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The Thumb Naturalist

Journal of the Thumb Land Conservancy

Supporting nature and naturalists of Michigan's Thumb region and adjacent Ontario

Starting this year, the Thumb Land Conservancy News has a new name and slightly new focus. This is the second edition of *The Thumb Naturalist*, the first edition drafted 22 years ago in January of 2003 and finally published in January of 2025. With our transition to *The Thumb Naturalist*, in addition to our conservancy news, we hope to include more articles and other works about nature in our region. Anyone can contribute articles about species, natural areas, or stories, news, issues, opinion, poetry, photographs, art, video links, or just about anything. *The Thumb Naturalist* will continue to be informative, educational, generally transparent, real, sometimes funny, sometimes confrontational, and hopefully encouraging in an otherwise dismal world. If you are interested in submitting anything for The Thumb Naturalist or have questions, please e-mail or call.

As you will read in the following articles, 2025 has already been a very productive year for the TLC so far.

In January, we added a new 5-acre parcel in Fort Gratiot to the Southern Lake Huron Coastal Park, which we named the Cunningham Connector Sanctuary, connecting our 80-acre Shorewood Forrest Southeast Sanctuary with the Fort Gratiot Nature Park to the south.

Through the work of TLC Member Connie Neese, TLC Program and Stewardship Director Teddy Wiley, TLC Stewardship Assistant Jason Sawyer, and volunteers, good progress has been made on clearing the new coastal trail and on invasive shrub removal on the Shorewood Forrest Southeast Sanctuary, the Cunningham Connector Sanctuary, and on the Bidwell Sanctuary.

Our 11.5-acre Loznak Sanctuary in Marysville is really shaping-up with invasive shrub removal, debris clean-up, and native lakeplain prairie seed planting led by TLC Board Member Dan Rhein and TLC Program and Stewardship Director Teddy Wiley.

On February 26, we purchased the 113-acre Morley Sanctuary in Bangor Township, Bay County, with about 95 acres of imperiled lakeplain prairie and nearly as much wetland along the south side of the Kawkawlin River just east of the Saginaw Bay. This was, by far, the biggest acquisition of the TLC.

Our work on various initiatives continues, including the Saint Clair River Delta Ramsar designation, a new cooperative effort with the Friends of the Saint Clair River, coordination with other Michigan land conservancies on several issues that regularly challenge our work to protect natural areas and engage landowners, and the formation of a new non-profit organization, the Blue Water Camp Council, dedicated to protecting organizational camps in our region.

Bill Collins, Executive Director

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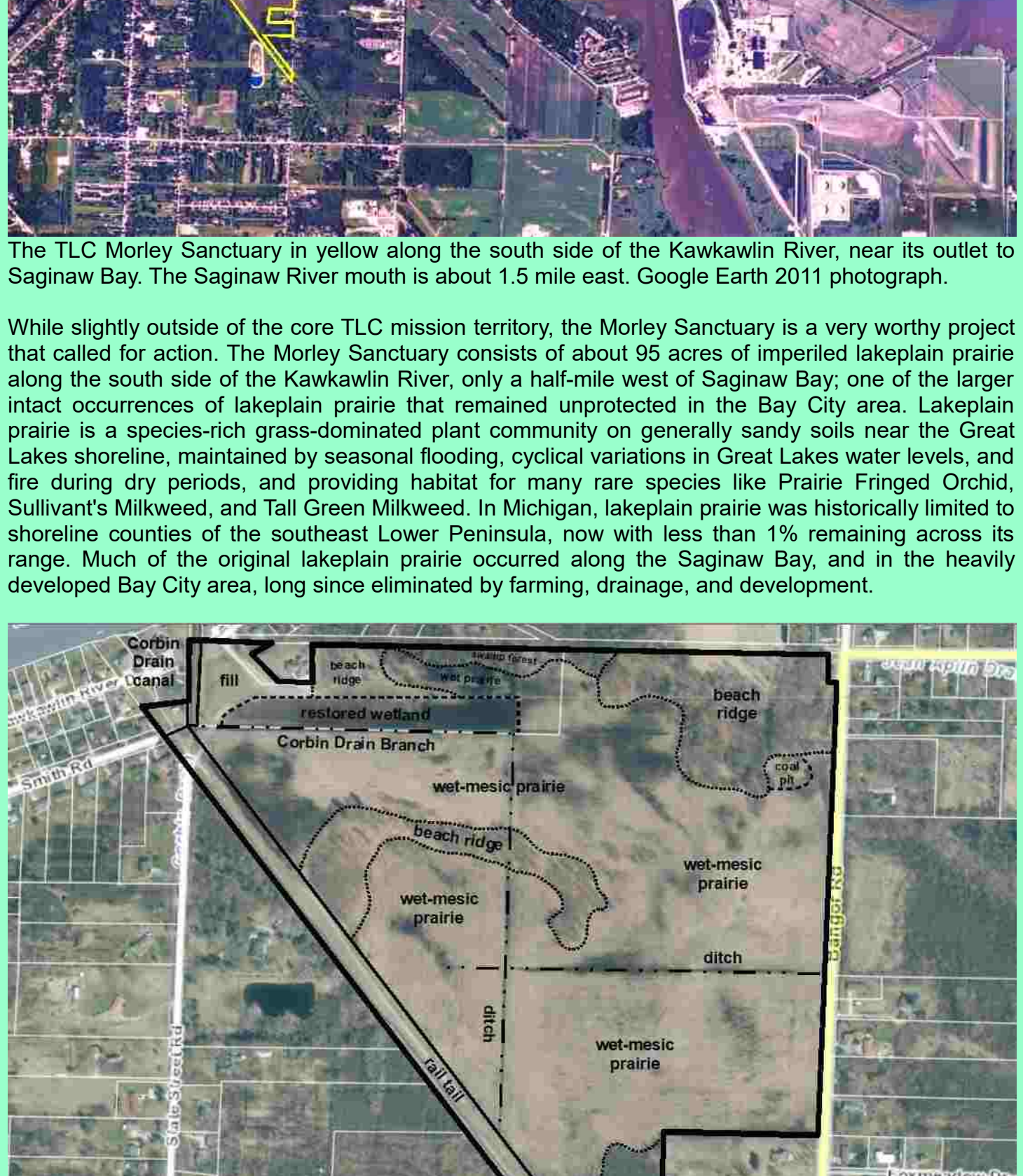
New 113-Acre Morley Sanctuary Acquisition

Bangor Township, Bay County

On February 26, the TLC purchased our new 113-acre Morley Sanctuary in Bangor Township, Bay County on the north side of Bay City. The closing took place at Superior Title Agency in Bay City. Representing the TLC were Executive Director Bill Collins, President Cheryl Collins, Program and Stewardship Director Teddy Wiley, and Land Agent Dave Ladensack. Representing the sellers were Kathy Richards and Sean Mika, children of previous owner Jack Morley. After the closing, we had a nice discussion and presented Kathy and Sean with our TLC patches. Kathy Richards asked that we memorialize her father Jack Morley and his wife Cheryl at the entrance of the sanctuary, which we will gladly do. She presented us with these words:

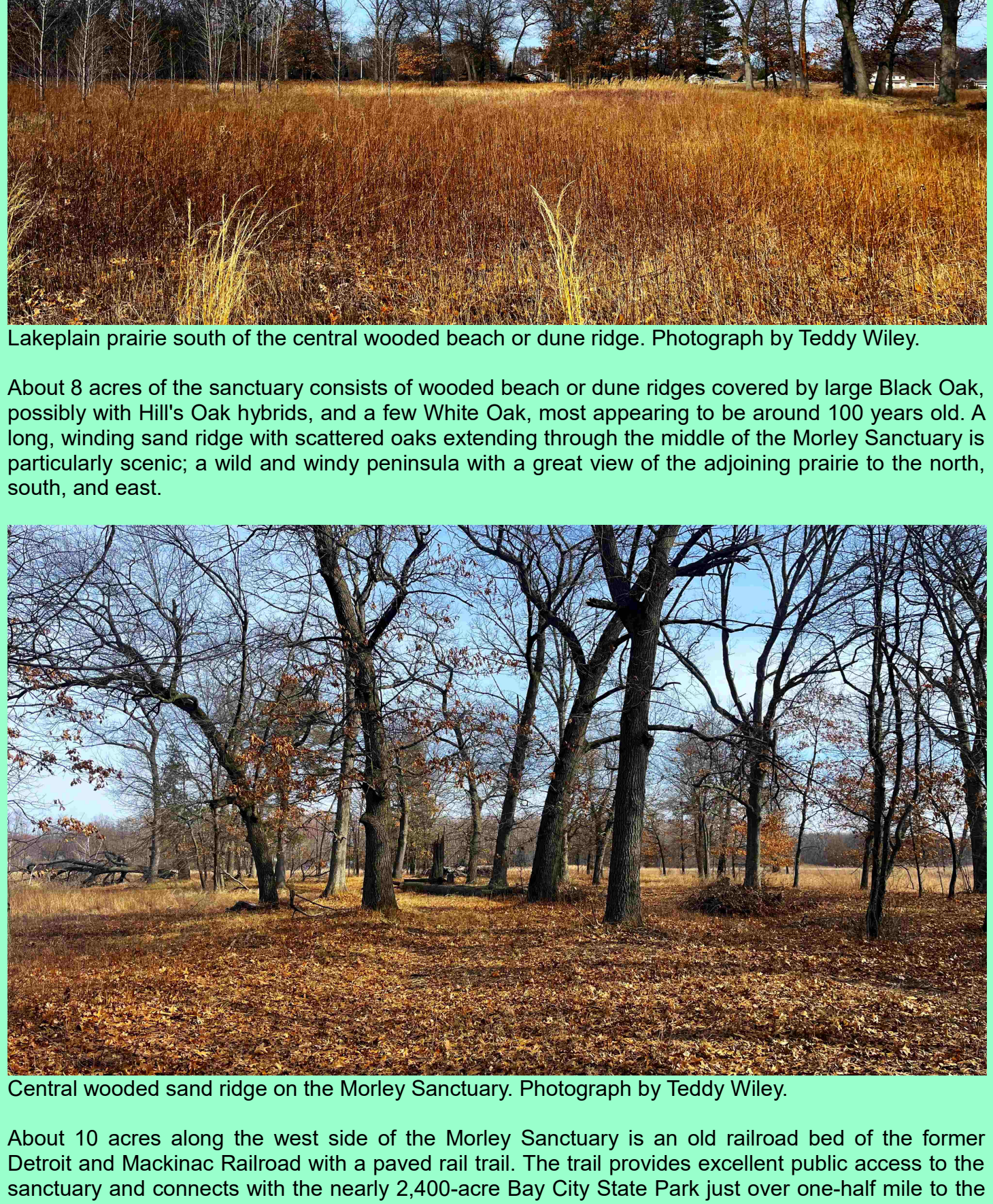
"Joy, Peace, and Tranquility to all who pass through, not just pass by."

"Life leads us down many paths. As you walk through these paths, our hope is that they bring you Peace, Joy, and Tranquility. In memory of Jack and Cheryl Morley."

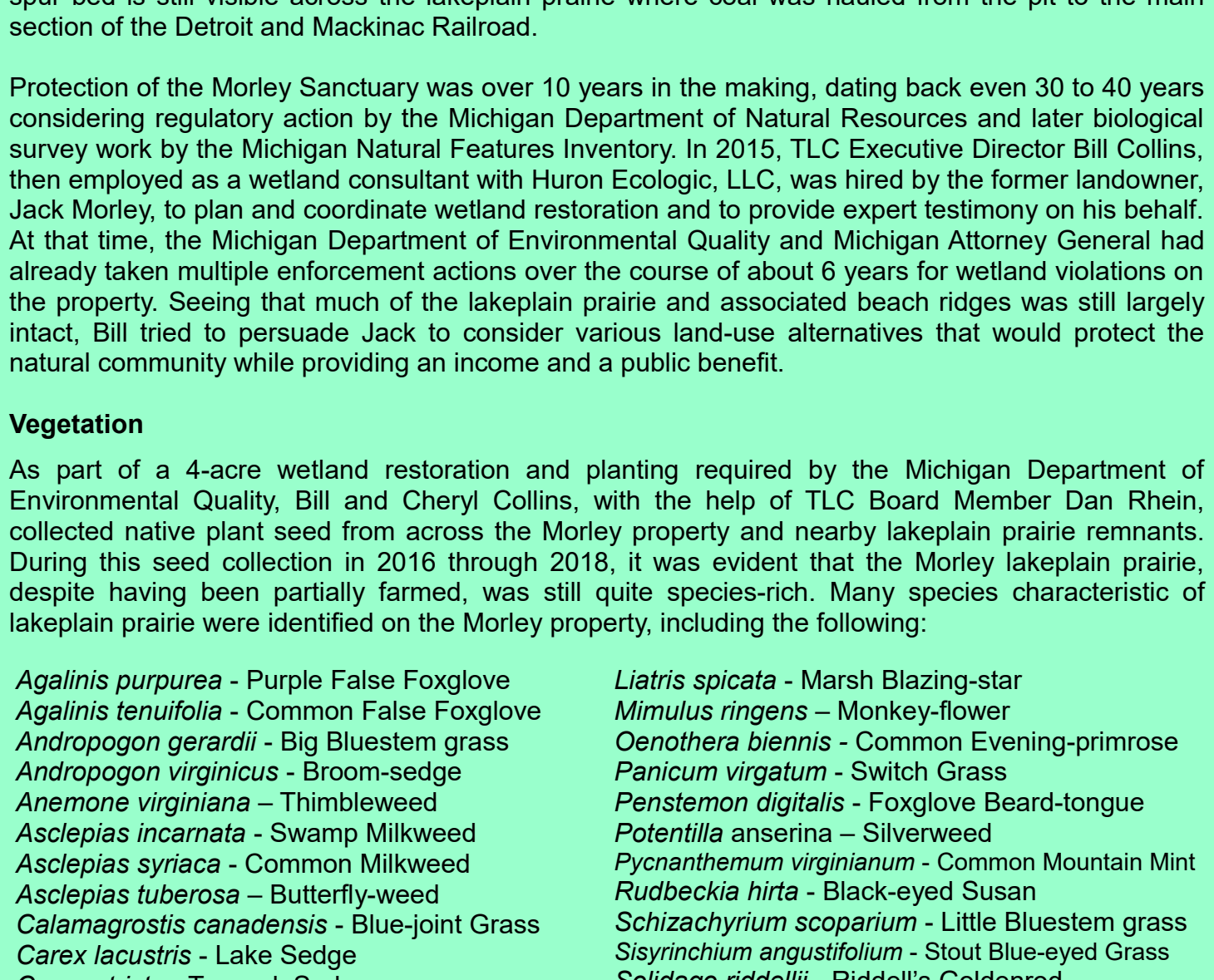


The TLC Morley Sanctuary in yellow along the south side of the Kawkawlin River, near its outlet to Saginaw Bay. The Saginaw River mouth is about 1.5 mile east. Google Earth 2011 photograph.

While slightly outside of the core TLC mission territory, the Morley Sanctuary is a very worthy project that called for action. The Morley Sanctuary consists of about 95 acres of imperiled lakeplain prairie along the south side of the Kawkawlin River, only a half-mile west of Saginaw Bay, one of the larger intact occurrences of lakeplain prairie that remained unprotected in the Bay City area. Lakeplain prairie is a species-rich grass-dominated plant community on generally sandy soils near the Great Lakes shoreline, maintained by seasonal flooding, cyclical variations in Great Lakes water levels, and fire during dry periods, and providing habitat for many rare species like Prairie Fringed Orchid, Sullivan's Milkweed, and Tall Green Milkweed. In Michigan, lakeplain prairie was historically limited to shoreline counties of the southeast Lower Peninsula, now with less than 1% remaining across its range. Much of the original lakeplain prairie occurred along the Saginaw Bay, and in the heavily developed Bay City area, long since eliminated by farming, drainage, and development.

