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Butler County Stream Team

April News - 2012



Volunteer Stream Monitoring in Southwest Ohio
Next Sampling Day - April 14th

Anyone want to help in lab? It looks like we'll have lots of samples this month and maybe not so many people to help. Come to 203 Boyd Hall after 10 and we'll put you to work! We usually have fun, too! And food!

Ohio Minnows

I can't tell you how many times I have been asked/told, as I have sampled fish in small streams, "What kinds of fish are you finding? I thought the only thing there was minnows."

It always leaves me wondering - can I talk about minnows as I tell them what I'm finding or do I have to restrict my comments to bass and sunfish, the fish most people know by name? If you know me at all, you probably already realize I would generally react to this situation as an educational moment. And the education is about minnows - what are minnows, are they all the same, and what are they good for are all topics I just love to expound on!

So what are minnows? Used as a general term, minnows are any small fish in freshwater lakes and rivers.

Biologically, minnows are members of the family Cyprinidae. Some characteristics they have include:

- a single soft dorsal fin (top fin on a bluntnose minnow in [left pic](#)) that may have one stout spine at the front, but not many spines and not split split into two parts like bass, sunfish, or perch,



River Reflections

(Creativity Corner's new name!)

A few musings for inspiration ...

We labor long and earnestly for peace, because war threatens the survival of (humans). It is time we labored with equal passion to defend our environment. A polluted stream can be as lethal as a bullet.

Senator Alan Bible, Nevada

Thanks volunteers, for laboring with passion to help protect our streams and rivers!

Choosing to save a river is more often an act of passion than of careful calculation. You make the choice because the river has touched your life in an intimate and irreversible way, because you are unwilling to accept its loss.

David Bolling, How to Save a River: Handbook for citizen action

In talking with many of you over the years, I've learned most of you help because you remember being in the

- no teeth in their jaws but teeth in their throats (pharyngeal teeth), and
- roundish, overlapping scales with smooth edges ([right pic](#)).

Other characteristics that distinguish them include that they have no adipose fins, the small fleshy fin behind the dorsal fin, like trout or catfish. They may be large or small - size is not a component of the biological characterization. The largest North American species is the Colorado pikeminnow, which can reach almost 6' and weigh 100 pounds ([ref](#)), and you all have seen or heard of carp over 2' long. However, most minnows are less than 6" long and many, like the southern redbelly dace, rarely reach half that.

Next, are all minnows the same? That would be a big - no, a GIANT - no! Actually, minnows are the largest family of freshwater fishes. There are over 2,000 species worldwide and around 300 in North America ([ref](#)). They also may be the largest family of vertebrates (animals with a backbone), but they have some competition with their counterparts in the ocean, gobies ([ref](#)). With many species in each family being small and inconspicuous, there are surely undiscovered species out there. In Ohio, there are at least 48 species (Trautman, *Fishes of Ohio*), counting carp and goldfish, most of which live in streams and rivers.

Finally, what are they good for? Well, any fisherman knows some make good bait! Seining for minnows in area streams should bring up numerous species of shiners and other minnows. Ecologically they are even more important. Since they are small, they are at midlevel in the freshwater [food web](#) (small fish below)-

creeks and rivers when you were young and are unwilling to "accept their loss"!

Any river is really the summation of the whole valley. To think of it as nothing but water is to ignore the greater part.

Hal Borland, *This Hill, This Valley*

Nothing more to say about this one - we all are and every place is part of a watershed.

**Mark Your Calendars!
Lots happening this spring!**

April Sampling Day - Saturday, April 14th

May Sampling Day - Saturday, May 12th

[Earth Day in Hamilton](#) - Friday, April 20 from 11 am - 1 pm. Join us for lunch as we will have free hotdogs, burgers, and tree seedlings while supplies last. Find out about rain barrels, recycling, natural gas vehicles, and more.

[BC Storm Water - Webinar Series](#)

