

Thumb Land Conservancy

2020 Annual Report



Bidwell Sanctuary, 42 Acres, Burtchville Township, Saint Clair County - Acquired 2020 July 17.



Thumb Land Conservancy

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The Thumb Land Conservancy either turned a corner or ascended higher ground in 2020. We completed over \$300,000 in fundraising to purchase and fund long-term stewardship of the long-sought 42-acre Bidwell Sanctuary in Burtchville Township. Our thanks again to major donors: The Carls Foundation, Community Foundation for Southeast Michigan, Consumers Energy Foundation, St. Clair County Community Foundation, Cargill, Inc., Franklin H. and Nancy S. Moore Donor Advised Fund of the Community Foundation of St. Clair County, and SEMCO Energy Gas Company. This property is a big part of the proposed Southern Lake Huron Coastal Park project. The fulfillment of the Southern Lake Huron Coastal Park will result in a tremendous public asset for residents and visitors in the Blue Water Area.

We also established a new 79-acre conservation easement in Fort Gratiot Township which protects a major portion of one of the largest forested wetland swamps in the township.

2020 was also the year that we held our preserve naming ceremony with the Blue Water Indigenous Alliance. All of our sanctuaries now have Native American names to honor the original inhabitants of our region.

We continued stewardship on the Deerfield Wind Energy Preserve in Huron County, and on our five TLC nature sanctuaries. We are gradually improving the historic North Street property in partnership with the Clyde Historical Society. We continued our education and outreach efforts through Thumb natural areas presentations, distribution of the TLC brochure, Thumb Nature Guide, TLC land protection guide, our newsletter, and updates to the TLC web page.

In 2020, the Thumb Land Conservancy set a goal of protecting at least one natural area in each of the six counties we serve in the Thumb. In 2021 we are one step closer to realizing that goal as we acquired a new half-acre preserve along Lake George Road in Dryden Township, Lapeer County. We also look forward to expanding our work with current and new partners.

William Collins
Executive Director

Thumb Land Conservancy 2020 Annual Report

2020 Year-In-Review

The Thumb Land Conservancy focused on stewardship, education, and fundraising in 2020. Following is a summary of monthly activities.

January

- Completed and submitted the Michigan Department of Environmental Quality 2019 monitoring and stewardship report for the Deerfield Preserve in Huron Township, Huron County.
- Continued fundraising to acquire the Bidwell property in Burtchville Township and establish the Southern Lake Huron Coastal Park in Saint Clair County.

February

- Completed and distributed the TLC 2019 Annual Report.
- Continued fundraising to acquire the Bidwell property in Burtchville Township and establish the Southern Lake Huron Coastal Park in Saint Clair County.

March

- TLC board members met with the Blue Water Indigenous Alliance in Port Huron to discuss our shared missions and plan future collaboration.
- Removed invasive Japanese Barberry and Multiflora Rose on the 12-acre Deerfield Preserve in Huron Township, Huron County.
- Continued fundraising to acquire the Bidwell property in Burtchville Township and establish the Southern Lake Huron Coastal Park in Saint Clair County.

April

- Removed invasive Japanese Barberry and Multiflora Rose on the Deerfield Preserve in Huron Township, Huron County.
- Continued fundraising to acquire the Bidwell property in Burtchville Township and establish the Southern Lake Huron Coastal Park in Saint Clair County.

May

- Completed and recorded the Koester conservation easement, protecting 79 acres of mostly second-growth southern hardwood swamp in Fort Gratiot Township, Saint Clair County.
- Removed invasive Japanese Barberry and Multiflora Rose on the Deerfield Preserve in Huron Township, Huron County.
- Removed invasive Garlic Mustard on the Dead End Woods Sanctuary in Fort Gratiot, Saint Clair County.
- Continued fundraising to acquire the Bidwell property in Burtchville Township and establish the Southern Lake Huron Coastal Park in Saint Clair County.

June

- Removed invasive Japanese Barberry and Multiflora Rose on the Deerfield Preserve in Huron Township, Huron County.
- Removed invasive Garlic Mustard on the Dead End Woods Sanctuary in Fort Gratiot, Saint Clair County.
- Continued fundraising to acquire the Bidwell property in Burtchville Township and establish the Southern Lake Huron Coastal Park in Saint Clair County.

July

- Completed fundraising and purchased the new 42.1-acre Bidwell Sanctuary in Burtchville Township, Saint Clair County. Held a dedication ceremony and began trail clearing and site clean-up..

- Removed invasive Japanese Barberry and Multiflora Rose on the Deerfield Preserve in Huron Township, Huron County.

August

- Conducted property maintenance at the historic North Street Station in Clyde Township, Saint Clair County.
- Cleared park entrance and coastal trail on the new Bidwell Sanctuary in Burtchville Township, Saint Clair County.

September

- Conducted property maintenance at the historic North Street Station in Clyde Township, Saint Clair County.
- Cleared park entrance and coastal trail on the new Bidwell Sanctuary in Burtchville Township, Saint Clair County.

October

- Held a public sanctuary naming ceremony with the Blue Water Indigenous Alliance at Ode Zibi in Burtchville Township, Saint Clair County and lead a sanctuary tour.
- Clean-up and maintenance at the historic North Street Station in Clyde Township, Saint Clair County.
- Continued plant species inventory on the new Loznak Sanctuary in Marysville, Saint Clair County.
- Cleared park entrance and coastal trail on the new Bidwell Sanctuary in Burtchville Township, Saint Clair County.

November

- Helped with late apple picking at McCallum's Orchard and Cider Mill in Grant Township, Saint Clair County.
- Cleared park entrance and coastal trail on the new Bidwell Sanctuary in Burtchville Township, Saint Clair County.

December

- Cleared park entrance and coastal trail on the new Bidwell Sanctuary in Burtchville Township, Saint Clair County.

Bidwell Sanctuary 42 Acres, Burtchville Township, Saint Clair County

Finally, on July 17, the TLC acquired the Bidwell property, the long-pursued 42 acres of beach ridge and swale forest north of Metcalf Road in Burtchville Township. This was a major preservation accomplishment for the TLC on behalf of the Blue Water Area. The new Bidwell Sanctuary is a very significant natural area and it was a big step for the TLC to successfully complete a project of this scale. We raised just over \$300,000 to purchase the property and also provide an endowment fund for long-term stewardship.

The TLC is especially indebted to The Carls Foundation of Bloomfield Hills who provided a \$150,000 match grant that jump-started our fundraising effort. Without The Carls Foundation grant, we would not likely have been successful within our 14-month fundraising deadline. Other project funders include the Community Foundation for Southeast Michigan with a grant of \$50,000 through the Wilson Legacy Design and Access Fund, the Consumers Energy Foundation with a grant of \$30,000, Cargill, Inc. and Cargill Salt of Saint Clair with a combined grant of \$20,000, the Community Foundation of St. Clair County with a grant of \$20,000, the Franklin H. and Nancy S. Moore Donor Advised Fund of the Community Foundation of St. Clair County with a grant of \$20,000, SEMCO Energy Gas Company of Port Huron with a grant of \$2,000, and several individual donors. Thanks also to our realtor Dave Ladensack of Summit Realty for diligently pursuing the purchase agreement and all of his follow-up.



Large Eastern Hemlock tree near the entrance of the coastal trail on the Bidwell Sanctuary.

William and Marie Carls established the Carls Foundation in 1961 to fund children's welfare and preservation of natural areas. Bill Carls immigrated to the United States from Germany in 1924 at the age of 21. With his training and experience in European apprentice programs, he was readily employed with major industrial companies in Detroit. In 1945, Bill Carls started Numatics, Inc. in his garage. The company is headquartered in Highland, Michigan and remains a leading worldwide manufacturer of industrial air valves.

The Carls Foundation has funded a lot of land preservation in Michigan and in our region where few other foundations have. A local project includes the Michigan Nature Association's Sharon Rose Leonatti Memorial Nature Sanctuary in Kimball Township with a large population of Michigan Endangered Painted Trillium. The Carls Foundation has also funded the Six Rivers Land Conservancy in their efforts to acquire large parts of Anchor Bay Woods in New Baltimore adjacent to our Gerrits Sanctuary in Ira Township. Our sincere thanks again to the Carls Foundation for sharing our vision of the Southern Lake Huron Coastal Park. For more information about the Carls Foundation, see their web site at: <http://CarlsFdn.org/>.

After the property closing, the TLC Board and Director met long-time TLC members and expert birders Tom and Laurie Dennis on the Bidwell Sanctuary for a dedication ceremony. Tom Dennis led us in a prayer to bless the new sanctuary and our continued efforts.

The new Bidwell Sanctuary in Burtchville Township is a very important part of the proposed Southern Lake Huron Coastal Park, a band of several preserves and parks extending along Lake Huron through Fort Gratiot and Burtchville Townships. The preserves are generally inaccessible to the public and somewhat disconnected from each other, but not by much. With a little effort, we are within reach of creating a continuous 4.5-mile coastal park connecting the Port Huron area to Lakeport State Park. The Southern

Lake Huron Coastal Park would encompass most of the remaining beach ridge (or dune) and swale complex along the eastern shoreline of Michigan's Thumb region, a linear forested greenway connecting Port Huron with shoreline communities into Sanilac County. This coastal forest zone is well-suited for a recreational walking and biking trail with interpretive signage.



The beach ridge and swale complex along Lake Huron is a big part of what makes the Blue Water Area unique and a desirable place to visit and live. Yet, few understand the character and significance of this land because there is very limited public access to it. Routing a trail through the interior of this coastal forest corridor will provide a great opportunity for recreation and a small wilderness experience within just a few miles of Port Huron. The forest trail will increase safe pedestrian access to public parks, as opposed to being squeezed to road shoulders with traffic, noise, exhaust, and major safety risks. Based on a 2019 trail plan commissioned by Saint Clair County, 37% of the population is completely uncomfortable with biking along roadways and 51% are reserved in their comfort. A clear majority prefer biking away from traffic. The Bidwell Sanctuary and Southern Lake Huron Coastal Park will get people out in nature and educate area residents about significant natural features where they live, not a long drive away in some other place.

The Southern Lake Huron Coastal Park project would complete two major gaps in the Bay to Bridge Trail in Saint Clair County, specifically “Gap 20” and “Gap 21” identified in the County plan. As proposed, the coastal trail would pass through at least two TLC preserves, the Peltier Beach Ridge Sanctuary and future Bidwell Preserve. Currently, most of the preserves to be included in the larger park are difficult, if not impossible, for the public to access without trespassing on adjoining properties. The proposed coastal park and trail would open most of these preserves to the public. Once connected, the Southern Lake Huron Coastal Park is likely to become a regional destination for bicyclists, birders, naturalists, and other visitors.



In early 2018, the TLC began renewed efforts to acquire key parcels needed to complete a 4.5-mile coastal park along Lake Huron, connecting Port Huron to Lakeport State Park. The proposed Southern Lake Huron Coastal Park will eventually protect most of the remaining beach ridge and swale complex along the eastern shoreline of Michigan's Thumb region. This important coastal forest habitat supports rare species found in few other regions and is vital for migratory birds that move and nest along Lake Huron.

The effort to protect large tracts of beach ridge and swale forest in Fort Gratiot and Burtchville Townships dates back to the late 1980's with the vision of Bertha Daubendiek, founder of the Michigan Nature Association. Before the TLC existed, the Bidwell property on the north side of Metcalf Road in Burtchville Township was targeted for preservation and some of us worked on that effort for the MNA through the early 2000's. The Bidwell property contains some of the best beach ridge and swale forest of what little remains from Ohio to the Saginaw Bay. Things didn't work out and the effort was mostly dropped until 2018. Finally, on May 26 of 2019, thanks to the determined work of our realtor, Dave Ladensack of Summit Realty in Burtchville, the TLC received a signed purchase agreement for the 42-acre Bidwell Trust property. Our thanks also to Nadine Scahill of Realty Executives, Home Towne, representing the Bidwell family, for making this happen. The TLC now has until July 31, 2020 to fundraise and close on the property.

The beach ridge and swale landscape complex is a very unique formation of parallel sand ridges and muck wetlands. The series of sand ridges were deposited from about 4,500 years ago as high post-glacial lake levels receded as the Great Lakes outlet shifted from the Des Plaines River outlet to the Mississippi River at what would be Chicago, to the new Saint Clair River outlet at what would be Port Huron. The Saint Clair River down-cut rapidly which caused the post-glacial lake water to drop about 30 feet. At the same time, the earth's crust rose, having been depressed by the weight of glacial ice during the last stages of the Wisconsin glacial advance. The earth's crust is still rising slightly from the ancient depression of ice. The continued rise of the land and lowering of the Great Lakes has left a series of dry upland sand ridges and mucky wetland troughs or swales between. This beach ridge and swale landscape provides not only a unique natural community, but a record of Michigan's post-glacial past.

The beach ridge and swale complex is very limited in Michigan and covers just a small part of Fort Gratiot and Burtchville Townships in Saint Clair County where it ranges from about a quarter-mile to a half-mile wide. It originally extended from the Blue Water Bridges into southern Sanilac County. The remaining formation north of Port Huron is the only significant occurrence from Ohio to the Saginaw Bay. The coastal forest habitat supports rare and uncommon species found in few other regions and is vital for migratory birds that move and nest along Lake Huron. Ongoing threats to the beach ridge and swale complex include residential and commercial development along the M-25 highway corridor, speculative land clearing and grading, forest fragmentation, sand mining, invasive weeds, overgrazing by deer, loss of forest canopy due to tree pests or diseases, and incursions by off-road vehicles.

The community is usually referred to as "wooded dune and swale complex". However, "beach ridge and swale complex" is a more descriptive phrase for the landscape of the eastern Thumb of Michigan where the ridges were shaped primarily by water. As with all of the ridges around the Great Lakes, the sand was first deposited as beaches that gradually rose above the lake influence. Wind was a secondary influence, the non-forested shoreward ridges becoming dunes. The ridges along the southwestern shore of Lake Huron were probably less dune-like because prevailing winds are from the west and would have been buffered by adjoining forest to the west.

The beach ridge and swale complex provides critical shoreline habitat for uncommon and rare plant and animal species found in few other parts of Michigan, such as Purple-flowering Raspberry, Yellow Lady-slipper orchid, Pink Lady-slipper orchid, Eastern Hog-nosed Snake, and Blue-spotted Salamander, as well as a great abundance of migratory birds. Based on records maintained by the Michigan Natural Features Inventory, there are approximately 30 Endangered, Threatened, or Special Concern species that could occur in the beach ridge and swale community of Saint Clair County.



Of all species, Purple-flowering Raspberry - *Rubus odoratus* is the most emblematic of the beach ridge and swale community in Saint Clair County where it is known only from ancient beach ridges along Lake Huron and one location along the Saint Clair River. Purple-flowering Raspberry is essentially the Lower Peninsula's equivalent of the Upper Peninsula's well known Thimbleberry - *Rubus parviflorus*, being so closely related that they hybridize where their ranges overlap in the northern Lower Peninsula. Like Thimbleberry, Purple-flowering Raspberry has no thorns and produces large flowers and big tasty red fruits. But unlike the white flowers of Thimbleberry, as the common name suggests, Purple-flowering Raspberry produces vivid purple to magenta flowers with subtly contrasting pale yellow centers. While the prolific Thimbleberry is thought to have moved into Michigan from western North America as the last glacial ice melted back thousands of years ago, Purple-flowering Raspberry moved into Michigan from the east and is at the western edge of its range here, where native populations are relatively sparse and probably limited to only seven coastal counties, primarily along Lake Huron.



Yellow Lady-slipper - *Cypripedium parviflorum* and Pink Lady-slipper - *Cypripedium acaule* have been described as common orchids in Michigan, but both species are actually rare, limited to very specific habitats, and increasingly imperiled. Yellow Lady-slipper orchids are found primarily in the beach ridge and swale complex of Saint Clair County. Pink Lady-slipper orchids are more common in the dune and swale complex along Saginaw Bay. Despite how common or not these orchids may be, it is always a wonder to encounter these unusual plants in full bloom, usually in mid May. Yellow Lady-slipper is typically located in moist mucky sand along beach ridge bases. Pink Lady-slipper occurs on higher and drier sand.



The Eastern Hog-nosed Snake - *Heterodon platyrhinos* is a very uncommon snake in Michigan, found almost exclusively in semi-open sand ridges of the complex in Saint Clair County. More common in the southeast and southern plains of the United States, the Eastern Hog-nosed Snake is at moderate risk of extirpation in the Great Lakes region, Ontario, and much of New England. The Eastern Hog-nosed Snake is non-venomous, but well known for flattening its upper neck and head like a cobra. When disturbed by a potential predator, they often roll over and play dead with their mouths open.



The Blue-spotted Salamander - *Ambystoma laterale* ranges across the northeastern United States and adjacent Canada to the James Bay. The salamander is found primarily in moist deciduous forests and swamp woodlands, especially with vernal pools. The Blue-spotted Salamander has been described as fairly common statewide, but seems to be particularly associated with the beach ridge and swale complex in Saint Clair County.



