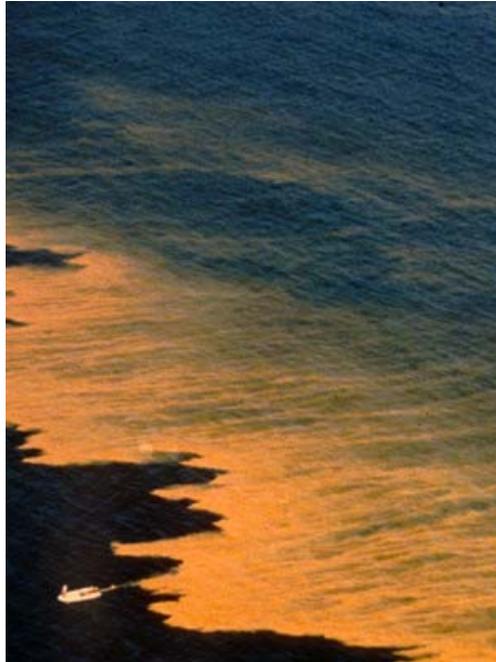
Research to Practice: Addressing Non-Point Source Pollution in Ohio

The Ohio Watershed

thought to be plants, but they have no true roots, stems or leaves - not quite like plants. Today they are still notoriously difficult to categorize, so much so that the word [algae](#) has no scientific taxonomic significance. However, algae are remarkably widespread, occurring anywhere there is water, even if it is only moisture under a rock in the desert!

Algal blooms

occur when algae normally at low densities in the water reproduce very rapidly so that they build up very dense populations. Red tides (right) are blooms of mobile microalgae called dinoflagellates ([this picture](#) shows a bloom that stretched for 20 mile along CA's coast). In fresh water, you may have seen something resembling [pellets](#), green pea soup (below), or golden to brown to green scum (second below).



Planktothrix bloom distributed through the water of Grand Lake St. Marys.

Network is presenting two webinars of interest.

Clean Water Act 101: Aug. 17th, 12 p.m.

and

Short and Long Term Strategies to Address Harmful Algal Blooms in Ohio Lakes: Sept. 21, 12 p.m.

For more information on these two webinars or to register, visit the [OWN website](#).

[Creativity Corner ...](#) Care to contribute ?

"River of Words"

by Nygil Milligan (age 11).

As we have our words, so does the river

Drip, drop

It always has something to say

Trickle, trickle

A cat can never get its tongue, even as it falls

Whoosh, sploosh

Even in a deep freeze, it will still talk

Creak, crack

Listen child, if you listen hard

You will hear its life story,

From melting

Drip, drop

To flowing

Trickle, tinkle

To diving

Whoosh, sploosh

Then to frozen

Creak, crack

Take a little time to hear what

It has to say

Drip, drop

Trickle, tinkle



So why does this occur? Although algal blooms are natural events, they have been occurring more frequently, in both fresh and saltwater. Some natural and unnatural causes include: excess nutrients (N or P compounds), sunlight, low flow and low wind conditions, selective grazing by organisms that eat algae (in some cases, zooplankton or mussels refuse to eat blue-green algae, so these algae cells reproduce more rapidly than other types. The logical conclusion is that humans impact algal blooms due to our human contribution of lots of fertilizers (from farms, lawns, and sewage), destruction of wetlands and forested buffers that historically filtered out lots of nutrients before they got to the water, and perhaps even the more frequent and severe droughts predicted for Ohio by global climate change models.

Most algal blooms are not directly harmful to people, with the exception being if they are caused by blue-green algae that secretes a toxin. The golden-brown bloom seen on the Great Miami was non-harmful, while the blue-green (cyanobacteria) bloom seen last year at Grand Lake St. Mary's was harmful and could even kill pets, livestock or humans. However, all algal blooms are dangerous for aquatic animals because oxygen in the water can drop dangerously low.

You might wonder - why does the oxygen level drop when the algae themselves, because they photosynthesize, produce oxygen? The answer is that the problems occur once the algae die. When these millions of short-lived organisms die, bacteria in the water go to work decomposing them. It's the bacteria that use up all the oxygen in the water and may cause fish kills. This

Whoosh, sploosh
Creak crack
Listen to the river as it always
Has something to say

This poem is from a book by the same name, *River of Words*. Do you have a favorite poem, picture or article you'd like to pass along to our fellow volunteers? Do you write poetry, stories, or articles or create pictures - even better!

To contribute to our next Creativity Corner, email Donna McCollum at mccollds@muohio.edu

Mark Your Calendars!

August Sampling Day -
Saturday, August 13th

Clean Water Act 101 webinar: Aug. 17th, 12 p.m.

Great Miami Rivers Days and September sampling day - Sept. 10th

Rainwater Harvesting as a Stormwater Management Practice webinar: Wed. Sept. 14th, 12-2 p.m.

Short and Long Term Strategies to Address Harmful Algal Blooms in Ohio Lakes webinar: Sept. 21, 12 p.m.

Upcoming Events

We have a **canoe outing** scheduled for **October 1st**, but were wondering if that day is the most convenient for you. **If you are interested in going, please email Beth Downs or give Donna McCollum a call at 529-9386 ASAP. Let us know**

bacterial action, spurred by the algal bloom, which is **spurred by excess nutrients** applied to our fields and lawns or into our rivers through sewage, is what causes the "dead zone" at the mouth of the Mississippi and most other great rivers of the world.

If you are interested in what's happening in Ohio or just want to get a little more information on algae, visit the Ohio EPA's new web site ohioalgaefinfo.com.

Crisis Spot

As you are out sampling or just out for a walk along the waterways and see something wrong, email us. We always want to hear from our volunteers and especially if there is a problem that can be corrected.

You are our eyes in the field, the first line of defense for streams in Butler County when there is a problem. Once the problems have been reported to us, we can pass it along to the appropriate agencies.

Thanks again for all you do for Butler County Stream Team!
Crisis Spot emails can be sent to Donna McCollum at mccollds@muohio.edu.

Butler County Stream Team Monthly Newsletter

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Our mailing address is: 102 Boyd Hall, Institute of Environmental Sciences, Miami University, Oxford, OH 45056

Phone: 513-529-5811

Fax: 513-529-5814

E-mail: ies@muohio.edu / Website: www.butlercountystreamteam.org

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