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Thank You, Donors

In Memory of Steve Sage

Reading for the Environment

My Fight with Phragmites



*This wall of *Phragmites australis* on Haslett Road just east of Meridian Road was once a biologically diverse wetland comprised of cattails and other native cohorts.*

Three Lakes is a series of open, permanent bodies of water on private land not far north and a bit west of Nature Discovery. The lakes make up merely a portion of a much larger, mostly unspoiled complex of lowland that stretches over two miles north to south just west of Williamston Road, down to and beyond Haslett Road to the south and up to and beyond Lovejoy Road to the north. Marshes, sedge meadows and lowland woods comprise the bulk of this giant topographical trough. Almost a mile north of us, Barry Road runs westward from Williamston Road where it bisects a marshland on the north edge of the northernmost lake in the trio for a few hundred yards.

For over thirty years I've taken kids in our summer day camps for guided excursions along this wild yet very lightly car-trafficked stretch of road to explore the rich diversity of bird, butterfly, amphibian, reptile and plant life from along its edges. I've also driven, biked and walked from our house to this very spot countless more times over the decades to access the marshland life for personal or educationally professional reasons. Therefore, it probably goes without saying..., but I'll say it anyway. This wetland, and the access to it that this stretch of Barry Road provides, has held significant personal value both cerebrally and spiritually for most of my adult life. Naturally, then, I have a vested concern in its ecological integrity.

With such steady observation, any changes in the makeup of the plant community is going to be noticed. In the summer of 2014 I discovered along the roadside the first stalks of an invasive plant known to significantly erode wetland biodiversity if left unchecked.

If you are cognizant of roadside landscapes as you drive, bike or hike it is not uncommon these days to have your view suddenly obstructed by a literal wall of giant grass. *Phragmites australis* is a huge, invasive reed that, growing up to fifteen feet in height, makes even corn rows at the pinnacle of their growth in August look like mere sprouts.

When referring to it and its troublesome nature in discussion most people abbreviate its name to just the genus, *Phragmites*. However, it is worth noting that there exists a similar species that is native -

Phragmites americanus. For anyone with a bent toward eradicating the invader it behooves you to be able to make a distinction between the two before you get to work.

I can't overlook a similar duality between Oriental Bittersweet (*Celastrus orbiculatus*) and American Bittersweet (*Celastrus scandens*). I've discussed the problems associated with the ongoing spread of Oriental Bittersweet in a number of past newsletter columns, the most recent here: <http://naturediscovery.net/pdf/WILD%20TIMES%20Mar23.pdf>. You want to make sure you don't work to eradicate the native vine inadvertently. A quick internet search can show you what to look for to distinguish the invasives from the natives in both pairs. This rule of thumb definitely applies, though... If you see a stand of either *Phragmites* or bittersweet, go ahead and assume you're looking at the more environmentally-insidious one. That's why they're called *invasive*. The natives in both cases are much less likely to be seen across our current landscape.

There are a number of physical attributes to help you determine the difference between the invasive and native reed, but the quickest check is the color of the leaves during the growing season: *P. australis* sports blue-green leaves while those of *P. americanus* tend toward yellowish-green.



Giant plumes in winter release seeds, many destined to be whisked down the road by passing cars.

Once established, *Phragmites* is an aggressive colonizer of moist or saturated ground. Wet ditches adjacent to roadways encourage its spread in linear fashion. On dry days in fall and winter passing cars blow the seeds that fall from their plume-like pinnacles further down the road and into distant ditches. On wet days the fallen seeds adhere to the surfaces of passing cars then slough off in some further locale. Wherever a marshland, sedge meadow or other hydric habitat occurs next to the road the *Phragmites* spreads into it. Fast forward ten to twenty years... the once healthy cattail marsh has been largely converted into a sprawling, much less biodiverse, densely-stalked, towering thicket.

This recent article from Michigan State University's College of Agriculture and Natural Resources not only highlights further differences between invasive and native, but iterates the negative effect of *P. australis* establishment on wetland plant and animal biodiversity: <https://www.canr.msu.edu/news/the-too-common-reed-invasive-phragmites-can-cause-serious-environmental-problems-msg23-sturtevant23>.



A satellite patch takes root adjacent to a wetland into which it will inevitably spread, unless...

The best method for keeping *Phragmites* from invading wetlands in any neighborhood involves simple diligence on the part of knowledgeable, environmentally-caring residents; sadly for natural communities, not an easy combination to find. Neighborhood residents must be vigilant for 'satellite' patches that pop up along roadsides, then take action immediately.