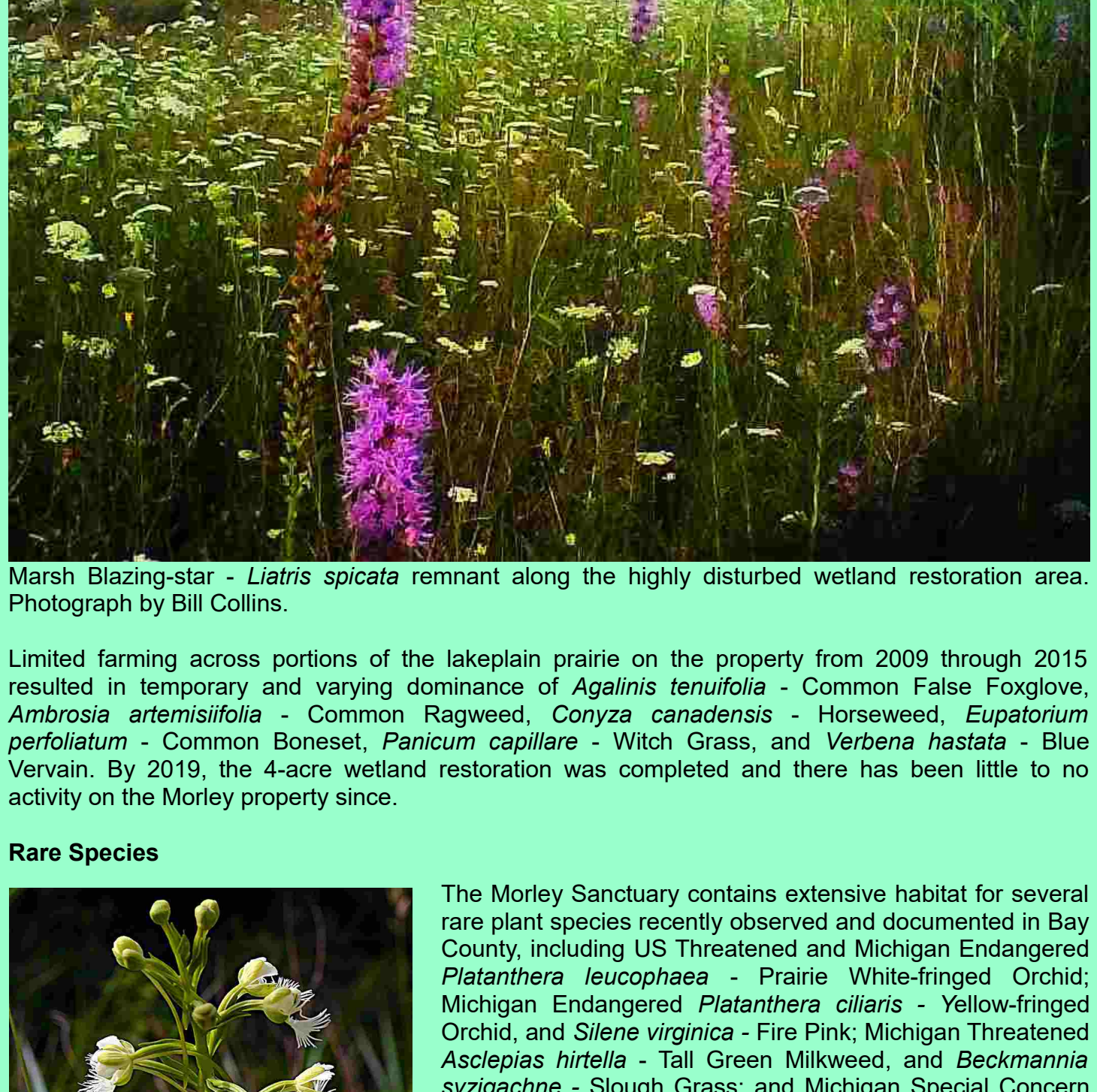


TLC Morley Sanctuary plant community and feature map. 2024 photograph. Fetch GIS Bay County: <https://app.fetchgis.com/bay>



Lakeplain prairie south of the central wooded beach or dune ridge. Photograph by Teddy Wiley.

About 8 acres of the sanctuary consists of wooded beach or dune ridges covered by large Black Oak, possibly with Hill's Oak hybrids, and a few White Oak, most appearing to be around 100 years old. A winding sand ridge with scattered oaks extending through the middle of the Morley Sanctuary is particularly scenic; a wild and windy peninsula with a great view of the adjoining prairie to the north, south, and east.



Central wooded sand ridge on the Morley Sanctuary. Photograph by Teddy Wiley.

About 10 acres along the west side of the Morley Sanctuary is an old railroad bed of the former Detroit and Mackinac Railroad with a paved rail trail. The trail provides excellent public access to the sanctuary and connects with the nearly 2,400-acre Bay City State Park just over one-half mile to the north. The Morley Sanctuary is also connected by a paved trail to the 415-acre Bay City Ecological Restoration property one-half mile east at the mouth of the Saginaw River.

The Morley Sanctuary even contains the remnants of an historic open-pit coal mine dating back at least to the late 1800s. The pit has since been largely filled and is partially a pond. An old railroad spur bed is still visible across the lakeplain prairie where coal was hauled from the pit to the main section of the Detroit and Mackinac Railroad.

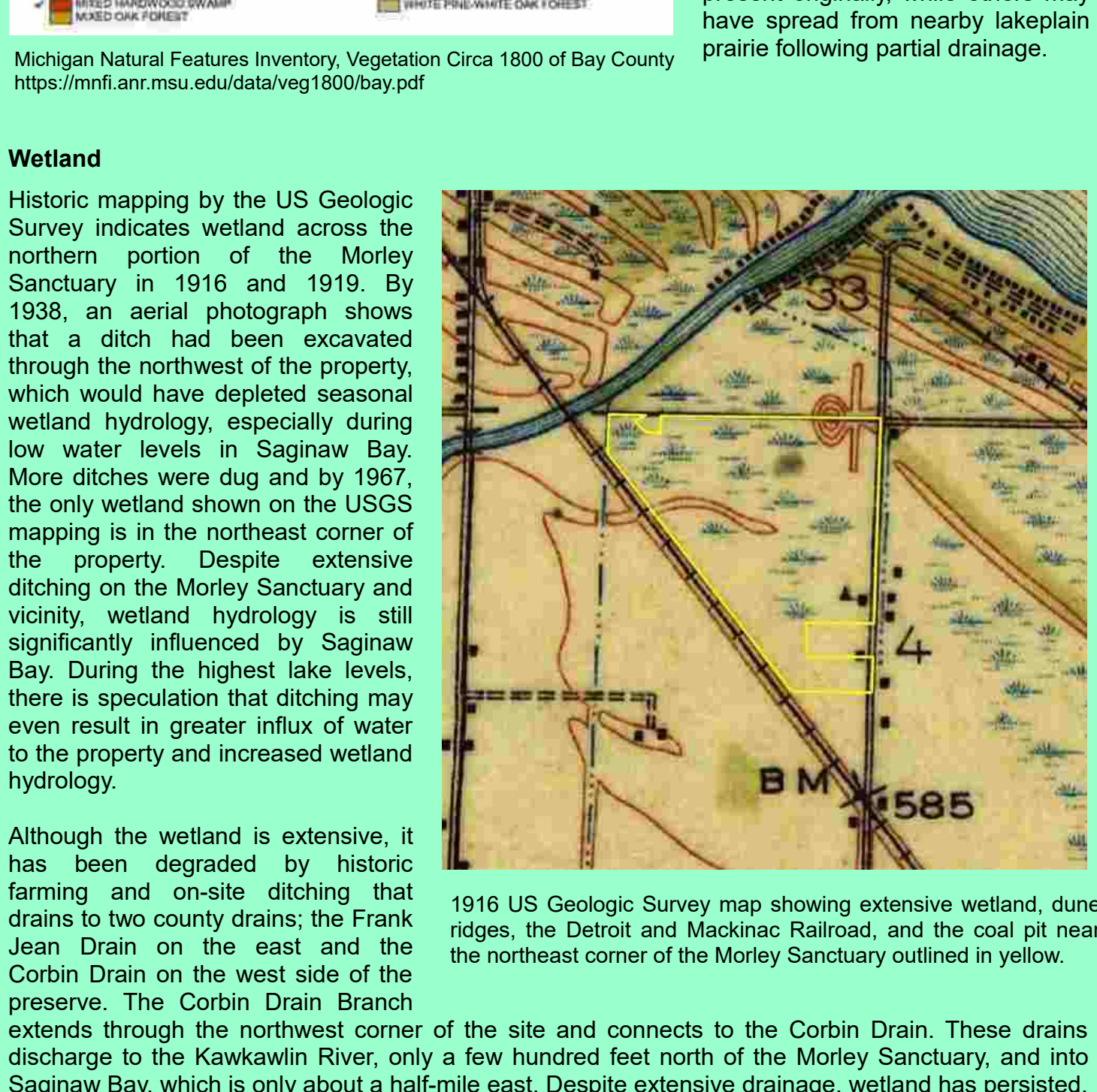
Protection of the Morley Sanctuary was over 10 years in the making, dating back even 30 to 40 years considering regulatory action by the Michigan Department of Natural Resources and later biological survey work by the Michigan Natural Features Inventory. In 2015, TLC Executive Director Bill Collins, then employed as a wetland consultant with Huron Ecologic, LLC, was hired by the former landowner, Jack Morley, to plan and coordinate wetland restoration and to provide expert testimony on his behalf. At that time, the Michigan Department of Environmental Quality and Michigan Attorney General had already taken multiple enforcement actions over the course of about 6 years for wetland violations on the property. Seeing that much of the lakeplain prairie and associated beach ridges was still largely intact, Bill tried to persuade Jack to consider various land-use alternatives that would protect the natural community while providing an income and a public benefit.

Vegetation

As part of a 4-acre wetland restoration and planting required by the Michigan Department of Environmental Quality, Bill and Cheryl Collins, with the help of TLC Board Member Dan Rhein, collected native plant seed from across the Morley property and nearby lakeplain prairie remnants. During this seed collection in 2016 through 2018, it was evident that the Morley lakeplain prairie, despite having been partially farmed, was still quite species-rich. Many species characteristic of lakeplain prairie were identified on the Morley property, including the following:

Agalinis purpurea - Purple False Foxglove
Agalinis tenuifolia - Common False Foxglove
Andropogon gerardi - Big Bluestem grass
Andropogon virginicus - Broom-sedge
Anemone virginiana - Thimbleweed
Asclepias incarnata - Swamp Milkweed
Asclepias syriaca - Common Milkweed
Asclepias tuberosa - Butterfly-weed
Calamagrostis canadensis - Blue-joint Grass
Carex lacustris - Lake Sedge
Carex stricta - Tussock Sedge
Carex tripteris - Tall Coreopsis
Cornus amomum - Silky Dogwood
Cornus foemina - Gray Dogwood
Eupatorium perfoliatum - Common Boneset
Euthamia graminifolia - Grass-leaved Goldenrod
Eutrochium maculatum - Joe-pye Weed
Gentianopsis crinita - Fringed Gentian
Helenium autumnale - Sneezeweed
Juncus torreyi - Torrey's Rush

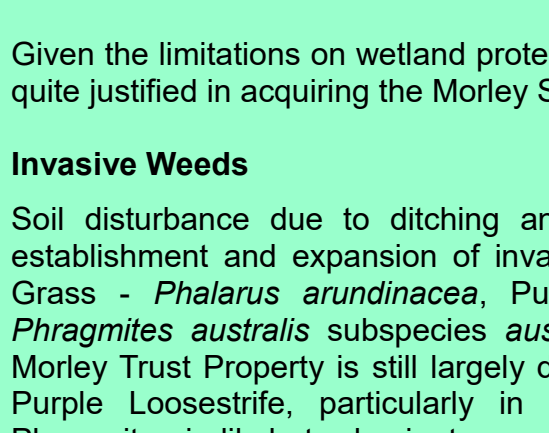
Liatris spicata - Marsh Blazing-star
Mimulus ringens - Monkey-flower
Oenothera biennis - Common Evening-primrose
Panicum virginum - Switch Grass
Penstemon digitalis - Foxglove Beard-tongue
Potentilla anserina - Silvenweed
Pycnanthemum virginianum - Common Mountain Mint
Rudbeckia hirta - Black-eyed Susan
Schizachyrium scoparium - Little Bluestem grass
Sisyrinchium angustifolium - Stout Blue-eyed Grass
Solidago riddellii - Riddell's Goldenrod
Sorghastrum nutans - Indian Grass
Spartina pectinata - Cordgrass
Spiranthes cernua - Nodding Ladies'-tresses
Symphoricarpon lanceolatum - Pangled Aster
Symphoricarpon novae-angliae - New England Aster
Thalictrum dasycarpum - Purple Meadow-rue
Verbascum thapsus - Common Mullein
Verbena hastata - Blue Vervain



Marsh Blazing-star - *Liatris spicata* remnant along the highly disturbed wetland restoration area. Photograph by Bill Collins.

Limited farming across portions of the lakeplain prairie on the property from 2009 through 2015 resulted in temporary and varying dominance of *Agalinis tenuifolia* - Common False Foxglove, *Ambrosia artemisiifolia* - Common Ragweed, *Corylus canadensis* - Horseshoe, *Eupatorium perfoliatum* - Common Boneset, *Panicum capillare* - Witchgrass, *Verbena hastata* - Blue Vervain. By 2019, the 4-acre wetland restoration was completed and there has been little to no activity on the Morley property since.

Rare Species



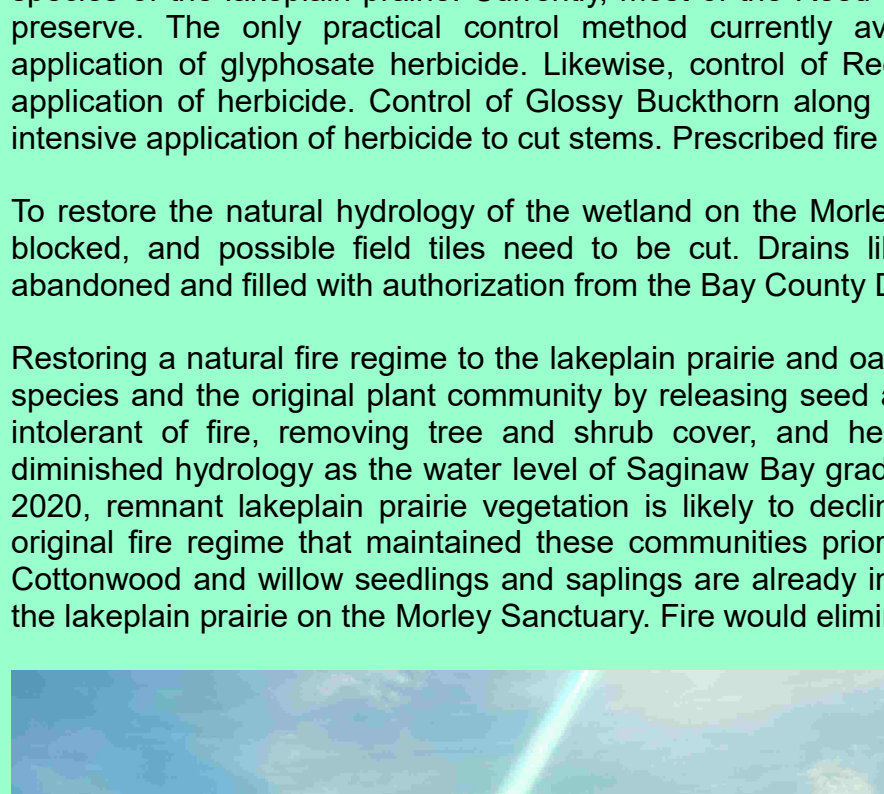
US Threatened and Michigan Endangered Prairie White-fringed Orchid. US Forest Service, https://www.fs.usda.gov/wildflowers/plant-of-the-week/platanthera_leucophaea.shtml

lentiginosus - American Bittern, *Circus cyaneus* - Northern Harrier, *Cistothorus palustris* - Marsh Wren, *Emydoidea blandingii* - Blanding's Turtle, *Eucosma bipunctata* - Two-spotted Eucosma moth, *Haliaeetus leucocephalus* - Bald Eagle, *Nycticorax nycticorax* - Black-crowned Night-heron, and *Pandion haliaetus* - Osprey. Rare species documented from lakeplain prairie in Tuscola County include Michigan Threatened *Papaipema silphii* - Silphium Borer Moth and Michigan Special Concern *Papaipema sciata* - Culvers Root Borer moth.

There are also several other insect species documented from lakeplain prairie of conservation concern due to their reliance on remnant prairie sites or particular host plants. During their brief 1994 survey of about 30 acres of the Morley property, the Michigan Natural Features Inventory identified at least 27 insect species in seven families, three of which require specific plant species hosts.

Bird watchers in the nearby Bay City State Park, just over one-half mile north of the Morley Sanctuary, have documented over 250 bird species sightings on eBird.org, including US and Michigan Endangered Piping Plover - *Charadrius melodus*, Michigan Endangered Short-eared Owl - *Bubo flammeus*, Michigan Threatened Eastern Whip-poor-will - *Anistrostomus vociferans*, Least Bittern - *Actitis exilis*, Black Tern - *Chlidonias niger*, Evening Grosbeak - *Coccothraustes vespertina*, Peregrine Falcon - *Falco peregrinus*, Common Gallinule - *Gallinula galeata*, Common Loon - *Gavia immer*, Caspian Tern - *Hydroprogne caspia*, Cerulean Warbler - *Setophaga cerulea*, Kirtland's Warbler - *Setophaga kirtlandii*, Forster's Tern - *Sterna forsteri*, and Golden-winged Warbler - *Vermivora chrysoptra*, and Michigan Special Concern American Bittern - *Botaurus lentiginosus*, Red-shouldered Hawk - *Buteo lineatus*, Northern Harrier - *Circus hudsonius*, Marsh Wren - *Cistothorus palustris*, Trumpeter Swan - *Cygnus buccinator*, Red-headed Woodpecker - *Melanerpes erythrocephalus*, Osprey - *Pandion haliaetus*, Wilson's Phalarope - *Phalaropus tricolor*, Prothonotary Warbler - *Protonotaria citrea*, Hooded Warbler - *Setophaga citrina*, and Yellow-headed Blackbird - *Xanthocephalus xanthocephalus*. Many of these same bird species could be expected to occur on the Morley Sanctuary.