Northern White-cedar or Arbor Vitae – *Thuja occidentalis* is not rare, but it is characteristic of the beach ridge and swale complex in Saint Clair County, and occurs in few other areas of southeast Michigan, limited primarily to relatively undisturbed muck swamps, lake and stream margins, and deep shaded ravines. The few Arbor Vitae remaining in the beach ridge and swale complex are remnant of the original that covered much of this landscape a few hundred years ago prior to European-American settlement and important to retain for restoration of the plant community and value to wildlife. The regeneration of Arbor Vitae is now severely limited due to over-grazing by Eastern White-tailed Deer.

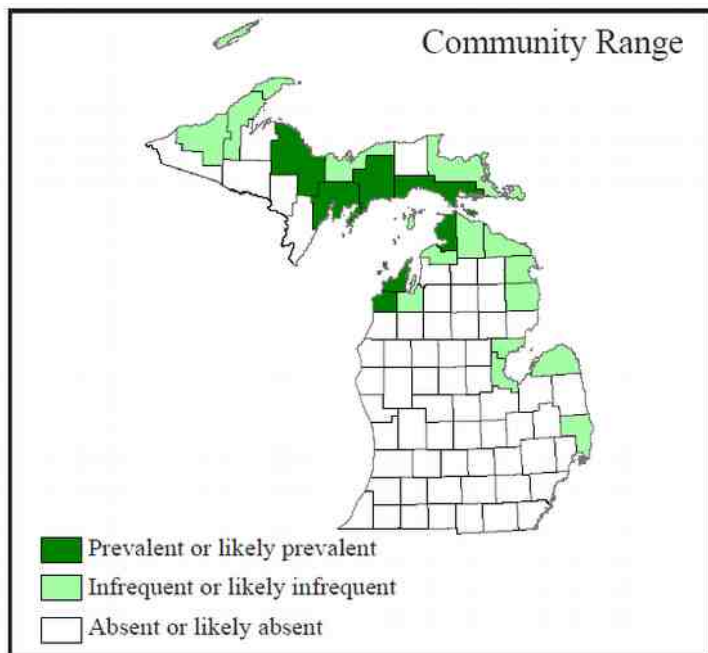
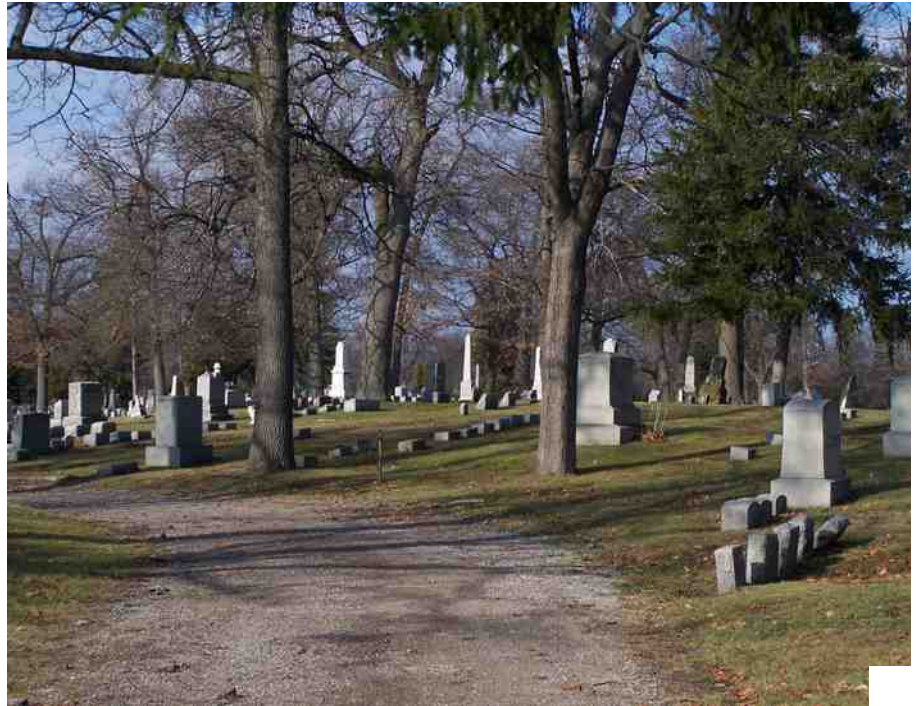


The coastal forest is vital for migratory birds that move and nest along Lake Huron. Recent species observations provided by the local Blue Water Audubon Society for the beach ridge and swale habitat of Saint Clair County include American Redstart, Bald Eagle (Michigan Special Concern), Barred Owl, Bay-breasted Warbler, Black-and-white Warbler, Blackburnian Warbler, Blackpoll Warbler, Black-throated Blue Warbler, Black-throated Green Warbler, Blue-gray Gnatcatcher, Blue-headed Vireo, Blue-winged Warbler, Boreal Owl, Canada Warbler, Cape May Warbler, Cerulean Warbler (Michigan Threatened), Chestnut-sided Warbler, Common Nighthawk (Michigan Special Concern), Common Yellowthroat, Connecticut Warbler, Cooper's Hawk, Eastern Towhee, Eastern Wood-Pewee, Golden-crowned Kinglet, Golden-winged Warbler, Gray-cheeked Thrush, Hairy Woodpecker, Hermit Thrush, Hooded Warbler (Michigan Special Concern), Indigo Bunting, Kentucky Warbler, Least Flycatcher, Louisiana Waterthrush (Michigan Threatened), Magnolia Warbler, Merlin (Michigan Threatened), Mourning Warbler, Nashville Warbler, Northern Goshawk (Michigan Special Concern), Northern Parula, Northern Saw-Whet Owl, Olive-sided Flycatcher, Ovenbird, Palm Warbler, Philadelphia Vireo, Pileated Woodpecker, Pine

Grosbeak, Pine Siskin, Pine Warbler, Red-bellied Woodpecker, Red-breasted Nuthatch, Red-eyed Vireo, Red-shouldered Hawk (Michigan Threatened), Rose-breasted Grosbeak, Ruby-crowned Kinglet, Scarlet Tanager, Sharp-shinned Hawk, Swainson's Thrush, Tennessee Warbler, Tufted Titmouse, Veery, Whip-poor-will (Michigan Special Concern), White-breasted Nuthatch, White-winged Crossbill, Wilson's Warbler, Wood Thrush, Yellow Warbler, Yellow-bellied Sapsucker, Yellow-billed Cuckoo, Yellow-rumped Warbler, and Yellow-throated Vireo.

The beach ridge and swale landscape complex is very limited geographically, occurring only along the Great Lakes and originally covering only about 1% of Saint Clair County, and even less of the Thumb region as a whole. The landscape complex in Saint Clair County is the only significant occurrence remaining from Ohio to Saginaw Bay. Very little of this unique shoreline community remains intact, due largely to construction of State Highway M-25 and subsequent development along this corridor.

The Michigan Natural Features Inventory (MNFI) considers Great Lakes wooded dune (or beach



ridge) and swale complex as a distinct natural community in Michigan because of the unique assemblage of physiographic, soil, and vegetative components that provide high quality habitat for numerous shoreline species. The MNFI ranks the Great Lakes complex as a rare to uncommon community both statewide and globally. There are landscapes of similar geologic origin along oceans and seas, but plant and animal communities of the Great Lakes complex are unique, and much of the Great Lakes landscape has been destroyed by development and hydrology alterations.

The primary soil type of the beach ridge and swale landscape in Saint Clair County is the Wainola-Tobico complex. About half of this complex is somewhat poorly drained Wainola fine sand forming the upland beach ridges. The other half is very poorly drained Tobico mucky fine sand and pure muck in the wetland swales

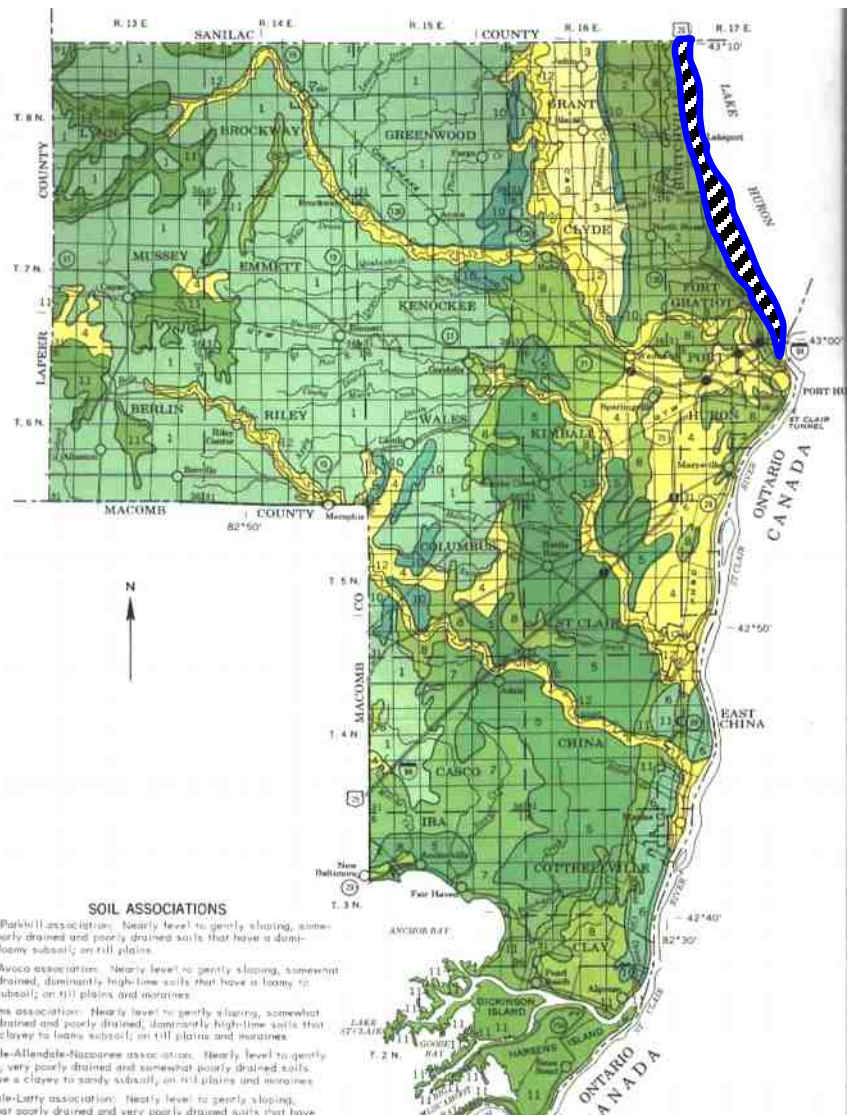
between the ridges. The Tobico mucky fine sand portion of the complex is a hydric soil. This soil complex is restricted in Saint Clair County to a narrow strip along Lake Huron in Fort Gratiot and Burtchville Townships, covering only about 0.7% of the county in 1970 when soil survey data was compiled.

Today, significantly less of this unique shoreline community remains intact. What remains of the landscape in Fort Gratiot and Burtchville is the only significant occurrence from Ohio up to the tip of the Thumb where there is a similar formation at Port Crescent State Park and Sleeper State Park, and along other parts of Saginaw Bay. In Saint Clair County, the sand ridges average about 3 to 4 feet above the adjoining swales. The largest and oldest beach ridge runs continuously along the western limit of the landscape, furthest inland from Lake Huron. Although much of it has been mined out, this big sand ridge is still intact through Lakeside Cemetery and into Port Huron near the Blue Water Bridges where it is over 500 feet wide and up to 15 feet high. The largest relatively intact portion of the complex in Saint Clair County is now limited to an approximately 4-mile long strip of forest tracts averaging about one-quarter mile wide. It is critical to protect and restore what remains before it becomes less of a coastal ecosystem and more a patchwork of unsustainable remnants.

The most imminent and devastating threat to the beach ridge and swale complex in Saint Clair County is development, or land clearing and grading as speculative preparation for development. Some landowners have cleared large areas of forest with the misguided intent of drying-up wetlands. Others have graded upland sand ridges into the adjacent wetland swales. Forest clearing and wetland filling not only destroys the immediate impact area, but degrade the beach ridge and swale complex as a whole by fragmenting the forest, altering the hydrology, and disrupting ecological functions of the community inherent in its natural linear connectivity. such as a migratory bird corridor. An increasing threat to the entire beach ridge and swale complex is sand mining. Trucking costs will always make local sand sources more desirable to contractors. Other significant ongoing threats to the beach ridge and swale complex include invasive plant species expansion, overgrazing by Eastern White-tailed Deer, loss of forest canopy due to the Emerald Ash Borer, continued degradation of the plant and animal community due to decreased forest cover, and incursions by off-road vehicles.

Being a linear landscape, the coastal beach ridge and swale forest is naturally suited as a greenway corridor. A proposed walking and biking trail would traverse the entire park from Fort Gratiot north to Lakeport State Park, providing an excellent opportunity for interpretive signage describing the landscape, geology, and natural community. We believe the park would be a significant destination for birders as the

coastal forest is a major corridor for migratory birds moving up and down along Lake Huron. When completed and with some promotion, this coastal park could attract birders on a level approaching Point Pelee National Park in Ontario.



The proposed Southern Lake Huron Coastal Park project will fulfill several objectives of County and regional plans, including the following:

2016 Saint Clair County Master Plan

<https://www.stclaircounty.org/Offices/metro/CountyMasterPlan.aspx>

- Greater access to healthy communities.
- Connect people to parks and transportation options.
- Utilize inherent connectivity of coastal communities.
- Protect and preserve valuable natural resources and sensitive environments.
- Protect woodlots, wetlands, and other natural vegetation.
- Preserve natural character of shorelines.
- Preserve forest, wetlands, and other ecologically valuable landscapes.
- Discourage fragmentation of natural environment.
- Protect and preserve water resources.

2017-2021 Saint Clair County Master Recreation Plan

https://www.stclaircounty.org/Offices/metro/forms/StClairCounty_2017_2021_MasterRecreationPlan_FULL.pdf

- Preservation Of Resources - Support conservation and stewardship of land, water, and natural resources. Quality of life is improved by parks and open space.
- Quality User Experience - Develop and maintain recreational facilities that draw people to experience nature and to be active outdoors.
- Connected Greenways / Blueways - Connect land and water trails within the county to natural areas, recreation areas, and other trail systems.
- Explore potential locations for acquisition of significant property or properties, such as: Significant properties in conjunction with the Southeast Michigan Greenways Plan and the Michigan Natural Features Inventory.
- Develop programs to interpret natural, cultural and physical resources, and educate the public.

2013 Blue Water Trail Towns Master Plan

<http://www.bluewaysofstclair.org/downloads/bwttpart1.pdf>

- The focus of this Trail Town Plan is on seven communities that define the greater “Coastal Thumb Region” of Michigan, including Lexington and Port Huron. The Southern Lake Huron Coastal Park would establish a high quality connection between shoreline communities in Saint Clair and Sanilac Counties. Recommendations in the plan include:
- Promote the trail corridor as a tourist destination.
- Build partnerships with community groups and stakeholders to develop local interest and buy-in.

2014 SEMCOG Green Infrastructure Vision for Southeast Michigan

<https://semcog.org/Reports/GIVision/index.html>

- Protect high quality wetlands.
- Connect green corridors to parks and other natural areas.
- Increase public access along Great Lakes.
- Fund trail improvements to fill gaps in Southeast Michigan trail network.
- Coordinate non-motorized trail planning with green infrastructure planning.

Koester Conservation Easement

79.4 Acres, Fort Gratiot Township, Saint Clair County

The new Koester Conservation Easement was signed on April 4 as we rapidly approached the first peak of the COVID-19 virus pandemic and we were all just getting accustomed to wearing masks and keeping our distance, which made for an unusual document signing. The Koester Conservation Easement protects nearly 80 acres of forested wetland and upland complex, one of the larger forest tracts remaining in Fort Gratiot Township. The property is located along the south side of Keewahdin Road and Pine Grove Avenue, extending south one-half mile.

The owners of the property, Darrin and Kim Koester, have constructed their residence on 5 acres in the north end of the parcel. The conservation easement allows the Koester's to afford the property taxes on this large parcel, which had not been sold for many years. Upon sale, the property taxes would have increased significantly and made the land unaffordable for the Koester's as a residence. The Fort Gratiot Township Assessor contacted the TLC in late August of 2020 explaining the dilemma. We suggested a conservation easement for that part of the property to remain undeveloped, giving the Township a legal guarantee that the land will remain protected in perpetuity while also providing the basis to grant the new landowners a significant tax abatement. The assessor was agreeable, and the taxes were reduced significantly in trade for a conservation easement on most of the parcel.



