Thumb Land Conservancy News
2024 April 28

Dead End Woods Sanctuary Spring Stewardship
Saturday - May 18
Noon to 3:00 PM
Fort Gratiot Township, Saint Clair County

We are conducting our annual spring stewardship in the Dead End Woods Sanctuary on Saturday, May 18 from noon to 3:00 pm. TLC Program Assistant Blake Short will lead the work.

The Dead End Woods is one of the most floristically diverse forests in Saint Clair County. This is a great opportunity to learn spring wildflowers and other plants in this unique woodland preserve. Our focus for 14 years has been removal of invasive Garlic Mustard, but we are now removing minor occurrences of Multiflora Rose, Japanese Barberry, and other invasive plants.

Meet us at the end of Wilson Drive at 3685 Wilson Drive in Fort Gratiot, next to the Dead End Woods Sanctuary. You should bring drinking water. Be prepared for rain and mosquitoes. Garlic Mustard is hand-pulled. Gloves are not necessary. We'll provide tools to remove other plants.

Garlic Mustard is very tasty and nutritious, originally brought to North America from Europe as a culinary herb. You are welcome to take as much home as you like, but don’t spread it in your yard.

For more information, contact us at 810-346-2584 or mail@ThumbLand.org.

Following is a Bing Maps link showing the Dead End Woods Sanctuary entrance:
https://www.bing.com/maps?osid=5530cdb7-290e-4fd3-8654-4ff6e60bf24d&cp=43.016496~-82.498481&lvl=18.587711&style=h&pi=0&v=2&sV=2&form=S00027

Thumb Heritage Festival
A Celebration of Regional History and Regional Nature
June 1, Saturday, 10 am to 4 pm
Bill Bearss Memorial Park, Clyde Township

The TLC and Clyde Historical Society are holding our first Thumb Heritage Festival on June 1 from 10 am to 4 pm at the historic Clyde Township Hall located at Bill Bearss Memorial Park across from the Dorsey House at M-136 and Wildcat Road in Clyde Township. There is no charge to participate.

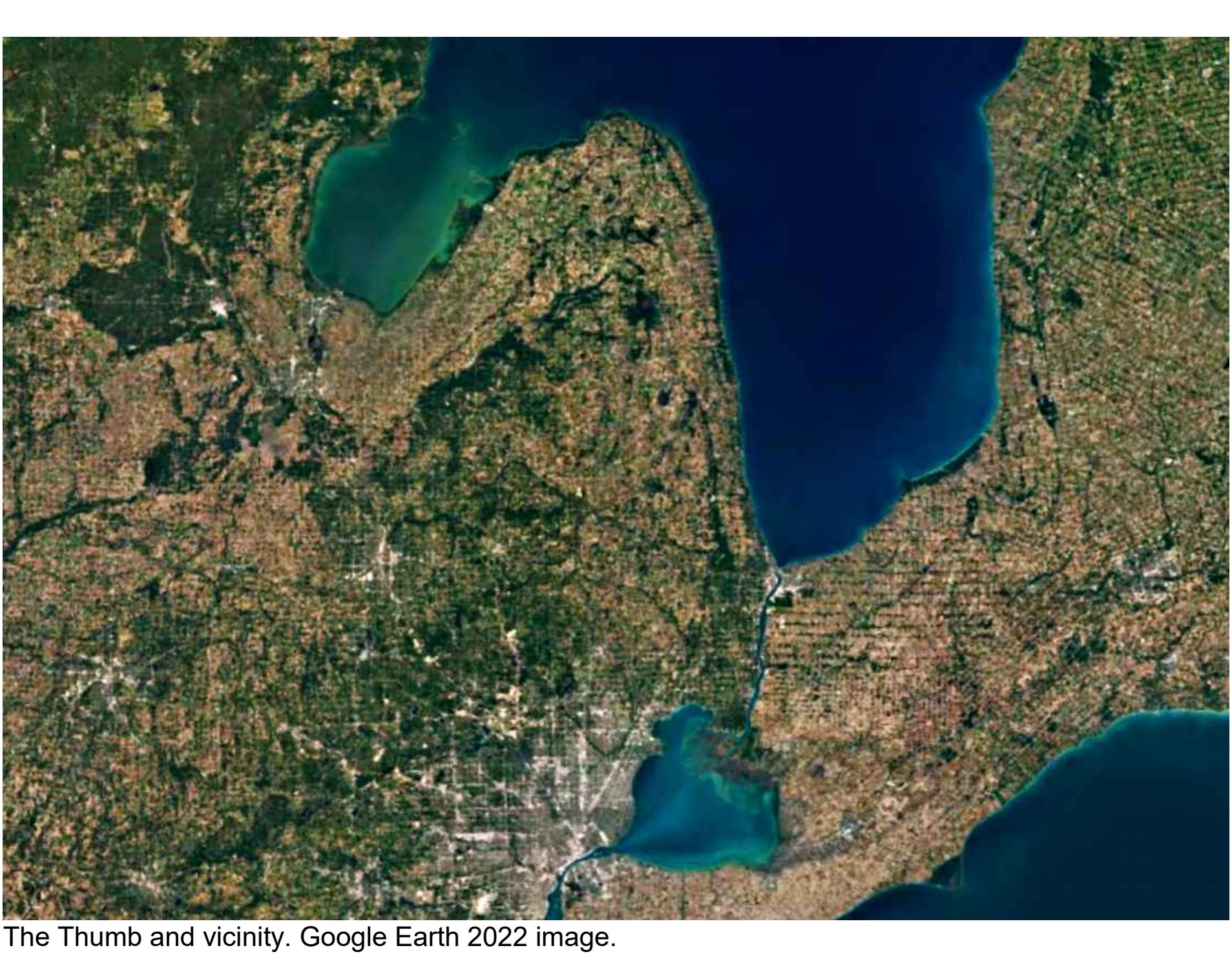
The festival will feature exhibitions of our regional history and regional natural history, or in other words, our heritage. Exhibitors will share what makes our region unique, interesting, and important from both a historical and natural perspective. We have a lot going for us here in the Thumb and Blue Water Area with some impressive natural features and fascinating stories.

Exhibitors from our Thumb region will include:

- Clyde Historical Society
- Thumb Land Conservancy
- Streamline Historic Services, Port Huron
- Marlette Historical Society
- Huron Genealogy Services, Yale
- Amy's Relation to Creation & Botanicals, Marine City
- Four County Community Foundation based in Almont
- Michigan Department of Natural Resources, Port Huron State Game Area
- USDA Natural Resources Conservation Service
- Blue Water Conservation District
- Lake St. Clair Cooperative Invasive Species Management Area
- Coleeta Vesper, author of "*Memory Trail, An Early History of Kenockee*"
- Tepkeah Jacobs, native indigenous history
- St. Clair County Genealogy & History Society
- St. Clair County Pheasants Forever
- The Science Jar, freshwater microorganism project
- Ourselves, Irish and Americana music band, Port Sanilac
- Trae McMaken, fiddler and tradition bearer

Join us to learn about Thumb natural features, native species, indigenous culture, forest, logging history, farming history, railroad history, native plantings, pollinators, composting, edible and medicinal herbs, maple syrup, crafts, conservation, invasive weed control, habitat restoration, genealogy, community foundation opportunities, traditional music, and more.