As with most other grass species, the stout *Phragmites* rhisomes grow outwardly underground, and fast. Simply pulling the reed stalks from the ground is rarely a permanent solution as it is nearly impossible pull up much of the root before it snaps. What remains will continue to spread and sprout new stalks.

Glyphosphate (i.e., Roundup) application is a commonly recommended method of control. Most environmental concerns associated with this widely-used herbicide relate to the non-target plant life and other ecosystem components affected through *spraying* it (<https://www.epa.gov/ingredients-used-pesticide-products/glyphosate>). We never spray glyphosphate, however, I will squirt a small amount with a syringe onto a freshly-cut stump of a large bittersweet or invasive honeysuckle to kill the root.

Nine summers ago I wondered whether an injected application could work for the satellite patch of *Phragmites* that I discovered at the marsh on Barry Road. I simply cut a handful of spaced stalks in the patch in cross-section a few inches off the ground, then used a syringe to inject a small amount of glyphosphate into them. Would the herbicide leak into the roots and spread through the rhizomes underground without affecting the surrounding vegetation?

A visit to the site a week later revealed the answer. The entire stand of *Phragmites* stalks and leaves had turned from blue-green to yellow! The glyphosphate had indeed traveled through the network of rhizomes and killed every stalk that grew from it. I inspected the vegetation immediately around the affected reeds for any indication that it might have been poisoned. I saw none. I had managed to eliminate this satellite stand with no more than 8 ccs of carefully-dosed glyphosphate. The following summer there was no sign of regrowth.



The 2014 stand of Phragmites on Barry Road turned yellow from glyphosphate poisoning. No surrounding vegetation showed ill effects.

Since eliminating that stand nine summers ago I was aware that at some point there certainly would occur another onset of *Phragmites* here. Why wouldn't it? This invasive reed is even more prevalent along roadsides now than in 2014. This summer I found not one, but five separate patches of *Phragmites* becoming established on the shoulder of Barry Road where it bisects the marshland.



started pulling. It came free with a snap. A large chunk of broken root came up with it. The other kids joined in, and the *Phragmites* flew.

Last week I took a small group of day campers on a birding excursion here. Although the focus was mostly on the birds I couldn't help but call their attention to one of the patches of *Phragmites*. I explained its ability to spread, crowd out and eliminate the cattails and so many of the other wetland sedges, wildflowers and, yes, birds that were associated with the plant diversity. I pointed out the robust stalks and wide leaves with a blue-green hue, then stated that there were four more *Phragmites* patches in view up and down the roadside. Could they spot them? They found and pointed to all of them in a matter of seconds. Without my prompting one girl went up to a *Phragmites* stalk and

I let them pull stalks awhile longer before telling them about the broken portions of the roots that remained underground; that a different method had to be employed to permanently remove the *Phragmites*, and that I was going come back to get on it later. However, I also marveled at how quickly these young minds absorbed the information, became concerned about the potential problem, then sprung into action with a desire to stop it. If only adults in society could be stirred out of mass complacency and inaction so easily...

After the day camp ended I returned to the site with scissors and syringe full of glyphosphate. Again, I managed to only use about 8ccs to treat four patches. One patch was left untreated. I plan to come back and inject the well-known, natural herbicide concoction of vinegar, salt and dish soap into some of these stalks and see how this particular *Phragmites* patch responds.

Would you like a personal guided experience with *Phragmites* as the topic? Schedule an appointment!

-Jim McGrath

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*Visit Our
Nature Center
by Appointment*
Suggested Minimum Donation:
\$5/person/hour

The sky's the limit for natural science learning here – with a Michigan twist! Individual adults, couples, individual families and small groups are welcome to schedule an intimate outdoor or indoor visit to what we call “The Biggest Little Nature Center in Michigan,” and “Home to the Largest Zoo of Michigan-native Reptiles and Amphibians.” The unique, hands-on experiences here are unrivaled by a visit to any “standard” zoo or nature center! We will bring snakes, turtles, frogs and salamanders out of tanks to interact with adults or students of any age or grade-level.

Identify and feed “the grand slam of Michigan turtles,” all ten species native to our state, as they swim in pools at your feet. Meet, pet and feed “Milberta”, our always hungry Red-footed tortoise.

Handle any or all of Michigan’s three species of garter snakes while learning how to tell them apart, then watch them gobble up worms and live frogs. Hold or “wear” a gentle 6-foot Black Rat Snake – the largest in the state!