Pre Euro-American Settlement Vegetation

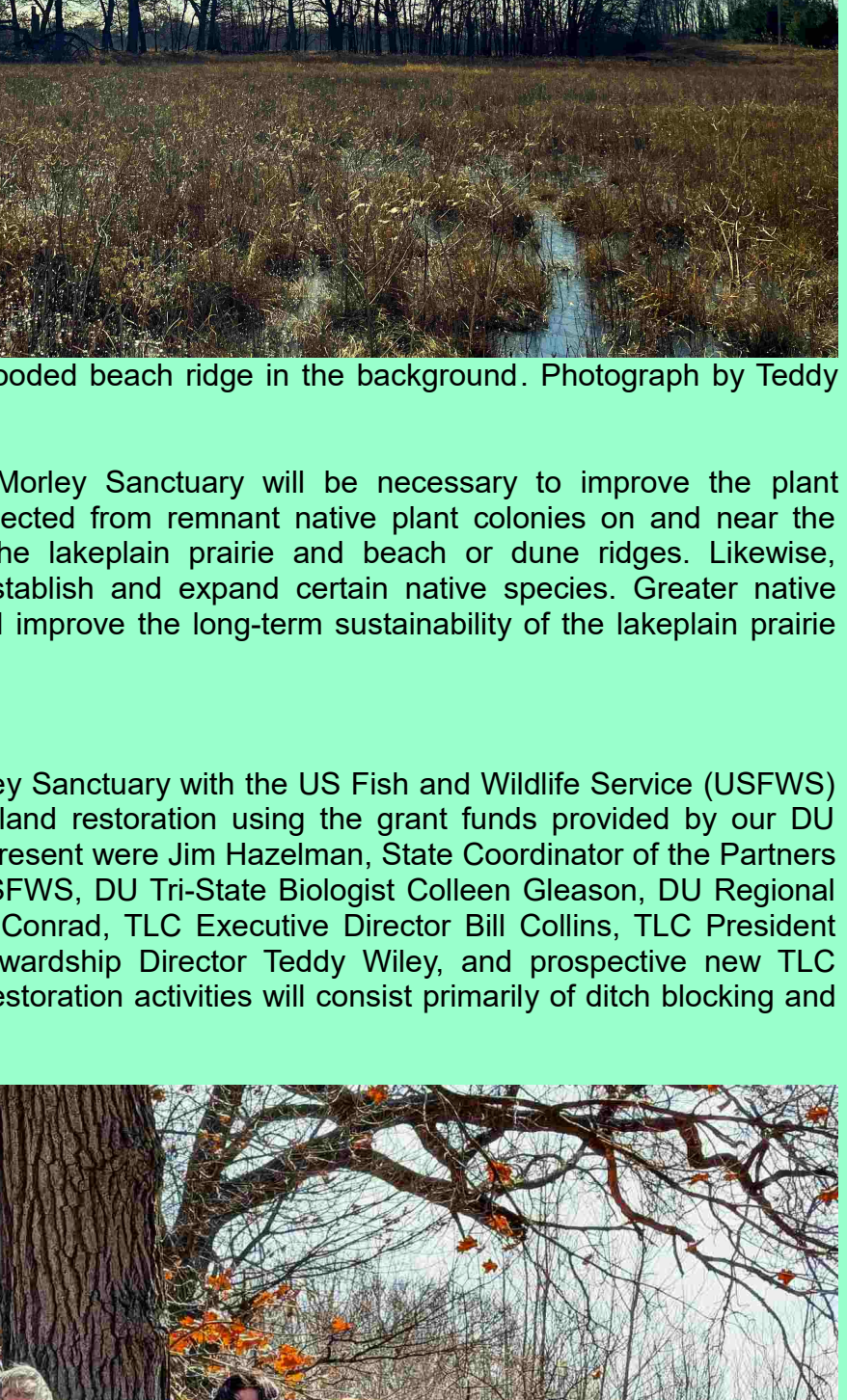


Michigan Natural Features Inventory, Vegetation Circa 1800 of Bay County <https://mnfi.anr.msu.edu/data/vsg1800/bay.pdf>

Wetland

Historic mapping by the US Geologic Survey indicates wetland across the northern portion of the Morley Sanctuary in 1916 and 1919. By 1938, an aerial photograph shows that a ditch had been excavated through the northwest of the property, which would have depleted seasonal wetland hydrology, especially during low water levels in Saginaw Bay. More ditches were dug and by 1967, the only wetland shown on the USGS mapping is in the northeast corner of the property. Despite extensive ditching on the Morley Sanctuary and vicinity, wetland hydrology is still significantly influenced by Saginaw Bay. During the highest lake levels, there is speculation that ditching may even result in greater influx of water to the property and increased wetland hydrology.

Although the wetland is extensive, it has been degraded by historic farming and on-site ditching that drains to two county drains: the Frank Jean Drain on the east and the Corbin Drain on the west side of the preserve. The Corbin Drain Branch extends through the northwest corner of the site and connects to the Corbin Drain. These drains discharge to the Kawkawlin River, only a few hundred feet north of the Morley Sanctuary, and into Saginaw Bay, which is only about a half-mile east. Despite extensive drainage, wetland has persisted, and except for limited farming which ended in 1936, and about 4 acres of wetland restoration completed in 2019, there appear to be few other direct and recent human impacts.



1916 US Geologic Survey map showing extensive wetland, dunes, the Detroit and Mackinac Railroad, and the coal pit in the northeast corner of the Morley Sanctuary outlined in yellow.

In 2009, the Michigan Department of Environmental Quality determined that 92 acres (81%) of the Morley property was State-regulated wetland. The same wetland would be federally regulated by the United States Environmental Protection Agency and the United States Army Corps of Engineers due to its connection with the Kawkawlin River and Saginaw Bay, although federal wetland jurisdiction is now at-risk of being largely eliminated. Wetland and other federal regulations and rules have been severely limited by recent US Supreme Court decisions with more review anticipated in the near future. It's very possible that much of the legal basis for wetland protection in Michigan, which assumed substantial jurisdiction over federally regulated wetland in 1963, could be eliminated by judicial review, change in State administration, and legislative action. State of Michigan wetland protections may also be in jeopardy from efforts to harmonize with federal regulation, or lack thereof. In addition, low staffing and funding has always limited wetland regulation.

On a federal level, farming of wetland has generally never been prohibited except for those farmers participating in US Department of Agriculture crop subsidy and insurance programs. Wetlands that do not need to be cleared of trees and shrubs, and are not substantially drained, can be farmed with no penalties, and many farming and livestock activities are exempt from regulation. On a State level, farming wetland is restricted, but there are provisions in State law to allow it.

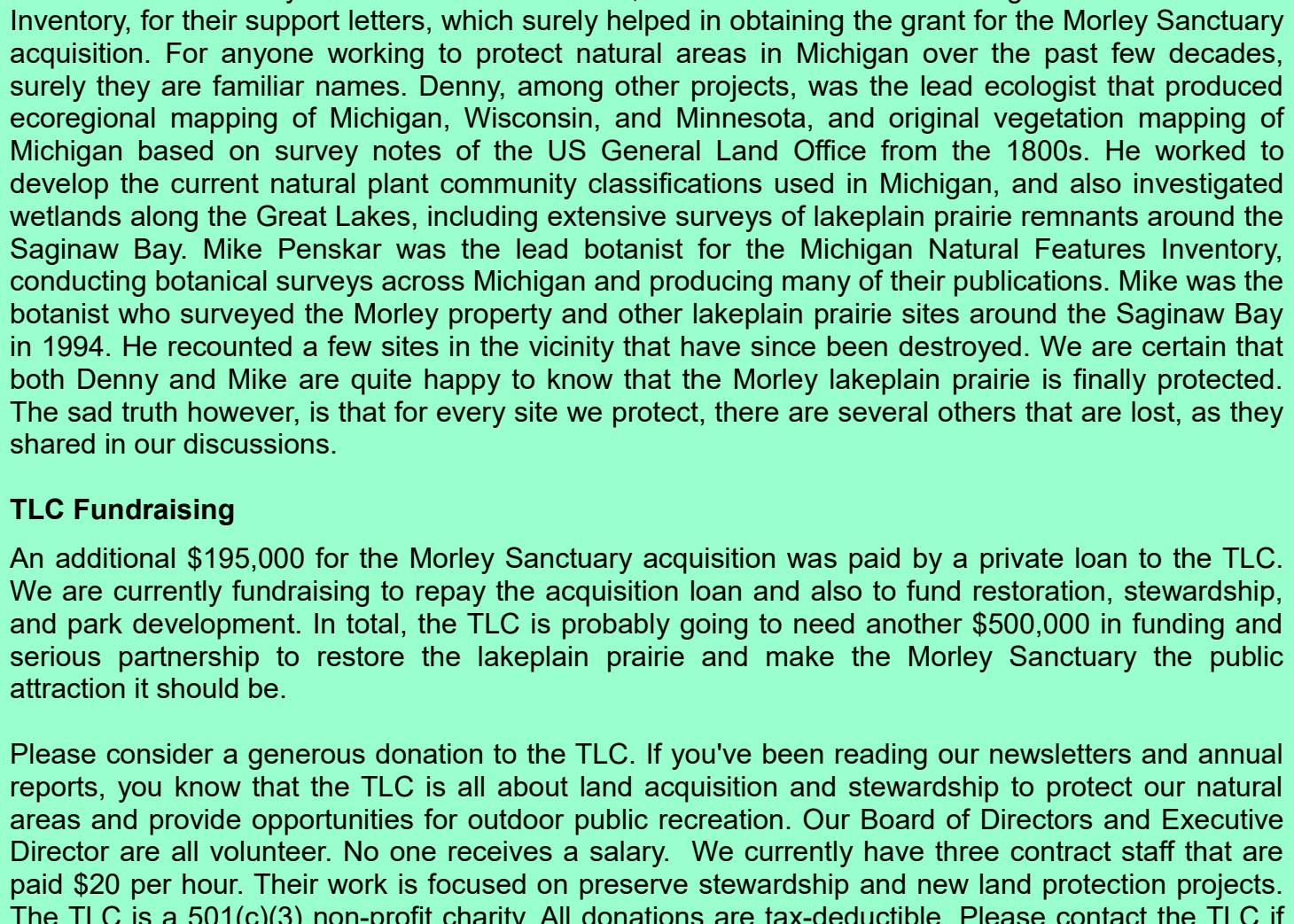
Given the limitations on wetland protection and the largely dismal outlook for regulation, the TLC was quite justified in acquiring the Morley Sanctuary.

Invasive Weeds

Soil disturbance due to ditching and cultivation, along with fire suppression, has favored the establishment and expansion of invasive weeds on the Morley Sanctuary including Reed Canary Grass - *Phalarus arundinacea*, Purple Loosestrife - *Lythrum salicaria*, and Invasive Reed - *Phragmites australis* subspecies *australis*. Despite the occurrence of these invasive weeds, the Morley Trust Property is still largely dominated by native vegetation. The most widespread weed is Purple Loosestrife, particularly in the north. Without intervention and regular management, Phragmites is likely to dominate much of the wetland on the property. The wooded wetland edges, especially along the north end of the property, are dominated by Glossy Buckthorn - *Frangula alnus*, a highly invasive shrub that will require long-term management efforts to eliminate.

Stewardship Issues

Aside from the threat of the resumption of farming and development should Michigan wetland regulation be scaled back, the most significant threats to the Morley Sanctuary are continued degradation of the lakeplain prairie and woody beach ridges due to depleted hydrology, fire suppression, shrub and tree expansion, overgrazing by deer, and invasive species encroachment. The primary foreseeable stewardship actions for the Morley Sanctuary are invasive species control, hydrology restoration through blocking drainage, prescribed burning, and plant community improvement through native plant species propagation.



Lakeplain prairie north of the central wooded beach ridge in the background. Photograph by Teddy Wiley.

Native plant propagation across the Morley Sanctuary will be necessary to improve the plant community in the long term. Seed collected from remnant native plant colonies on and near the preserve can be hand-sown across the lakeplain prairie and beach or dune ridges. Likewise, transplants may be used to further establish and expand certain native species. Greater native diversity would restore lost species and improve the long-term sustainability of the lakeplain prairie community as a whole.

Wetland Restoration

On March 21, the TLC met on the Morley Sanctuary with the US Fish and Wildlife Service (USFWS) and Ducks Unlimited (DU) to plan wetland restoration using the grant funds provided by the DU Wetland Conservation Program grant. Present were Jim Hazelman, State Coordinator of the Partners for Fish and Wildlife Program of the USFWS, DU Tn-State Biologist Colleen Gleason, DU Regional Biologist Kali Rush, DU Biologist Matt Conrad, TLC Executive Director Bill Collins, TLC President Cheryl Collins, TLC Program and Stewardship Director Teddy Wiley, and prospective new TLC stewardship worker Sam Lazar. Initial restoration activities will consist primarily of ditch blocking and possible field tile cutting.

March 21 on the Morley Sanctuary with the US Fish and Wildlife Service and Ducks Unlimited. Left to right: Jim Hazelman USFWS, Teddy Wiley TLC, Bill Collins TLC, Kali Rush DU, Matt Conrad DU, Colleen Gleason DU, and Cheryl Collins TLC. Photograph by Sam Lazar.

Conservation Easement

The TLC has already drafted a conservation easement that will be placed on all of the natural portions of the Morley Sanctuary. However, Michigan conservancies have the senseless restriction of not being able to hold their own easements, so we are looking for another organization or agency to do so. Along with the conservation easement and required baseline report, we have also planned and mapped the development of public park facilities, including two small parking areas, walking trails, pavilions, signs, and a kayak and canoe launch to the Kawkawlin River in a canal at the northwest corner of the preserve.

Funding

The acquisition cost for the 113-acre Morley Sanctuary was over \$777,000, of which a Ducks Unlimited / Michigan Department of Natural Resources Wetland Conservation Program grant covered nearly \$583,000. The Wetland Conservation Program is managed by the Great Lakes/Atlantic Regional Office of Ducks Unlimited on behalf of the Michigan Department of Natural Resources, Wildlife Division in cooperation with the Michigan Department of Environment, Great Lakes and Energy and Michigan Department of Agriculture and Rural Development. Michigan DNR developed the Wetlands Conservation Program to guide expenditure for a portion these funds, and selected Ducks Unlimited through a competitive process to manage the program.

The Wetland Conservation Program grants are designated for protection of wetlands in the Saginaw Bay and Lake Erie watersheds, as part of a larger initiative to secure and improve the water quality of Saginaw Bay and Lake Erie. The western basin of Lake Erie and Saginaw Bay experience frequent recurring algal blooms, primarily driven by excess phosphorus entering the lakes through runoff from rainfall and snowmelt. Harmful algal blooms can be toxic and cause severe illness, leading to closure of drinking water facilities, boating areas, fishing events, and beaches. Restoring wetlands on the landscape to catch the runoff and filter out phosphorus is one potential solution to this problem, and part of what is hoped to be accomplished through the Wetland Conservation Program.

Ducks Unlimited is a non-profit company that has preserved, enhanced, or restored 16 million acres of wetlands in North America since 1937. Organizations like Ducks Unlimited are increasingly vital to environmental protection in our current political climate.

Again, our sincere gratitude to Kali Rush and Matt Conrad of the Great Lakes/Atlantic Regional Office of Ducks Unlimited in Dexter, Michigan for notifying the TLC of grant opportunities and administering this grant on our behalf. Our thanks also to the Wetland Conservation Program Steering Committee for selecting our projects for funding.

Thanks also to Denny Albert and Mike Penskar, former staffers of the Michigan Natural Features Inventory, for their support letters, which surely helped in obtaining the grant for the Morley Sanctuary acquisition. For anyone working to protect natural areas in Michigan over the past few decades, surely they are familiar names. Denny, among other projects, was the lead ecologist that produced ecoregional mapping of Michigan, Wisconsin, and Minnesota, and original vegetation mapping of Michigan based on survey notes of the US General Land Office from the 1800s. He worked to develop the current natural plant community classifications used in Michigan, and also investigated wetlands along the Great Lakes, including extensive surveys of lakeplain prairie remnants around the Saginaw Bay. Mike Penskar was the lead botanist for the Michigan Natural Features Inventory, conducting botanical surveys across Michigan and producing many of their publications. Mike was the botanist who surveyed the Morley property and other lakeplain prairie sites around the Saginaw Bay in 1994. He reunited a few sites in the vicinity that have since been destroyed. We are certain that both Denny and Mike are quite happy to know that the Morley lakeplain prairie is finally protected. The sad truth however, is that for every site we protect, there are several others that are lost, as they shared in our discussions.

TLC Fundraising

An additional \$195,000 for the Morley Sanctuary acquisition was paid by a private loan to the TLC. We are currently fundraising to repay the acquisition loan and also to fund restoration, stewardship, and park development. In total, the TLC is probably going to need another \$500,000 in funding and serious partnership to restore the lakeplain prairie and make the Morley Sanctuary the public attraction it should be.

Please consider a generous donation to the TLC. If you've been reading our newsletters and annual reports, you know that the TLC is all about land acquisition and stewardship to protect our natural areas and provide opportunities for outdoor public recreation. Our Board of Directors and Executive Director are all volunteer. No one receives a salary. We currently have three contract staff that are paid \$20 per hour. Their work is focused on preserve stewardship and new land protection projects. The TLC is a 501(c)(3) non-profit charity. All donations are tax-deductible. Please contact the TLC if you have any questions. Morley property check

Southern Lake Huron Coastal Park Trail

Fort Gratiot and Burtchville Townships, Saint Clair County

The TLC has made progress on the Southern Lake Huron Coastal Park through the winter. We've been working on three of our preserves, including our 42-acre Bidwell Sanctuary in Burtchville Township, our 80-acre Shorewood Forrest Southeast Sanctuary in Fort Gratiot Township, and our latest addition, the 5-acre Cunningham Connector Sanctuary along Carrigan Road which connects the Shorewood Forrest Southeast Sanctuary with the Fort Gratiot Nature Park to the south.

Bidwell Sanctuary

Cèhk'hònesink hitkwike schind lekùwake -

Place among hemlock trees and sand covered with sound of waves breaking – Lenape

On the Bidwell Sanctuary, TLC Stewardship Assistant Jason Sawyer, continued clearing the coastal trail at the north end of the preserve, nearly a half-mile north of the entrance at Metcalf Road. As mentioned in the previous issue of The Thumb Naturalist, it was very encouraging to find old Arbor Vitae or Northern White-cedar trees up in the north end, along with more Eastern Hemlock, both species descended from the original forest community that covered the dune and swale complex. These are good indicators that colonies of other native plant species may be remnant in the same area, but we won't know until later in the growing season.

Development of the Metcalf Road entrance of the Bidwell Sanctuary turned into a much longer and involved project than we anticipated. In late November and early December, the TLC submitted drawings and applications to Burtchville Township for a building permit and special land use permit. The plans were reviewed and then it was determined that the parcels needed to be rezoned to allow public use and facilities. The Burtchville Planning Commission held a public hearing on February 4, originally for the special land use request, but also for the rezoning. TLC Executive Director Bill Collins gave a presentation at the hearing, during which there were only a few questions from neighboring landowners. We just received the rezoning application and will submit that soon.