The Thumb Heritage Festival is sponsored by Tri-County Bank, Meijer, C. Roy & Sons of Yale, Knights Insurance of Cass City, Amy's Relation to Creation & Botanicals, Thumbwind Publications, and other donors.



The Thumb and vicinity. Google Earth 2022 image.

New TLC Helpers

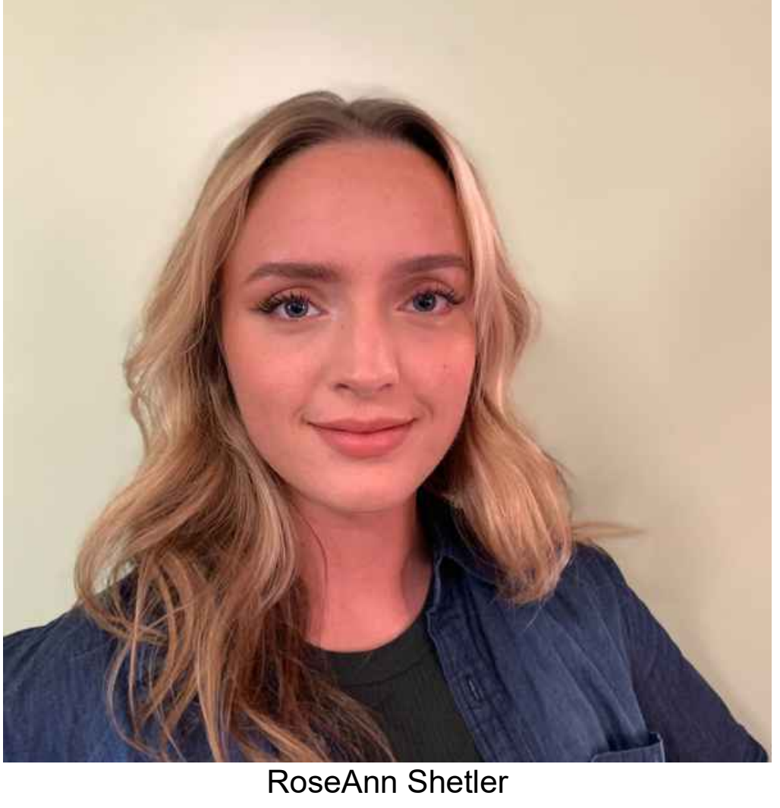
The TLC recently recruited two new workers to help us with our growing need for preserve stewardship, program, and fundraising.

Darrin Koester is assisting the TLC with preserve stewardship, starting with the Bidwell Sanctuary in Burtchville Township. He will be working with TLC Board Member Dan Rhein who has also taken the lead on stewardship of our Loznak Sanctuary in Marysville. Darrin is also interested in helping with TLC program and fundraising. In 2020, Darrin and his wife, Kim, worked with the TLC to establish a 79.4-acre conservation easement on their property in Fort Gratiot, one of the larger forest tracts remaining in the township.

Darrin Koester

Darrin is the owner of Koester Maintenance and Building Repairs, a Christian business that provides comprehensive maintenance and repair services for both residential and commercial properties. He also works as a Weatherization Inspector at Blue Water Community Action and Estimator Project Manager at Cyrus Masonry and Restoration. For more information, see his Facebook page at: Facebook.com/people/Koester-Maintenance-and-Building-Repairs/100094771921222/

RoseAnn Shetler joined the TLC in April and is currently helping us prepare for our June 1 Thumb Heritage Festival. She is committed to the mission of the TLC and we hope to introduce her to more program-related work in the near future.



RoseAnn Shetler

RoseAnn lives with her family in rural Lapeer County. She grew up on a small self-sufficient homestead in the Thumb where she enjoyed gardening, preserving food, and caring for animals. Her childhood instilled in her a deep appreciation for nature, animals, and holistic and natural health practices. She has plans to own her own self-sufficient homestead one day, and she hopes to inspire others to reconnect with nature and themselves. In her spare time, RoseAnn embraces an active lifestyle, often found camping, hiking, beach-combing, sewing, drawing, and spending time with her beloved cats.

Land Trust Alliance Membership

The TLC is in the process of joining the Land Trust Alliance (LTA), a national support group for land conservancies or trusts. As the TLC grows, we are finding that we require more guidance on administrative, liability, legal, and other land protection issues.

As part of our LTA initiation process, the TLC Board met with Sarah Naperala, a representative of the LTA, at the Yale Public Library on April 9. This was a nice opportunity for us to get acquainted and for Sarah to learn about the TLC. Sarah lives in Traverse City but grew up in Marysville and graduated from Croswell-Lexington High School, so is originally a local who understands our challenges here.

Over the course of the summer, we will participate in three additional web meetings, all geared toward risk management. Topics will include organizational governance, financial management, land transactions, land stewardship, and programming.

Conservation Easements

In addition to the satisfaction of protecting natural areas, there are potential tax benefits to placing a conservation easement on your land that you may want to consider:

1) According to Michigan Public Act 446 of 2006, the property tax on land under a conservation easement does not come uncapped or "pop up" upon sale or transfer to a new owner. This is not only good for the new owner, but may benefit the current owner by making their property more attractive to potential buyers.

2) The local tax assessor may decrease the property tax on land under a conservation easement. There is no guarantee and this is highly variable from one municipality to another.

3) An owner who places a conservation easement on their land may claim a charitable donation for the value of the easement on their federal income tax statement. The potential benefit depends on the appraised value of the easement and whether the owner takes an itemized deduction. If so, a non-farm landowner can deduct up to 50% of their adjusted gross income for up to 15 years, or until the value of the conservation easement has been fully deducted. Farmers can deduct 100% of the adjusted gross income for up to 15 years, or until the value of the conservation easement has been fully deducted.

As usual, we need to make clear that the TLC is not qualified to offer expert tax advice. Before making any conclusions, landowners are highly encouraged to consult with their own legal, financial, and tax advisors.

To answer some common questions about conservation easements: 1) Conservation easements do not give public access to private land, even though the legal agreement is called an "easement"; 2) Conservation easements do not give a conservancy ownership of the property; 3) Conservation easements do not restrict sale or other transfer of the land, but all future landowners must abide by the terms of the original easement; 4) Conservation easements do not need to cover an entire property; 5) Conservation easements are intended to protect land in perpetuity and can be removed only by a court order; 6) Conservation easements can be written to allow specific land uses and reasonable development of structures that are of minor impact that are compatible with the terms of the easement; 7) Land conservancies are required to inspect the conservation easement premises at least once per year; 8) Land conservancies are required to notify the landowner of violations of the terms of the conservation easement, require remediation of violations, and legally defend the easement in court if necessary; 9) The TLC requires some level of endowment funding to cover our annual inspection and reporting, and to potentially defend the easement in the future; and 10) Conservation easements can be placed on land under mortgage or other loan only if the lender agrees to subordinate their interest in the property to the conservation easement.