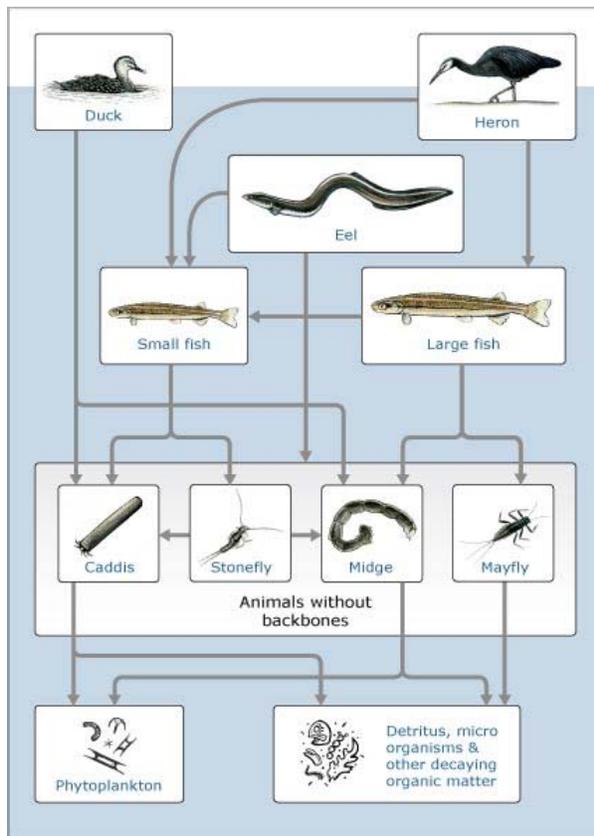
Webcast series produced by the Center for Watershed Protection, hosted by the Butler County Storm Water District. Each webcast will air from 12 - 2 pm at the Engineers Office, 1921 Fairgrove Ave., Hamilton. Cost to you is \$0! That's FREE! For more info on these titles, click [here](#).

Build This - Stormwater retrofit construction issues

Wed. April 18th

Stream Restoration:

Implementation you can take to



they eat insect larvae and other invertebrates, algae, and even detritus and in turn are food for larger fish, mammals like raccoons, birds, reptiles and amphibians. All minnow species lay eggs (lots of them!) and usually provide little or no parental care, so their eggs and larvae are an important part of the "plankton" of our streams and lakes.

Because there are so many species of minnows, they divide the resources in fresh waters into a variety of ecological niches. That means that not all minnows do the same thing in the ecosystem. An easy way to see how that works is to think about where in a stream different minnow species might live. Some are mid-water feeders, like many species of shiners (left), who eat



floating or swimming food particles in the middle of the water column. Some eat at the bottom of the creek, but may eat



the BANK

Wed. June 20th

Get the Dirt on Stormwater

Wed. Aug. 15th

Leaving You Out In The Rain - Design and implementation of monitoring projects

Wed. Oct. 24th

Customizing Your Stormwater BMP Design for Specific Pollutants

Wed. Dec. 12th

A one-day [Adult Education](#)

[Forum](#) will be held at Shawnee State Park on Thursday, April 26th. It will include:

- *River Voices* documentary about the 1937 flood
- *Life Below the Water Line* mobile aquarium with Ohio River fish
- a tour of a nearby lock and dam
- a tour of Portsmouth's famous floodwall murals
- an evening viewing of the movie *Call of the Scenic Rivers*, made to celebrate the 40th anniversary of the Clean Water Act

Click [here](#) for more information. If you're interested, please email [Donna](#) - we can go for however much time you want.

The [Environmental Education Council of Ohio Annual Conference](#) - April 26-29. Includes

the above plus other sessions on Project Wild, Ohio natural history, and canoe trips on Ohio Brush Creek.

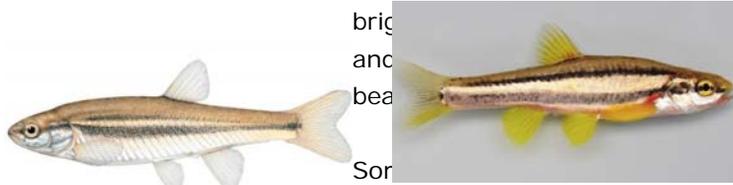
[Clean Sweep - Great Miami River Cleanup](#) - May 5th, 8 am to noon -

to volunteer, click on the logo below and choose a location. There is no

algae (Central Stoneroller) or insect larvae (suckermouth minnow, right).

Notice that the position of their mouths on their heads mimics where they feed - shiners' mouths are straight in front of their "faces" while the other two species have mouths on the bottom.

Finally, I just want to share some of my favorite species. One of the really interesting things about many fishes is their switch to breeding colors, or even shapes, for the spring breeding season. Minnows have some spectacular transformations. Below are photos of a southern redbelly dace in normal coloration ([left](#)) and a male in breeding coloration ([right](#)). The scarlet on the belly is unbelievably



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Some species even change their structure; central stonerollers (left) and creek chub (right)

both develop breeding tubercles - those



bumps and

hooks or spikes on their heads. No one really knows what these tubercles are for, maybe for nudging the female or maybe just to signify that a male is healthy enough to have the tubercles and so healthy enough to reproduce ... either way, it's all about producing offspring!