The Koester Conservation Easement will protect a large area of relatively mature, non-fragmented southern swamp and hardwood-conifer swamp forest complex on seasonally inundated to moist sands with scattered upland knolls. Wetland vegetation includes Silver Maple, Green Ash, American Elm, Eastern Cottonwood, Bur Oak, Swamp White Oak, American Hornbeam, Spicebush, Dwarf Raspberry, Spotted Touch-me-not, False Nettle, Clearweed, Marsh-marigold, Sensitive Fern, Royal Fern, Spinulose Woodfern, Fowl Manna Grass, Lake Sedge, and Tussock Sedge. Upland vegetation includes Red Oak, Black Oak, White Oak, American Beech, Basswood, Sugar Maple, Red Maple, Tulip Tree, Sassafras, Serviceberry, Witch-hazel, Jack-in-the-pulpit, White Avens, Solomon-seal, Wild Geranium, and Yellow trout-lily. Many of the native forest plant species are typically of a more northern distribution in Michigan, including Paper Birch, Eastern White Pine, Eastern Hemlock, Speckled Alder, Black Chokeberry, Meadowsweet, Low Sweet Blueberry, Dwarf Raspberry, Wintergreen, Goldthread, Canada Mayflower, Wild Sarsaparilla, Foamflower, Wood Anemone, Bracken Fern, Royal Fern, Northern Lady Fern, Ground-pine, and Ground-cedar. Likewise, there are species that are typically more southern, including Black Oak, Sassafras, Tulip Tree, and Spicebush. This sort of southern-meets-northern forest is characteristic of the Blue Water Area, a transitional vegetative region where nearby Lake Huron maintains cooler summers and warmer winters.



View across the south end of the Koester Conservation Easement.

The south end of the parcel was partially logged in recent years but tree removal appears to have been limited largely to dead ash. The logging left a lot of deep tire ruts in the south end, but the forest plant community is still intact. While such disturbance is often excessive, we have seen interesting things happen after logging in similar swamp forest areas, like our Dead End Woods Sanctuary just over a mile southwest. That property was logged about 10 years prior to acquisition by the TLC in 2008. While the log extraction was quite destructive, the ground still bearing deep tire ruts from heavy equipment, during our 2008 species survey, we found a few uncommon native plants that had not been observed in the Dead End Woods previously. These included Spikenard – *Aralia racemosa*, American Hazelnut – *Corylus americana*, and Cardinal Flower - *Lobelia cardinalis*, which all appeared to benefit from the moderate gaps in the forest canopy. There was also a very significant increase in Tulip Tree – *Liriodendron tulipifera* seedlings and

saplings across much of the Dead End Woods. The increase of these plant species after forest cutting would not normally be surprising as they respond to increased light. But as some species were never seen before, or increased with such density from only a few trees, suggests that a seed or root bank was stimulated.

Darrin and Kim Koester are developing their residence on land that was cleared decades ago. This area is now partially wooded and dominated by planted pines along with very common or weedy species such as Apple, Black Cherry, hawthorn, Gray Dogwood, Autumn-olive, Common Buckthorn, Tartarian Honeysuckle, Common Blackberry, Late Goldenrod, Panicked Aster, and grasses. Portions of this area have so many apple trees, it appears there may have once been a small orchard here. TLC Executive Director, William Collins, determined wetland boundaries in the proposed residential area to help the Koester's avoid regulated wetland impacts and optimize the conservation easement boundaries. William Collins also helped Darrin Koester identify invasive shrubs in this area, like buckthorn and honeysuckle, and suggested control methods. The TLC will assist them with management of the conservation easement in the future to improve the native forest community.

A conservation easement is one of the few ways that you can legally protect your land in perpetuity, basically as long as our legal system supports such easements. With a good land conservancy holding the easement, you can be assured that your property will remain protected no matter the future ownership. Conservation easements, despite being called "easements" do not allow public access. A conservation easement is simply a legal agreement between a landowner and a conservancy or similar conservation group or agency. Most easements can be customized to allow uses that you and the conservancy agree upon. While most conservation easements are written to preserve natural areas and allow for passive uses and minor impacts such as trails, firewood cutting, and hunting, many easements also allow for farming, selective logging, or limited expansion of new buildings and other structures. Assessors are often not agreeable to reducing property taxes, so if you consider a conservation easement, you should consult with your local assessor if you are anticipating any tax abatement.

Blue Water Indigenous Alliance

A Times Herald newspaper article earlier in the year featured the Blue Water Indigenous Alliance of Port Huron. The group was hoping to acquire former tribal land along the Black River to establish a community center. The TLC met with them on March 14 at the Port Huron Museum to discuss how we might work together. We were represented by TLC Board Member Kay Cumbow and TLC Executive Director Bill Collins. Kay brought a rice dish for the potluck and gifted a book to the BWIAPH entitled, *Wild Rice and the Ojibway People*, on behalf of the TLC. In turn, they gave us each a BWIAPH bumper sticker with their logo shown above, and bottles of Ziibimijwang maple syrup produced by the Little Traverse Bay Bands of Odawa (Waganakising Odawak).



After the meeting, we joined the group to visit the unmarked home site of Chief John Riley on the property of the Federal Building and Community Foundation of Saint Clair County at the southwest corner of Military Street and Water Street along the Black River in Port Huron. In the traditional Native American way, we each prayed and scattered tobacco on the ground under a tree on the site.

After that, we drove up to the BWIA property known as “Ode Zibi” in Burtchville, along the Burtch Creek near the Sanilac County line. “Ode Zibi” means “Heart River” in the language of the Anishinaabek, referring to the Saint Clair River and Lake Saint Clair. This site serves as the current BWIA Community Learning Center. At that time, the site had a tipi, a wigwam under construction, and a kayak and canoe launch on Burtch Creek, providing a very scenic paddle to Lake Huron only about 3,000 feet downstream. Ode Zibi now has a community building, storage building, and the TLC sponsored the BWIA to obtain grant funding from the Saint Clair County Community Foundation to complete the birch bark wigwam.



Burtch Creek (left) and Scots Pine trees (right) at Ode Zibi.



The start of a birch bark wigwam (left) and a tepee (right) at Ode Zibi.



Left to right, Shiloh, Shelley Glombowski, and Joshua Whiting of the BWIA and Kay Cumbow of the TLC at Ode Zibi in front of what looks like a Native American marker tree.



Birch Creek at Lake Huron, a great opportunity for canoeing and kayaking. It looks like the Pinnebog River. Upstream are Burtch Creek and Birch Creek.

The BWIA is a non-profit community-based organization focused on restoring, reviving, and sustaining local Indigenous culture and community in the Blue Water Area. They want to educate the community to provide a healthy, meaningful, and prosperous future for all. As part of this revitalization, the BWIA plans to establish Indigenous Education and Culture Centers in Port Huron and Algonac, near the former sites of the Black River and Swan Creek Bands of Ojibwe. The TLC hopes to work with the BWIA as our missions and interests overlap. To learn more about the BWIA and Ode Zibi, see their web site at: <https://bwiaph.org/>.

Barberry Burning Deerfield Wind Energy Preserve Huron Township, Huron County

From late March, our spring stewardship focused on burning invasive Japanese Barberry at the Deerfield Wind Energy Preserve in Huron County, about 4 miles west of Port Hope. Like many perennial plants, barberry roots are more vulnerable in spring as energy and nutrients stored from the previous growing season are used to send up new shoots. Burning the new spring shoots prevents the roots from being resupplied, which significantly weakens or kills them. Our work on the Deerfield Wind Energy Preserve has been very successful. Where two years ago the barberry was about 3 feet tall and covered well over half of the approximately 1-acre main work area, there are now very few barberry plants remaining. Those that survive are largely scattered back in the forest where they are limited by more shade and wetter soil, or were left in a few spots until burning conditions are better. There are also very few Multiflora Rose shoots visible. Native plant cover already appears to be increasing, including Canada Mayflower, Red Trillium, Foamflower, Royal Fern, and Sensitive Fern. It does not appear that removal of barberry has resulted in increased grazing of forest herbs by White-tailed Deer as we feared, but we will continue to monitor this.

We continue our burning of invasive Japanese Barberry on the Deerfield Wind Energy Preserve through the summer. TLC Board Member Fred Fuller and his son Will Fuller, who installed boundary signs on our Gerrits Sanctuary last year, joined TLC Director Bill Collins on July 13. Fred and Will served as junior fire bugs in-training. They may have gotten a little too ambitious with the weed torches at one point, but did a very good job.



Fred and Will Fuller ready to light things up.

Barberry coverage remains drastically lower than when we started stewardship on the preserve in 2017. However, many stems continue to grow back and it is necessary to cover old ground again. It is certainly a lot easier work now burning the new stems, as compared to cutting and burning our way through dense head-high thickets of barberry.

Garlic Mustard Pulls Dead End Woods Sanctuary Fort Gratiot Township, Saint Clair County

Our Garlic Mustard removal in the Dead End Woods Sanctuary over two weekends this May was very successful. Garlic Mustard is all but eliminated across the southwest of the sanctuary, and we hit it hard to the east where a large patch has slowly spread. It now looks like the west half of the sanctuary is largely free of Garlic Mustard. Thanks again to our volunteers, especially TLC member Bob Haas, TLC member Pete Catlos, TLC member Brian Davis and his gang from Christians for a New Tomorrow church (<https://cantministries.org/>), helpful neighbor Howard Parish, and TLC board members Kay Cumbow, Scott Ferguson, Dottie Craig, and Cheryl Collins. Thanks again to Jimmy Rankin's Meat Market on Lapeer Road in Port Huron Township (jimrankinmeats.com) for donating hotdogs.



What to do with all the bags of Garlic Mustard was an issue our first few years. We can't leave it piled in the woods because it will still set seed a few weeks after being uprooted. It didn't seem right that all of this organic material should go to a landfill either. We have since found that if picked before early to mid June, it is best to take the bags home, let the Garlic Mustard decompose in the trash bags for a few weeks, then let the plant material dry out and work it into a garden where it will add to the topsoil. There is little or no risk of seed development or survival with this method. Ideally, the material is composted. Sometimes we burn it so at least we are getting nutrients from the ash. Another benefit is that we can re-use the trash bags rather than sending them to a landfill. What to do with Garlic Mustard picked in June when the seed pods have developed is still a conundrum. The best thing would be to leave it piled on the site it came from and go back later and burn it if possible. A helpful neighbor will sometimes do this for us.

Historic North Street Station Clyde Township, Saint Clair County



North Street Station

We are gradually making progress on the North Street Station. The TLC continued mowing, brush removal, and clean-up both outside and inside the building in August, September, and October. The structure will soon be ready for a long-overdue paint job. After we finish working on a small part of the roof, we are considering the possibility of exposing the original siding on the main rail station structure which dates back to around 1900. In the meantime, we will start painting the newer structural additions and we still have a lot of clean-up remaining.

Purple-Flowering Raspberry Rescue

Thanks to the work of TLC Board Member Dan Rhein, native plants were rescued from a development site in Fort Gratiot this summer. The TLC was asked by the Director of the Region 7 Area Agency on Aging to save what we could from their new PACE (Program of All-Inclusive Care for the Elderly) facility site to be developed on 3 acres of the beach ridge and swale forest adjacent to the Presbyterian Villages of Michigan Lake Huron Woods senior living center in Fort Gratiot. The facility will assist local senior citizens with health care and independent living.



Purple-flowering Raspberry

Plants rescued from the site included Purple-flowering Raspberry, Red Trillium, Red Baneberry, False Solomon's-seal, Canada Mayflower, ferns, and Alternate-leaved Dogwood, all native forest species characteristic of the ridge and swale complex. Of these species, Purple-flowering Raspberry is the most unique. It is essentially the Lower Peninsula's equivalent of the Upper Peninsula's Thimbleberry, being so closely related that they apparently hybridize. Purple-flowering Raspberry is very uncommon, with native populations recorded from only 7 coastal counties in Michigan, mostly along Lake Huron and largely restricted to forested dune and swale habitat near the shoreline.

Dan Rhein transplanted all of the rescued plants to nearby preserves in the ridge and swale complex in Fort Gratiot, including two 20-acre conservation easements on the Shorewood Forrest preserve and Water Works preserve, both maintained by the Saint Clair County Drain Commissioner.

Indigenous Naming Ceremony

Ode Zibi, Burtchville Township, Saint Clair County

The Blue Water Indigenous Alliance (bwiaph.org) and Thumb Land Conservancy held a public indigenous naming ceremony for our TLC preserves on October 3 at Ode Zibi in Burtchville near Lake Huron and the Sanilac County line. Members of the BWIA chose indigenous names for each of the TLC preserves in the languages of their native First Nations members, including Anishinaabemowin, Huron-Wendat, Lenape, and Lakota. The event was very well attended with about 40 people participating.



A few of the participants congregated around the campfire on this cool but sunny late morning before the naming ceremony started.

The indigenous names and meanings for each preserve are as follow:

Bidwell Sanctuary - Chèkhònèsink hìtkwike schind lèkuwake - *Place among hemlock trees on sandy ground where there is sound of waves breaking* – Lenape. A very fitting name for those who have walked the beginnings of the coastal trail. This name was chosen by TLC Director Bill Collins in consultation with BWIA leader Josh Whiting, and dedicated to the work of the Stonefish family who reside on the Sarnia First Nations Reserve in Ontario. Their family traces part of their ancestry to the Lenape of Delaware, New Jersey, and Pennsylvania.

Bertha's Haven Sanctuary – Mindimooyenh - *An elder woman of great respect* – Annishinaabemowin. This name was chosen by BWIA leader Josh Whiting after he read about Bertha Daubendiek, founder of the Michigan Nature Association. Bertha may be smiling somewhere, or busy saving other worlds.

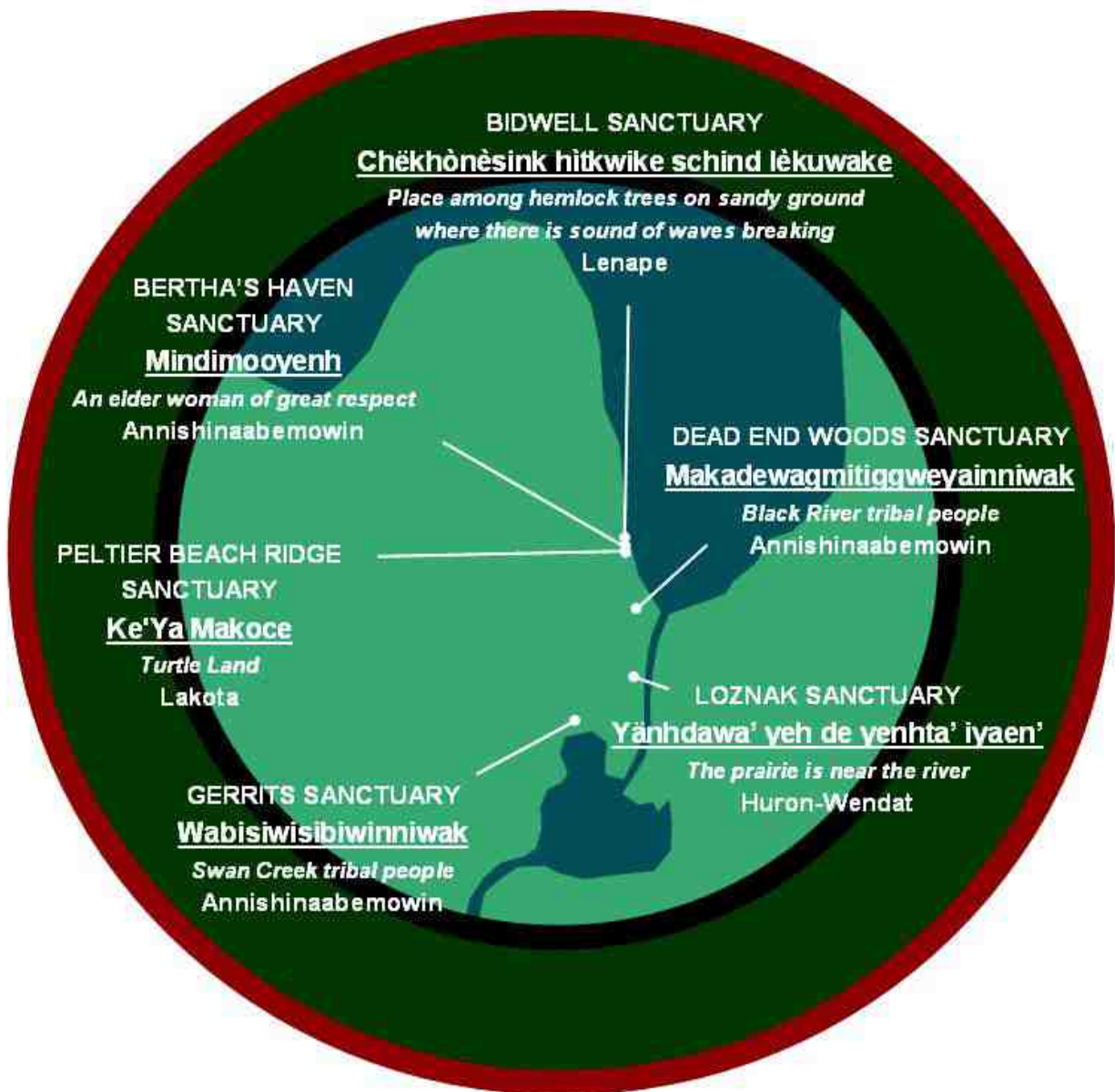
Peltier Beach Ridge Sanctuary - Ke'Ya Makoce - *Turtle Land* – Lakota. The name seems to reference "Turtle Island", the ancient indigenous name for North America. BWIA member Freda Tabor, who chose this name, said she prayed and this is what came back to her. The land donor, Ray Peltier, might prefer "deer land", or "apple land" now that he owns McCallum's Orchard and Cider Mill near Jeddo (mccallumsorchard.com), but apparently a higher power has spoken.