For more information about conservation easements, property donations, and other ways to protect land, contact us at 810-346-2584 or mail@ThumbLand.org.

Chickweed
By Amy Martinez, RN, BSN
Amy's Relation To Creation and Botanicals, Marine City

You have likely stepped on it, mowed it down, maybe even rolled in it as a child (or adult, no judgement here!) all without realizing the highly purposeful plant that it is, even with its seemingly frail stem. Chickweed *Stellaria media* has many diverse uses that we will be exploring here. My hope is that before you routinely mow down or step on this amazing plant, you may just look at it in a different light and even save a little for future use.

Chickweed. Photo credit: Hugo.arg.

Chickweed has been used in traditional medicine and cuisine for thousands of years. The Greek physician/pharmacologist/botanist/author Dioscorides wrote, circa AD 90, that chickweed “... may be applied with cornmeal for inflammation of the eyes. The juice may also be introduced into the ear in earache.” It was also used by 17th century herbalist, John Gerard, to treat mange.

Belonging to the Caryophyllaceae family, otherwise known as the Pink or Carnation family, Chickweed is native to Europe and Asia but is now naturalized to North America and most of the world. It is very hardy and can be found popping up in waste places with full sun to part shade. Chickweed prefers cool, damp locations with moist fertile soil but it is not a necessity. The plant intertwines and covers large areas and can reach heights of about 20 inches. Small, star-like shaped white flowers with 5 split petals, 5 green sepals (which are longer than the petals) and stamens that have reddish-violet anthers, appear at the tips of the stems from March through September. Leaves are opposite and oval with smooth and slightly feathered edges. Chickweed stems are weak and willowy with a single line of hair which changes sides at each leaf junction. Inside the stems, there is an elastic core which gives a distinct snap when it breaks. The Chickweed root is a slender taproot. Fruits develop in the autumn and have about 2,500 reddish-brown seeds that can be viable for up to 40 years!

The aerial parts of the plant have many uses, from culinary and medicinal to hygiene, household cleaning, and animal feed. To me, the taste is very similar to spinach though some say it closely resembles alfalfa sprouts. Chickweed can be used in the kitchen for salads, pesto, dips, condiments, pastas, soups and casseroles. It can also be used to make eye and wound washes, teas, poultices, infused oils, salves, balms, creams, extracts and tinctures, shampoos, soaps, household cleaners and animal feed (especially loved by chickens!).

Chickweed should be harvested in the morning or late evening, avoiding the heat of the day, by snipping off the upper branches of the plants. The harvest can be used fresh, dried, or frozen for future use. If drying, store in an airtight container in a cool space out of the sun.

After reviewing much literature, I found that Chickweed contains the following constituents:

Vitamins
- A, B1, B2, B3, C, E

Minerals
- calcium
- iron
- nitrate salt
- potassium
- phosphorus
- nickel
- zinc
- copper
- sodium
- cobalt
- magnesium
- lead
- manganese
- cadmium
- mercury

Fatty acids
- methyl stearate
- hexacosanyl palmitate
- melissic acid
- gamma linolenic acid

Metabolites
- stellarmedin a
- cyclic peptides
- arginine
- glycine
- alanine
- lysine
- thymine
- uracil
- aspartic acid
- glutamic acid
- serine
- proline
- thymidine
- tyrosine
- 2-histidine
- g-aminobutyric acid
- threonine
- stellariose
- polysaccharides
- ceryl alcohol
- melissyl alcohol
- pentacosanol
- hentriacontane
- alkaloids
- 4-hydroxybenzoic acid
- vanillic acid
- caffeic acid
- chlorogenic acid
- ferulic acid
- coumarin
- hydroxycoumarin
- parietin
- questin
- emodin
- tannins
- luteolin
- apigenin
- vicenin-2
- isoquercetin
- rutin
- kaempferitrin
- genistein
- aglycones
- c glycosides
- cardiac glycosides
- eucalyptol
- linalool
- menthol
- 6, 7-dimethyl heptacosane
- gypsogenin
- oleanolic acid
- beta carotene
- daucosterol
- beta sitosterol
- 3-methyl-6-hydroxy -heneicos-3-enyl acetate
- 2, 4, 5, 7 tetramethyloctane
- 2, 2, 4-trimethyloctan -3-one
- 6-methyl heptyl-3’ -hydroxy-2’ methylpropanoate

What does all the above translate as? Simply put, a world of goodness for our bodies! All those constituents take action inside of us making the properties of Chickweed extremely useful when facing a number of ailments. Because of those constituents, the medicinal properties of cooling Chickweed are:

- antitussive
- expectorant
- demulcent
- antipyretic
- anti-inflammatory
- antiviral
- antibacterial
- antifungal
- antileishmanial
- anxiolytic
- antioxidant
- anti-cancer
- antiproliferative
- astringent
- detoxifier
- blood purifier
- counterirritant
- analgesic
- antidiabetic
- anti-obesity.

These properties will help support your body when you are dealing with:

- sore throat
- coughs
- bronchitis
- asthma
- cold
- flu
- tuberculosis
- peptic ulcer
- gerd
- dyspepsia
- ulcerative colitis
- intestinal pain
- constipation/diarrhea
- boils
- abscesses
- burns
- rashes
- psoriasis
- eczema
- pruritus (itchiness)
- dermatitis
- insect bites
- hives
- mange
- shingles
- varicose veins
- wounds
- measles
- jaundice
- fractures
- cancer (liver)
- hepatitis b virus
- dependent edema
- heart infections
- thyrotoxicosis
- menstrual pain
- osteoarthritis
- rheumatoid arthritis
- gout
- surface nerve pain
- blood poisoning
- tetanus
- boils
- herpes sores
- venereal diseases
- diabetes
- obesity
- anxiety

Promising research is also being done on the effectiveness of Chickweed against leukemia and colon cancer.

I know so many people think that because something is found in nature, you can use as much of it as you please. I would like to state that this is not a good way to utilize nature as many things can indeed cause harm when over indulged. Such is the case for Chickweed as reports have been made of nitrate toxicity and paralysis when very large amounts have been used. Chickweed may also cause contact dermatitis in some, if this is you, I would not eat it due to a potential allergic reaction. Also, be aware that Chickweed contains good amounts of potassium and phosphorus, so if you are taking these as individual supplements, your primary care provider may need to adjust your dose and increased frequency of testing may be necessary.

