



Oriental bittersweet engulfs a wild black cherry in a leafy, but deadly tourniquet.

box of ecological ills – each borne from past, varied forms of human activity performed with a grand lack of perceptivity in regard to the consequences.

Indeed, parallels to the current pandemic crippling our *human* ecology are many. Any of these species could have easily been controlled in their early stages after introduction, resulting in minimal long term impact on woodland ecosystems. However, perhaps owed to some flawed aspect of human nature meaningful action did not take place until after the invader had firmly established itself and had swung into the catastrophic J-curve ascent that is exponential growth. At this stage, ergo, magnitudes more time and labor is required in order to have any hope of getting it under control. Sound familiar?

While walking with anyone on our trails, for instance, I can't help pointing out not just the prevalence of the woody vine, oriental bittersweet, or the woody shrub, Amur honeysuckle, throughout our natural area, but the destructive toll they are taking on the diversity and dynamics of the entire natural community. It's not just happening on our six acres. It is like a contagious sickness that has pervaded virtually all our public and private lands. If the dispersal units of the contagion are the seeds contained within the berries of each plant, our own native birds, like robins, bluebirds, waxwings and finches (plus the

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Thank you!

The Most Anti-Science Anti-Environment

We Need an

All-out War on Invasives

It is an ecological tragedy that plays in real time on public and private stages all around us: the geometric explosion of invasive plant growth in our woodlands and other natural areas. Nearly all have run amok from a Pandora's



By summer's end Amur honeysuckles are loaded with berries ripe for avian picking.

European starling – a feathered invasive) are the unwitting vectors. They consume the berries then fly far and wide dispersing the seeds in their droppings.

Historically, April and May have been Nature Discovery's busiest, most lucrative months of the year...until *this* spring, that is. Between school lessons, presentations and exhibits our calendar is crammed with appointments, including on the weekends. These months also happen to be the most critical of the year for clearing the above-mentioned invasives, in addition to others, like garlic mustard.

Call it an obsession but I have a hard time relaxing for very long knowing that, hour by hour through the growing season, these and other invasives are advancing through our natural area under my watch. If it weren't for my other responsibilities I'd be content to work at *this* cause eight hours a day. Well, the fallout of jobs this spring has provided the best opportunity yet to make this dream a reality.

That being stated I've quickly come to the realization that eight hours a day is a tad *too* ambitious. There are still Zoom lessons to plan and implement for classes at Montessori Childrens House, Stepping Stones Montessori and Okemos Nursery School; "promotional" education to formulate for our Facebook page (Peruse our posts here and "like" us: <https://www.facebook.com/Nature-Discovery-327017934273/>); monthly newsletters, like so; chores and maintenance around the house and around our extensive Michigan reptiles & amphibians zoo; and hosting of visitors in the form of individuals or individual families by appointment for outdoor, physically-distanced, guided natural experiences here at our center. Oh, there is one more limiting factor – my overworked, aching joints... However, since the shutdown began I'm still managing to average over three hours a day cutting, digging, pulling, and - if dry - burning.



The emerald ash borer isn't the only alien killing our ash trees. Oriental bittersweet constricts this one.



In early May the bottom ten feet of the understory is tinted green with Amur honeysuckle growth.

I'd rank **oriental bittersweet** as the most nefarious of our invasives. After all, it is slowly but surely tearing down the very structure of what makes a forest a forest. With each healthy tree strangled, killed and toppled, another gaping hole is torn in the leafy fabric of the canopy, altering the course of everything that grows beneath it in myriad ways detrimental to the community.

Amur honeysuckle is second. This quite shade-tolerant, remarkably fast-growing shrub can completely dominate a forest's understory. The shrubs eventually knit together so densely - often tied together with bittersweet - that the thickets become impenetrable. So little light reaches the ground beneath them that many ostensibly shade-tolerant wildflowers have difficulty surviving.

In late April and throughout May, by necessity, pulling **garlic mustard** becomes the priority. In the second spring of its growth it produces a fast-growing stalk that averages two-to-three feet in height. Tiny clusters of four-petaled flowers in early May quickly germinate and metamorphose into many thin, upright, finger-like seed pods on each stalk as the month advances. Throughout June, then, the pods desiccate, split open and drop hundreds of seeds per plant. With no native life interested in eating them it is no wonder they can and do crowd nearly every native wildflower out of existence. My self-inflicted goal through the month of May is to average five hundred garlic mustard plants pulled per day.

Other plants on our property occupy my mental “second tier” of growth to be removed. As I am working to clear any of the above three from a patch of ground in front of me I’ll usually remove these, as well. Among the photos below some of these are illustrated with information in captions beneath them.



A carpet of garlic mustard in early May produces clusters of tiny, white, four-petaled blossoms.



As garlic mustard encroaches, native wildflowers like these violets don’t stand a chance.



Scattered tangles of the alien shrub, multiflora rose, are thorny barriers to clearing bittersweet and garlic mustard.



Armed with sharp, stiff thorns, removal of a multiflora rose is rarely done without a bloody scratch or two.



Although native, catchweed bedstraw has become invasive over the past 10 years. Ultra-sticky stems, leaves and seeds.



Pull catchweed bedstraw now while it is young. If not, within two weeks it will be draped over all surrounding growth.



The alien biennial, Japanese hedge parsley, in the carrot family, blooms and seeds profusely in late June and July.



Watch for and pluck the rosettes now before the stalks grow and branch out in the coming weeks.