So ... next time you're out in the creek seining for "minnows", take a closer look. You might find the variety of fish in your net is phenomenal, much higher than the number of species of those fish we all hear about all the time. Just for comparison, here are some species numbers

need to sign-up before hand, unless you plan on coming with a large group. All volunteers will receive a t-shirt and water.



[Homeowner Workshops: Rain Barrel Make-and-Take Workshop](#)

- sponsored by Butler County Storm Water and Soil and Water Districts. Saturday, May 19th, 12 noon - 2 pm. Costs only \$25. All materials are supplied (barrel, down spout converter, faucet, and more). Pre-registration required - email [Lynn White](#)

[Worm Bin Composting Workshop](#)

- make your own indoor composting bin. Saturday, May 19 from 9 am - 11 am. Costs only \$15. All materials are supplied (bin, worms, book, and more). Pre-registration required - email [Lynn White](#)

If you have ideas of things you'd like to see the Stream Team do, please let Donna know

at mccollds@muohio.edu. For instance, if enough people are interested, we can open the lab up for macroinvertebrate identification again, or run another morning session to get people started knowing what bugs are in our streams.

for Ohio families of fishes (my count from Trautman, *Fishes of Ohio*):

- ~50 Minnows
- 7 Lampreys
- 1 Paddlefish
- 2 Sturgeons
- 4 Gars
- 1 Bowfin
- 2 Mooneyes
- 4 Herrings
- 9 Salmonids (includes trout)
- 1 Smelt
- 1 Mudminnow
- 5 Pikes
- 22 Suckers
- 13 Catfishes
- 1 Eel
- 3 Killifishes and topminnows
- 1 Mosquitofish
- 1 Cod
- 2 Troutperches
- 1 Silverside
- 3 Bass (Family Serranidae)
- 15 Blackbasses (6) and sunfish (9)
(Family Centrarchidae)
- 30 Perches (Family Percidae) - includes walleyes, perch
and darters
- 1 Drum
- 2 Sculpins
- 1 Stickleback

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, 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 a problem has been reported to us, we can pass it along to the appropriate agencies. For instance, Carol Jones's interest in streams led her sister to make her aware of cleared brush in

[Lending Library Titles](#)

We all have lots of books we would love to share with someone who has similar interests. So we thought this might be a way to share them with people we know like streams! If you have books, DVDs or other things - especially about water - that you would like to contribute, feel free to bring them along anytime. Or, if there are particular books you would like us to buy, let us know and once a year or so we can add a few to our collection.

Here's our list to date:

- *[A Guide to Common Freshwater Invertebrates of North America](#)
- *[A Guide to Ohio Streams](#)
- *[After the Storm](#) - DVD
- *[An Introduction to the World's Oceans](#)
- *[Bugs of the Underworld](#): a fly fisher's guide to the natural history of aquatic insects (DVD - available on request)
- *[Exploring the World Ocean](#)
- *[Fostering Sustainable Behavior](#): An introduction to community-based social marketing
- *[Guide to Aquatic Insects & Crustaceans](#)
- *[Gulf Hypoxia: Action plan 2008](#)
- *[Handbook for Developing Watershed Plans](#) to Restore and Protect Our Waters
- *[Introductory Oceanography](#)
- *[Life in the Soil](#): A guide for naturalists and gardeners
- *Marine Ecology
- *[Migratory Shore and Upland Game Bird Management](#) in North America
- *[Monitoring Guidance for Determining the Effectiveness of Nonpoint Source Controls](#)
- *Oceanography
- *[Ohio Vernal Pools: Diamonds in the Rough](#) (DVD - available on request)
- *[Our Waters. Our Health](#)
- *[Pond and Brook: A guide to nature in freshwater environments](#)
- *[River of Words](#)

her local creek. When Carol contacted us, Doug Dirksing contacted Duke Energy, who was unaware of the mess and promptly cleaned it up. Success is sweet!

Thanks again for all you do for Butler County Stream Team!

Crisis Spot emails can be sent to Donna McCollum at mccollds@muohio.edu.

*[Stemming the Tide of Coastal Fish Habitat Loss](#)

*[Swamp and Bog](#): Trees, shrubs, and wildflowers of eastern freshwater wetlands

*[The Colorado](#): A river at risk

*[The Evolution of North America](#)

*The Face of the Deep

*[The Mill Creek: An Unnatural History of an Urban Stream](#)

*[Watersheds: A Practical Handbook for Healthy Water](#)

If you have any comments, concerns, or suggestions, please contact us at mccollds@muohio.edu.

Butler County Stream Team Monthly Newsletter

Unsubscribe from this list.

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