I can imagine after learning all the wonderful benefits of Chickweed, you are excited to forage some for personal use. As I am writing this, we are in the midst of a snowstorm so we may need to wait a few weeks! Once you spot a patch of Chickweed and correctly identify it, harvest, and then take it into the kitchen and have fun with it! It is so good as part of a salad! Feel like you can wait to try using Chickweed; come to Amy’s Relation to Creation & Botanicals, LLC in Marine City where you can purchase it!

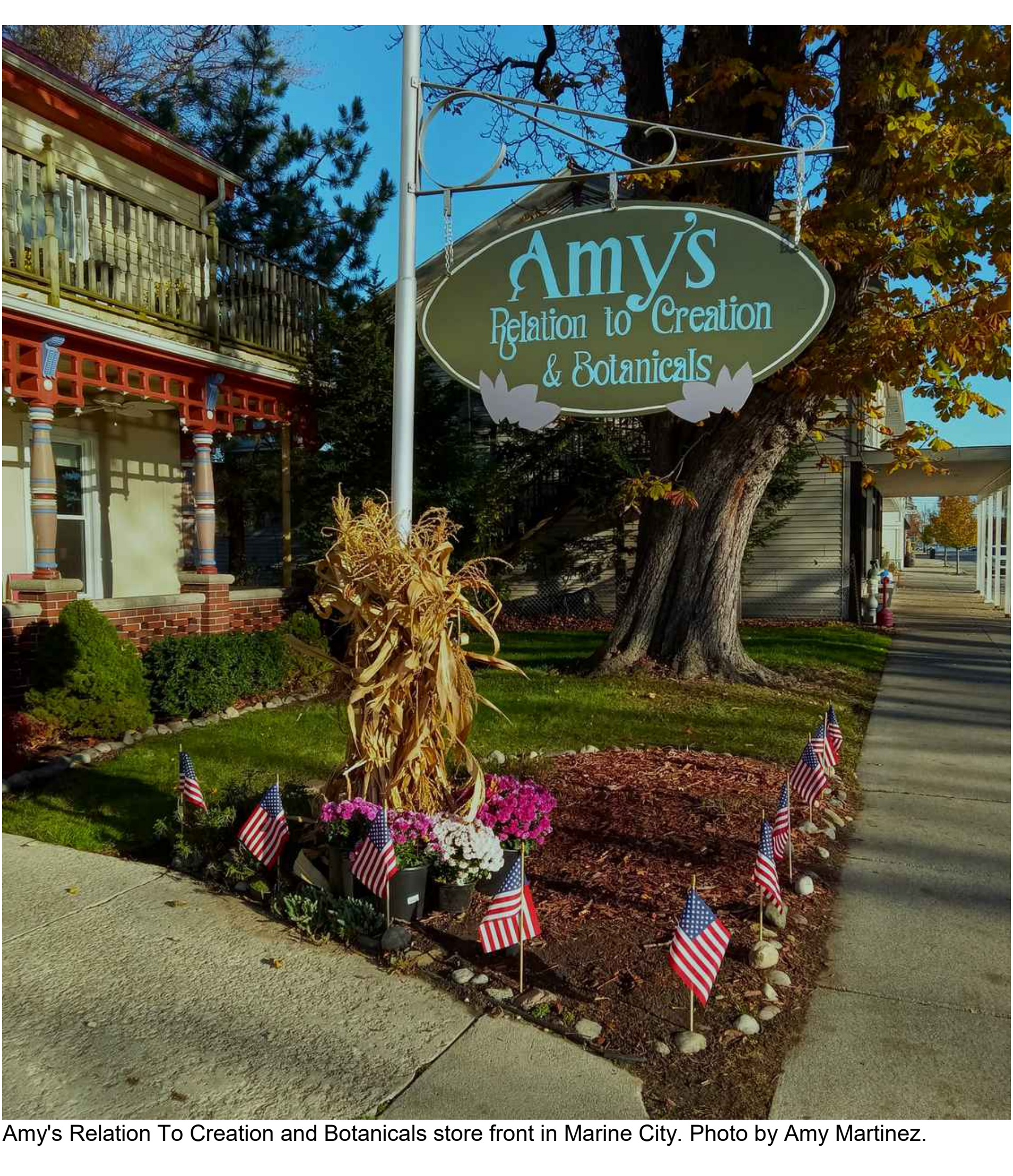
To make a decoction or strong tea, use fresh Chickweed, if possible, otherwise, dried or frozen will suffice. Use 1 cup of leaves and 1 pint of water. Bring the water to a boil in a pot then add the leaves. Reduce heat and simmer for 10 minutes. Allow it to cool so you do not burn yourself. Strain out plant material. Drink 1 to 2 ounces of the brew 2 to 3 times a day or use as a wash for small wounds, rashes, or insect bites. Store in the refrigerator and discard after 2 to 3 days. The ratio for a general tea is a half to 1 teaspoon per 1 cup of boiling water.

To make a poultice, blend fresh Chickweed (or dried with a small amount of water added) into a smooth paste and apply directly to your target area and slightly beyond. Cover the paste with a bandage or cloth. Replace every 6 hours as needed. Equal parts of ginger root and raw honey may also be added for additional benefits in wound healing.

As always, if using Chickweed as a supplement to your health, you should consult with your primary care provider because nothing in this article has been approved by the FDA. The above information is not intended to diagnose, treat, or cure any diseases, it is for informational purposes only.

This article is not meant to diagnose, treat, or cure any diseases. Nothing in this article has been approved by the FDA. Information is for educational purposes only. To see an extensive bibliography of references for Chickweed, see Amy's blog at:
https://amysrelationcreation.com/2024/03/26/chickweed-stellaria-media/

Amy's Relation To Creation and Botanicals is a family-owned and operated botanical store located at 256 South Water Street in Marine City. A variety of natural products are available including teas, coffees, utensils, dried herbs, live plants, herbal tinctures, essential oils, salves, and other medicinal, wellness, personal care, and cleaning products. Owner, Amy Martinez, is focused on offering locally-sourced, natural, unprocessed, and eco-friendly products. The store is open from 9:00 am to 6:00 pm Tuesday through Saturday, but open until 8 pm on Thursdays from April 4 through December. In addition to the store, Amy offers a meeting room available for rent for small groups, for health presentations, wellness consultations, tutoring for nursing students, and Bible studies. For more information or to reserve the meeting room, see: AmysRelationCreation.com or call 810-335-4622.



Amy's Relation To Creation and Botanicals store front in Marine City. Photo by Amy Martinez.