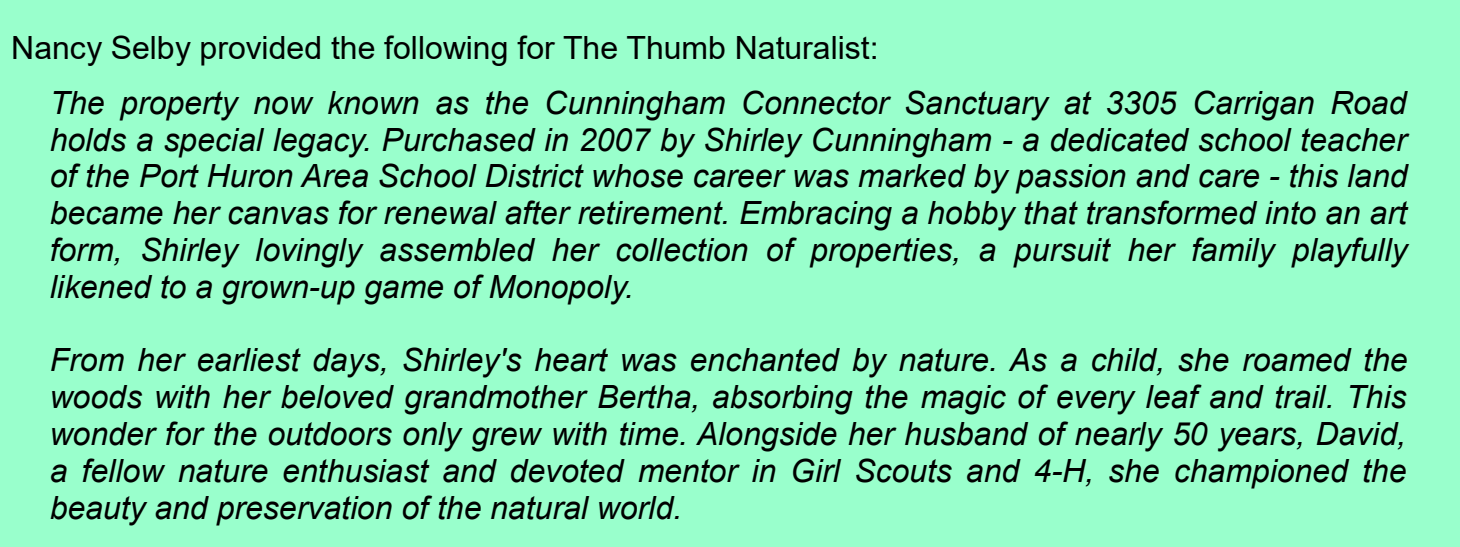


The TLC again thanks major funders of the Bidwell Sanctuary acquisition and Southern Lake Huron Coastal Park project, including The Carls Foundation, Consumers Energy Foundation, the North American Wetlands Conservation Council, Ducks Unlimited, Community Foundation for Southeast Michigan, Community Foundation of Saint Clair County, Moore Family Foundation, Cargill Salt of Saint Clair, Cargill, Incorporated, the Bioregion Restoration Fund, SEMCO Energy Gas Company, and individual donors.

Shorewood Forrest Southeast Sanctuary

In late November and early December, TLC Executive Director Bill Collins, TLC Member Connie Neese, and TLC Program and Stewardship Director Teddy Wiley started clearing the coastal trail along a major dune ridge from Carrigan Road on the Shorewood Forrest Southeast Sanctuary. Good progress has since been made on continuing the trail north through the preserve and on removal of invasive shrubs like Tartarian Honeysuckle and Common Privet. As with the Bidwell Sanctuary, it was very encouraging to find old Arbor Vitae or Northern White-cedar trees along the base of the sand ridge to the north, descended from the original forest community that covered the dune and swale complex and a good indicator of other native plant species that may be remnant.

In mid-March, Teddy planted tree seeds on the dune ridge where the coastal trail is routed to help restore the native forest community. These included acorns of Black Oak – *Quercus velutina* and Red Oak – *Quercus rubra*, and Tulip Tree – *Liriodendron tulipifera* seeds collected last fall by Bill Collins from Lakeside Cemetery and Mount Hope Catholic Cemetery in Port Huron, and from his parents' residence in Fort Gratiot. Oaks will require several decades to reach the sub-canopy level, if ever. Tulip Tree is relatively fast-growing and capable of filling canopy gaps in only a few decades. Tulip Tree and Black Oak are also generally southern species, approaching the northern limits of their natural range in our region. Establishment of these southern species should help prepare for climate warming.

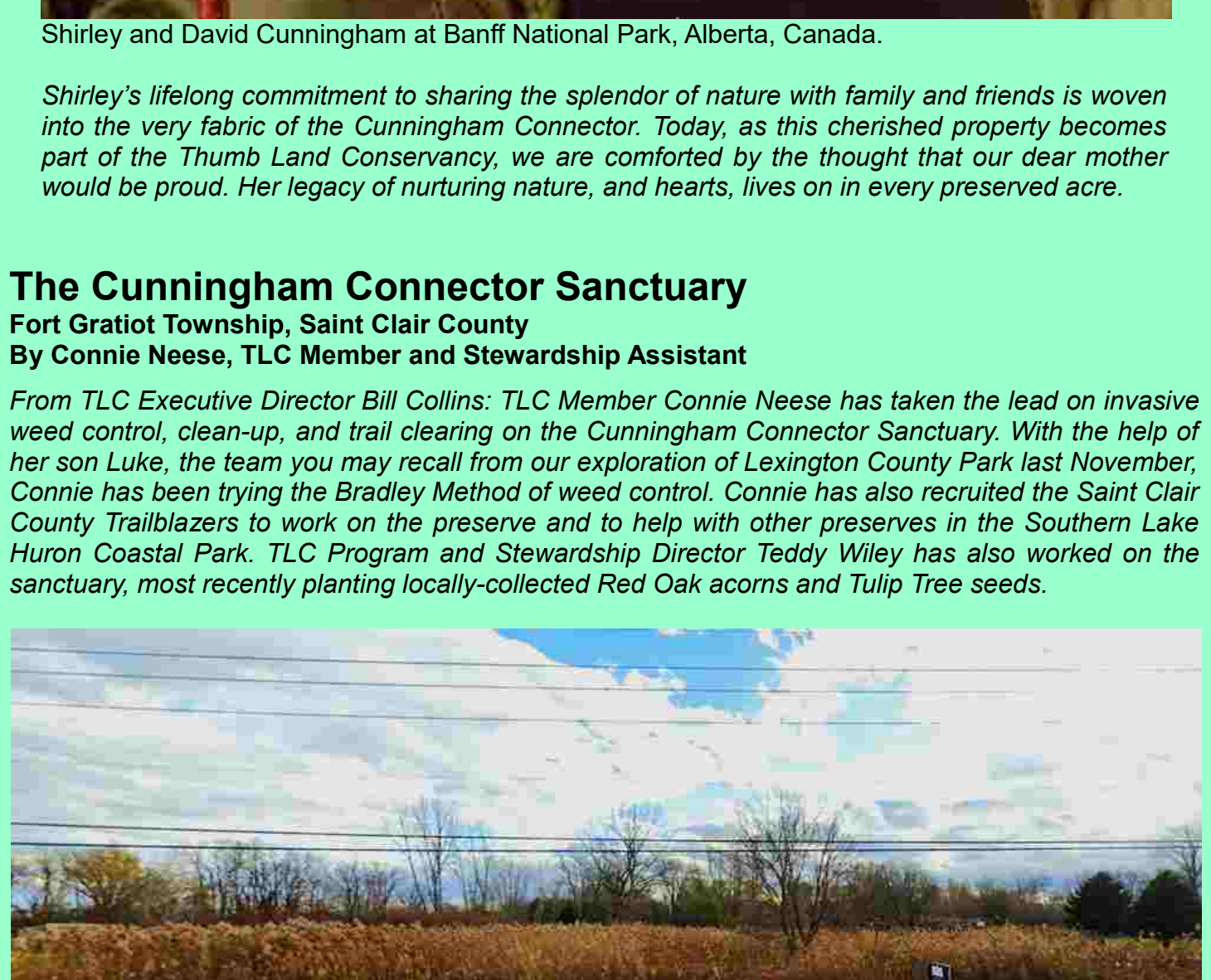


Tulip Tree seeds, or samaras, detached from cones for planting. The round Sweetgum - *Liquidambar styraciflua* seed pods at the far left were from trees planted at the Fody residence and seed was not planted on the preserves. Photograph by Teddy Wiley.

The TLC again thanks the Consumers Energy Foundation, our sole funder for the Shorewood Forrest Southeast Sanctuary acquisition. We also thank Saint Clair County Drain Commissioner Bob Wiley for working with us to ensure this significant area of dune and swale forest remains protected and part of the Southern Lake Huron Coastal Park.

Cunningham Connector Sanctuary

On January 10, the TLC closed on our new 5-acre Cunningham Connector Sanctuary on the south side of Carrigan Road in Fort Gratiot Township. Except for having to cross Carrigan Road, this preserve connects our 80-acre Shorewood Forrest Southeast Sanctuary with the 152-acre Fort Gratiot Park to the south. The north end of the preserve had a residence years ago which was demolished, and so was heavily impacted and of very low vegetative quality, now largely covered by invasive Reed or Phragmites. The south end of the preserve still contains intact dune and swale forest, extending south to the 40-acre pond on the Fort Gratiot Nature Park.



The Cunningham Connector Sanctuary shown in yellow.

Purchase of the Cunningham Connector Sanctuary was made possible by funding provided by a long-awaited grant from the North American Wetlands Conservation Council which came through just in time. Ultimately, we thank Kaii Rush of the Great Lakes/Atlantic Regional Office of Ducks Unlimited in Dexter, Michigan for this grant opportunity and her continued work on behalf of the TLC.

The Cunningham Connector Sanctuary was one of the few undeveloped parcels remaining along Carrigan Road that allowed for connection to the Fort Gratiot Nature Park, and fortunately, aligns very well with our new trail entrance on the 80-acre Shorewood Forrest Southeast Sanctuary, which means that the public will need to walk only a short distance along Carrigan Road. This is a critical connection for the Southern Lake Huron Coastal Park as it allows for a continuous trail connection extending nearly 2 miles, from the southern end of the Fort Gratiot Nature Park near Keewahdin Road up to Brace Road on the north side of the Shorewood Forrest preserves.

At the property closing, TLC Executive Director Bill Collins had a long discussion with the sellers, Nancy Selby and Mark Cunningham, children of the previous owner, Shirley Cunningham. After their mother retired from teaching science in the Port Huron Area School District, and not long after their father passed away, she started investing in real estate. The Cunningham Connector parcel was the first property she bought to start her new investment career in 2007. Shirley Cunningham loved nature, and Nancy and Mark said that she would be happy to know her parcel would be protected by the TLC. Previous to the closing, we were already calling the property the "connector parcel", so in honor of their mother and the Cunningham family, we decided to name it the "Cunningham Connector Sanctuary".

Nancy Selby provided the following for The Thumb Naturalist:

The property now known as the Cunningham Connector Sanctuary at 3305 Carrigan Road holds a special legacy. Purchased in 2007 by Shirley Cunningham - a dedicated school teacher of the Port Huron Area School District whose career was marked by passion and care - this land became her canvas for renewal after retirement. Embracing a hobby that transformed into an art form, Shirley lovingly assembled her collection of properties, a pursuit her family playfully likened to a grown-up game of Monopoly.

From her earliest days, Shirley's heart was enchanted by nature. As a child, she roamed the woods with her beloved grandmother Bertha, absorbing the magic of every leaf and trail. This wonder for the outdoors only grew with time. Alongside her husband of nearly 50 years, David, a beautiful nature enthusiast and devoted mentor in Girl Scouts and 4-H, she championed the beauty and preservation of the natural world.



Shirley and David Cunningham at Banff National Park, Alberta, Canada.

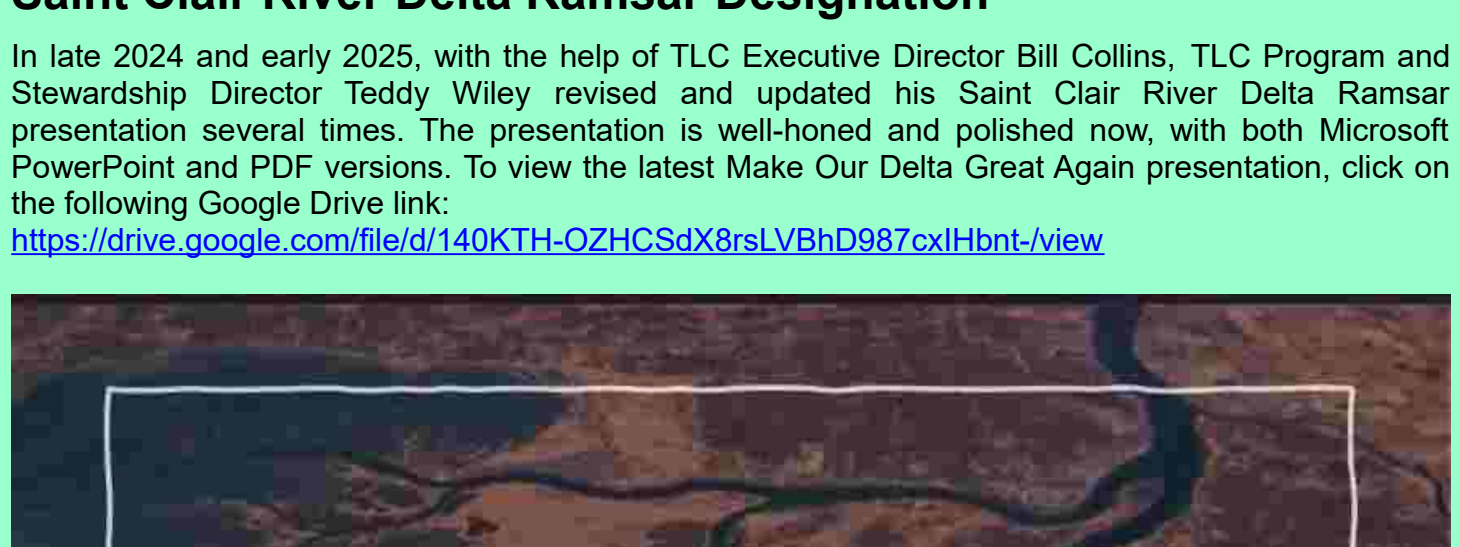
Shirley's lifelong commitment to sharing the splendor of nature with family and friends is woven into the very fabric of the Cunningham Connector. Today, as this cherished property becomes part of the Thumb Land Conservancy, we are comforted by the thought that our dear mother would be proud. Her legacy of nurturing nature, and hearts, lives on in every preserved acre.

The Cunningham Connector Sanctuary

Fort Gratiot Township, Saint Clair County

By Connie Neese, TLC Member and Stewardship Assistant

From TLC Executive Director Bill Collins: TLC Member Connie Neese has taken the lead on invasive weed control, clean-up, and trail clearing on the Cunningham Connector Sanctuary. With the help of her son Luke, the team you may recall from our exploration of Lexington County Park last November, Connie has been trying the Bradley Method of weed control. Connie has also recruited the Saint Clair County Trailblazers to work on the preserve and to help with other preserves in the Southern Lake Huron Coastal Park. TLC Program and Stewardship Director Teddy Wiley has also worked on the sanctuary, most recently planting locally-collected Red Oak acorns and Tulip Tree seeds.



The north end of the Cunningham Connector Sanctuary in November 2024.

Background

The Thumb Land Conservancy purchased the new Cunningham Connector Sanctuary at 3305 Carrigan Road on January 10, 2025 from the estate of Shirley Cunningham. This five-acre parcel is a crucial link between the Fort Gratiot Trail system and the Southern Lake Huron Coastal Park. The southern portion of the property is wooded wetland, while the northern most portion of the property has sections thick with invasive Phragmites. The areas of Phragmites had been mowed until just a few seasons ago.



October 2021: Google Street View shows the property had been recently mowed.

The goal is to have a path running north-south through the sanctuary, as well as invasive species removal and restoration of the native species. This preserve is an excellent candidate for the Bradley Method of Regeneration, which strives to avoid the cycle of ever clearing that ends up creating perfect places for invasive species to take hold. Native plants can reclaim the land if we give them a chance by methodically removing invasives.

Land Acknowledgment

We respectfully acknowledge that the properties we seek to restore and preserve are the traditional lands of the Anishinaabeg peoples and other tribes of the Great Lakes region.

Bradley Method of Regeneration

The Bradley Method of Regeneration, developed in Australia by sisters Joan and Eileen Bradley, is a holistic approach to land restoration and regeneration. It focuses on using nature itself to revive degraded lands by methodically removing the pressures of exotic plants in close proximity of native plants allowing the native species to reestablish dominance of the area.

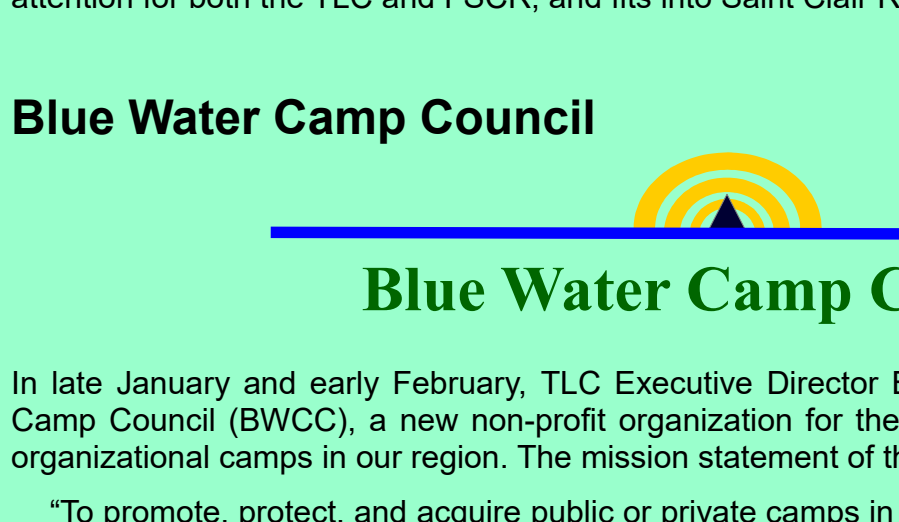
Principles of the Bradley Method

- Always work from good to bad areas.
- Disturb the soil as little as possible and restore it to its natural condition.
- Allow the rate of regeneration to dictate the rate of clearing.
- Do not over-clear.