Dead End Woods Sanctuary – Makadewagmitiggweyainniwak - *Black River tribal people* – Annishinaabemowin. This name honors the Black River Tribe that lived along the Black River, which is only

about a quarter mile south of the Dead End Woods. This name was chosen by BWIA member David Moore of the Native Circle of Nawaygo County in west Michigan. David and his brother attended the ceremony at Ode Zibi, a long trip for them.

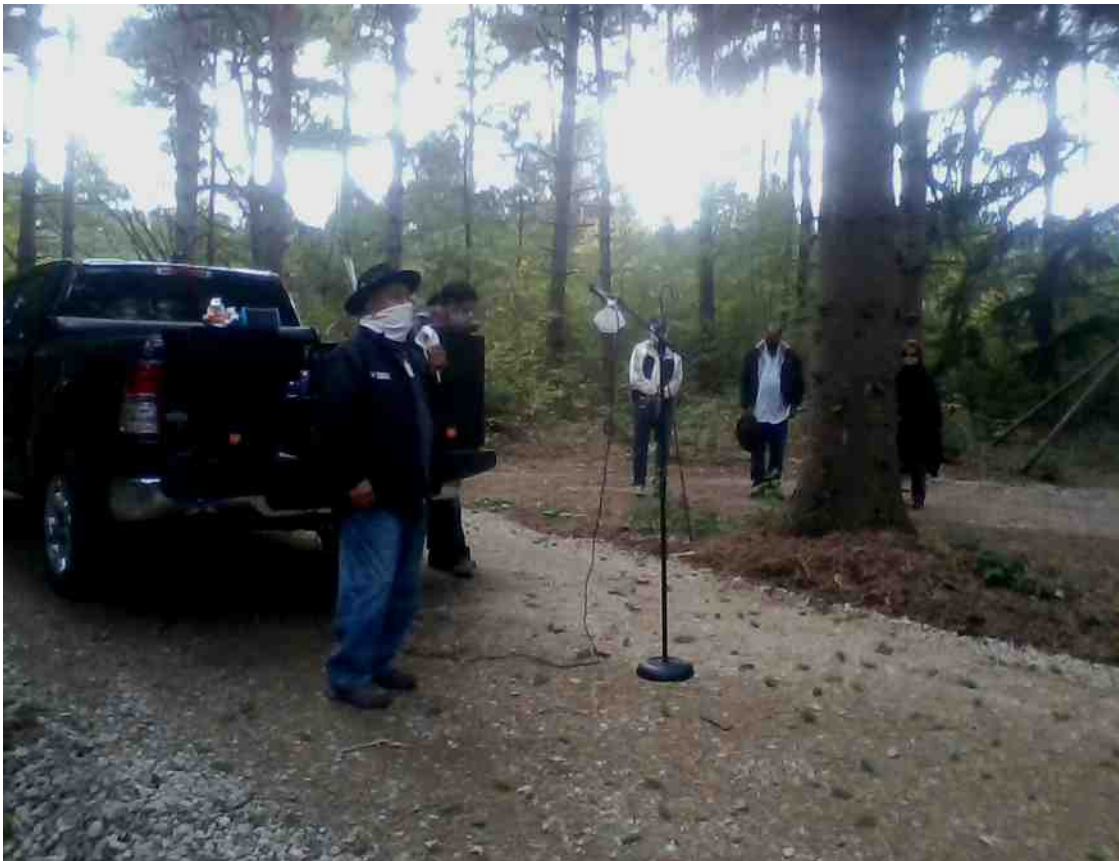
Loznak Sanctuary - Yānhdawa' yeh de yenhta' iyaen' - *The prairie is near the river* - Huron-Wendat. This name was chosen by BWIA member Arakwa Sioui who lives in Quebec but participates remotely with the BWIA. The pronunciation of the name would highly challenge a non-native speaker, but her rendition via smart phone matches the beauty of this little patch of lakeplain prairie.

Gerrits Sanctuary – Wabisiwisibiwinniwak - *Swan Creek tribal people* – Annishinaabemowin. This name honors the Swan Creek Tribe that lived along the Swan Creek, about 3 miles to the east along Anchor Bay at the north end of Lake Saint Clair. This name was chosen by BWIA members Sue Wrobel and Ed Taylor, local Annishinaabemowin language instructors. Sue was featured in our September news article about the expansion of wild-rice, or Manoomin, on Harsens Island.





Moe of Moe's Corner Deli of Port Huron (moesonline.com) prepared a tasty lunch.



BWIA member John Kennedy, opened the ceremony with a prayer.



Joshua Whiting of the BWIA served as the MC.



Participants stood in a large half-circle for the naming ceremony.



TLC Board Member Dan Rhein, created and presented totems for each preserve and also the preserve map behind him. For the Dead End Woods, Dan painted on a large piece of dead drift wood he found on the beach at Bay City State Park along the Saginaw Bay.



Here Dan Rhein holds a painting he completed just the night before to represent the Bidwell Sanctuary, complete with sand ridges, Hemlock trees, and waves. It was presented to the Stonefish family who is of Lenape ancestry and resides on the Sarnia First Nations Reserve in Ontario.

After the naming ceremony, we visited the Bidwell Sanctuary in Burtchville to walk part of the new Lake Huron coastal trail, now under construction. Visitors learned about some of the natural features that make the beach ridge and swale complex such a unique place.



About half of the gang that joined us for a walk on the new Bidwell Sanctuary. This photo was taken after, at the southeast corner of nearby Bertha's Haven Sanctuary.

Loznak Sanctuary City of Marysville

On December 18, 2019, the TLC accepted donation of the new 11.5-acre Loznak Sanctuary, along with a small endowment fund, from Loznak Real Estate Enterprises, LLC. The Loznak Sanctuary honors the memory of Charles and Elizabeth Loznak, the father and mother of donor Richard Loznak. The sanctuary is located in a historically industrial area east of Busha Highway along Wills Street in Marysville.

Our attorney, Tim Lozen of Lozen Davidson and Kovar, PC in Port Huron (<http://www.lozenlaw.com/>) approached us a few years ago about accepting donation of land. We were initially not enthusiastic about the property because of the potential liabilities in an industrial setting. Based on aerial photographs, the site appeared to be heavily impacted by previous industrial use. But these days, every scrap of natural area is significant and so we had a look on the ground.

To our surprise, upon walking the property, we found vegetation associated with lakeplain prairie across the east half of the site, a rare natural community that once covered large areas near the Great Lakes. Although our first look was in early March of 2019 with snow still covering the ground, and not again until December, we identified Riddell's Goldenrod - *Solidago riddellii*, Fringed Gentian - *Gentianopsis crinita*, and Mountain

Mint - *Pycnanthemum virginianum*, plant species associated with lakeplain prairie. The western half of the property is a nice recovering forest interspersed with wetland. It is also adjacent to approximately 26 acres of unusual forested ridge and swale landscape which appears to have an interesting alluvial origin along the Saint Clair River dating back about 5,000 years. Given these natural features, the TLC decided to accept the property donation.



Oblique view of the Loznak property donation in yellow boundaries.

It was not until the late summer of 2020 that we were able to get a good look at all of the prairie plants on the Loznak Sanctuary. To our list, we added Rough Blazing-star - *Liatris aspera*, Tall Boneset - *Eupatorium altissimum*, Mountain Mint - *Pycnanthemum virginianum*, Showy Goldenrod - *Solidago speciosa*, Foxglove Beard-tongue - *Penstemon digitalis*, Nodding Ladies'-tresses - *Spiranthes cernua*, Switch Grass - *Panicum virgatum*, Three-awned Grass - *Aristida longespica*, and Oatgrass - *Danthonia spicata*, all generally characteristic of remnant prairie in the region. Riddell's Goldenrod, Rough Blazing-star, Fringed Gentian, Mountain Mint, and Three-awned Grass are particularly associated with prairie. Most of these plant species are quite uncommon in the region, particularly Fringed Gentian, Three-awned Grass, and Rough Blazing-star. Tall Boneset is a relatively recent arrival from the east coast via railroads, but uncommon and not recorded any closer than Monroe County. Based on our visits to the Loznak Sanctuary in the late summer of 2020, the Monarch butterflies absolutely love it, and being close to the Saint Clair River, it is likely an important migration stop for them to feed.

A 1937 aerial photograph shows the Loznak Sanctuary and vicinity was completely vacant and part of a large swath of mostly open land along the Saint Clair River which may have been farmed. We have found similar lakeplain prairie vegetation in the Marysville area where land use was not so intensive and fallow fields serve as refugia for plants remnant of original populations that existed prior to European-American settlement. Michigan Threatened Sullivant's Milkweed – *Asclepias sullivantii*, a rare lakeplain prairie plant found in only 8 southeast counties in Michigan, is known from several locations in the Marysville area.

We knew that the property has a railroad spur running through the middle of it with a working switch connecting to the old Port Huron and Detroit Railroad line, now owned and operated by CSX Transportation. Upon further investigation, we found that the Loznak Sanctuary has a few other interesting things going for it of historical interest. The property was acquired by the federal government just as the US entered World War II in late 1942 and used as part of a munitions factory. The concrete foundations of various structures are still partially intact, reminiscent of monuments. Historic aerial photographs and mapping show that, other than limited use of the property appearing to begin and end with World War II, the land appears to have been generally undisturbed. Prior to World War II, the land was owned by Pittsburg Plate Glass (now PPG Industries, Inc.), apparently in anticipation of extracting salt from the deposits below for use in making plate glass. That does not appear to have happened before it was acquired by the federal government.



Lakeplain prairie habitat and the railroad spur on the Loznak Sanctuary.



Part of a concrete foundation on the Loznak Sanctuary with wetland beyond.



Remnants of a concrete foundation amongst Paper Birch trees on the Loznak Sanctuary.

We feel like we stumbled into a natural treasure that was completely unexpected in this old recovering industrial land. Based on historic aerial photography and the present soil conditions, we suspect that much of the Loznak Sanctuary was not intensively used, but that impacts were mostly limited to a few areas such as the railroad bed and concrete structures that have since been demolished. The use of the land was largely compatible with the dry sandy soils that naturally supported an open plant community of lakeplain prairie with likely limited cover by oaks and other trees. Of course, the compatibility of industrial land use and native plant communities does not hold true across the board by any means. However, in the case of the Loznak Sanctuary, the former clearing and several decades of setting mostly undisturbed appears to have provided near perfect conditions to harbor a remnant of the lakeplain prairie that almost certainly covered a vast swath of land along the Saint Clair River from Marysville down through Algonac and beyond.

We have discussed plans for the Loznak Sanctuary with potential partners, including the Port Huron and Detroit Railroad Historical Society (<http://phdrailroad.com/>). We envision the Loznak Sanctuary as a small park highlighting the interesting combination of natural area, World War II industrial history, and railroad history relating to the old Port Huron and Detroit Railroad, now owned by CSX Transportation, running along the west side of the sanctuary and the rail spur connecting to it. Our thanks to Loznak Real Estate Enterprises, attorney Tim Lozen, and Jim Hollenbeck of EH&S Services for completing the phase 1 environmental assessment (<https://www.facebook.com/EHS-Services-246483582068278/>)



Monarch butterflies on Tall Boneset. There were a large number of Monarchs on the sanctuary this day, indicating how important this habitat is for butterflies.



Rough Blazing-star (left) and one of the hundreds of Fringed Gentian on the preserve (right).

Building The New Lake Huron Coastal Trail Bidwell Sanctuary, Burtchville

We have made good progress on clearing the new coastal park trail on the Bidwell Sanctuary. The route largely makes use of an old trail on the main beach ridge cleared by the former landowners decades ago, but a lot of trees have fallen and shrubs grown since. The trail is now cleared to about 500 feet north of Metcalf Road, which means we are at about 20% of the half mile distance to the north property line. We have some junk to clean up north of the old residence, artifacts of habitation, but otherwise the route is very nice, over-looking the adjacent swamp down in the big swale about 5 or 6 feet below, and passing by several old Eastern Hemlock trees. A few days while working out there, waves could be heard crashing on the Lake Huron shore in the northeast wind. In the afternoon and evening, cool air is drawn off the lake through the swale like a big air conditioning system. On the warmest days, it appeared that a slight mist formed down in the swales. This is part of what makes the coastal beach ridge and swale complex such a unique environment.

Work has continued on our new Bidwell Sanctuary in Burtchville Township. The entrance is now fully cleared, allowing for plenty of parking space off Metcalf Road. This part of the sanctuary was a former residence, demolished years ago, and was covered by weedy vegetation. Clearing has also continued on the foot trail to the north, part of the Southern Lake Huron Coastal Trail.

Back in November, the TLC enlisted the help of Justin Peltz, son-in-law of TLC member Brian Martin. Justin is very interested in natural area stewardship. He cleared honeysuckle shrubs and cut several Black Locust and Black Walnut saplings. As the snow cover recedes, we will continue trail clearing to the north.



Justin Peltz cutting up a Black Walnut tree.

Thank you to Justin Peltz and our volunteers, including TLC members Tom and Laurie Dennis, Roy and Peggy Churchill, and to Bern Powell for his helpful advice and resources on trail development.



View along the new coastal trail passing by large Eastern Hemlock trees to the left.



Wetland swale on the Bidwell Sanctuary in mid April 2021.

TLC Board of Directors

Cheryl Collins, President

Cheryl Collins of Brown City - Marlette formed the Thumb Land Conservancy in 2008. She has been at the forefront of natural area protection efforts in the region for over 20 years. Cheryl served on the board of directors of the Michigan Nature Association from 2003 through 2008, and co-founded the Macomb Land Conservancy in 2000 which merged with Oakland Land Conservancy to become Six Rivers Land Conservancy. In 2001 and 2002, she conducted a fundraising campaign as a volunteer on behalf of the Michigan Nature Association to purchase the Sharon Rose Leonatti Memorial Nature Sanctuary in Kimball Township, Saint Clair County, 9 acres with one of Michigan's largest remaining populations of State Endangered Painted Trillium. Through grants and individual donations, she raised \$57,000 in less than two years in her spare time. With the Michigan Nature Association, she developed funding sources resulting in grants of nearly \$500,000 for a statewide land acquisition campaign. Cheryl and husband, Bill Collins, worked together on many projects for Huron Ecologic, LLC since 1998. Cheryl served as Project Coordinator, assisting community groups in protecting local natural areas across Michigan. She prepared, organized, and presented exhibits and testimony for three Michigan Department of Environmental Quality Contested Case Hearings and two Michigan Environmental Protection Act suits involving State and federally regulated wetland and other natural features. She provided information regarding the Michigan wetland regulatory program and wetland violation files to the Michigan Environmental Council and U.S. Environmental Protection Agency. From 1996 through 1998, Cheryl was Assistant Drain Commissioner for Saint Clair County, working with Drain Commissioner Fred Fuller, who promoted natural watershed management and river restoration. In 2006, she was a Project Assistant for the Sanilac County Economic Development Corporation. She obtained a grant to construct a rain garden in Lexington and worked with the Huron County Economic Development Corporation on a Michigan Department of Transportation plan to identify significant heritage highway features along M-25. From 2006 through 2009, she was the Chairperson of the Sanilac County Brownfield Redevelopment Authority. She ran for Sanilac County Drain Commissioner in 2008, receiving 38% of the vote as a Democrat in a solidly Republican county. Cheryl currently works as a drain inspector and assists with drain maintenance projects for the Saint Clair County Drain Commissioner.

Terry Gill - Treasurer and Secretary

Terry Gill of Greenwood was Supervisor of Greenwood Township in Saint Clair County from 2004 through 2016. Terry is a strong advocate for land preservation with over 20 years of volunteer experience in non-profit organizations. She served on several boards in Saint Clair County, including the Water Quality Board, Farm Land Preservation Board, and Tri-Hospital EMS Board of Directors. For over 10 years, Terry coordinated the Mill Creek Volunteer Monitoring Project, an aquatic macroinvertebrate sampling program to assess and monitor the water quality of the Mill Creek, a major tributary of the Black River. She obtained multiple grants to produce and submit an annual Mill Creek monitoring report to the Michigan Department of Environmental Quality. Terry served as President of the Blue Water League of Women Voters and was the Natural Resources Chair for the Michigan League of Women Voters based in Lansing. As Natural Resources Chair, she represented the Michigan League of Women Voters on the board of the Michigan Environmental Council and obtained a grant from the Frey Foundation to produce and distribute a brochure entitled, "*Keeping This Land Ours*", a citizen guide to protecting natural areas.

Kay Cumbow - Director

Kay Cumbow of the Brown City area is a long-time environmental advocate. She is a director of Citizens for Alternatives to Chemical Contamination, a statewide organization working to protect the health of our communities and the Great Lakes. She also serves as a director of the Great Lakes Environmental Alliance, a grassroots organization based in Port Huron working to safeguard the environmental health of the Great Lakes Basin through education and community outreach. Kay was an active participant for several years in the Mill Creek Volunteer Monitoring Project, an aquatic macroinvertebrate sampling program to assess and monitor the water quality of the Mill Creek in Saint Clair County. Kay has an Associate of Arts degree from Kalamazoo Valley Community College and an Associate of Science degree from Mott Community College. She worked for many years as a licensed certified respiratory technician, and is now happily retired.