For a schedule of events see: https://amysrelationcreation.com/upcoming-events/. Upcoming events include:

- Every Sunday, 9 am - Bible Study
- April 4 through December 31 - Open Late on Thursdays until 8 pm
- April 27, 12 to 5 pm - Marine City Art Drift
- May 2, 6 to 7pm - National Day of Prayer
- May 8, 3 to 4 pm - Tea Time, $10
- May 15, 7 pm - Chickweed, Dandelions, and Violets! $15
- May 16, all day - Sidewalk Sale!
- May 22, 7 pm - Family Game Night, $5, 12 and under free

How to Attract a Teapot of Towhees
By Tom Dennis

Eastern Towhee, *Pipilo erythrophthalmus*

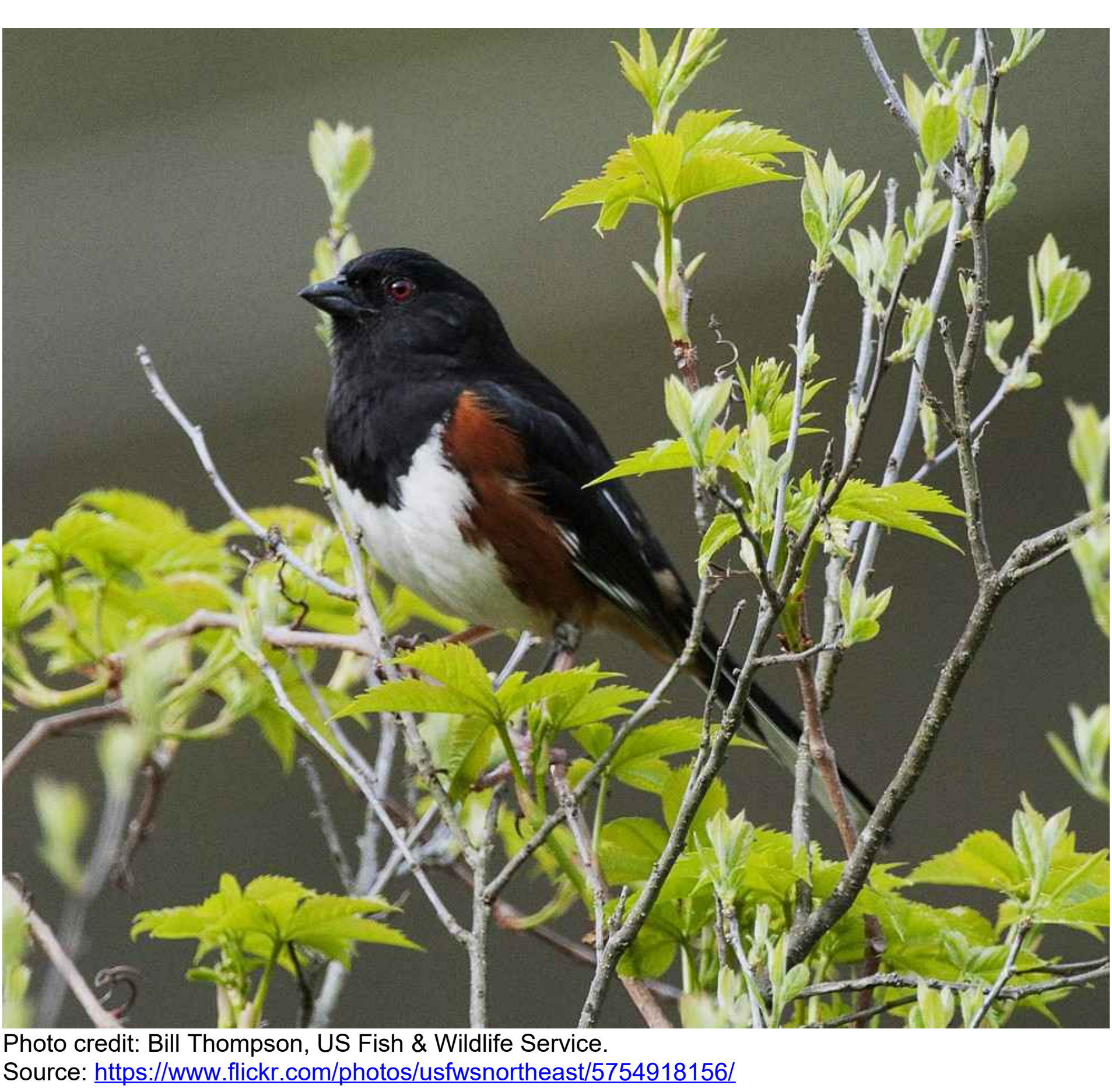


Photo credit: Bill Thompson, US Fish & Wildlife Service.
Source: https://www.flickr.com/photos/usfwsnortheast/5754918156/

One of my favorite spring arrival birds, an Eastern Towhee, showed up in the back yard last week (late April). I’m especially fond of this member of the sparrow family as its cheery song that sounds like “drink your teeee”, is a favorite of my oldest granddaughter Kyla. It’s a bird song that once heard, you will never forget. This colorful bird can be difficult to see since it prefers to forage and hang out in thick undergrowth but once you learn to recognize the song, a little patience often pays off with a sighting. Let’s take a close look at the only Junco found in Michigan.

This species was known for many years as the Rufous-sided Towhee which is quite descriptive as both sexes have rufous flanks offset by white undersides. The male’s upperparts and hood are black and the female’s upperparts and hood are dark brown. Both have white wing bars, red eyes and a short conical beak that is black. These rather large “sparrows” weigh in at 1.5 ounces with a wingspan of 8 to 12 inches. In addition to the song mentioned above they have several call note variations that are basically a “chewink” sound and a contact call that’s a high-pitched “seee”. The name “Towhee” was given by Mark Catesby, a naturalist and bird artist who encountered the bird in the Carolinas in 1731. He heard a variation of the “chewink” call that he described as “towhee”.

Our area is just slightly north of the year-round range and the summer range extends from Minnesota to southern Maine and includes southern Ontario and Manitoba, and southeastern Saskatchewan. They are short-distance migrators with some individuals wintering in eastern Texas and Oklahoma, this being the western edge of their range. There are five additional species of Towhee in the United States, all found in western states. The preferred habitat is thick undergrowth and brushy edges of open woods.

Most foraging is on or near the ground. During fall and winter seeds comprise up to 85% of their diet and they are attracted to feeders during this period. In spring and summer plant-based foods drop to 50% or less of the diet with the balance being insects and other small invertebrates that are found on the ground or gleaned from plants. Like the White-crowned Sparrows and Juncos, they use the unique “double scratch” hopping behavior as they forage on the ground and it’s quite a successful technique for finding buried seeds and insects. Nesting is usually also done on or close to the ground, under bushes or in brush piles. The parent birds raise two broods in our area and southern couples often raise three broods of up to six eggs per brood.

To attract a “tangle” or “teapot” of towhees to your yard you will need to plant a fairly dense stand of thick shrubs and it helps if you have a tolerance for a certain level of untidiness. A seed feeder located over or on the edge of shrubs like Arborvitae makes a near-perfect foraging habitat. Proximity to small wood lots is also beneficial in attracting this species. Something to keep in mind if you need to buy a new home to facilitate your sighting needs. Of course, you can also hear and see them by scouting out appropriate natural sites.

You can learn more about birds and nature by attending Blue Water Audubon meetings. Check the Blue Water Audubon Society Facebook page for the latest meeting details, local bird sightings, discussions, and events. Be sure to “friend” us!