Defining Good and Bad Areas

- Good Areas have established native ground-cover, shrubs and/or trees, with no more than a scattering of invasive plants.
- Bad Areas have few if any native plants and are predominately covered with invasive species.

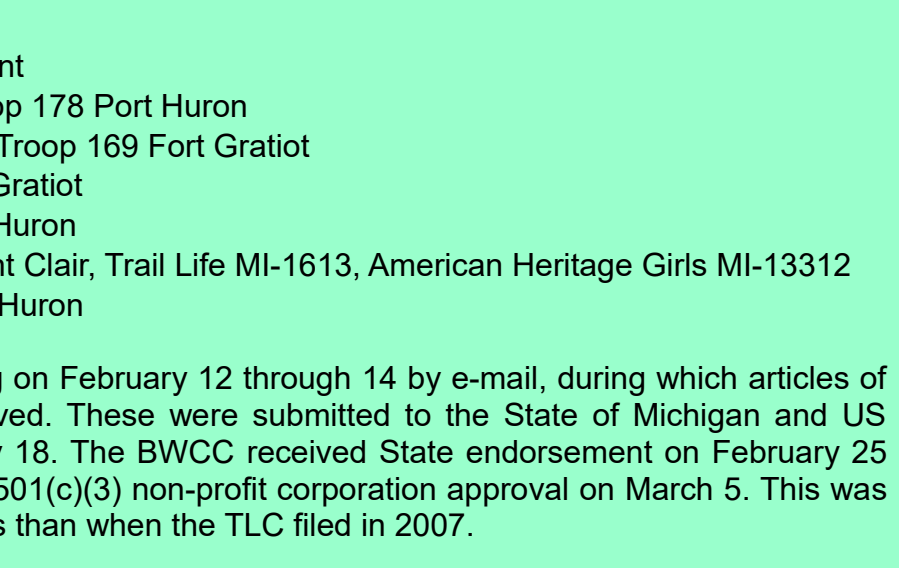
Finding the Good Areas



Early March 2025: Travis Jodway looking for trees within the Phragmites.

Going Forward

This spring we can start looking for good areas within the wooded portion of the preserve. The knocked-over Phragmites will be left to rot on-site. In June, July and August we'll work in and within 10 feet of the good areas to spade the Phragmites and remove any non-native plants while disturbing the soil as little as possible.



Mid-March 2025: Most Phragmites knocked over and small trees flagged.

Loznak Sanctuary

Yánhdawá' yeh de yenhntá' iyaen' - The Prairie is Near the River - Huron-Wendat

City of Marysville

TLC Board Member Dan Rhein and TLC Program and Stewardship Director Teddy Wiley continued working on our 11.5-acre Loznak Sanctuary in Marysville through most of the winter. Work was focused on cutting and herbicide treatment of invasive Glossy Buckthorn, Common Buckthorn, and Autumn-olive. This is gradually opening up the lakeplain prairie and adjoining woodland on the west side of the sanctuary to resemble more closely the original prairie and oak-dominated woodland, both fire-dependent plant communities. They focused their work on two areas near the west side where they found large patches of Fringed Gentian - *Gentianopsis crinita*. Dan also constructed multiple low foot bridges across a few shallow ditches using concrete debris and railroad ties from the site.

Seed planting area on the Loznak Sanctuary. Photograph by Teddy Wiley.

Teddy and Dan collected native lakeplain prairie seed last fall. They found a remnant patch of Indian Grass - *Sorghastrum nutans*, a new prairie species addition for the Loznak Sanctuary. They also collected Fringed Gentian - *Gentianopsis crinita*, Rough Blazing-star - *Liatis aspera*, and Riddell's Goldenrod - *Solidago riddellii* from the sanctuary, Indian Grass - *Sorghastrum nutans* from a nearby patch in Port Huron Township, and Cord Grass - *Spartina pectinata* from Port Huron Township and Harsens Island. Teddy planted some of it in the fall, but most was stored and planted in early March as the region had higher than normal temperatures, snow cover completely melted, and the ground thawed. It's important that most native seed go through a period of cold stratification, or exposure to cold, moist soil conditions, typically for a few months, to help soften the seed coats and break dormancy for spring germination. Ideally, all of the seed would have been broadcast or otherwise planted in the fall to be subjected to natural conditions, but we had planned to brush-hog parts of the prairie since we are prohibited from burning by a city ordinance. Unfortunately, time and weather was not conducive to mowing last fall and early winter without creating soil ruts.

Saint Clair River Delta Ramsar Designation

In late 2024 and early 2025, with the help of TLC Executive Director Bill Collins, TLC Program and Stewardship Director Teddy Wiley reviewed and updated his Saint Clair River Delta Ramsar presentation several times. The presentation is well-honed and polished now, with both Microsoft PowerPoint and PDF versions. To view the latest Make Our Delta Great Again presentation, click on the following Google Drive link: <https://drive.google.com/file/d/140KTH-OZHCsDx8rslVBhD987cxlHbnt-view>

A Delta Under Siege

Since the late 1980s the Saint Clair River Delta has been under siege from an invasive wetland reed called *Phragmites australis* subsp. *australis*, among other invasive weeds. The once large remnants of lakeplain wet-wet-messic prairie on Dickinson Island and Saint John's Marsh, a statewide and globally imperiled wetland plant community, are functionally gone. Lakeplain oak openings, another statewide and globally imperiled wetland/forest community, is under attack from invasive shrubs like Japanese Barberry, Glossy Buckthorn, Common Buckthorn, and other invasive weeds. Much of the Great Lakes marsh that makes up the majority of the habitat in the Delta is completely taken over by invasive Phragmites. The Michigan DNR has implemented several large projects in the past to control these large colonies of invasive Phragmites, using a mix of aerial and ground application of herbicides. These projects did prove to be successful. The problem was the projects were funded for short periods, allowing treated areas to be reclaimed just a couple of years later. Walpole Island First Nation was able to keep their upland prairie and oak openings in relatively good condition which continue to be the best remaining examples of their community type. The same cannot be said about the wetter habitats like Great Lakes marsh. The following aerial photographs highlight just how much invasive Phragmites has taken over the Saint Clair River Delta.

On January 27, Teddy gave a presentation during the Clay Township Board meeting about the Saint Clair River Delta Ramsar designation process which was very well received. Dan Rhein and Bill Collins attended the presentation and later met with Teddy and his parents. Here is a link to the presentation video: <https://www.youtube.com/watch?v=1-zUJehw>. Teddy has had subsequent meetings with Clay Township which is very supportive of the Ramsar effort, especially because they want to eliminate invasive Phragmites across the delta and other shoreline areas to improve recreation, wildlife, and residential values. Clay Township Treasurer Jerry Galka, is particularly supportive. Teddy received a support letter from Clay Township and is currently working on getting a support resolution from Senator Kevin Hertel of Macomb County. Next will be support letters from various organizations, especially hunting and fishing groups, which should improve chances of getting support from other political representatives and agencies.

Michigan Conservancy Meeting

On March 14, TLC Executive Director Bill Collins and TLC Program and Stewardship Director Teddy Wiley participated in a Zoom video meeting of Michigan conservancies to discuss several issues that regularly impede our work. The latest meeting was a continuation of meetings and discussions held in 2024 and was hosted by Jared Harmon, Executive Director of the Mid-Michigan Land Conservancy (Clinton, Eaton, Hillsdale, Ingham, Ionia, and Shiawassee counties). Participating were the following Michigan land conservancies and organizations:

- Blue Heron Headwaters Land Conservancy (Oakland, Livingston, and Genesee counties)
- Cadillac Area Land Conservancy (Missaukee, Osceola, Wexford, Lake and Mason counties)
- Grosse Ile Nature and Land Conservancy (Grosse Ile)
- Headwaters Land Conservancy (Alcona, Alpena, Arenac, Crawford, Iosco, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, and Roscommon counties)
- Heart of the Lakes (Michigan association of conservancies and similar organizations)
- Land Conservancy of West Michigan (Allegan, Kent, Lake, Mason, Muskegon, Newaygo, Oceana, Ottawa)
- Legacy Land Conservancy (Washtenaw, Jackson, and Lenawee counties)
- Little Forks Land Conservancy (Bay, Clare, Isabella, Gladwin, Midland counties)
- Livingston Land Conservancy (Greater Livingston County)
- Michigan Land Conservancy (Michigan)
- Southeast Michigan Land Conservancy (Livingston, Macomb, Monroe, Oakland, Saint Clair, Washtenaw, and Wayne counties)
- Upper Peninsula Land Conservancy (Alger, Chippewa, Delta, Dickinson, Gogebic, Iron, Luce, Mackinac, Marquette, Ontonagon, and Schoolcraft counties)

Topics of discussion included:

1. Need for guaranteed property tax exemption for public preserves;
2. Need for guaranteed property tax incentives for landowners with conservation easements;
3. Liability of conservancies for county drain and special assessments, paying for negative benefits;
4. Liability of conservancies to hold their own conservation easements, Merger Doctrine fix;
5. Need for exemptions from weed and grass ordinances;
6. Need for exemptions from prescribed burning ordinances;
7. Lack of Michigan Natural Resources Trust Fund grant funding access for conservancies;
8. Emerging solar panel issues for conservation easements and preserves.

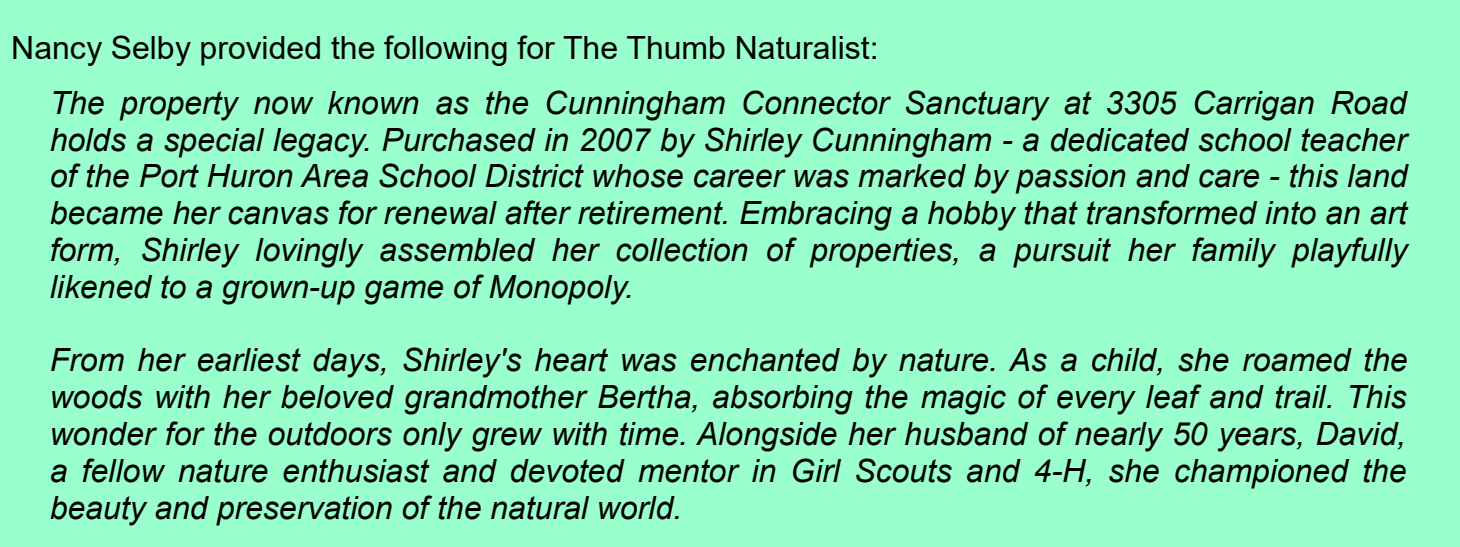
In general, land conservancy directors shared their experiences and a few suggestions, but there were no great conclusions or obvious solutions. Heart of the Lakes, which represents Michigan conservancies, was mostly negative about making any progress, particularly with current political conditions. Some of us will continue to work on these issues.

Friends of the St. Clair River Meeting

On March 18, TLC Executive Director Bill Collins and TLC Program and Stewardship Director Teddy Wiley participated in a Zoom video meeting with the Friends of St. Clair River to discuss how our two organizations might work together on a regular basis and on special projects. We decided to have this meeting a few months ago, after both the TLC and FSCR had trouble with the City of Marysville last summer regarding their weed and grass ordinance.

The TLC and FSCR will start sharing information in our respective newsletters, especially volunteer stewardship opportunities. This could greatly increase participation in our annual May and June Garlic Mustard removal efforts and also promote more educational opportunities for TLC members. Regarding special projects, we focused on the Saint Clair River Delta Ramsar designation or Make Our Delta Great Again initiative. We also proposed a possible new restoration project at the mouth of the Bunce Creek in Marysville. This project has huge challenges but would be high-profile, gaining attention for both the TLC and FSCR, and fits into Saint Clair River Area of Concern goals.

Blue Water Camp Council



Blue Water Camp Council

In late January and early February, TLC Executive Director Bill Collins co-founded the Blue Water Camp Council (BWCC), a new non-profit organization for the purpose of protecting and supporting organizational camps in our region. The mission statement of the BWCC is as follows:

"To promote, protect, and acquire public or private camps in the Blue Water or Thumb regions of Michigan, including Huron, LaPere, Macomb, Saint Clair, Sanilac, and Tuscola counties, for the purpose of ensuring the continued existence, use, and availability of camps, particularly those for organizations and youth".

The BWCC Board of Directors is a core group of scouters from the former Blue Water Council, Boy Scouts of America, including:

- Carla (Hardie) Petrossi, President
- Jim Gilbert, Treasurer, BSA Troop 168 Port Huron
- William Collins, Secretary, BSA Troop 179 Fort Gratiot
- Greg Ball, BSA Troop 106 Fort Gratiot
- Terry Hoy, BSA Troop 168 Port Huron
- Sara Leroy, BSA Troop 294 Saint Clair, Trail Life MI-1613, American Heritage Girls MI-13312
- Bob Wiley, BSA Troop 168 Port Huron

The BWCC held its first board meeting on February 12 through 14 by e-mail, during which articles of incorporation and bylaws were approved. These were submitted to the State of Michigan and US Internal Revenue Service on February 18. The BWCC received State endorsement on February 25 and IRS tax-exemption approval as a 501(c)(3) non-profit corporation approval on March 5. This was much quicker turn-around on approvals than when the TLC filed in 2007.

Of course, the BWCC is concerned about the fate of Silver Trails, the former scout camp west of Jeddo, a magnificent forested natural area along the Black River and slopes of the Silver Creek valley. Established in 1945, the camp served thousands of scouts, youth, and their families across Saint Clair and Sanilac counties and beyond until it was sold in 2020. But there are other camps in the region that need help and may be at risk of closing in the future. Some readers may recall the sale of the 24-acre Girls Catholic Youth Organization near Forester back in 2022. It was a shame to lose not only another youth organization camp, but one with over 1,000 feet of beach on Lake Huron, Camp Cavell near Lexington was nearly lost before a few individuals formed the Camp Cavell Conservancy and bought it from the YWCA of Detroit in 2013. There are several other organizational camps in our region, primarily for youth and churches, all subject to the strains of program, maintenance, and liability costs in addition to the risk of declining membership. It is our hope that the BWCC will eventually build a coalition of organizations and members dedicated to our common goal, with the experience and capacity to support and protect camps in our region for future generations.