Dorothy Craig - Director

Dorothy Craig lives near the TLC Dead End Woods Sanctuary in Fort Gratiot Township and joined the TLC board in 2013. Dorothy has cared for animals her whole life and loves nature. Dorothy has encouraged and supported the work of the TLC since its formation in 2008.

Dr. Scott Ferguson - Director

Doctor Scott Ferguson grew up near the TLC Dead End Woods Sanctuary in Fort Gratiot Township and joined the TLC board in 2010. Doctor Ferguson has been in full-time dental practice since 1988, the year he earned his Doctorate of Dental Surgery from the University of Detroit. He is a member of the Thumb District Dental Society, the Michigan Dental Association, the American Dental Association, and the Port Huron Study Club, part of a nationwide network of affiliates under the Seattle Study Club. Doctor Ferguson has completed advanced training through the Misch Institute for Implant Training and is a Fellow in the International Congress of Oral Implantology. A Port Huron native and active supporter of many local associations, Scott lives in North Street with his son, Gabriel and daughter, Maya.

Daniel Rhein - Director

Dan Rhein of Port Huron grew up in China Township in Saint Clair County. He is a naturalist, wildlife expert, and a self-taught botanist possessing thorough knowledge of many obscure plant species, especially grasses and shrubs. Dan graduated from Michigan State University with a Bachelor of Science degree in Fisheries and Wildlife. For years, Dan has volunteered his time to provide nature education programs for the Blue Water Council Boy Scouts of America and local school children. Dan has long worked to promote natural areas in the Thumb, especially lakeplain prairie, wetlands, and aquatic habitats. He was a member of the Thumb Bioregional Alliance in the early 1990's, which advocated for the protection of land along the Black River near the Port Huron State Game Area, and the Minden Bog in Sanilac County. He has led several tours through the Minden Bog, being quite familiar with the unique bog vegetation. Dan taught an edible plants course for Willow Winds school of traditional skills and crafts near Mikado, Michigan. Dan is a very talented painter and has exhibited his work at Studio 1219 in Port Huron. He works for the Saint Clair County Drain Commissioner as a drain inspector and project supervisor.

Chris Walker - Director

Chris Walker grew up on a small farm near Croswell, where his parents instilled in him a near-reverent appreciation for the land and its natural inhabitants. Chris is currently an Assistant Professor in the Communication Department at North Dakota State University. He earned a Master of Fine Arts in Cinema and Photography from Southern Illinois University and a Bachelor of Applied Arts in Journalism from Central Michigan University. As a photography professor, he has fulfilled full-time teaching and research appointments at Auburn University, Auburn, Alabama; Southern Indiana University, Evansville; and Loyola University Maryland in Baltimore. He has worked for several newspapers, including the Toledo Blade, where he and two coworkers earned a finalist spot in the Pulitzers, and has been published worldwide in numerous magazines, books, and journals. For 7 years, he was the Photography Columnist for Camping Life magazine. Chris is a naturalist and has a life-long interest in ecology, particularly through bird biology and stock nature photography. He was a Neotropical Migratory Research Technician for 2 years at Black Swamp Bird Observatory in Oak Harbor, Ohio. Chris is an artist and journalist with deep concerns for social anthropology and our ever-changing environment.

Fred Fuller - Director

Fred Fuller grew up in Yale, Michigan and has lived most of his life there, serving as Mayor of the City of Yale in 1990, 1991, and 1996. He earned a Bachelor of Arts from Albion College in English Literature and spent a semester in New York City working as an editorial assistant at The Paris Review literary magazine edited by George Plimpton. He has held a life-long interest in old cultures of the British Isles and has written several magazine articles on that subject. He was employed as a Field Director with the Michigan Nature Association in 1992 and 1993, exploring potential new preserve lands and helping edit the MNA's sanctuary guidebook. Fred co-founded the Thumb Bioregional Alliance in 1993, an association of environmentalists and others concerned about ecology and the quality of life in the Thumb region. He also co-founded the Mill Creek Coalition, the Black River Watershed Group and the Friends of Beards Hills, to help preserve important ecosystems in the Thumb. Fred served as the Saint Clair County Drain Commissioner from 1997 through 2008. As Drain Commissioner, he opposed the proposed full-scale dredging of Mill Creek, a major tributary of the Black River, and he helped negotiate a compromise restoration of the creek. He enacted the first storm water rules for Saint Clair County, initiated an illicit discharge elimination program on county drains, required wetland clearance for new development sites, and helped pioneer preservation of high-quality wetlands as mitigation for Michigan Department of Environmental Quality permits in Saint Clair County. Since 2009, Fred has been employed with Huron Consultants, LLC of Port Huron and Lapeer, Michigan, where he is currently the Water Resources Manager.

TLC Staff

William Collins - Executive Director

Bill Collins of Brown City - Marlette is a naturalist and botanist who grew up in the Port Huron area. He was a nature instructor at Silver Trails Scout Reservation summer camps from 1978 through 1986. He has an Associate of Science degree from Saint Clair County Community College and graduated from Michigan State University in 1987 with a dual Bachelors of Science degree in Botany and Natural Resources Development while also following the engineering program. From 1984 through 1986 he was a Program Assistant with the Michigan Chapter of The Nature Conservancy in East Lansing, and later worked on various contract projects for the Michigan Department of Natural Resources Wildlife Division. He is a Life Member of the Michigan Nature Association and explored natural areas for MNA in 1988 through 1990. Bill has worked as a professional wetland consultant and ecologist since 1990, employed 8 years as a botanist and project manager with SSOE, Inc., a large architectural and engineering firm in Troy, Michigan, and since 1998 with his own consulting firm, Huron Ecologic, LLC. In his capacity as a private consultant, he has encouraged and helped local governments and individuals preserve high quality natural areas. Bill and his wife, Cheryl, have been very active in promoting the protection of natural areas and rare species throughout the region, including Michigan Endangered Painted Trillium, a rare woodland wildflower that is now known only from Saint Clair County in all of Michigan.

TLC Service Providers

TLC Legal Counsel

Attorney Timothy J. Lozen
Law Offices of Timothy J. Lozen, P.C.
511 Fort Street, Suite 402
Port Huron, Michigan 48060
810-987-3970
LozenLaw.com

TLC Financial Institution

Tri-County Bank
4190 Main Street
Brown City, Michigan 48416
810-346-2745
Tri-CountyBank.com

TLC Liability Insurance

Conserv-A-Nation Insurance Program
Underwritten by Chubb Group of Insurance Companies
Alliant Insurance Services, Inc.
Franey Muha Commercial Group
4530 Walney Road, Suite 200
Chantilly, Virginia 20151
703-397-0977
AlliantInsurance.com

TLC Accountant

Cathy Rovano
5626 Ortman Drive
Sterling Heights, Michigan 48314

TLC Web Site Host - ThumbLand.org

Jeff Ronan
LochánDé IT Services, LLC
Port Huron, Michigan 48060
810-334-4119
jeff@lochandeit.com
LochanDeIT.com

TLC Corporation

TLC Web Site

ThumbLand.org

TLC Contacts

mailing address:

Thumb Land Conservancy
4975 Maple Valley Road
Marlette, Michigan 48453 USA

phone: 810-346-2584

e-mail: mail@ThumbLand.org

TLC Incorporation Documents

IRS Employer Identification Number: 41-2247569

IRS Employer Identification Number Assigned: 2007 August 13

Michigan Corporation Identification Number: 70398K

Michigan Articles Of Incorporation Filed: 2008 October 29

Michigan Articles Of Incorporation Effective Date Of Approval: 2008 October 29

IRS Effective Date Of Tax Exemption: 2008 October 29

IRS 501(c)(3) Tax Exempt Status Confirmed: 2009 February 26

Michigan Corporate Entity Documents:

[https://cofs.lara.state.mi.us/CorpWeb/CorpSearch/CorpSummary.aspx?
ID=800918673&SEARCH_TYPE=1](https://cofs.lara.state.mi.us/CorpWeb/CorpSearch/CorpSummary.aspx?ID=800918673&SEARCH_TYPE=1)

IRS Search for Charities, Online Version of Publication 78:

[https://apps.irs.gov/app/eos/pub78Search.do?ein1=41-
2247569&names=&city=&state=All...&country=US&deductibility=all&dispatchMethod=searchCharities&
submitName=Search](https://apps.irs.gov/app/eos/pub78Search.do?ein1=41-2247569&names=&city=&state=All...&country=US&deductibility=all&dispatchMethod=searchCharities&submitName=Search)

TLC Memberships and Affiliations

Clyde Historical Society

7293 Beard Road

Clyde, Michigan 48049

810-824-0726

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

Blue Water Indigenous Alliance

8749 Lakeshore Road

Burtchville, Michigan 48059

248-506-7172

info@BWIAPH.org

BWIAPH.org

TLC Balance Sheet

Thumb Land Conservancy Balance Sheet 2020 December 31

Current Assets	
Checking/Savings	
Tri-County Bank	28,377.05
Total Checking/Savings	28,377.05
Total Current Assets	28,377.05
Fixed Assets	
Land	
Bertha's Haven Sanctuary	0
Bidwell Sanctuary	278,000.00
Dead End Woods Sanctuary	0
Gerrits Sanctuary	48,972.00
Loznak Sanctuary	0
North Street Property	9,500.00
Peltier Beach Ridge Sanctuary	0
Total Fixed Assets	336,472.00
Total Assets	364,849.05
Liabilities and Equity	
Equity	
Opening Balance Equity	364,849.05
Total Equity	364,849.05
Total Liabilities & Equity	364,849.05

TLC 2019 US Tax Return

Form 990-N

Electronic Notice (e-Postcard)

OMB No. 1545-2085

Department of the Treasury
Internal Revenue Service

for Tax-Exempt Organization not Required to File Form 990 or 990-EZ

2019

Open to Public Inspection

A For the 2019 Calendar year, or tax year beginning 2019-01-01 and ending 2019-12-31

B Check if available

☐ Term inated for Business☒ Gross receipts are normally \$50,000 or lessC Name of Organization: THUMB LAND CONSERVANCY4975 Maple Valley Road,Marlette, MI, US, 48453

D Employee Identification

Number 41-2247569

E Website:

ThumbLand.orgF Name of Principal Officer: William Collins4975 Maple Valley Road,Marlette, MI, US, 48453

Privacy Act and Paperwork Reduction Act Notice: We ask for the information on this form to carry out the Internal Revenue laws of the United States. You are required to give us the information. We need it to ensure that you are complying with these laws.

The organization is not required to provide information requested on a form that is subject to the Paperwork Reduction Act unless the form displays a valid OMB control number. Books or records relating to a form or its instructions must be retained as long as their contents may become material in the administration of any Internal Revenue law. The rules governing the confidentiality of the Form 990-N is covered in code section 6104.

The time needed to complete and file this form and related schedules will vary depending on the individual circumstances. The estimated average times is 15 minutes.

Note: This image is provided for your records only. Do Not mail this page to the IRS. The IRS will not accept this filing via paper. You must file your Form 990-N (e-Postcard) electronically.

TLC Properties

Dead End Woods Sanctuary or Makadewagmitiggweyainniwak, meaning *Black River Tribal People* in Annishinaabemowin

17.6 Acres, Fort Gratiot Township, Saint Clair County

Acquisition Date: 2008 December 30

North Parcel 74-20-030-2009-000: Beginning North 660.34 Feet From The East Quarter Corner, Thence N89°37'00"W 229.00 Feet; Thence S00°00'00"E 130.17 Feet; Thence N89°37'00"W 189.00 Feet; Thence S00°00'00"E 200.00 Feet; Thence N89°37'00"W 920.79 Feet; Thence N00°00'00"E 330.18 Feet; Thence S89°37'00"E 691.79 Feet; Thence N00°00'00"E 70.00 Feet; Thence S89°37'00"E 647.00 Feet; Thence S00°00'00"E 70.00 Feet To Beginning. Section 30, Town 7 North, Range 17 East, 8.59 Acres.

South Parcel 74-20-030-2012-000: Part Of The Northeast Quarter Of Section 30, Town 7 North, Range 17 East, Fort Gratiot Township, St. Clair County, Michigan; Described As Commencing At The East Quarter Corner Of Said Section; Thence N00°00'00"E 97.00 Feet Along The East Section Line To The Point Of Beginning; Thence N89°44'42"W 225.00 Feet; Thence S00°00'00"E 97.00 Feet; Thence N89°44'42"W 537.54 Feet Along The North Line Of Spruce Village; Thence N89°47'58"W 575.76 Feet Along The North Line Of Ferguson Heights; Thence N00°02'55"E 320.95 Feet Along The East Line Of Angus Campbell Number One; Thence N00°07'02"E 12.77 Feet Along The East Line Of Plat Number 5 Of The Old Farm Subdivision; Thence S89°37'00"E 1113.04 Feet; Thence S00°00'00"W 130.78 Feet; Thence S89°17'00"E 225.00 Feet; Thence S00°00'00"W 101.08 Feet To The Point Of Beginning. Containing 9.01 Acres.

The Dead End Woods Sanctuary was the first preserve acquired by the TLC, in December 2008. The woods is known locally as the "dead end woods" because it is located and accessed at the dead end of Wilson Drive in Fort Gratiot Township. The preserve is located between Wilson Drive and Blueberry lane to the south, State Road to the east, and Old Farm subdivision to the north.



The 17.6-acre Dead End Woods Sanctuary contains about 11.6 acres of swamp forest wetland, part of the headwaters of the Gossman Drain which flows east and south to the Black River. Both the wetland and the upland on the sanctuary were preserved as partial mitigation for wetland impacts permitted by the Michigan Department of Environmental Quality for the 2008 Bunce Creek and Huffman Drain project of Saint Clair County Drain Commissioner, Fred Fuller. The Dead End Woods Sanctuary is protected by a conservation easement held by the State of Michigan. As mitigation options for the drain project were being considered, the owner of one of the Dead End Woods parcels offered to sell the land to the Drain Commissioner at a reasonable price. The MDEQ confirmed the presence of a large amount of wetland on the property and

determined that it is part of a high quality plant community. The adjacent parcel was then purchased to provide the necessary wetland mitigation for the drain project. To satisfy MDEQ requirements for long-term monitoring and stewardship of the wetland, ownership of the two Dead End Woods parcels was transferred to the TLC, relieving the Drain Commissioner from further responsibility for this land. In accepting ownership of the property, the TLC agreed to be responsible for submittal of an approved management plan to the MDEQ, annual monitoring of the conservation easement, long-term stewardship, and submittal of annual monitoring reports to the MDEQ.



Forest of the Dead End Woods Sanctuary.



Swamp wetland in the Dead End Woods Sanctuary.

The Dead End Woods is a highly diverse forest community of southern swamp and mesic upland on Wainola-Deford fine sands deposited on the glacial lakeplain. The swamp is dominated by Silver Maple and Red Maple hybrids, Green Ash (large trees now dead due to the Emerald Ash Borer), American Hornbeam, Spicebush, Sensitive Fern, Royal Fern, Jack-in-the-pulpit, and Marsh-marigold. The upland is dominated by Red Maple, Red Oak, Sassafras, Black Cherry, Witch-hazel, Mayapple, Wild Geranium, and Yellow Trout-lily. At 44.5, the Floristic Quality Index of the Dead End Woods is very high, indicating a natural area of statewide significance. Higher quality or interesting species include Maidenhair Fern, Spikenard, Richweed, American Hazelnut, Black Ash, Butternut, Spicebush, Tuliptree, Cardinal Flower, Indian Pipe, Black Gum, Sycamore, Christmas Fern, Broad-leaved Goldenrod, Foamflower, and Eastern Hemlock.



Tuliptree sapling in the Dead End Woods Sanctuary.



Spikenard in the Dead End Woods Sanctuary.

A 1937 aerial photograph shows most of the Dead End Woods forest cover was intact, probably because the land was simply too wet to farm. As a result, many species are relict from before European settlement. In 1997 and 1998, the previous owners selectively cut large trees throughout the forest, which drew protests from neighbors who thought the site was being prepared for residential development. Despite this cutting and heavy soil disturbance, the forest vegetation remained intact. While the opened canopy supported the invasion of Garlic Mustard, it also favored uncommon species like Tuliptree, American Hazelnut, and Spikenard.

Uncommon animal species observed on the Dead End Woods Sanctuary include Flying Squirrels, Barred Owls, Pileated Woodpeckers, Wood Ducks, Spring Peeper frogs, Wood Frogs, and Red-backed Salamanders. Aquatic macroinvertebrates observed in the wetter portions of the swamp include caddisfly larvae, fairy shrimp, crayfish, pond snails, clam shrimp, water striders, and various protozoa, all generally indicating high water quality.

Entrance to the Dead End Woods Sanctuary is from at the dead end of Wilson Drive and also a shared driveway at 3745 State Road, between the 4th and 5th houses north of Blueberry Lane. Visitors must be careful not to block driveways or the fire hydrant at the end of Wilson Drive.