Tom Dennis is a resident of Fort Gratiot where he and Laurie Melms Dennis, his wife of 51 years, tend to their bird and butterfly friendly gardens. He is a speaker and free-lance writer, passionate birder, advanced master gardener, creation scientist, and naturalist, with degrees from Michigan State University in Zoology and Biology. Tom is an active member of Blue Water Audubon Society, Master Gardeners of St. Clair County, Port Huron Civic Theater, Ross Bible Church, Tapestry Garden Club, Blueways of St. Clair, and is a steward of the Blue Water Riverwalk with Friends of the St. Clair River.

You Got The Power In 2024

Save Nature Any Place! Sustain Native Animals & Plants!

In 2023, we highlighted restoration of natural habitat on private land, neighborhood efforts, and programs like Homegrown National Park, National Wildlife Federation Certified Wildlife Habitat, and the TLC Naturehood registry. The TLC will continue promoting these efforts in 2024.

Restoration doesn't need to be complicated. In one way, it represents the truest expression of private land ownership and democratic ideals. As a landowner, you are vested with a great deal of power and responsibility. While the world is distracted by monetary value and appearance, there can be a benevolent and unpretentious aspect to owning land. You have the power to help restore nature, to support native species, to improve our air, water, soil, and climate, and to benefit all of humankind now and for generations to come, all right where you live. Every little piece of land matters now, whether it serves as habitat for native species year-round or is just a stop-over for transients. If you have a lot of land, you can have even more impact. Even if you don't own land but have a few flower pots or a small patch of dirt at your disposal, you will surely benefit a few of our beleaguered pollinators. Regardless, there is a lot to be said for adding a little beauty to our world.

For a basic guide on restoring or creating natural habitat on your property, see our 2023 March 19 TLC News:
http://www.thumbland.org/News031923-DrPaulCroissantLandDonation.pdf

One of the best and easiest things you can do, or could have done, is simply leave the leaves. Leave the leaves and easily transform your yard into far more sustainable habitat for wildlife while saving yourself a lot of work, money, and also contributing less pollution and noise. Here are a few articles from the National Wildlife Federation on the importance of leaving the leaves, whether fall or spring:

Seven Species That Need You To Leave The Leaves
https://blog.nwf.org/2023/10/seven-species-that-need-you-to-leave-the-leaves/

Why You Should Leave the Leaves
https://www.nwf.org/Magazines/National-Wildlife/2015/OctNov/Gardening/Leave-the-Leaves

A Helping Hand for Early Bees
https://www.nwf.org/en/Magazines/National-Wildlife/2017/Oct-Nov/Gardening/Plants-for-Early-Pollinators

TLC Spring Stewardship

If you want to work on any of these projects, let us know.

Date	Activity	Location
May - June	park entrance and trail work	Bidwell Sanctuary
May - June	Black Locust removal	Croissant Sanctuary
May - June	entrance and trail work, prairie restoration	Loznak Sanctuary
May - June	invasive weed removal	Dead End Woods Sanctuary

Clyde Historical Society

The Clyde Historical Society meets on the third Thursday of each month. Their next meeting is May 16 at 6:30 pm at the historic Clyde Township Hall located at Wildcat Road and M-136. The Clyde Historical Society promotes history, education, and preservation in Clyde Township.

On May 19, the Clyde Historical Society will hold their annual Veterans Picnic from 1 to 3 pm at the historic Clyde Township Hall.

For more information, see the Clyde Historical Society Facebook page at:
https://www.facebook.com/groups/1481890455361159/

Ecology News

The Ecology News section has been shortened yet again. There is so much news these days and we plan to link to several news sites through our updated web site in the near future.

Three significant news items appeared in the past few months that are very pertinent to our region, and all three concern forest. About 95% of the Thumb was originally forested. Today, only about 10% of that forest remains, mostly as small degraded fragments which are not sustainable over the long-term. These patches contain the last vestiges of the majority of our native woodland flora, an irreplaceable natural heritage. Many of us have long known that forests are also important to migratory birds and to cooling or moderating our climate, among many other ecosystem services. But until recently, we couldn't claim to quantify how significant these functions are. Thanks to advances in technology and recent studies, now we have a much better idea. Taken seriously, these three news items should have broad implications for protecting all forest in our region, and across the world.

Moving Trees North To Save The Forests

https://knowablemagazine.org/content/article/food-environment/2024/forest-assisted-migration-climate-change?

This article features the critical work of Dr. Brian Palik of the United States Forest Service, Northern Research Station in Minnesota. Among other projects, Brian Palik has worked with the US Forest Service for several years to research the effectiveness of moving southern tree species north in order to replace northern trees that are no longer compatible with the warming climate, and also to replace ash trees decimated by the Emerald Ash Borer. Unlike a few centuries ago, most plant species are no longer able to move north or south in response to a warming or cooling climate due to human-made barriers such as farm fields and development. Even if forest vegetation was free to move, it doesn't happen within a few decades, but over the course of centuries. Brian's work on this issue is critical if public and private forest managers hope to maintain sustainable timber harvests.

Dr. Brian Palik, US Forest Service, Northern Research Station

Brian is a TLC member, originally from Ithaca, Michigan. He earned his graduate degrees in botany and forestry from Michigan State University and taught there in the 1980s. Brian was a huge influence on TLC Executive Director Bill Collins during his time at MSU, introducing him to the latest findings in forest ecology, and through his research, opening his eyes to the very real devastation of forest reduction and fragmentation across our landscape. Brian's interest in plants began in his parents' garden and with his father's love of trees. From there, it grew into a thorough knowledge of forest ecology and a vision to transform logging practices on both public and private lands to be far more ecologically sensitive to native forest communities.

As part of his research, Brian has been tracking southern trees planted in the Cutfoot Experimental Forest in northern Minnesota. Four of the planted species are native to the region but were collected from several hundred miles south, including Eastern White Pine, Northern Red Oak, Bur Oak, and Red Maple. Four other species are not common or are native to regions well south, and include White Oak, Bitternut Hickory, Black Cherry, and Ponderosa Pine. Brian says that two decades ago, these southern tree seedlings likely would have struggled, but now they are flourishing. The survival rate for seven species has been 85 to 90%. Brian says that the climate typical of southern Minnesota 20 years ago is now in northern Minnesota, having moved about 200 miles north in just two decades.

Brian's work is backed up by many studies and experts, including Lee E. Frelich, a forest ecologist with the University of Minnesota Center for Forest Ecology. Frelich says that forests die fast and grow slowly; and don't we know that's true since the Emerald Ash Borer hit Michigan. As climate change continues, some forests could vanish, replaced by encroaching grasslands and brushy vegetation. He says, “Your only option in that case is to bring in new species or live with whatever nature does".