Bluesky Ecological R and S Feed

By John Fody, TLC Member and Supporter

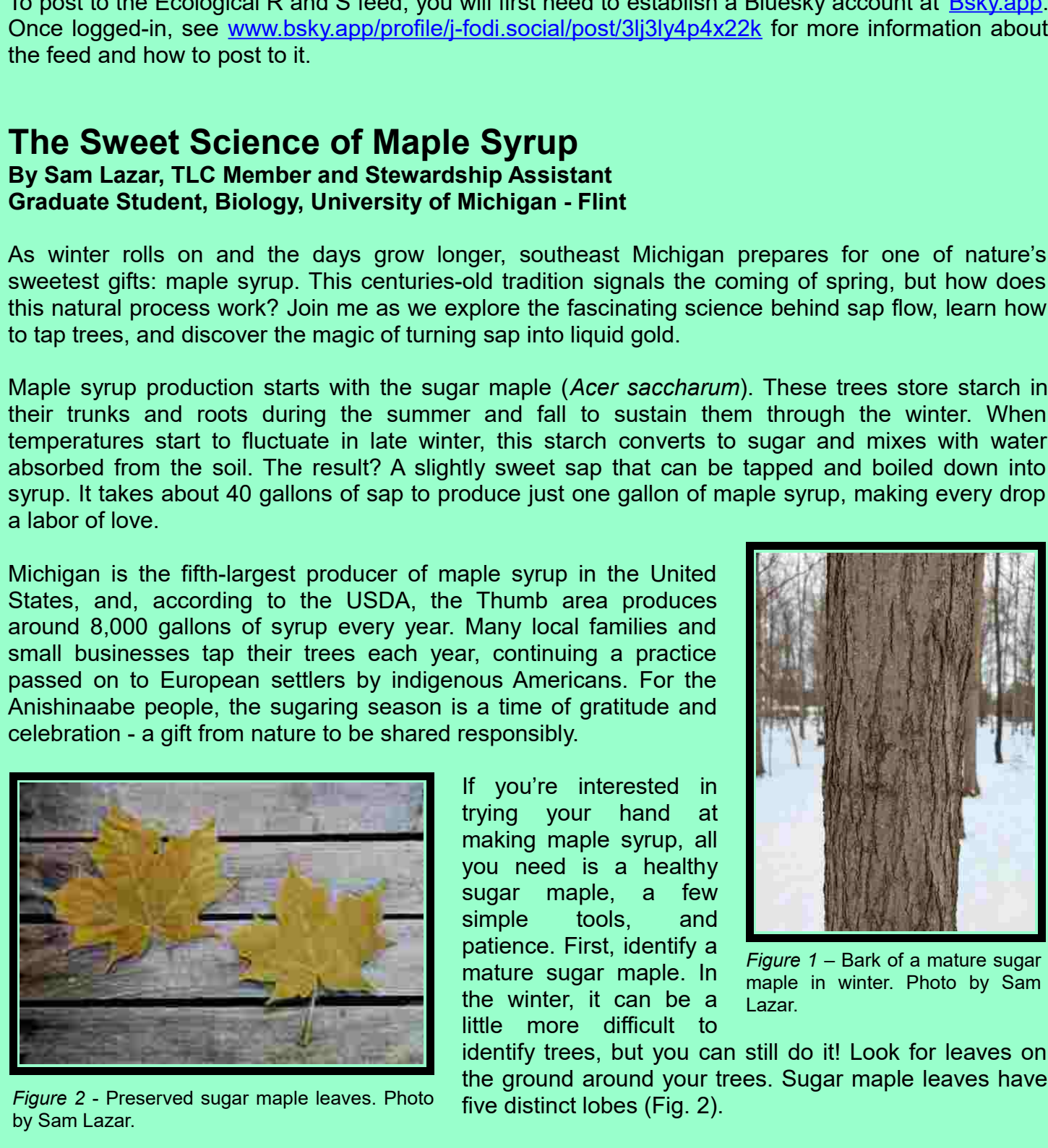
The Thumb's remaining biodiversity is under threat from a variety of factors. These include invasive species, over-population of native species, fire suppression in fire-dependent ecosystems, introduced insects and diseases, conversion of land to agricultural, residential, and industrial uses, habitat fragmentation, poaching of protected species, chemical, gaseous, and solid pollution on land and in air and water, illegal off-road vehicle use, and anthropogenic climate change.

Much of our region's remaining biodiversity can be found on State-owned lands such as State Game Areas and State Parks. These lands are typically large enough to be ecologically viable in the long-term, but the State of Michigan lacks the resources to give them all the management needed to preserve their biodiversity.

Our current Federal government apparently has no interest in the preservation of biodiversity and seems to view the biosphere as something to be plundered for short-term profits.

Given the scale of the task and the relative lack of government assistance, I feel that the preservation of biodiversity is largely in the hands of individuals and organizations. I have long wondered how more people might be motivated to get involved. With the decline of the social medium formerly known as "Twitter" and the rise of Bluesky, I thought that social media might be useful.

I have established a Bluesky account and created a custom feed, "Ecological R and S", devoted to ecological restoration and stewardship. Its purpose is to promote the rehabilitation and care of the natural world by highlighting such efforts and providing ideas, information, and inspiration to aspiring and practicing restorationists and stewards. A custom feed like Ecological R and S aggregates all of the posts related to a specific topic with a designated tag, and allows a Bluesky user to view these posts without seeing unrelated posts.



The Ecological R and S feed is relatively new and does not have many contributors. To grow the feed and increase its effectiveness, I invite you to join Bluesky and post to it. If you are involved in an ecological restoration, re-wilding, reforestation, afforestation, species reintroduction, or stewardship project or have any related content to share, you can help grow the feed and provide inspiration to future restorationists and stewards.

To post to the Ecological R and S feed, you will first need to establish a Bluesky account at [bsky.app](https://bsky.app/profile/f-jody.social/post/3fj3ly4p4x22k). Once logged-in, see [www.bsky.app/profile/f-jody.social/post/3fj3ly4p4x22k](https://bsky.app/profile/f-jody.social/post/3fj3ly4p4x22k) for more information about the feed and how to post to it.

The Sweet Science of Maple Syrup

By Sam Lazar, TLC Member and Stewardship Assistant
Graduate Student, Biology, University of Michigan - Flint

As winter rolls on and the days grow longer, southeast Michigan prepares for one of nature's sweetest gifts: maple syrup. This centuries-old tradition signals the coming of spring, but how does this natural process work? Join me as we explore the fascinating science behind sap flow, learn how to tap trees, and discover the magic of turning sap into liquid gold.

Maple syrup production starts with the sugar maple (*Acer saccharum*). These trees store starch in their trunks and roots during the summer and fall to sustain them through the winter. When temperatures start to fluctuate in late winter, this starch converts to sugar and mixes with water absorbed from the soil. The result? A slightly sweet sap that can be tapped and boiled down into syrup. It takes about 40 gallons of sap to produce just one gallon of maple syrup, making every drop a labor of love.

Michigan is the fifth-largest producer of maple syrup in the United States, and, according to the USDA, the Thumb area produces around 8,000 gallons of syrup every year. Many local families and small businesses tap their trees each year, continuing a practice passed on to European settlers by indigenous Americans. For the Anishinaabe people, the sugaring season is a time of gratitude and celebration - a gift from nature to be shared responsibly.

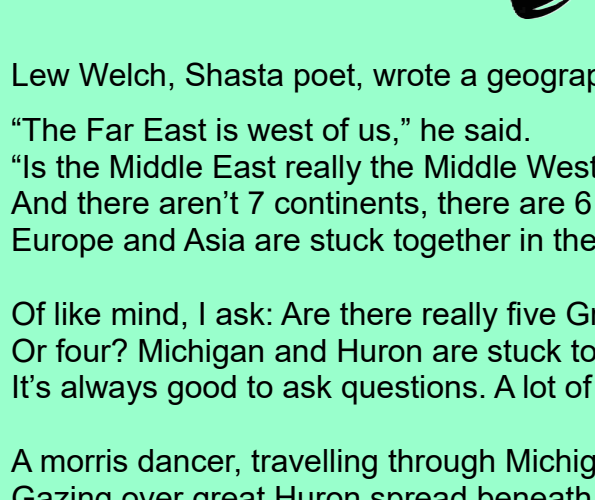


Figure 2 - Preserved sugar maple leaves. Photo by Sam Lazar.

If you're interested in trying your hand at making maple syrup, all you need is a healthy sugar maple, a few simple tools, and patience. First, identify a mature sugar maple. In the winter, it can be a little more difficult to identify trees, but you can still do it! Look for leaves on the ground around your trees. Sugar maple leaves have five distinct lobes (Fig. 2).



Figure 3 - Bark of a mature sugar maple in winter. Photo by Sam Lazar.

You can also distinguish mature sugar maples by their flaky gray bark (Fig. 1). Once you know how to identify sugar maples, consider the size of your trees. Sap is a vital resource to the tree, so it is important to choose a larger tree that can afford to share. Draining sap from a tree less than 10 inches in diameter can stunt its growth or even cause the tree to die. In addition, considering giving the trees a break, and try not to tap the same tree multiple years in a row. See the chart below for a guide on using multiple taps in the same tree.

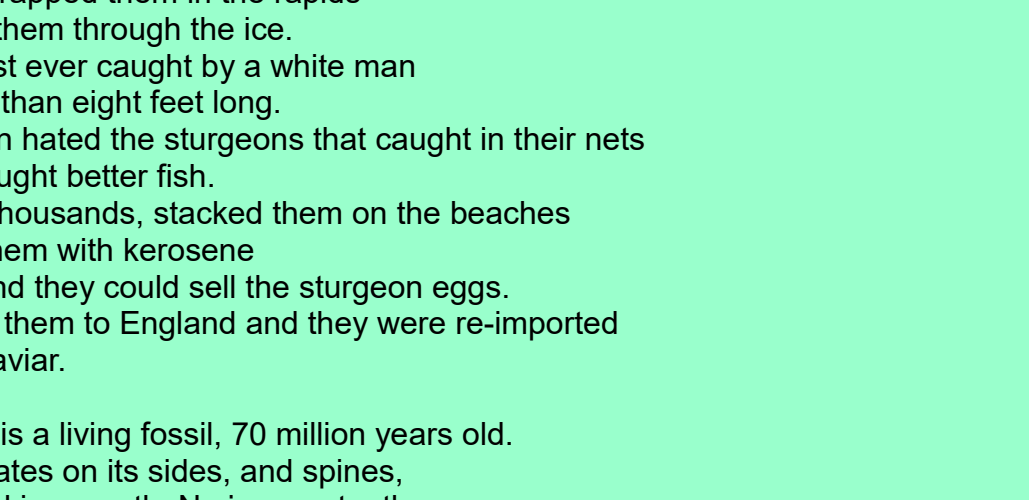


Figure 3 - Chart showing how many taps can be installed into trees of varying diameters.

Now, you've identified a sugar maple and determined it is large enough to tap, it's time to get drilling! You'll need a spile (a small spout that you can pick up at your local farm supply or hardware store, see Fig. 4), a drill with a bit slightly larger than your spile, a hammer, and a bucket or bag to collect the sap.

Before you drill, make sure all your tools are cleaned and disinfected. The bark of a tree serves as a protective barrier against infections and parasites. Piercing it can leave the tree vulnerable, so be patient and your tools will give the tree its best chance at continuing a healthy life.



Figure 5 - Cutaway diagram of a tapped maple tree showing the correct depth and angle for installing a tap. "How to Tap Trees for Optimal Sap Production" by Mertz, 2023. University of Wisconsin-Madison.

Drill a hole about two inches deep at a slight upward angle, approximately three to four feet from the ground. You are aiming to reach the sapwood (Fig. 5), which transports nutrients from the roots up to the leaves. If you drill too deep, you will penetrate the heartwood, and your sap will take on a bitter flavor. Once you have a hole, gently tap the spile in with a hammer, ensuring it's snug but not overly tight. Hang your collection bucket or attach a sap bag to the spile to catch the flowing sap. Sap flow is most active during warm days followed by freezing nights, so check your buckets regularly to prevent overflow. Remember that sap production can vary across individuals and years, so be patient and tap multiple trees if you can when they are available. Maple sap should be processed into syrup within one week of collection and cannot be stored long-term.



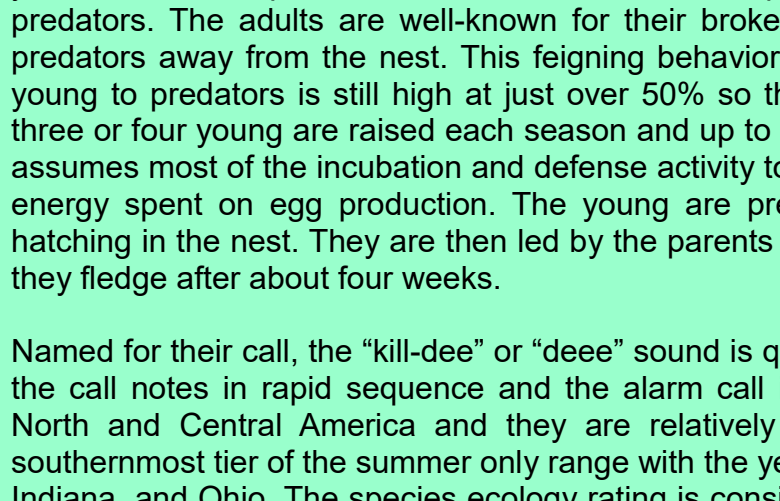
Figure 4 - Two different styles of spile that you might find at a hardware store. Photo by Sam Lazar.

Once you've gathered enough sap, it's time for the boiling process. Traditionally, the boiling process would take place outside or in a building specifically designed for producing maple syrup called a "sugar shack". While it is technically possible to boil down the sap into syrup on your stovetop, the process releases a lot of steam, and this steam will condense on every surface in your kitchen leaving a sticky residue. Therefore, I recommend doing this part outside (unless you like ants). Use a large, shallow pan over an open flame or a propane burner and continue boiling until the sap thickens into syrup. Keep an eye on the temperature using a candy thermometer or similar; syrup is ready when it reaches 219°F. Strain the finished product to remove any impurities and store it in sterilized glass jars. If cannot correctly, stored in a cool dark place, and refrigerated after opening, maple syrup can last over two years without losing quality.

Making maple syrup is a rewarding experience that connects you to the natural world and the rich history of the region. And whether you're producing syrup or simply enjoying it on your pancakes, remember to give thanks to the trees and the ecosystem that make this natural wonder possible.

Sturgeon Song

By Roy Hartry, TLC Bard



Lew Welch, Shasta poet, wrote a geography lesson in a poem:

"The Far East is west of us," he said,
"Is the Middle East really the Middle West?"
And there aren't 7 continents, there are 6—
Europe and Asia are stuck together in the middle."

Of like mind, I ask: Are there really five Great Lakes?
Or four? Michigan and Huron are stuck together in the middle.
It's always good to ask questions. A lot of people don't.

A morris dancer, travelling from Michigan from New England,
Gazing over great Huron spread beneath the moon,
All across the east horizon like silver flowing mercury,
Asked me, "Why don't the Great Lakes have a monster?"
Like Nessie of Loch Ness or Champy of Lake Champlain?"
I had no answer.

Longfellow told of Hiawatha
And how he fished on Gitchee Gumee
On the shining Big-Sea-Water,
Of how Hiawatha and his canoe were swallowed
By the giant sturgeon, Nahma,
Who was called the King of the Fishes.

There is no doubt that there were once great sturgeons in the lakes.
The Ojibwa trapped them in the rapids
And speared them through the ice,
But the biggest ever caught by a white man
Was no more than eight feet long.
The white men hated the sturgeons that caught in their nets
While they sought better fish.
They caught thousands, stacked them on the beaches
And burned them with kerosene
Until they found they could sell the sturgeon eggs.
They shipped them to England and they were re-imported
As Russian caviar.

The sturgeon is a living fossil, 70 million years old.
It has bony plates on its sides, and spines,
But only a sucking mouth. No jaws or teeth.
Not such a monster, but known to upset French canoes.
Sturgeons live as long as humans; perhaps all the great ones are gone.
And the young don't live long enough to become great.
They migrate up clean gravel streams to spawn
And there aren't many of those anymore.

Longfellow's Hiawatha was really Nanabozho,
God-hero and trickster of the Algonquin tales.
As a great hunter he stole fire for the Algonquin tribes.
He weathered the great flood and sent his brother muskrat
To the bottom of the sea to bring back mud
To remake the world.
Nanabozho did go fishing
To get fish oil for his grandmother's hair.
She was Noko, daughter of the moon.
He sought Me-she-nah-ma-gwai, the King of Fishes,
And when he hooked him, the great fish came up
And swallowed his canoe.
But Nanabozho, in the darkness of the fish,
Had his war club, and struck him to the heart.
Me-she-nah-ma-gwai died upon the beach.
Nanabozho was trapped inside.
But then he heard a scratching and saw rays of light.
Nanabozho's brother sea snake opened up a hole to free him.
For this he named them, Kayoshik, "noble scratchers."

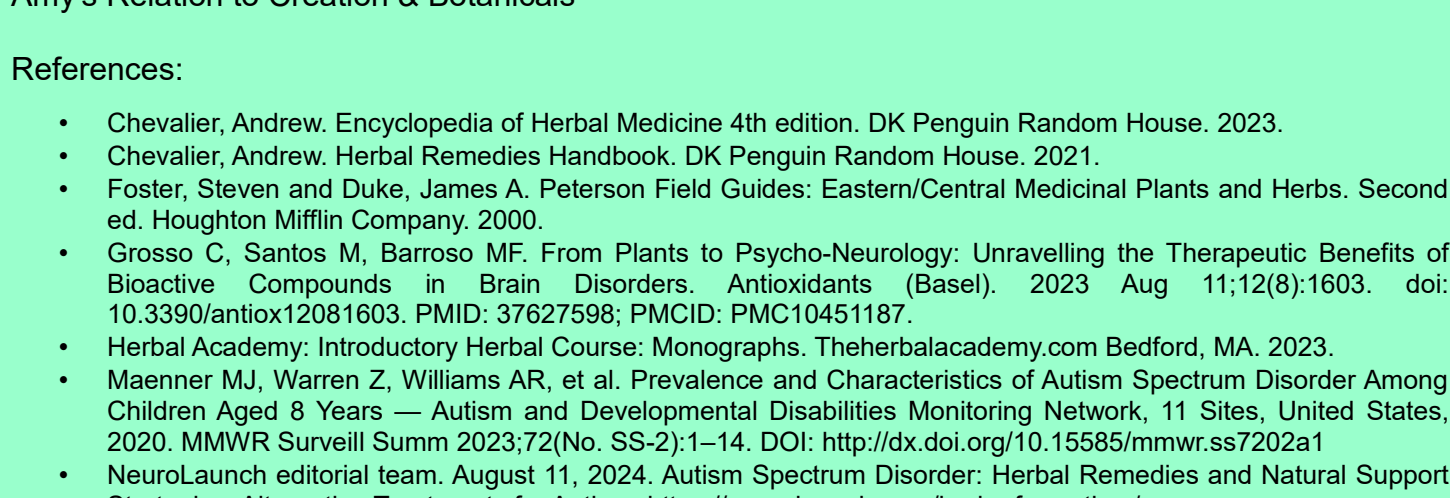
And I scratch my head and ask a question:
What does this tale tell us?