Gerrits Sanctuary or Wabisiwisibiwinniwak, meaning *Swan Creek Tribal People* in Annishinaabemowin

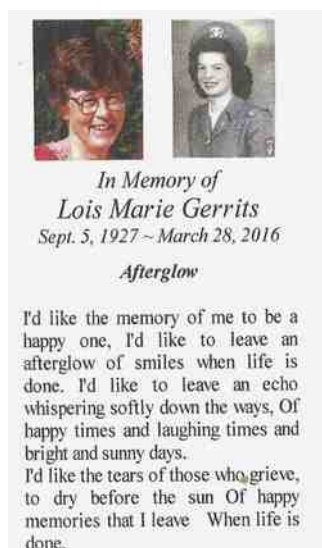
38.5 Acres, Ira Township, Saint Clair County

Acquisition Date: 2009 July 16

Parcel 74-23-007-1003-000: The Northwesternly 38.5 Acres Of The Southwesterly ½ Of The Northeasterly ½ Of Private Claim 627. Section 7, Town 3 North, Range 15 East. 38.5 Acres.

On July 16, 2009, the TLC acquired its second nature preserve, the Gerrits Sanctuary, a generous donation from Lois Gerrits, wife of the late Dr. James F. Gerrits. The closing was held at the Law Offices of Timothy J. Lozen, with attorney Anna Kovar <http://www.lozenlaw.com/> and TLC executive board members William Collins and Terry Gill present. Ullenbruch Flowers and Gifts of Port Huron <http://www.ullenbruchflower.com/> kindly donated a bouquet of flowers to express our appreciation to Mrs. Gerrits.

Dr. James Gerrits was well known in Saint Clair County. He was co-pilot of a bomber in World War II, and later a fighter and test pilot. Because of his war experiences, he became an outspoken critic of war. He and Lois twice voluntarily went to Vietnam in the 1960's, sponsored by the U.S. Department of State and Catholic Church, to provide civilian medical care to the people of both South and North Vietnam. Lois shared several stories about those times after our closing.



Gerrits siblings at the 2011 November 26 sanctuary dedication.



The Gerrits Sanctuary is 38.5 acres located along the east boundary of the City of New Baltimore, only about $\frac{3}{4}$ mile north of Anchor Bay and Lake Saint Clair. The southern half of the sanctuary is a complex of mature mesic and swamp forest. The north half is old-field and the Crapaud Creek Drain runs through the north end of the preserve. Years ago, the property was part of the Gerrits family farm.



Upland and swamp forest on the Gerrits Sanctuary.

The forest on the Gerrits Sanctuary is an impressive mix of southern swamp and mesic upland containing plant populations relict from centuries ago. Dominant vegetation in the extensive wetlands includes Silver Maple, Green Ash (all large trees dead due to the Emerald Ash Borer), Eastern Cottonwood, American Elm, Cinnamon Fern, and various sedges. The upland forest is a mature and species-rich southern forest community of American Beech, Sugar Maple, Red Oak, White Oak, Black Cherry, American Basswood, Tuliptree, Yellow Birch, Mayapple, White Trillium, Wild Geranium, Canada Mayflower, Spinulose Woodfern, Jack-in-the-pulpit, Solomon's-seal, Yellow Trout-lily, and Spring Beauty among many other forest herbs. Along the southwestern boundary of the sanctuary, the vegetation on moist sand tip-up mounds is distinctly northern with clubmosses, Wild Sarsaparilla, Starflower, and Goldthread. Some areas look surprisingly like habitat for Michigan Endangered Painted Trillium – *Trillium undulatum*, currently known only from the Port Huron area.



Upland forest with large Black Cherry, American Beech, and Sugar Maple on the Gerrits Sanctuary.

The Gerrits Sanctuary is part of one of the largest and least fragmented forest tracts remaining along the Great Lakes coastline from Ohio north through the Algonac area. The larger forest is nearly 300 acres, of which the Gerrits Sanctuary includes only about 20 acres of that forest, or about 7% of it. At the southern limit of the forest along M-29, it is within 1,000 feet of Anchor Bay. Near-shore natural areas are critical for migratory birds and insects that move along the Great Lakes. The Gerrits Sanctuary provides habitat both for migratory woodland birds and for migratory insects, like butterflies, in the old-field on the north half of the preserve.

Official entrance to the Gerrits Sanctuary is from near the end of Sienna Oaks Drive to the north. With permission from park management, the sanctuary may also be accessed through The Shores at Anchor Bay modular park along the east and south boundaries:

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



Birthday nature walk for Lois and James Gerrits' granddaughter, Rose, on 2014 May 18.

Peltier Beach Ridge Sanctuary or Ke'Ya Makece, meaning *Turtle Land* in Lakota

11.5 Acres, Fort Gratiot Township, Saint Clair County

Acquisition Date: 2010 June 28

Parcel 74-20-004-1058-000: A parcel of land being a part of the Northwest ¼ of Fractional Section 4 and the Northeast ¼ of Fractional Section 5, T7N, R17E, Fort Gratiot Township, St. Clair County, Michigan and described as: Commencing at the East ¼ corner of said Fractional Section 5; thence N. 89° 38' 30" W. 656.67 feet along the East and West ¼ line of said Fractional Section 5; thence N. 00° 12' 07" E. 1145.13 feet to the point of beginning of this description; thence continuing N. 00° 12' 07" E. 648.12 feet; thence N. 89° 59' 07" E. 853.62 feet; thence S. 09° 03' 53" E. 363.81 feet; thence N. 89° 15' 00" W. 101.00 feet; thence S. 09° 03' 53" E. 101.00 feet; thence N. 89° 15' 00" W. 299.26 feet; thence S. 00° 07' 00" E. 200.50 feet; thence N. 89° 15' 00" W. 82.00 feet; thence S. 00° 07' 00" E. 1.00 feet; thence N. 89° 15' 00" W. 447.36 feet to the point of beginning of this description. Said parcel contains 11.47 acres, more or less.

On June 28, 2010, the TLC received its third nature preserve, the 11.5-acre Peltier Beach Ridge Sanctuary in Fort Gratiot Township, Saint Clair County. The parcel was given to the TLC by Ray and Nancy Peltier to satisfy State of Michigan requirements, then briefly administered through the Michigan Department of Natural Resources and Environment, for the long-term protection of 6.3 acres of wetland on the property, preserved as mitigation for 0.63 acre of wetland to be impacted by an expansion of the Hamzavi Dermatology office in Fort Gratiot: <https://www.hamzaviderm.com/>. The Peltier's worked out a deal with Dr. Syed Hamzavi to preserve the wetland and adjoining upland on their property as mitigation for the Hamzavi Dermatology project. As with our first preserve, the Dead End Woods Sanctuary in Fort Gratiot, the Peltier Beach Ridge Sanctuary is protected by a State of Michigan conservation easement. In accepting ownership of the mitigation property, the TLC agreed to be responsible for submittal of an approved management plan, annual monitoring of the conservation easement, long-term stewardship, and submittal of annual monitoring reports to the MDNRE, now the Michigan Department of Environmental Quality again.



The Peltier Beach Ridge Sanctuary is located a few hundred feet south of the end of West Montevista Drive, south of Metcalf Road, and along the east side of the Detroit Water Board property. The intake pipes from Lake Huron for the Detroit Water facility are very near the north property line. Also just north is the Galbraith Plant Preserve owned by the Michigan Nature Association, and four small lots north of the MNA preserve, owned by the Saint Clair County Drain Commissioner to be preserved as wetland mitigation for a future project. Although some people use the Detroit Water line property to enter the sanctuary from East Montevista Drive, the actual entrance is from North Shoreview Drive, just east of the intersection with San Juan Drive.

The Peltier Beach Ridge Sanctuary is a small part of a much larger and ecologically unique beach ridge and swale landscape formed thousands of years ago along portions of the early Great Lakes shoreline as water levels dropped, rose again, and then dropped to modern levels after the last glacial period. The beach ridge and swale landscape in this part of the Thumb is a long, narrow formation within about 1 mile of the Lake Huron shoreline, extending from Port Huron into Sanilac County. The landscape began forming about 11,500 years ago as the last stages of the Wisconsin glacier melted back and early Lake Huron was about 30 feet higher than today. About 1,500 years later, the melting glacier uncovered a new outlet from the Georgian Bay and the water dropped over 400 feet. The massive weight of glacial ice depressed the earth's crust for thousands of years, but as it melted, the crust slowly rose and continues today. By 4,500 years ago, the drainage outlet from Georgian Bay raised such that early Lake Huron filled to the Lake Nipissing stage and back to the old shoreline of 7,000 years previous. Great Lakes drainage was gradually limited to the Mississippi River through the old Chicago outlet, and then to the current Saint Clair River outlet, which rapidly down-cut and lowered the Great Lakes to modern levels, leaving a series of beach ridges as the water dropped.



Beach ridge and swale landscape in Fort Gratiot and Burtchville Townships.

In the southern Thumb, the beach ridge and swale landscape is restricted to a narrow strip along Lake Huron in Saint Clair County, in Fort Gratiot and Burtchville Townships, and some small patchy occurrences in Sanilac County. The landscape is much more extensive in Huron and Tuscola Counties along the Saginaw Bay, especially near Port Crescent State Park. In Saint Clair County, it originally covered less than 1% of the total land area, and has since been significantly reduced by commercial and residential development. The landscape consists of a series of upland sand ridges and mucky wetland troughs or swales between. In Saint Clair County, the sand ridges average about 40 to 50 feet wide and 3 to 4 feet above the adjoining swales. The swales are usually about as wide as the ridges, but some are a few hundred feet wide. The largest and oldest beach ridge runs continuously along the western limit of the landscape, furthest inland from Lake Huron. This ridge was over 500 feet wide across most of its extent and may have been over 30 feet high in some areas. Although much of it has been mined out, this big sand ridge is still largely intact through Lakeside Cemetery and into Port Huron near the Blue Water Bridges where it is about 15 feet higher than adjoining land. Centuries ago, this ridge served as a burial ground for Native American inhabitants whose burial mounds have been found near Port Huron. The beach ridge and swale landscape provides not only unique habitat, but also a unique record of Michigan's post-glacial past.

Most of the Peltier Beach Ridge Sanctuary is forested, except a large trail that runs through the western part of the preserve, and portions of the sand ridges to the east. Like most of the landscape, the wetland swales are covered by Silver Maple, Green Ash and Black Ash, the larger ash trees now all dead due to the Emerald Ash Borer, Eastern Cottonwood, and American Elm. The upland beach ridges are covered largely by Black Cherry, Bigtooth Aspen, and American Basswood, with scattered Black Oak and a few Arbor Vitae. The lower ridge bases are lined with Paper Birch and covered by an unusual concentration of Alternate-leaved Dogwood.

Much of the beach ridge and swale landscape in Saint Clair County was impacted years ago by logging, clearing, draining, livestock grazing, and sand mining. Because the surrounding forest as a whole has either been degraded or eliminated, subsequent forest species recruitment has been severely diminished, which has limited the return of many forest plants and therefore, the recovery of a mature forest community. The dominance of invasive species like Tartarian Honeysuckle, Common Privet, and Garlic Mustard has further displaced mature forest species.

Despite so many impacts, the landscape still contains high quality habitat with several unique species. Like other parts of the landscape, a few sand ridges on the Peltier Beach Ridge Sanctuary contain small patches of Purple-flowering Raspberry, the Lower Peninsula's equivalent of the Upper Peninsula's Thimbleberry, with large flowers and large raspberry fruits that actually fit over a finger like a thimble. Purple-flowering Raspberry is thought to be native to only seven shoreline counties in Michigan. The species is so restricted to this habitat in Saint Clair County that it's symbolic of it.



Purple-flowering Raspberry and Yellow Lady's-slipper orchid near the Peltier Beach Ridge Sanctuary.

Yellow Lady's-slipper orchid grows in a variety of habitats, but in Saint Clair County is largely restricted to the moist ridge bases and mucky swales of this landscape. Several Yellow Lady's-slipper orchids have been found on the Peltier Beach Ridge Sanctuary.

The Eastern Hog-nosed Snake is a special reptilian inhabitant that has been found just a few hundred feet south of the Peltier Beach Ridge Sanctuary. They prefer the more open sand of dunes and disturbed ground such as along the south end of the sanctuary. When aggravated, the snakes flatten their necks like a cobra, and then sometimes roll over and play dead with their mouths hanging open. They can look imposing, but are harmless. The Eastern Hog-nosed Snake is more common in the southern plains and southeastern US, but is considered to be at some risk of extirpation in the Great Lakes region, Ontario, and New England.



Eastern Hog-nosed Snake captured and photographed by Ray Peltier, just south of the Peltier Beach Ridge Sanctuary.

One of the most critical functions of this coastal forest habitat is the support it provides to an abundance of migratory birds as they move north and south along the Lake Huron shoreline. The spring and summer breeding bird population is very abundant and diverse in this area, especially the forest warblers. Several species of warblers have been identified on the Peltier Beach Ridge Sanctuary.



American Redstart warbler just south of the Peltier Beach Ridge Sanctuary.

The Peltier Beach Ridge Sanctuary is a high quality wetland and upland complex with a unique geologic history, unique plant and animal community, significant Great Lakes coastal habitat, good restoration potential, and a great addition to the TLC preserve lands. The beach ridge and swale landscape is a high priority for the TLC and we continue working to promote preservation of this area.

North Street Station

5220 North Road, North Street, Michigan

0.5 Acre, Clyde Township, Saint Clair County

Acquisition Date: 2016 August 02

Parcel 74-15-012-3006-000: All that part of the North ½ of the Northwest ¼ of the Southeast ¼ lying south of the Pere Marquette Railroad right-of-way and containing 0.5 acre in Section 12, T7N R16E

On August 2, 2016, the TLC purchased the old general store, post office, and rail station in North Street through the Saint Clair County tax auction. This historic structure would have been demolished if not acquired by a preservation group. The North Street station is one of only two remaining stations between Port Huron and Croswell along the old Port Huron and Northwestern Railway which opened in 1879. The main line ran from Port Huron to Saginaw, with branches to Sandusky, Port Hope, and Port Austin. The line became part of the Pere Marquette Railroad in 1889. The main structure on the North Street site probably dates back to at least 1889, but was later partially modified in the mid 1940's to serve as a residence.

The TLC is partnering with the Clyde Historical Society to protect the structure and fundraise for restoration. We are currently restoring the exterior and plan to install signs describing the history of the site. Eventually, we would like to restore the interior, display related historical artifacts, and open it for meetings and public events.



South side of the North Street Station during roof repair in the spring of 2017. The large window was installed and other modifications were made in the mid 1940's to upgrade the structure as a residence.



The North Street Station circa 1930 showing the north side, facing the railroad tracks. A proprietor of the general store and post office stands in front, with a dog on the porch behind.



The North Street Station circa mid 1930's showing the south side from North Road. The lower room to the east was added to the original structure.



A drawing of the North Street Station as it appeared circa 1900 showing the north side and adjacent railroad. A mail pouch is hanging at the lower left. A horse is shown to the far right on North Road.



Left: A portion of an 1899 map showing the Pere Marquette Railroad line from Port Huron through North Street and beyond.

Bertha's Haven Sanctuary or Mindimooyenh, meaning *An Elder Woman of Great Respect* in Annishinaabemowin

0.62 Acre, Fort Gratiot Township, Saint Clair County

Acquisition Date: 2019 September 27

Parcel 74-20-004-1057-000: West 175 feet of South 154 feet of that part of the East $\frac{1}{2}$ of the Northeast $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ lying North of the extended North line of Roosevelt Avenue in Section 5, T7N, R17E, 0.62 acre

On September 27, 2019, the TLC accepted ownership of the Galbraith Plant Preserve from the Michigan Nature Association (MNA). The preserve is located only about 150 feet north of our Peltier Beach Ridge Sanctuary, in the same beach ridge and swale landscape along Lake Huron in Fort Gratiot and we have been watching over it when we go out to the Peltier Sanctuary. MNA founder and director, Bertha Daubendiek, established this preserve back in 1972 as a place to transplant native wildflowers from the adjacent Detroit Water Board property before the Lake Huron water intake facility was constructed. The TLC renamed the preserve in honor of Bertha Daubendiek, to "Bertha's Haven", borrowing part of an older name for the preserve.



Bertha's Haven Sanctuary in yellow boundaries just north of the Peltier Beach Ridge Sanctuary.



Left: Bertha Daubendiek (center) on the shore of Lake Superior in 1969. Right: Bertha Daubendiek (bottom center) exploring the western Upper Peninsula in 1970 with MNA board members Thelma Sonnenberg and Rita Juckett, and biology student guides from Michigan Technological University.

For more information about Bertha Daubendiek and the Michigan Nature Association, see these articles written by TLC Executive Director, William Collins:

http://www.huronecologic.com/thumb_habitats022004.htm

http://www.huronecologic.com/thumb_habitats032004.htm

Loznak Sanctuary or Yānhdawa' yeh de yenhta' iyaen', meaning *The Prairie is Near the River* in Huron-Wendat

Honoring Charles and Elizabeth Loznak

11.5 Acres, City of Marysville, Saint Clair County

Acquisition Date: 2019 December 18

9.3 acres of Parcel 74-03-092-0025-000: Lots 19 and 20 and Lot 21, except the South 200 feet of "ASSESSOR'S PLAT OF DOW ADDITION TO THE CITY OF MARYSVILLE, MICHIGAN", according to the plat thereof as recorded in Liber 55 of Plats, page 7, St. Clair County Register of Deeds Office.