The focus of Brian Palik's work with the US Forest Service for about 25 years has been to adapt forests to an uncertain climate future, and to develop methods of ecological forestry based on natural disturbance patterns that sustain native habitats, native species diversity, and natural ecological functions. In 2020, Brian and co-authors Anthony W. D'Amato, Jerry F. Franklin, and K. Norman Johnson, published *Ecological Silviculture: Foundations and Applications*, a large and comprehensive book presenting silvicultural methods that emulate natural processes, sustain biological legacies, and allow time to take its course in shaping forest stands. These methods, dubbed “ecological forestry,” have been successfully implemented by foresters for decades managing a wide variety of forestlands. In 2023, Brian and co-author Anthony W. D'Amato, published *Ecological Silvicultural Systems: Exemplary Models for Sustainable Forest Management*. Unlike most timber models based on production agricultural methods, ecological silvicultural strategies protect threatened and rare species, sustain biological diversity, and provide habitat for game and non-game species, all while providing timber in profitable ways.

Like many others, Brian Palik believes it is imperative that we work to maintain useful woodlands. He says, “The forests at the end of the century are not going to be your grandfather’s forests. But they’re going to be the forest your grandchildren inherit.” There is something of both dread and daring optimism in this statement, characteristic of Brian. For more information about Brian Palik and his work, see the following link: https://www.fs.usda.gov/research/about/people/palik

Princeton Research Reveals The Secret Sites Where America’s Migrating Songbirds Stop To Rest And Refuel

https://cpree.princeton.edu/news/2023/princeton-research-reveals-secret-sites-where-america%E2%80%99s-migrating-songbirds-stop-rest-and

New Map of “Stopover Hotspots” Provides Insights for Conservation of Eastern U.S. Migratory Landbirds

https://cpree.princeton.edu/news/2023/new-map-stopover-hotspots-provides-insights-conservation-eastern-us-migratory-landbirds

A pair of articles from Princeton University describe recent research to identify important stop-over or resting sites for migratory birds in the eastern United States. Not surprisingly, they are all of the forest fragments scattered across our landscape. Some of us have been saying for a very long time how important all of these small woodlots are, for numerous reasons. While the prospects for long-term sustainability of native species in these fragments are not good, even the smallest woodland patch can serve as a refuge for isolated populations; maybe until our world learns to better appreciate our natural heritage and our forests, and one day, expand them. These are the last vestiges of forest flora that moved north a few thousand years ago after the glacial ice melted back and the climate warmed. Once this flora is gone, it's not coming back, unless people move it, as described in the previous article.

One reason protection of small woodland patches has not been taken very seriously is because they lack large areas of interior forest habitat suitable for breeding populations of many forest birds. Small fragments allow intrusions of field and edge species like Brown-headed Cowbirds that parasitize and out-compete forest birds such as the Wood Thrush. However, it seems there has been little accounting for the importance of small woodlands as temporary stop-over sites for birds during both spring and fall migrations. Some of us who have paid attention to birds basically knew this already, except that we couldn't have made definite claims about the scale. Well, now we can. Advances in weather radar technology have made broad-scale studies like this possible. Based on this latest research, the importance of all of our remaining forest patches for migratory birds across eastern North America, and by common sense extrapolation, across the world, has indeed been confirmed.

In summary, broadleaf deciduous forests, and particularly those small fragments surrounded by vast swaths of farm land in the Midwest, are critical to supporting bird migrations. The study showed that at finer scales, there are high concentrations of birds in pockets of broadleaf forests remaining in areas that have been largely deforested to grow crops. That's the Thumb region, southern Michigan in general, and much of the Midwest. Lead researcher and author, Fengyi Guo of the Department of Ecology and Evolutionary Biology at Princeton University, says, "Small pockets of deciduous forest are often neglected in conservation planning because birds have low breeding success in these spaces. But the entire population moves across the continent twice annually. Many of them depend on food and shelter in these forest pockets to complete their migration”.

The Thumb and vicinity. The dark green patches are remaining forest fragments. Not much left.
Google Earth: Earth.Google.com. 2013 imagery.

In prioritizing natural area protection, many organizations have routinely dismissed small forest fragments, woodlands, woodlots, woods, tracts, or whatever you want to call them, due to their small size, high degree of fragmentation, high content of edge habitat, low content of interior habitat, higher intrusions of edge species, higher intrusions of invasive species, and other negative characteristics. Yet, at the same time, these small woodlands are that much more important to protect because they remain, with at least some native species content, often in areas where there is little other forest. This research also shows that despite the small size of many woodlands, their location along migratory routes also determines their significance for birds. While it is necessary to target protection efforts, perhaps the value of small forest fragments needs to be reconsidered in light of the latest findings on migratory birds.

With many migratory bird populations in steady decline across North America, and much of the world, we can now confirm that all of the little pieces are important for protecting the whole, especially for birds. As the authors of this study suggest, a network of protected forested land distributed across the eastern US is key to maintaining healthy populations of migratory land birds. They urge the protection of broadleaf forests, especially those remaining in the agriculturally dominated Midwest. They also say that locally based conservation efforts will be key to protecting bird species along their migratory journeys. Sound familiar? Think globally, or at least continentally, and act locally. You can have an impact on your own land by protecting, restoring, and planting forest.

Very Cool: Trees Stalling Effects Of Global Heating In Eastern US, Study Finds

https://www.theguardian.com/environment/2024/feb/17/us-east-trees-warming-hole-study-climate-crisis?

Deforestation of eastern North America began with early European colonization and peaked through the late 1800s and early 1900s. While excessive logging was one thing, total clearing and cultivation of the ground for agriculture was quite another. Though largely necessary to feed a rapidly growing population, huge areas of forest were cleared from the early to mid 1800s in the northeast for wool production. By 1850, it is estimated that as little as 25% of New England was forested. Looking at aerial photographs of southern Michigan dating even into the late 1930s through the 1950s, all of the blank land gives a very dismal impression. With advancements in agricultural production, marginal farm land was increasingly fallowed by the 1960s. By the early 1990s, new tree cover was well-established on many of these fallow areas, but unfortunately, at the same time, development was rapidly expanding outward across the countryside and eliminating much of the gain in forest cover in southern Michigan.

But returning to the early 1900s, this was a time when large-scale reforestation efforts began, most of it supported by federal agencies like the United States Department of Agriculture, US Forest Service, Civilian Conservation Corps, and various state agencies and volunteer organizations. One of the earliest was the Nebraska Board of Agriculture, which, at the urging of Secretary of the Nebraska Territory, Julius Morton, began promoting tree planting in 1872 to counter wind erosion of the prairie, which was increasingly farmed by settlers, leading to the "Dust Bowl" of the 1930s. This was the beginning of American Arbor Day, now celebrated on April 26, which just happens to be when this TLC article is being written. By the way, Julius Morton was a Michigander with an interesting history, and his son, Joy Morton, founded the Morton Salt Company which had a plant in Marysville, Michigan for many years.