(From the chapbook of songs and poems, *Michigami*, copyright 1991, Roy Hartry)

Masters of Deceit and Camouflage

Killdeer - Charadrius vociferus

By Tom Dennis, TLC Member and Stewardship Volunteer



Killdeer - *Charadrius vociferus*. Photograph by Charles Homler d/b/a FocusOnWildlife - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=130607054>

Although the Killdeer is classified as a "shorebird" it is more likely to be found living and nesting far from water. My first encounter with these birds were on and around my grandparent's farm in Avoca, Michigan. I have always enjoyed watching this beautiful species that is sometimes referred to as the Upland Plover. Read on to learn more about the Killdeer and I trust you will agree that although they are plentiful, they really are special creatures.

Killdeer are pink-brown plovers with a body weighing in at just over three ounces. They are slender and have long lively large legs with a despite length of about ten inches and a twenty-inch wingspan. Adult males and females are similar in appearance with brown upperparts, white underparts, a rust-brown rump and dark wings with a white wing-stripe. They are easily distinguishable from similar plovers in that they are the only species with two black breast bands. Their dark eyes contrast sharply with a red to orange orbital ring. Juveniles are best described as little fuzz balls on stick legs and they lack the rust-brown rump and have a single breast band.

Killdeer are masters of deceit and camouflage. Their nest is a shallow depression and if lined at all, it is with pebbles, twigs, and grass. Nests are built in open fields or other flat areas with short vegetation and will even choose gravel parking areas and rooftops that are void of plant life. The speckled eggs blend in with gravel and open ground and nests can be difficult to locate even when you know one is present. Males are known to break-down dummy nests that help to foil the efforts of predators. The adults are well-known for their socratic-wing display that is used to lead perceived predators away from the nest. This feigning behavior is exhibited by both sexes. Loss of eggs and young to predators is still high at just over 50% so the replacement broods is important. Two broods of three or four young are raised each season and up to five replacement broods may be laid. The male assumes most of the incubation and defense activity to allow the female more feeding time to replace energy spent on egg production. The young are precocial, typically spending only one day after hatching in the nest. They are then led by the parents to deeper cover to feed heavily on insects until they fledge after about four weeks.

Named for their call, the "kill-dee" or "dee" sound is quite familiar to many. When disturbed they emit the call notes in rapid sequence and the alarm call is a long, fast trill. They are found throughout North and Central America and they are relatively short-distance migrators. Michigan is in the southernmost tier of the summer only range with the year-round range-line located in southern Illinois, Indiana, and Ohio. The species ecology rating is considered as "Least Concern" due to the large and stable range and population of about 1 million individual birds.

This is another species that is very beneficial to our kind in controlling insect populations. Like most birds, they are highly susceptible to death from the use of pesticides and thrive when organic farming and lawn-care are practiced. I urge you to get on board and practice good stewardship of the creation by ceasing use of pesticides and by allowing natural controls to make the world a safer place for birds and people.

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!

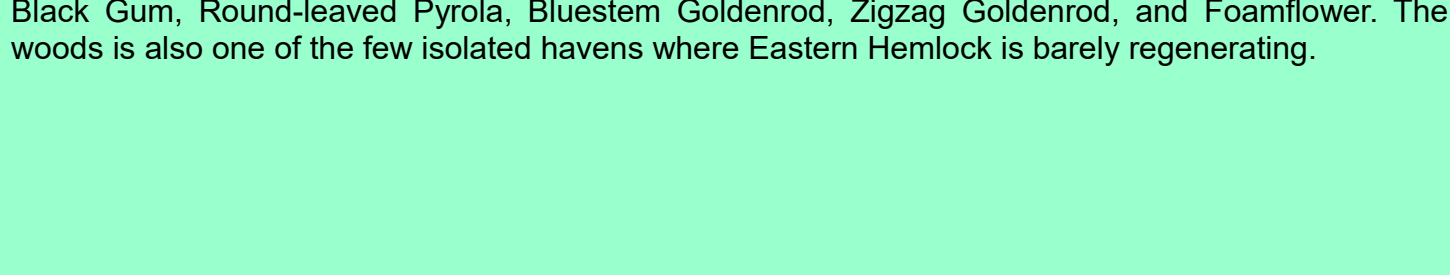
Tom Dennis is a resident of Fort Gratiot where he and his wife Laurie Melms Dennis, tend to their bird and butterfly friendly gardens. He is a speaker and free-lance writer, passionate birder, advanced master gardener, creation scientist, and naturalist, with degrees from Michigan State University in 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, Bluewaters of St. Clair, and is a steward of the Blue Water Riverwalk with Friends of the St. Clair River.

Note from TLC Executive Director Bill Collins: In 2024, Killdeer were listed as Near Threatened on the International Union For Conservation of Nature Red List of Threatened Species. The total worldwide population of adult Killdeer is declining and currently estimated at about 2.3 million; relatively low given that severe weather can potentially kill thousands of birds. While it is uncertain what is causing the declining population, development, agriculture, loss of wetlands, and invasive species like Phragmites, are all likely factors. Killdeer often nest on temporary open ground in agricultural and development areas, and are also subjected to later chemical and mechanical treatments of farm fields. As early spring arrivals in the north, recent climate instability and severe weather are likely factors in nesting mortality. Disease may be an additional factor. Increasingly, species across the world are threatened by multiple and cumulative environmental impacts, making them more vulnerable to factors that were of relatively minor consequence just a few decades ago.

Ginkgo and Autism

By Amy Martinez, RN, BSN, TLC Member
Amy's Relation To Creation & Botanicals, Marine City

April 2nd has been designated by the United Nations as World Autism Awareness Day. While increasing my knowledge base about natural and alternative therapies to aid in symptom management for autism, I stumbled upon a plant that may be growing near you that has been receiving more attention in the scientific community for its potential role in autism symptoms. The beautiful Ginkgo tree!



Ginkgo leaves and fruit. Photograph by User:EugeneZelenko - Wikimedia Commons

According to the World Health Organization, "Autism spectrum disorders (ASD) are a diverse group of conditions. They are characterized by some degree of difficulty with social interaction and communication. Other characteristics are atypical patterns of activities and behaviors, such as difficulty with transition from one activity to another, a focus on details and unusual reactions to sensations." You may wonder: Is autism prevalent enough to warrant its own awareness day? Well, according to U.S. Centers for Disease Control and Prevention (CDC), a study conducted from 1962-1967 on children from ages 2 through 12 found that the autism rate was 0.077 per 1,000 children or stated another way, about 1 in 12,500 children were diagnosed with autism. A study done in 2016 on children ages 3 through 17 showed that the rate of children with autism skyrocketed to 27.9 per 1000 children. That is 1 per 36 children! This data was confirmed in another study conducted in 2020. So, I would say the rising numbers indicate that an awareness day is, indeed, warranted.

The "cause" of autism is still not completely known, and I will defer that conversation for another time. What I will say at this time is that autism is a disturbance in the neurological system of the body. This leads me to Ginkgo! Ginkgo - *Ginkgo biloba* is a member of the Ginkgoaceae family and has been used in China since ancient times for its therapeutic effects. Thought to be the oldest tree known, Ginkgo is now grown on large scales in China, France and South Carolina, and is often used as a shade tree in US hardness zones 3-12. My neighbor has one growing in their yard!

Some actions of Ginkgo that may help with autism symptoms include being known as a strong antioxidant, a circulatory tonic and stimulant, anti-inflammatory, antispasmodic, anxiolytic, neuroprotective and nerve restorative. Ginkgo has been shown to increase blood flow and improve oxygen metabolism and tissue perfusion to the brain through arterial vasodilation, thinning the blood, stopping blood from clotting and decreasing arterial spasms. Neurologically, Ginkgo has demonstrated use in supporting and improving mental sharpness, maintaining and improving healthy brain functions, improving memory, protecting nerve tissue, reducing nerve inflammation, and reducing headaches and depression. Specifically, Ginkgo has shown potential in enhancing focus and attention and other symptom improvements for those with ASD as well as other neurodevelopmental disorders. Please note that Ginkgo needs to be used for a minimum of 6 weeks and up to 6 months before it becomes effective and any changes in symptoms are noted.

As always, before adding Ginkgo to your healthcare routine, you should consult with your primary care provider because nothing in this article has been approved by the FDA. The information presented here is not intended to diagnose, treat, or cure any diseases, it is for informational purposes only. Some safety issues to note are that Ginkgo, in rare cases, may cause stomach upset, headaches or skin allergies. Rubber gloves should be used when handling the fruit and seed as they cause severe contact dermatitis (like poison ivy). Due to its blood thinning and anti-clotting properties, caution is warranted if you take blood thinners and Ginkgo should be stopped 1 week before surgery. Please use caution if you are taking monoamine oxidase inhibitors (MAOIs).

On April 9th, we will be hosting a seminar on autism that is presented by St. Clair County Community Mental Health. After their presentation, I will be giving a brief talk about other natural interventions that may help with symptoms of ASD.

Thank you for reading! Naturally, wishing you all the best.
Amy Martinez
Amy's Relation to Creation & Botanicals

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Amy's Relation to Creation & Botanicals, LLC 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 am to 6 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: AmyRelationCreation.com or call 810-335-4622.

For a schedule of events see: <https://amysrelationcreation.com/upcoming-events/>

You Got The Power

To Help Nature Stay Alive, In 2025

Save Nature Any Place! Sustain Native Animals & Plants!

Sacred Fir - *Abies religiosa* forest with Monarch Butterflies - *Danaus plexippus*, Chincua Monarch Sanctuary, Angangueo, Michoacán, Mexico. Credit: hspauldi, flickr.com/people/99341324@N00

All the more reason this spring, to start planting and restoring more habitat on your land for butterflies, especially for the Monarch, and for other pollinators. Did you know that while Common Milkweed - *Asclepias syriaca*, is a critical food plant of Monarchs, in the Midwest, they prefer to lay their eggs on Swamp Milkweed - *Asclepias incarnata*? They also prefer laying their eggs on young new growth of Common Milkweed, as opposed to older plants, so that cutting or trimming-back milkweed in early to mid-summer may encourage more eggs on the new growth in late summer. However, you should check milkweed plants before cutting to ensure that there not already eggs present.

Here's an article from the National Wildlife Federation about Monarch butterfly population trends and 3 ways you can help Monarchs and other pollinating insects Stay Alive and Thrive in 2025: [Making Sense of Butterfly Declines - The National Wildlife Federation Blog](https://www.nwf.org/conservation/monarch-butterfly-population-trends-and-3-ways-you-can-help-monarchs-and-other-pollinating-insects-stay-alive-and-thrive-in-2025)

In 2025, we are continuing to highlight restoration of natural habitat on private land, neighborhood efforts, and programs like Homegrown National Park: [Homegrown National Park](https://www.homegrownnationalpark.org/), National Wildlife Federation Certified Wildlife Habitat: [Create & Certify](https://www.nwf.org/conservation/certified-wildlife-habitat), and the TLC Naturehood registry.

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 money 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 now matters, 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 a lot of impact. If you only 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](https://www.tlc.org/2023/03/19/tlc-news).

TLC Spring Stewardship

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

Date	Activity	Location
April - June	trail clearing, invasive shrub removal	Shorewood Forrest Southeast Sanctuary
April - June	trail clearing, invasive shrub removal	Bidwell Sanctuary
April - June	invasive weed control, trail clearing	Cunningham Connector Sanctuary
April - June	invasive shrub removal	Loznak Sanctuary
May - June	Garlic Mustard removal	Dead End Woods Sanctuary
May - June	Garlic Mustard removal	Port Huron State Game Area

2025 TLC Garlic Mustard Removal Schedule

May 3 - Dead End Woods Sanctuary, Fort Gratiot, meet at Wilson Drive dead end, noon to 3pm

May 10 - Dead End Woods Sanctuary, Fort Gratiot, meet at Wilson Drive dead end, noon to 3pm

May 17 - Dead End Woods Sanctuary, Fort Gratiot, meet at Wilson Drive dead end, noon to 3pm

May 24 - Dead End Woods Sanctuary, Fort Gratiot, meet at Wilson Drive dead end, noon to 3pm

May 31 - Port Huron State Game Area, Ruby, meet at Ford Road gate, noon to 3pm

June 7 - Port Huron State Game Area, Ruby, meet at Ford Road gate, noon to 3pm

Dead End Woods Sanctuary

Saturdays, May 3, 10, 17, and 24, noon to 3:00 pm

The TLC is conducting its annual spring stewardship in the Dead End Woods Sanctuary of Fort Gratiot Township on the first four Saturdays of May. The Dead End Woods Sanctuary is one of the most floristically diverse forests in Saint Clair County. This is a great opportunity to learn spring wildflowers while helping to sustain and improve this unique woodland preserve. In addition to the usual native plants of mesic southern forest and hardwood swamp, such as Jack-in-the-pulpit, Marsh-marigold, Yellow Trout-lily, Wild Geranium, May Apple, Christmas Fern, Skunk-cabbage, Red Trillium, and Large White Trillium, there are several less common species such as Red Baneyberry, Maidenhair Fern, Wild Leek, Wild Sarsaparilla, Spikenard, Goldenrod, Hazelnut, Spicebush, Cardinal Flower, Black Gum, Round-leaved Pyrola, Bluestem Richweed, Zigzag Spiderwort, and Foamflower. The woods is also one of the few isolated havens where Eastern Hemlock is barely regenerating.

Dead End Woods Sanctuary



For 15 years, the TLC has focused on removal of invasive Garlic Mustard, most of which has been eliminated. We are now removing other invasive weeds in addition.

Dead End Woods Sanctuary stewardship days are May 3, 10, 17, and 24, from noon to 3:00 pm. TLC Stewardship and Program Director, Teddy Wiley, will lead the work.

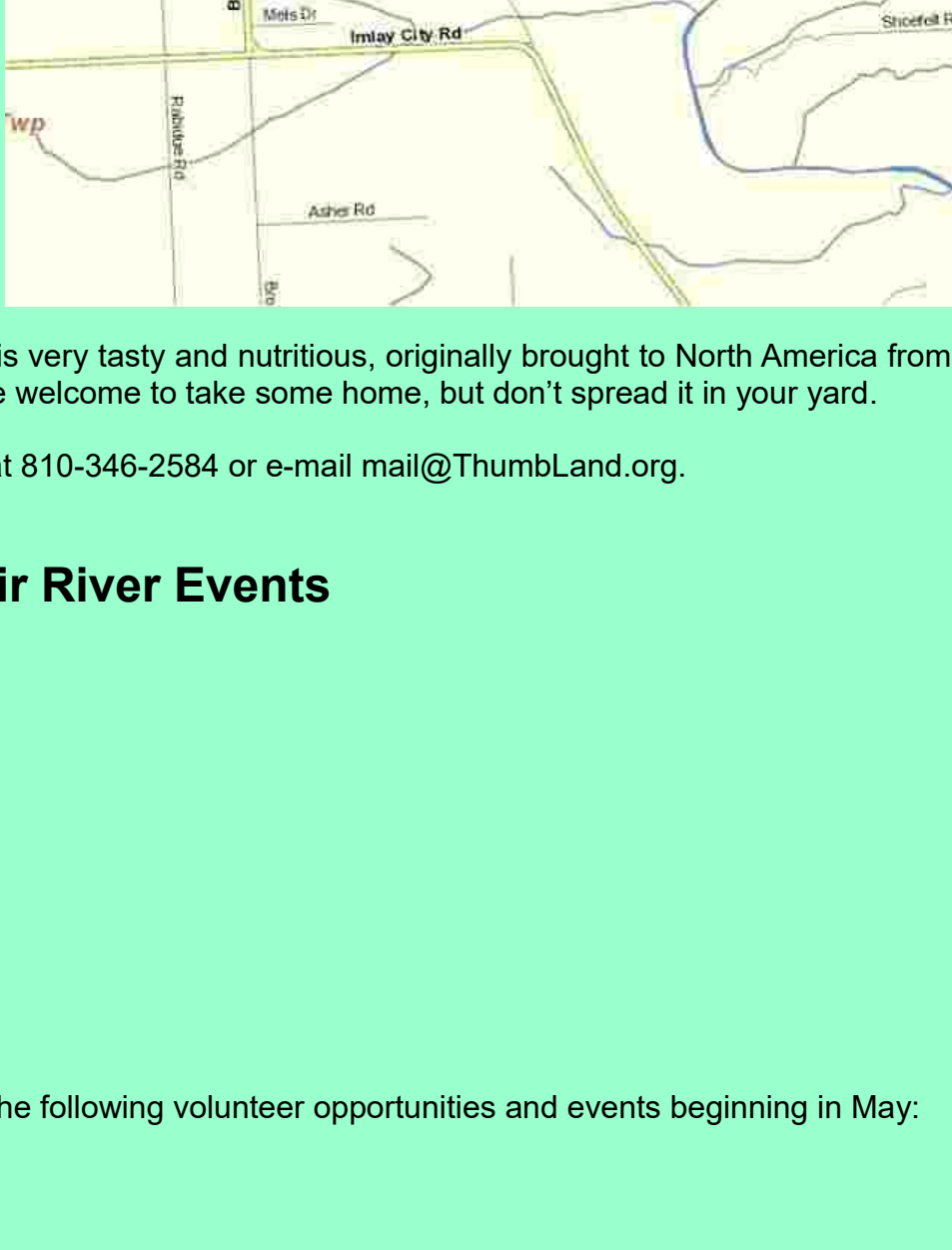
Meet at the end of Wilson Drive at 3685 Wilson Drive in Fort Gratiot, next to the Dead End Woods Sanctuary. Bring drinking water, gloves, a hat, and be prepared for rain and mosquitoes. Garlic Mustard and most other weeds are hand-pulled. TLC will provide garbage bags and shovels.

Port Huron State Game Area Saturdays, May 31 and June 7, noon to 3:00 pm

On May 31 and June 7, the TLC plans to conduct Garlic Mustard removal in the Port Huron State Game Area near Ruby in Clyde Township. from noon to 3:00 pm. TLC Stewardship and Program Director, Teddy Wiley, will lead the work. This is a nice opportunity to enjoy the beautiful, secluded forest of the Black River valley while improving the habitat for native woodland flora.