2.2 acres of Parcel 74-03-092-0023-000: Westerly 350 feet of Lot 18, "ASSESSOR'S PLAT OF DOW ADDITION TO THE CITY OF MARYSVILLE, MICHIGAN", according to the plat thereof as recorded in Liber 55 of Plats, page 7, St. Clair County Register of Deeds Office.

On December 18, 2019, the TLC accepted donation of the 11.5-acre Loznak Sanctuary, along with a small endowment fund, from Loznak Real Estate Enterprises, LLC. The Loznak Sanctuary honors the memory of Charles and Elizabeth Loznak. The sanctuary is located adjacent to an industrial area along Wills Street in Marysville, east of Busha Highway in Marysville.



Oblique view of the Loznak property donation in yellow boundaries.

The Loznak Sanctuary is adjacent to the old Port Huron and Detroit Railroad line with an old rail spur running through the middle of the sanctuary. It is also adjacent to approximately 26 acres of unusual ridge and swale forest with an interesting alluvial origin along the Saint Clair River dating back almost 5,000 years ago. Despite the impact of previous industrial use connected with a World War II munitions factory, the Loznak Sanctuary is a nice recovering natural area with patches of young forest interspersed with the remains of concrete foundations reminiscent of monuments. The east half of the sanctuary contains lakeplain prairie vegetation with uncommon species such as Riddell's Goldenrod - *Solidago riddellii*, Fringed Gentian - *Gentianopsis crinita*, and Mountain Mint - *Pycnanthemum virginianum*. Historic aerial photographs and mapping show that, other than limited use of the property appearing to begin and end with World War II, the land appears to have been generally undisturbed. A 1937 aerial photograph shows the Loznak Sanctuary and vicinity was completely vacant and part of a large swath of mostly open land along the Saint Clair River which may have been farmed. Similar lakeplain prairie habitat in the Marysville area, where land use was not so intensive, serves as refugia for plants remnant of original populations that existed prior to European settlement. Michigan Threatened Sullivant's Milkweed – *Asclepias sullivantii*, a rare lakeplain prairie plant found in only 8 southeast counties in Michigan, is known from several locations in the Marysville area.



Left: Old-field with lakeplain prairie vegetation and railroad spur. Right: Part of a concrete foundation.



Remnants of a concrete foundation amongst Paper Birch trees on the Loznak Sanctuary.

We are still discussing options and plans for this new sanctuary with potential partners, including the Port Huron and Detroit Railroad Historical Society (<http://phdrailroad.com/>). We envision the Loznak Sanctuary as a small park highlighting the interesting combination of natural area, World War II industrial history, and railroad history relating to the old Port Huron and Detroit Railroad, now owned by CSX Transportation, running along the west side of the sanctuary and the rail spur connecting to it. Our thanks to Loznak Real Estate Enterprises, attorney Tim Lozen, and Jim Hollenbeck of EH&S Services for completing the phase 1 environmental assessment (<https://www.facebook.com/EHS-Services-246483582068278/>).

Bidwell Sanctuary or Chëkhònèsink hìtkwike schind lèkuwake, meaning *Place Among Hemlock Trees on Sandy Ground Where There is Sound of Waves Breaking* in Lenape

42.1 Acres, Burtchville Township, Saint Clair County

Acquisition Date: 2020 July 17

Parcel 74-11-032-3003-000: East 810.2 feet of the Southeast ¼ excepting the East 275 feet of the North 683.3 feet and excepting the South 200 feet of the East 200 feet of the West 744.2 feet and excepting Plat Number 1 of Lakeshore Woods. Section 32, T8N R17E. 41.45 acres.

Parcel 74-11-480-0001-000: Lot 1 of Plat Number 1 of Lakeshore Woods. 0.65 acre.

On July 17, 2020, the TLC purchased the 42.1-acre Bidwell Sanctuary located in the beach ridge and swale complex of Burtchville Township. Acquisition of the Bidwell Sanctuary was a major preservation accomplishment for the TLC on behalf of the Blue Water Area. Major project funders included The Carls Foundation of Bloomfield Hills, the Community Foundation for Southeast Michigan, the Consumers Energy Foundation, Cargill, Inc. and Cargill Salt of Saint Clair, the Community Foundation of St. Clair County, the Franklin H. and Nancy S. Moore Donor Advised Fund of the Community Foundation of St. Clair County, and SEMCO Energy Gas Company of Port Huron.



Eastern Hemlock tree and beach ridge on the Bidwell Sanctuary. Wetland swale in background.



Wetland swale on the Bidwell Sanctuary.



Wetland swale on the Bidwell Sanctuary.



Along the new coastal trail on the Bidwell Sanctuary.

The new Bidwell Sanctuary in Burtchville Township is a very important part of the proposed Southern Lake Huron Coastal Park, a band of several preserves and parks extending along Lake Huron through Fort Gratiot and Burtchville Townships. The preserves are generally inaccessible to the public and somewhat disconnected from each other, but not by much. With a little effort, we are within reach of creating a continuous 4.5-mile coastal park connecting the Port Huron area to Lakeport State Park. The Southern Lake Huron Coastal Park would encompass most of the remaining beach ridge (or dune) and swale complex along the eastern shoreline of Michigan's Thumb region, a linear forested greenway connecting Port Huron with shoreline communities into Sanilac County. This coastal forest zone is well-suited for a recreational walking and biking trail with interpretive signage. The beach ridge and swale complex along Lake Huron is a big part of what makes the Blue Water Area unique and a desirable place to visit and live. Yet, few understand the character and significance of this land because there is very limited public access to it. Routing a trail through the interior of this coastal forest corridor will provide a great opportunity for recreation, providing a small wilderness experience within just a few miles of Port Huron.

As proposed, the coastal trail would pass through at least two TLC preserves, the Peltier Beach Ridge Sanctuary and future Bidwell Preserve. Currently, most of the preserves to be included in the larger park are difficult, if not impossible, for the public to access without trespassing on adjoining properties. The proposed Southern Lake Huron Coastal Park and trail would open most of these preserves to the public. Once connected, the Southern Lake Huron Coastal Park is likely to become a regional destination for bicyclists, birders, naturalists, and other visitors.

In early 2018, the TLC began renewed efforts to acquire key parcels needed to complete a 4.5-mile coastal park along Lake Huron, connecting Port Huron to Lakeport State Park. The proposed Southern Lake Huron Coastal Park will eventually protect most of the remaining beach ridge and swale complex along the eastern shoreline of Michigan's Thumb region. This important coastal forest habitat supports rare species found in few other regions and is vital for migratory birds that move and nest along Lake Huron.



The effort to protect large tracts of beach ridge and swale forest in Fort Gratiot and Burtchville Townships dates back to the late 1980's with the vision of Bertha Daubendiek, founder of the Michigan Nature Association. Before the TLC existed, the Bidwell property on the north side of Metcalf Road in Burtchville Township was targeted for preservation and some of us worked on that effort for the MNA through the early 2000's. The Bidwell property contains some of the best beach ridge and

swale forest of what little remains from Ohio to the Saginaw Bay. Things didn't work out and the effort was mostly dropped until 2018.

The beach ridge and swale landscape complex is a very unique formation of parallel sand ridges and muck wetlands. The series of sand ridges were deposited from about 4,500 years ago as high post-glacial lake levels receded as the Great Lakes outlet shifted from the Des Plaines River outlet to the Mississippi River at what would be Chicago, to the new Saint Clair River outlet at what would be Port Huron. The Saint Clair River down-cut rapidly which caused the post-glacial lake water to drop about 30 feet. At the same time, the earth's crust rose, having been depressed by the weight of glacial ice during the last stages of the Wisconsin glacial advance. The earth's crust is still rising slightly from the ancient depression of ice. The continued rise of the land and lowering of the Great Lakes has left a series of dry upland sand ridges and mucky wetland troughs or swales between. This beach ridge and swale landscape provides not only a unique natural community, but a record of Michigan's post-glacial past.

The beach ridge and swale complex is very limited in Michigan and covers just a small part of Fort Gratiot and Burtchville Townships in Saint Clair County where it ranges from about a quarter-mile to a half-mile wide. It originally extended from the Blue Water Bridges into southern Sanilac County. The remaining formation north of Port Huron is the only significant occurrence from Ohio to the Saginaw Bay. The coastal forest habitat supports rare and uncommon species found in few other regions and is vital for migratory birds that move and nest along Lake Huron. Ongoing threats to the beach ridge and swale complex include residential and commercial development along the M-25 highway corridor, speculative land clearing and grading, forest fragmentation, sand mining, invasive weeds, overgrazing by deer, loss of forest canopy due to tree pests or diseases, and incursions by off-road vehicles.

The community is usually referred to as "wooded dune and swale complex". However, "beach ridge and swale complex" is a more descriptive phrase for the landscape of the eastern Thumb of Michigan where the ridges were shaped primarily by water. As with all of the ridges around the Great Lakes, the sand was first deposited as beaches that gradually rose above the lake influence. Wind was a secondary influence, the non-forested shoreward ridges becoming dunes. The ridges along the southwestern shore of Lake Huron were probably less dune-like because prevailing winds are from the west and would have been buffered by adjoining forest to the west.

The beach ridge and swale complex provides critical shoreline habitat for uncommon and rare plant and animal species found in few other parts of Michigan, such as Purple-flowering Raspberry, Yellow Lady-slipper orchid, Pink Lady-slipper orchid, Eastern Hog-nosed Snake, and Blue-spotted Salamander, as well as a great abundance of migratory birds. Based on records maintained by the Michigan Natural Features Inventory, there are approximately 30 Endangered, Threatened, or Special Concern species that could occur in the beach ridge and swale community of Saint Clair County.



Of all species, Purple-flowering Raspberry - *Rubus odoratus* is the most emblematic of the beach ridge and swale community in Saint Clair County where it is known only from ancient beach ridges along Lake Huron and one location along the Saint Clair River. Purple-flowering Raspberry is essentially the Lower Peninsula's equivalent of the Upper Peninsula's well known Thimbleberry - *Rubus parviflorus*, being so closely related that they hybridize where their ranges overlap in the northern Lower Peninsula. Like Thimbleberry, Purple-flowering Raspberry has no thorns and produces large flowers and big tasty red fruits. But unlike the white flowers of Thimbleberry, as the common name suggests, Purple-flowering Raspberry produces vivid purple to magenta flowers with subtly contrasting pale yellow centers. While the prolific Thimbleberry is thought to have moved into Michigan from western North America as the last glacial ice melted back thousands of years ago, Purple-flowering Raspberry moved into Michigan from the east and is at the western edge of its range here, where native populations are relatively sparse and probably limited to only seven coastal counties, primarily along Lake Huron.



Yellow Lady-slipper - *Cypripedium parviflorum* and Pink Lady-slipper - *Cypripedium acaule* have been described as common orchids in Michigan, but both species are actually rare, limited to very specific habitats, and increasingly imperiled. Yellow Lady-slipper orchids are found primarily in the beach ridge and swale complex of Saint Clair County. Pink Lady-slipper orchids are more common in the dune and swale complex along Saginaw Bay. Despite how common or not these orchids may be, it is always a wonder to encounter these unusual plants in full bloom, usually in mid May. Yellow Lady-slipper is typically located in moist mucky sand along beach ridge bases. Pink Lady-slipper occurs on higher and drier sand.



The Eastern Hog-nosed Snake - *Heterodon platyrhinos* is a very uncommon snake in Michigan, found almost exclusively in semi-open sand ridges of the complex in Saint Clair County. More common in the southeast and southern plains of the United States, the Eastern Hog-nosed Snake is at moderate risk of extirpation in the Great Lakes region, Ontario, and much of New England. The Eastern Hog-nosed Snake is non-venomous, but well known for flattening its upper neck and head like a cobra. When disturbed by a potential predator, they often roll over and play dead with their mouths open.



Blue-spotted Salamander

The Blue-spotted Salamander - *Ambystoma laterale* ranges across the northeastern United States and adjacent Canada to the James Bay. The salamander is found primarily in moist deciduous forests and swamp woodlands, especially with vernal pools. The Blue-spotted Salamander has been described as fairly common statewide, but seems to be particularly associated with the beach ridge and swale complex in Saint Clair County.



Arbor Vitae
Fort Gratiot County Park

Northern White-cedar or Arbor Vitae – *Thuja occidentalis* is not rare, but it is characteristic of the beach ridge and swale complex in Saint Clair County, and occurs in few other areas of southeast Michigan, limited primarily to relatively undisturbed muck swamps, lake and stream margins, and deep shaded ravines. The few Arbor Vitae remaining in the beach ridge and swale complex are remnant of the original that covered much of this landscape a few hundred years ago prior to European-American settlement and important to retain for restoration of the plant community and value to wildlife. The regeneration of Arbor Vitae is now severely limited due to over-grazing by Eastern White-tailed Deer.



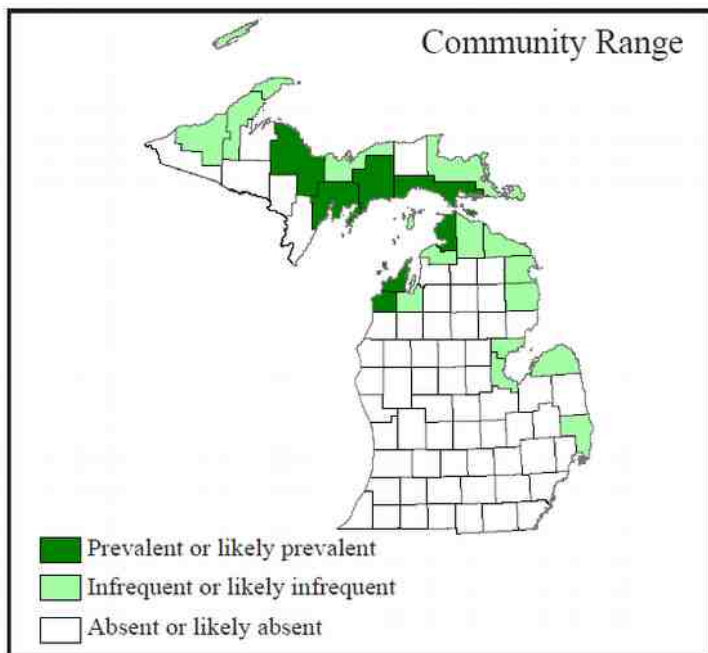
Magnolia Warbler
Shorewood Forrest Preserve, Fort Gratiot

The coastal forest is vital for migratory birds that move and nest along Lake Huron. Recent species observations provided by the local Blue Water Audubon Society for the beach ridge and swale habitat of Saint Clair County include American Redstart, Bald Eagle (Michigan Special Concern), Barred Owl, Bay-breasted Warbler, Black-and-white Warbler, Blackburnian Warbler, Blackpoll Warbler, Black-throated Blue Warbler, Black-throated Green Warbler, Blue-gray Gnatcatcher, Blue-headed Vireo, Blue-winged Warbler, Boreal Owl, Canada Warbler, Cape May Warbler, Cerulean Warbler (Michigan Threatened), Chestnut-sided Warbler, Common Nighthawk (Michigan Special Concern), Common Yellowthroat, Connecticut Warbler, Cooper's Hawk, Eastern Towhee, Eastern Wood-Pewee, Golden-crowned Kinglet, Golden-winged Warbler, Gray-cheeked Thrush, Hairy Woodpecker, Hermit Thrush, Hooded Warbler (Michigan Special Concern), Indigo Bunting, Kentucky Warbler, Least Flycatcher, Louisiana Waterthrush (Michigan Threatened), Magnolia Warbler, Merlin (Michigan Threatened), Mourning Warbler, Nashville Warbler, Northern Goshawk (Michigan Special Concern), Northern Parula, Northern Saw-Whet Owl, Olive-sided Flycatcher, Ovenbird, Palm Warbler, Philadelphia Vireo, Pileated Woodpecker, Pine

Grosbeak, Pine Siskin, Pine Warbler, Red-bellied Woodpecker, Red-breasted Nuthatch, Red-eyed Vireo, Red-shouldered Hawk (Michigan Threatened), Rose-breasted Grosbeak, Ruby-crowned Kinglet, Scarlet Tanager, Sharp-shinned Hawk, Swainson's Thrush, Tennessee Warbler, Tufted Titmouse, Veery, Whip-poor-will (Michigan Special Concern), White-breasted Nuthatch, White-winged Crossbill, Wilson's Warbler, Wood Thrush, Yellow Warbler, Yellow-bellied Sapsucker, Yellow-billed Cuckoo, Yellow-rumped Warbler, and Yellow-throated Vireo.

The beach ridge and swale landscape complex is very limited geographically, occurring only along the Great Lakes and originally covering only about 1% of Saint Clair County, and even less of the Thumb region as a whole. The landscape complex in Saint Clair County is the only significant occurrence remaining from Ohio to Saginaw Bay. Very little of this unique shoreline community remains intact, due largely to construction of State Highway M-25 and subsequent development along this corridor.