Climate scientists have long noticed an anomalous lack of warming in the eastern United States, especially in the southeast. This has raised questions about the potential cooling effect of reforestation, particularly in the southeast where extensive reforestation occurred over the past 50 years. Researchers, led by Indiana University and featured in The Guardian article, have concluded that since the early days of these large-scale tree planting efforts, dating back about a century, reforestation has had a cooling effect on the eastern United States and accounts for a lack of regional warming in the 20th century. This is in contrast to warming trends across the rest of North America during the same period. The study shows that forests across much of the eastern United States substantially reduce surface and near-surface temperatures. Most of the local cooling occurs within about a quarter-mile of the forest, but overall, the researchers found that restored forests cooled the eastern United States by 1.8F to 3.6F per year, with the strongest effects on the hottest summer days when temperatures were lowered from 3.6F to 9F. It should be noted that this cooling occurs primarily in summer and that the data evaluated does not account for the last 14 years. Unfortunately, the Thumb region is just north of the cooling zone, where we have experienced a slight increase in temperatures.

The researchers concluded that reforestation contributed to the historically slow pace of warming in the eastern US, reinforcing what many have reasoned for a long time; that trees and forests cool or moderate temperatures. But like the research about migratory bird stop-over sites featured above, we have been unable to quantify the scale of that cooling until now. Based on this research, reforestation in temperate zones like the eastern US, could provide a complementary set of benefits. Forests mitigate climate warming by removing carbon dioxide from the atmosphere, but they also cool surface and air temperatures over large areas.

For details of this study, see the following link:
A Century of Reforestation Reduced Anthropogenic Warming in the Eastern United States
https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2023EF003663

GoodSearch.com

You can support the TLC or another charity every time you search the internet by using GoodSearch.com. When you create an account and sign-in, GoodSearch donates about one cent per search to a charitable cause of your choice. The web site is a little confusing because it is part of GoodShop.com, which is another way to raise donations for a charity. To sign up for GoodSearch, do the following:

- Go to GoodSearch.com
- At the upper right, click on "Sign Up".
- After signing-up, you should be directed to select a charity for donations.
- If you are not directed to charities, go to GoodSearch.com/Causes to search for and select a charity by alphabetical order.
- The TLC is listed at GoodShop.com/Nonprofit/Thumb-Land-Conservancy.
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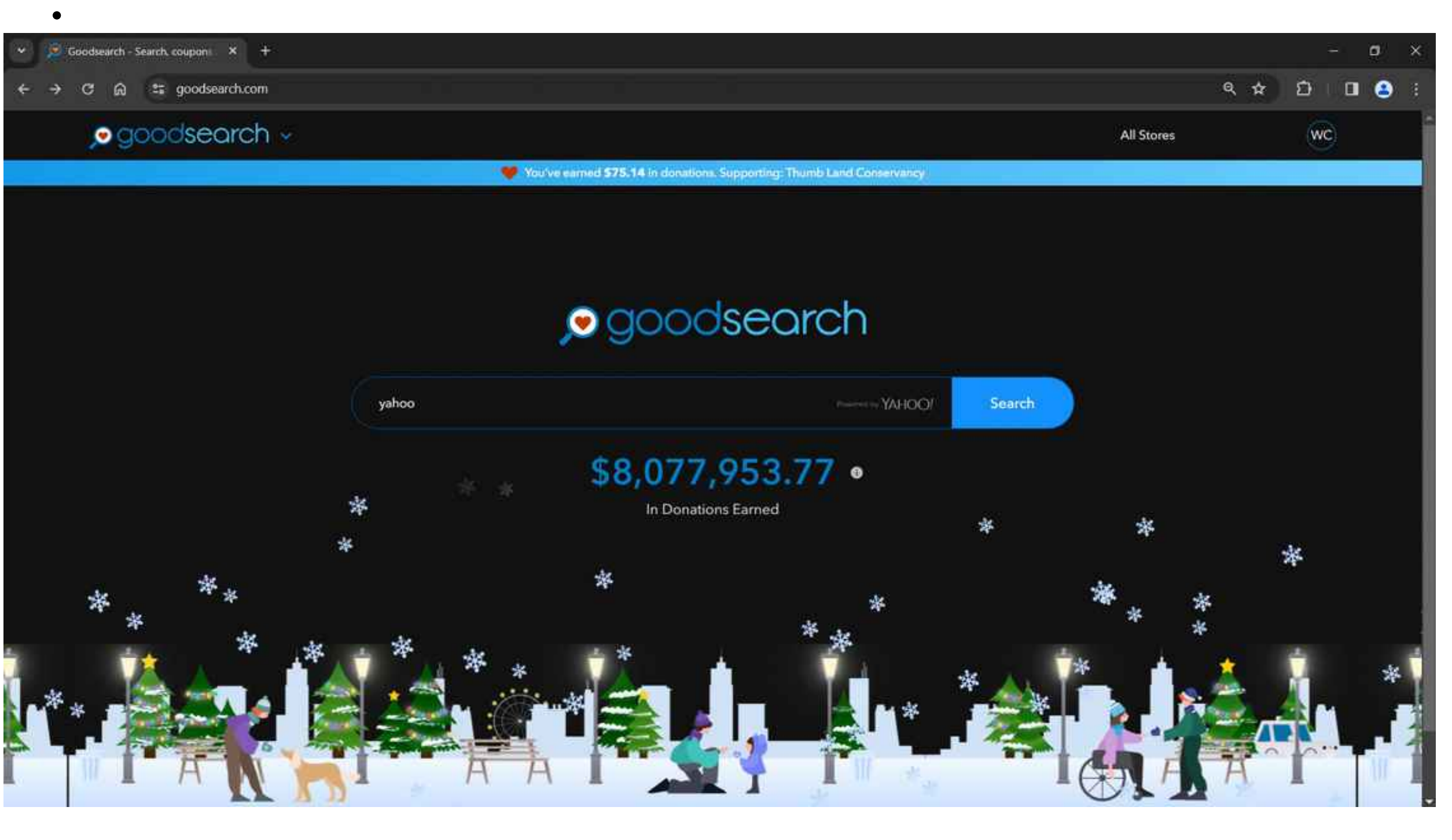

You need to stay signed-in when you search the internet in order to raise funds for your selected charity. GoodSearch uses the Yahoo search engine. The TLC has collected over $100 in donations from searches by our members. At about one cent per search, it's a slow way to raise funds, but it adds up and the TLC can use all the help we can get to protect land.

TLC Membership

With your membership, the TLC is better enabled to protect important natural areas in our region. We offer two membership levels: Individual and Family $40, and Business $200. Members will receive our e-mail news. Membership is also available in trade for volunteer help. You can also make donations in honor or memory of someone or something. For donations of $100 or more, your name will be listed on our web site. For larger donations, please contact us for details. Make checks payable to “Thumb Land Conservancy”. Mail checks and forms to: Thumb Land Conservancy, 4975 Maple Valley Road, Marlette, Michigan 48453. Make sure you provide us with your mailing address and e-mail address. Providing a phone number is optional but helpful. You can also make donations through the Square link on our web site at: ThumbLand.org