Common motherwort is an alien perennial which grows reproductive stalks each summer that produce seeds with extremely sharp spines. These early spring rosettes have a ball-like root system that is easy to pop up with a shovel.



Although native, common poke grows into a large-leaved, purple-stalked monster, the taproot of which is a bear to dig up. Seeds are spread via birds that love the deep purple berries, however, these little startups are easy to remove.

Knock on wood... we've managed to keep some invasive species that have overrun other local public and private natural areas completely at bay here, thus far. How? By way of the very early detection and elimination mentioned at the onset of this column. The woody shrub, **European buckthorn**, is an invasive shrub that is at least as damaging to natural areas as Amur honeysuckle. Over the years I've located an occasional upstart sapling that I've immediately pulled.

Dame's rocket is a mustard with larger pink, white or lavender flowers that goes through a similar cycle to the above mentioned garlic mustard, however, its timeline is about two to three weeks later. Peak blooming in this latitude occurs in late May. This invasive biennial spreads along roadside ditches then makes its way off-road and into natural areas well away from it. Every May I religiously pull it from roadside ditches for nearly a mile north and south of us on Williamston Road to diminish the likelihood of its spread to our acreage.



The environmental malady of invasives is so acute, widespread and spreading that actions by a relative handful of citizens just won't cut it. Mere smatterings of effort present no hope for (dare we utter the oft-used phrase) flattening the curve, or reversing it.

Should anyone opt to take the defeatist path and declare from the couch that the situation is too far advanced to bother trying to fix, I'd counter, "Give me a coordinated cadre of a dozen dedicated adults armed with pruners, limb loppers, and limb saws for a week, and our six acres could be cleared of invasives – and, mind you, without a drop of fossil fuel burned. Sounds *very* surmountable to me."

Extrapolating to a larger stage, imagine what kind of damage to invasive growth *several* dozen coordinated, appropriately-gear'd bodies could do within a week on the grounds at a local nature center or other public natural area. Adequate man-and-woman-power is definitely available. Heck, there may be more people with time on their hands today than at any point in modern history. The biggest hurdle? Finding the will to break our mass inertia.

What better time to start a broad social movement of invasives awareness than now? But, how to harness this people-power? How to create a concern that's contagious? How to make invasives removal go viral? #Invasivestaskforce, #Warofthewoods, #Friendsoftheforest, #*Something* to impel everyone to pitch in to revive the ecological integrity of our natural areas.

Read on for ways to become educated on the identification and removal techniques (without chemicals) of each invasive mentioned here, and more. Armed with knowledge, a few basic tools and a pair of work gloves, you're battle-ready to take back the woods.

-Jim McGrath

Invasives Identification & Removal by Appointment

Make an appointment any day to take a guided tour (appropriately physically-distanced) through our natural area. Learn to identify a host of invasive growth that is destroying the ecological integrity of natural areas on public and private properties throughout the area, including oriental bittersweet, Amur honeysuckle, multiflora rose, autumn olive, garlic mustard, dame's rocket, catchweed bedstraw, Japanese hedge parsley, and more. Removal techniques are demonstrated *without* the use of herbicides.

Our fee is only \$5/person/hr (min. \$15 for the 1st hr), and open to individual adults or individual couples or families living in the same household.

In fact, if you stay an extra hour to help us clear invasives here we'll waive the fee!

A similar tour can be arranged on your property or at a natural area of your choosing. Same fee plus a small mileage fee. Contact us!



Amur honeysuckle branchlets and leaves are arranged oppositely on the shrub. Blossoms and berries are paired, too.

Volunteers Needed: Can you help us clear invasives out of our woods? If you have some time to spare AND you like working outside AND you like working in the soil AND you would like to do something that's good for the environment AND you like being surrounded by the sights, smells and sounds of the month of May, please contact us! It's a great outdoor service endeavor for teens! Choose any days or hours that are convenient for you.

One-on-One Nature “Tutorials” BY APPOINTMENT

Geared specifically for the times... Individuals, individual couples, or individual families who reside in the same household are invited to spend an hour or two immersed in any of an array of guided outdoor experiences - virtually any day by appointment at Nature Discovery. The sky's the limit as to the range of activities of which here is a short list:

- Identify Michigan turtles up close as they swim and bask in pools at your feet. Kids *love* feeding them!
- Visit our big red-footed tortoise, Milberta, as she wanders in slow-motion around the lawn. Kids love hand-feeding her, too!
- Snakes! Meet, handle and even feed our gentle rat snakes, garter snakes, water snakes and others.
- Spend a morning identifying birds by sight and “by ear.” Did you know that more bird species can be encountered in Michigan in May than in any other month of the year? Take a birding walk around our country block, or arrange to meet at another natural area of your choice.
- ND after dark! Wade with headlamps, nets and cameras to discover the hidden mini-jungle that is a vernal pond. Spotlight and photograph trilling tree frogs. Scoop an array of teeming invertebrates that squirm and dart beneath the surface then pour them into trays for viewing and identification. Then, turn off the flashlight, let your eyes adjust to the darkness and search for the pinpoint lights of firefly larvae along the trail sides.



MSU SciFest Digital Presentation Features Michigan Turtles on May 13

On Wednesday, May 13 at 3:30pm, join Jim via MSU Science Festival's Facebook Live series featuring *Ten Turtles Native to Michigan*. Live specimens will be featured of all ten species found in our state. A question and answer period follows. If you can't make it live, look for the video on their Facebook page or ours.

<https://www.facebook.com/MsuScienceFestival/>

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