Many more snakes, turtles, frogs and salamanders to identify and feed. Take a guided walk on our trails to identify birds, insects, trees, vines, and invasive plants.

Ask about arranging guided interpretive experiences or guided birding outings, for your small group of kids, adults or families at a local natural area of your or our choosing.

Contact us for more information or to make an appointment.



Our second brood of Luna Moths are emerging from cocoons now.

Around the State in August

- ❖ Saturday, August 5: 10:30am. MI Snakes Presentation; Huron County Nature Center, Port Austin.
- ❖ Sunday, August 13: 10am-2pm. MI Wildlife Exhibit; Eastern Ingham Farmers Market, Williamston.
- ❖ Saturday, August 26: 10am to 1pm. MI Reptiles & Amphibians Exhibit; Middlebury Parks Riverfest, Middlebury, IN.



*Thank you to all our supporters past and present,
including these most recent donors to our mission...*



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In Memory of Steve Sage

We are saddened to receive news of the passing of friend and long-time patron, Steve Sage. Readers of our newsletters were treated often to Steve's outstanding nature photographs as they lent beauty to these pages. Steve graciously allowed us access to anything from his archive to supplement our educational and promotional literature. Over the past twenty years Steve has participated in birding excursions with us, arranged wildlife photo shoots for photographers here, and stopped by on many occasions when I informed him that I had acquired a cool insect or other interesting creature for him to photograph. Entirely appropriate to what he loved to do and did so well, the following pages feature photos he took specifically related to his associations with Nature Discovery. We'll miss our kindred friend.

<https://obits.mlive.com/us/obituaries/kalamazoo/name/stephen-sage-obituary?id=52627238>



© Steve Sage

Northern Spring Peeper vocalizing.



© 2009 Steve Sage

Mating Dogbane Beetles.



© Steve Sage 2011

Sharp-tailed Grouse perched in Tamarack.



© Stephen Sage

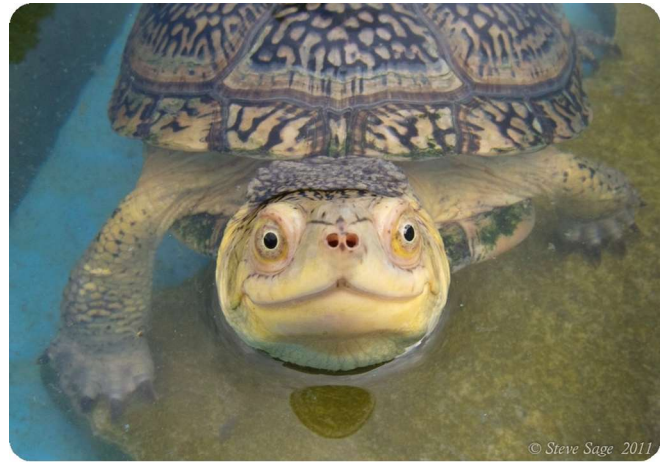
Spicebush Swallowtail larva.



Gray Jay perched in Red Maple.



Eastern Hognose eating toad.



Blanding's Turtle in pool at Nature Discovery.

Reading (& Acting) for the Environment

What's It Going to Be? Planet or Plastics?

https://sustonmagazine.com/2023/08/10/earthday-org-we-need-to-choose-planet-vs-plastics/?fbclid=IwAR0OGR4fn-fDXrlkUQJYM_2Ff6bCCsiDPLvfDt0vnAwny8GvVhUREWx8qA

25 Sneaky Names for Palm Oil

<https://www.treehugger.com/sneaky-names-palm-oil-4858743>

-JM

The next generation would be justified in looking back at us and asking, "What were you thinking? Couldn't you hear what the scientists were saying? Couldn't you hear what Mother Nature was screaming at you?" - Al Gore

I don't want you to be hopeful. I want you to panic. I want you to feel the fear I feel every day. I want you to act. I want you to act like you would in a crisis. I want you to act like your house is on fire, because it is. - Greta Thunberg

The personal actions that cut climate pollution fast are to go flight-, car-, and meat-free. Start with the one that feels most feasible for you; if you can't totally go without, aim to cut your consumption today at least in half. - Kimberly Nicholas, Under the Sky We Make

What if we had storytelling mechanisms that said it is important that you know about the well-being of wildlife in your neighborhood? -Robin Wall Kimmerer



Less Beef = Less CO₂
Cowspiracy.com

**[Union of
Concerned Scientists**
Science for a healthy planet and safer world



Flightfree.org



RSPO.org



insideclimatenews.org

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