Meet at the Ford Road gate at the intersection of Abbottsford Road, just southeast of Ruby. The gate will be open so if you arrive after noon, you should be able to drive up the Ford Road trail to a plowed field where other vehicles will be parked. The work area is east of the field, down in the forest along the Black River.

Bring drinking water, gloves, a hat, and be prepared for rain and mosquitoes, midges, and deer flies. Hats are highly recommended although the insects have been minimal in previous years. Garlic Mustard and most other weeds are hand-pulled. The TLC will provide garbage bags and a few shovels.



Garlic Mustard – *Alliaria petiolata* is very tasty and nutritious, originally brought to North America from Europe as a culinary herb. You are welcome to take some home, but don't spread it in your yard.

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

Friends of the St. Clair River Events

May – June Events



Friends of the St. Clair River has the following volunteer opportunities and events beginning in May:

Starting Saturday, May 3

Pine Grove Park Pollinator Project

We are excited to announce the launch of our fourth season of stewardship at Pine Grove Park in Port Huron. Volunteers will learn about native plants and sustainable gardening practices that support wildlife, pollinator habitat and water quality. These workdays are part of Friends' ongoing efforts to preserve and restore pollinator habitats in urban areas. This year we will also help maintain Port Huron's first Edible Park, across from Cleveland Elementary School! Contact Brooke@scriver.org for more information.

Pine Grove Park Garden Cleanup & Planting Days: Saturdays, May 3 & May 17, 8:30am – Noon.

Garden Maintenance Days: Starting May 29, Every other Thursday, 10am – 12pm, May – October.

Edible Park workday schedule TBD.

Stream Team Spring Monitoring



From donning waders and using nets, to peering through microscopes, Stream Team volunteers help track the health of our rivers. Join us as we search streams and rivers for aquatic insects that indicate the health of the ecosystem. Some are sensitive to pollution, so finding them indicates that our waters are healthy enough to support them (and us)! Volunteers can participate in or out of the water and may borrow our waders. Families are welcome and no experience is needed. For questions, email our Education Manager at melissa@scriver.org.

Stream Team Spring Monitoring Field Day: Saturday, May 3rd at 10 am, Various Locations.

Learn more about our Stream Team [Here](#).

Starting Monday, May 5

Monarch Mondays

Join us to care for the Thumb Coast Watershed Center Gardens in St. Clair! These gardens serve as a pollinator hotspot and a collection source for our native seed library program. Volunteers of all ages and abilities are welcome to work in these gardens as their schedule permits, and we offer drop-in gardening hours on Mondays from 10am - 3pm when staff will be on-site to provide instructions, gardening supplies, and education on native plants and pollinators. Contact Brooke@scriver.org for more information.

Monarch Mondays: Drop-in Gardening Every Monday from May – October, with the option to work in the gardens on your own once training has been completed.

Starting Tuesday, May 6

Tuesday Treks

This weekly workday takes place at the Blue Water River Walk along the St. Clair River in Port Huron. For over a decade, we've been working at this park to remove invasive plants, maintain the native plant gardens, monitor pollinators, birds and other wildlife, and collect native seeds for the local history and restoration projects. All ages and abilities welcome. Contact Brooke@scriver.org for more information.

Tuesday Trek Workdays: Tuesdays from 10am - 12pm, May – October.

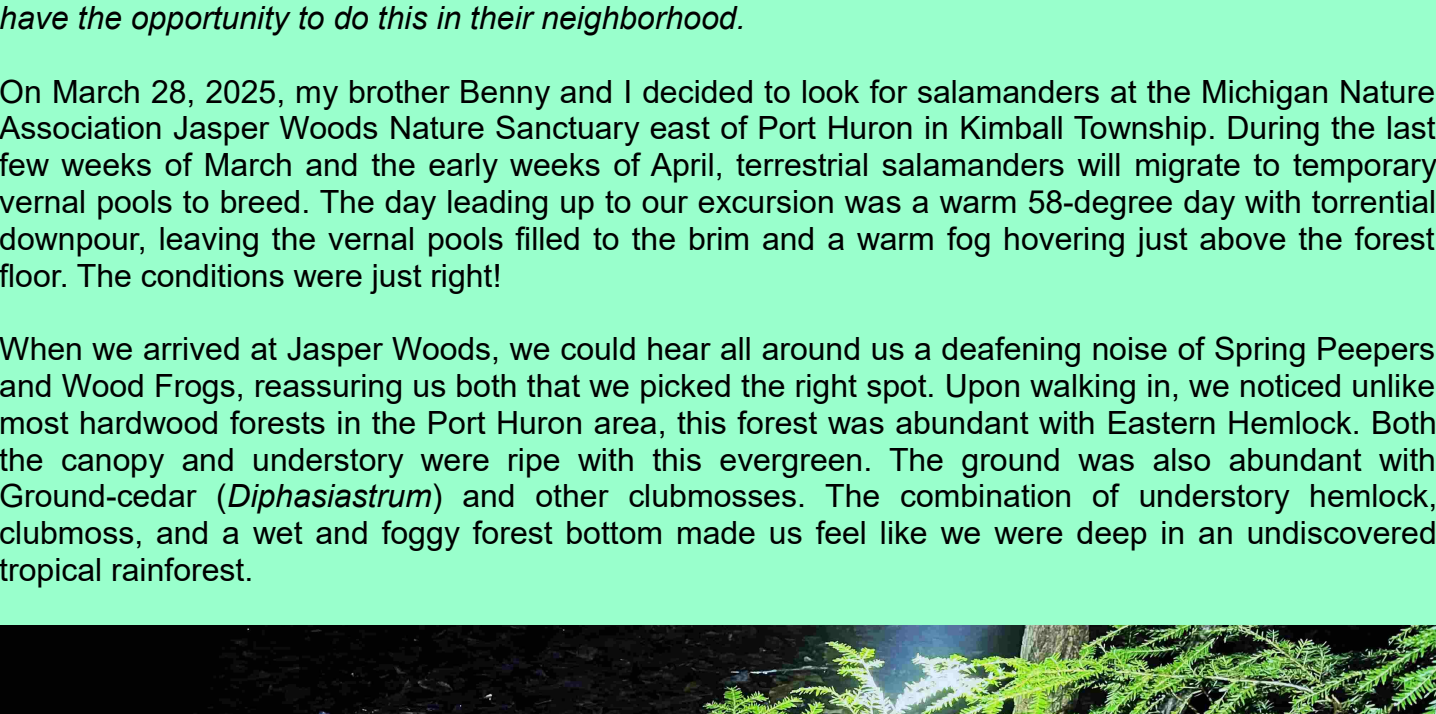
Saturday, June 7 Sturgeon Festival

Friends of the St. Clair River is actively preparing for another exciting Sturgeon Festival on Saturday, June 7th! This event couldn't happen without the efforts of many dedicated volunteers, making this a must-attend experience for thousands of people. Join in the fun! Learn more and register [HERE](#).

Contact Lynnea@scriver.org with questions.



Clyde Historical Society Events



The Clyde Historical Society meets on the third Thursday of each month. Their next meeting is April 17 at 6:30 pm at the historic Clyde Township Hall and Museum located at 5080 Wildcat Road and M-136, next to Bill Bearss Memorial Park. The Clyde Historical Society brings together people interested in the history of the area and local genealogy. They promote an appreciation for the local history and its people; and collection, protection, and preservation of significant historical items. Their next events include:

April 25, Friday

The Evening Market

Bill Bearss Park, 4pm to 8pm

May 18, Sunday

Honoring Our Veterans

Bill Bearss Park, 1pm to 3pm

June 14, Saturday

Second Annual Thumb Heritage Festival

Bill Bearss Park, 10am to 4pm

For more information, see the Clyde Historical Society Facebook page at:

<https://www.facebook.com/groups/1481890455361159/>

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, Marquette, Michigan 49853. 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](https://www.thumbland.org).

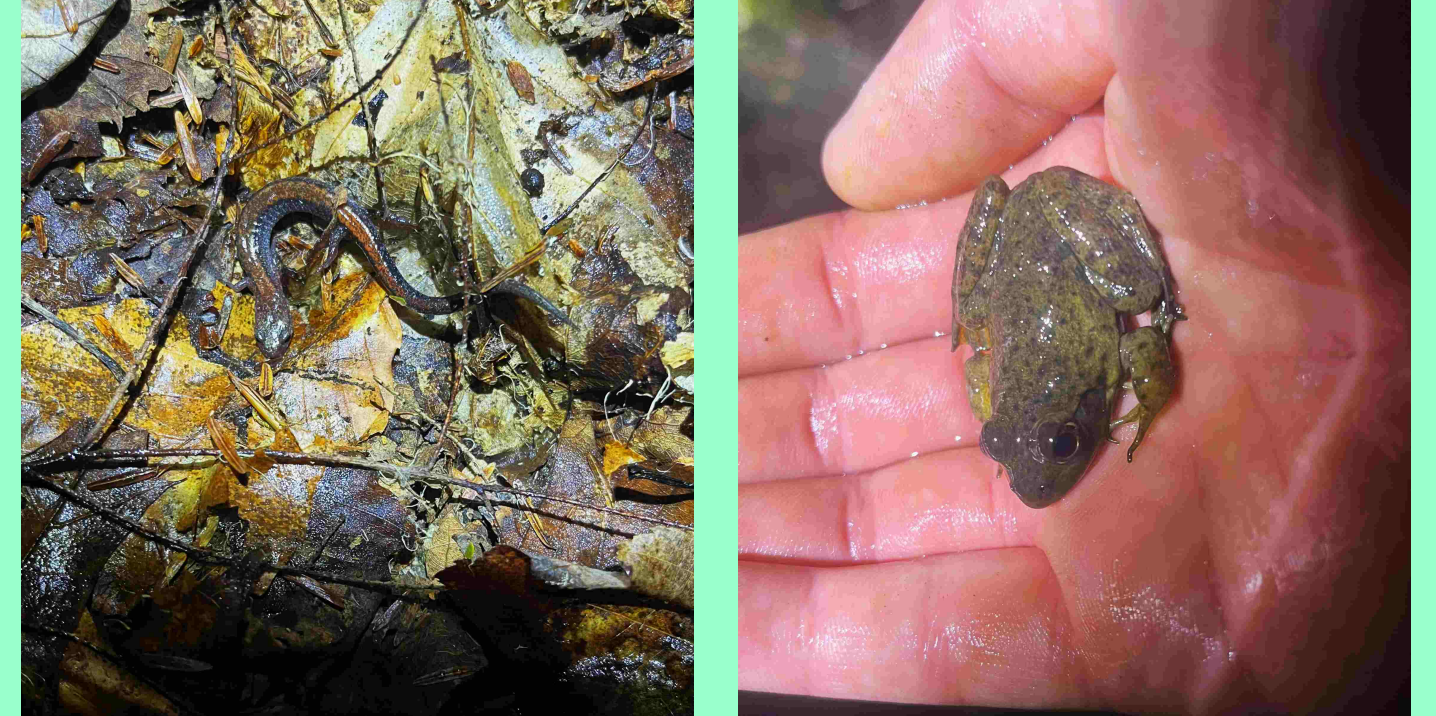
Jasper Woods Salamander Hunt

By Teddy Wiley, TLC Program Director and Stewardship Director

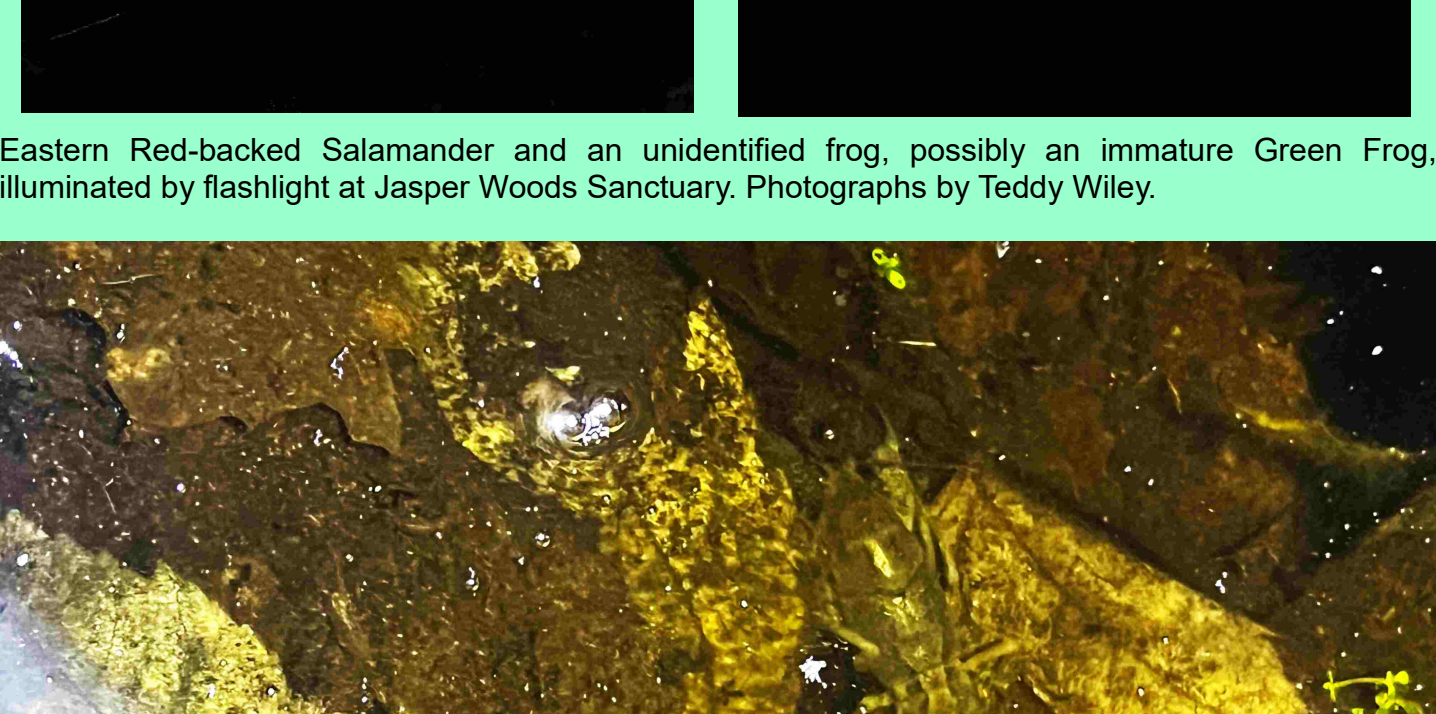
From TLC Executive Director Bill Collins: On a final note, we leave you with this story just in from our TLC Program and Stewardship Director, Teddy Wiley. This is what the TLC is all about. If we don't do it for the natural areas and the species themselves, every person, especially youth, should always have the opportunity to do this in their neighborhood.

On March 28, 2025, my brother Benny and I decided to look for salamanders at the Michigan Nature Association Jasper Woods Nature Sanctuary east of Port Huron in Kimball Township. During the last few weeks of March and the early weeks of April, terrestrial salamanders will migrate to temporary vernal pools to breed. The day leading up to our excursion was a warm 58-degree day with torrential downpour, leaving the vernal pools filled to the brim and a warm fog hovering just above the forest floor. The conditions were just right!

When we arrived at Jasper Woods, we could hear all around us a deafening noise of Spring Peepers and Wood Frogs, reassuring us both that we picked the right spot. Upon walking in, we noticed unlike most hardwood forests in the Port Huron area, this forest was abundant with Eastern Hemlock. Both the canopy and understory were ripe with this evergreen. The ground was also abundant with Ground-cedar (*Diphasiastrum*) and other clubmosses. The combination of understory hemlock, clubmoss, and a wet and foggy forest bottom made us feel like we were deep in an undiscovered tropical rainforest.



Eastern Hemlock and Ground-cedar clubmoss illuminated by flashlight at Jasper Woods Sanctuary. Photograph by Teddy Wiley.



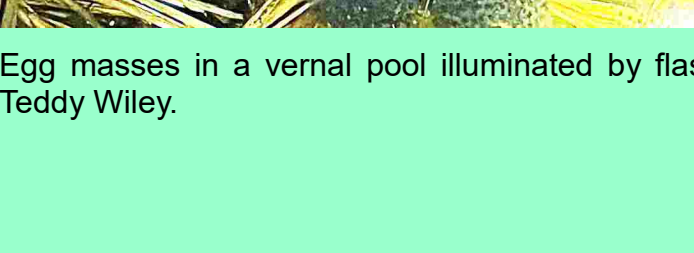
Eastern Hemlock and American Elm around a vernal pool, illuminated by flashlight at Jasper Woods Sanctuary. Photograph by Teddy Wiley.

As we made our way to the big vernal pools, Benny, who has an eye for small details, was finding Eastern Red-backed Salamanders left and right. He found a total of 10, while I found 0. It was a stark reminder to me that my eyesight is not 20/20.



Eastern Red-backed Salamanders illuminated by flashlight at Jasper Woods Sanctuary. Photographs by Teddy Wiley.

When we got to the vernal pools, we found that it was rich in Spring Peepers, Wood Frogs, and small unidentified crayfish. After covering about 1 mile of ground, there was no sign of any breeding Spotted or Blue-spotted Salamanders. We did, however, come across a large cluster of eggs. We concluded that the salamanders we had hoped to find had already bred during a warm spell the area felt just a couple of weeks ago. Nonetheless, it was still a fascinating experience.



Eastern Red-backed Salamander and an unidentified frog, possibly an immature Green Frog, illuminated by flashlight at Jasper Woods Sanctuary. Photographs by Teddy Wiley.

Crayfish in a vernal pool illuminated by flashlight at Jasper Woods Sanctuary. Photograph by Teddy Wiley.

Wood Frog illuminated by flashlight at Jasper Woods Sanctuary. Photograph by Teddy Wiley.

Egg masses in a vernal pool illuminated by flashlight at Jasper Woods Sanctuary. Photograph by Teddy Wiley.