The Michigan Natural Features Inventory (MNFI) considers Great Lakes wooded dune (or beach



ridge) and swale complex as a distinct natural community in Michigan because of the unique assemblage of physiographic, soil, and vegetative components that provide high quality habitat for numerous shoreline species. The MNFI ranks the Great Lakes complex as a rare to uncommon community both statewide and globally. There are landscapes of similar geologic origin along oceans and seas, but plant and animal communities of the Great Lakes complex are unique, and much of the Great Lakes landscape has been destroyed by development and hydrology alterations.

The primary soil type of the beach ridge and swale landscape in Saint Clair County is Wainola-Tobico complex. About half of this soil complex is somewhat poorly drained Wainola fine sand forming the upland beach ridges. The other half is very

poorly drained Tobico mucky fine sand and pure muck in the wetland swales between the ridges. The Tobico mucky fine sand portion of the complex is a hydric soil. This soil complex is restricted in Saint Clair County to a narrow strip along Lake Huron in Fort Gratiot and Burtchville Townships, covering only about 0.7% of the county in 1970 when soil survey data was compiled.

SOIL ASSOCIATIONS

Parkville association. Nearly level to gently sloping, somewhat drained and poorly drained soils that have a dominant loamy subsoil; on till plains.

Avoca association. Nearly level to gently sloping, somewhat drained, dominantly high-line soils that have a loamy till subsoil; on till plains and moraines.

Le-Alameda-Nacore association. Nearly level to gently sloping, very poorly drained and somewhat poorly drained soils that have a clayey to sandy subsoil; on till plains and moraines.

Le-Larry association. Nearly level to gently sloping, not poorly drained and very poorly drained soils that have

SOIL ASSOCIATIONS

Parikill Association: Nearly level to gently sloping, somewhat drained and poorly drained soils that have a domi-loamy subsoil; on till plains.

Avoca Association: Nearly level to gently sloping, somewhat drained, dominantly high-line soils that have a loamy rip subsoil; on till plains and moraines.

Isle Association: Nearly level to gently sloping, somewhat drained and poorly drained, dominantly high-line soils that are clay to clay loam; on till plains and moraines.

Isle-Allendale Association: Nearly level to gently sloping, very poorly drained and somewhat poorly drained soils that are clay to sandy subsoil; on till plains and moraines.

Isle-Lake Association: Nearly level to gently sloping, poorly drained and very poorly drained soils that have

Being a linear landscape, the coastal beach ridge and swale forest is naturally suited as a greenway corridor. A proposed walking and biking trail would traverse the entire park from Fort Gratiot north to Lakeport State Park, providing an excellent opportunity for interpretive signage describing the landscape, geology, and natural community. We believe the park would be a significant destination for birders as the coastal forest is a major corridor for migratory birds moving up and down along Lake Huron. When completed and with some promotion, this coastal park could attract birders on a level approaching Point Pelee National Park in Ontario.

TLC Conservation Easements

Bob Putze Preserve

The Bob Putze Preserve is the first residential landowner conservation easement agreement for the TLC. The conservation easement adjoins the Port Huron State Game Area along the west side of Abbottsford Road; a very nice northern forest community with lots of Eastern White Pine, and tall Red Pines that Bob Putze planted in 1964. Edge species like Big-tooth Aspen and planted spruce are gradually dying off in the increasing shade, while shade-tolerant American Beech and Sugar Maple are colonizing the understory, a natural process known as forest succession which leads to a mature native forest community. The ground-level vegetation is diverse and of good native quality with the usual species of cool sandy soils in the Port Huron area including at least three species of clubmoss, a distant cousin of ferns, along with Canada Mayflower, Wintergreen, and Low Sweet Blueberry. A small area of wetland is covered by Royal Fern with Michigan Holly shrubs. Bob Putze's forest is potential habitat for Michigan Endangered Painted Trillium, a rare species now known only from Saint Clair in all of Michigan, and occurring within a mile of Bob's land.

Bob Putze is a very conscientious and reverent man who loves God's creation and cares for every animal that ventures onto his land. Bob feeds them all, including deer, turkeys, rabbits, raccoons, opossums, and stray cats. Even Pileated Woodpeckers come to his suet feeder, and Flying Squirrels live in a nest box by his driveway. Bob has always felt a spiritual connection to his land. For years, he wanted to ensure that the woods would remain natural and undeveloped after he is gone. The conservation easement signed with the Thumb Land Conservancy in March of 2017 provides the legal basis for that protection in perpetuity.



The Bob Putze Preserve conservation easement site.



Canada Mayflower, Ground-cedar (clubmoss), and Red Maple seedling.



Typical forest understory.



Typical forest understory.



Overstory of planted Red Pine.



Typical forest understory.



One of Bob's signs.

The Bob Putze Preserve is characteristic of the drier and more northerly forest remaining in the region. In the Port Huron area, northern forest complex is a second-growth woodland complex of mesic to dry-mesic northern forest, dry-mesic southern forest, hardwood-conifer swamp, and southern hardwood swamp on sandy soils extending across large parts of Kimball, Clyde, and Port Huron Townships. The vegetation of this complex is a unique blend of northern and southern flora, skewed largely toward northern species. This generally northern community complex covers a broad and flat landscape of coarse to fine sands deposited across the glacial lakeplain, the dominant cover being swamp forest. Smaller upland sand ridges are typically scattered throughout the complex, deposited in glacial drainageways or as glacial lake beaches and inland dunes.

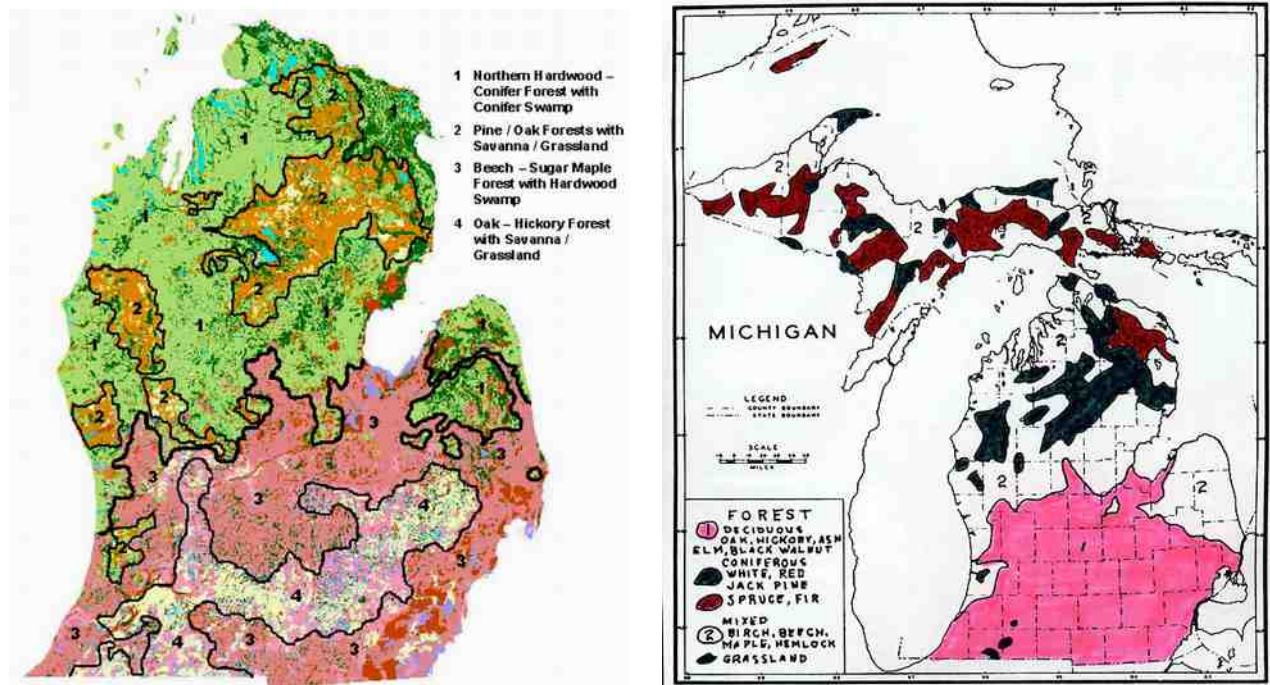


Bob Putze standing by one of the Red Pines he planted in 1964.



Bob Putze and Michigan Holly he transplanted to his yard.

Northern forest communities occur almost exclusively north of the “tension zone” or “transition zone”, a rough division of northern and southern flora in the northeastern United States, extending from Maine through Minnesota and dividing the lower peninsula of Michigan roughly in half. North of the transition zone, conifer trees are a major component of the forest along with broad-leaved hardwood trees. South of the transition zone, conifers are largely absent. The combination of climate and soils north of the transition zone favors northern vegetation, and south of the zone favors southern vegetation. In Michigan, the transition zone is broad, roughly 100 miles wide in some areas, running from near Muskegon on Lake Michigan, to the Saginaw Bay and across the northern tip of the Thumb. Some consider the transition zone to extend down through the lower part of the Thumb, but most restrict it to northern Huron County. Although there is some disagreement as to the precise location and extent of the transition zone, it is certain that many northern plant species reach their southern range limit there, and conversely, many southern plant species reach their northern limits. Regardless, the occurrence of large northern plant communities south of Saginaw Bay is unusual. The primary factor in the southern extension of northern flora in the Thumb is the cooler growing season near Lake Huron. Northern vegetation extends down from Huron County in a narrow coastal zone through Sanilac County, spreading out to the south and west over the low, flat, wet sands of Saint Clair County on the glacial lakeplain.. Other factors include extensive sand soils, a generally high water table perched above a shallow layer of lakeplain clay, and the historic influence of fire.



Northern and southern floristic zones in Michigan.

Several rare or uncommon plant species occur almost exclusively in this northern forest complex in Saint Clair County. The complex contains all of the currently known and extant populations of Michigan Endangered Painted Trillium – *Trillium undulatum* in Michigan. Michigan Threatened Northern Prostrate Clubmoss - *Lycopodiella margueritae* was recorded from the area in 2002 but now its occurrence is apparently questionable due to a recent change in the taxonomic status of the species. Other uncommon plants that may be found in the complex include Creeping Rattlesnake Plantain - *Goodyera repens*, Downy Rattlesnake Plantain - *Goodyera pubescens*, Tesselated Rattlesnake Plantain - *Goodyera tessellata*, Trailing-arbutus - *Epigaea repens*, Pink Lady-slipper orchid - *Cypripedium acaule*, and Showy Orchis - *Galearis spectabilis*.

Koester Preserve

The 79.4-acre Koester Conservation Easement in Fort Gratiot Township, Saint Clair County, was established on April 4, 2020 and protects one of the larger forest tracts remaining in the township. The property is located along the south side of Keewahdin Road and Pine Grove Avenue, extending south one-half mile. The land owners, Darrin and Kim Koester, constructed their residence on 5 acres in the north end of the parcel. The conservation easement allowed the Koester's to afford the property taxes on this large parcel, which had not been sold for many years. Upon sale, the property taxes would have increased significantly and made the land unaffordable for the Koester's as a residence.



The Koester Preserve includes a large area of relatively mature, non-fragmented southern swamp and hardwood-conifer swamp forest complex on seasonally inundated to moist sands with scattered upland knolls. Wetland vegetation includes Silver Maple, Green Ash, American Elm, Eastern Cottonwood, Bur Oak, Swamp White Oak, American Hornbeam, Spicebush, Dwarf Raspberry, Spotted Touch-me-not, False Nettle, Clearweed, Marsh-marigold, Sensitive Fern, Royal Fern, Spinulose Woodfern, Fowl Manna Grass, Lake Sedge, and Tussock Sedge. Upland vegetation includes Red Oak, Black Oak, White Oak, American Beech, Basswood, Sugar Maple, Red Maple, Tulip Tree, Sassafras, Serviceberry, Witch-hazel, Jack-in-the-pulpit, White Avens, Solomon-seal, Wild Geranium, and Yellow trout-lily. Many of the native forest plant species are typically of a more northern distribution in Michigan, including Paper Birch, Eastern White Pine, Eastern Hemlock, Speckled Alder, Black Chokeberry, Meadowsweet, Low Sweet Blueberry, Dwarf Raspberry, Wintergreen, Goldthread, Canada Mayflower, Wild Sarsaparilla, Foamflower, Wood Anemone, Bracken Fern, Royal Fern, Northern Lady Fern, Ground-pine, and Ground-cedar. Likewise, there are species that are typically more southern, including Black Oak, Sassafras, Tulip Tree, and Spicebush. This sort of southern-meets-northern forest is characteristic of the Blue Water Area, a transitional vegetative region where nearby Lake Huron maintains cooler summers and warmer winters.



View across the south end of the Koester Conservation Easement.

The south end of the parcel was partially logged in recent years but tree removal appears to have been limited largely to dead ash. The logging left a lot of deep tire ruts in the south end, but the forest plant community is still intact.

The Koester's developed their residence on land that was cleared decades ago and covered by planted pines along with very common or weedy species such as Apple, Black Cherry, hawthorn, Gray Dogwood, Autumn-olive, Common Buckthorn, Tartarian Honeysuckle, Common Blackberry, Late Goldenrod, Panicked Aster, and grasses. Portions of this area have so many apple trees, it appears

there may have once been a small orchard here. The TLC assisted the Koester's in avoiding regulated wetland impacts, optimize the conservation easement boundaries, identify invasive shrubs such as buckthorn and honeysuckle, plan and control methods. The TLC will also assist them with management of the conservation easement in the future to improve the native forest community.

TLC Stewardship Sites

12.35-Acre Deerfield Wind Energy Preserve Huron Township, Huron County, Michigan 2016 to present

In late 2016, the TLC contracted with Algonquin Power Company of Oakville, Ontario, Canada to provide stewardship of their 12.35-acre Deerfield Wind Energy Preserve, about 4 miles west of Port Hope. The Deerfield Wind Energy Preserve was placed under a State conservation easement as mitigation for wetland impacts resulting from the nearby Deerfield Wind Energy turbine project. 1.235 acre of State-regulated forested wetland was permanently converted to open wetland for the purpose of clearing a 60-foot wide right-of-way for an electrical transmission line. The Michigan Department of Environmental Quality allows preservation of existing wetland, at a 10 to 1 ratio, as mitigation for permitted wetland impacts. As with the TLC Dead End Woods and Peltier Beach Ridge Sanctuaries in Fort Gratiot Township in Saint Clair County, the Deerfield Wind Energy preserve was placed under a State conservation easement as mitigation for permitted wetland impacts. The MDEQ now requires long-term stewardship on all mitigation sites, usually provided by land conservancies like the TLC.



Deerfield Wind Energy Preserve, shown in yellow boundaries.

Most of the Deerfield Wind Energy Preserve is southern swamp forest with species trending somewhat toward a northern community. Dominant vegetation includes Silver Maple, Black Ash saplings and seedlings, Sensitive Fern, Spinulose Woodfern, Wood Nettle, Clearweed, Lake Sedge, and other sedges. Small upland areas are dominated by Red Maple, Wild Black Cherry, American Basswood, and, unfortunately, Japanese Barberry. Uncommon native plant species include Foamflower, Swamp White Oak, Turtlehead, Woodreed Grass, Spicebush, Cardinal Flower, Round-leaved Pyrola, and Red Trillium. The preserve is part of one of the larger forest fragments remaining in the Thumb, almost continuous along tributaries of Willow Creek to Lake Huron. As such, it is not only important for the watershed, but as habitat for migratory birds. Those observed on the preserve include Wood Thrush, Veery, Eastern Wood-pewee, Evening Grosbeak, many American Redstart warblers, Common Yellowthroat warbler, Yellow Warbler, Black-capped Chickadee, Downy Woodpecker, and Catbird.



Swamp forest on the Deerfield Wind Energy Preserve, showing Pileated Woodpecker excavations on the dead tree at the right.

The most immediate stewardship issue on the Deerfield Wind Energy Preserve was determined to be a dense growth of invasive Japanese Barberry along roughly 600 feet of the east preserve boundary, extending about 100 feet west into the forest before decreasing to a few scattered shrubs. The barberry growth apparently exploded in the past few years as a result of forest clearing on the adjacent parcel east to expand a hay field. The clearing greatly increased the amount of light exposure in the remaining forest, shifting edge forest conditions at least another 100 feet west into the preserve.

The TLC proceeded with extensive manual clearing of the barberry in the fall of 2017, as opposed to herbicide application, after determining that native forest plants under and around the barberry would likely be eliminated by herbicide. These species include Foamflower, Turtlehead, Red Trillium, Round-leaved Pyrola, and Canada Mayflower. Deer ticks are known to concentrate in barberry, much of it head-high on the preserve, which could present a risk of Lyme Disease to stewards cutting or digging barberry in the summer. To minimize Lyme Disease risk and destruction of native woodland herbs, the TLC has limited most of our work to the fall, winter, and early spring. Starting in early September

of 2016, the TLC began cutting barberry shrubs with hand loppers and a gas-powered weed whacker fitted with a 4-point steel brush blade. Over one acre of barberry has been cut along the east side of the preserve. In the early spring of 2018, the TLC will start burning the cut barberry stems with a large propane torch. Repeated for a few years, most of the barberry should eventually be killed. Others will be manually pulled or dug from the ground.



View south of Japanese Barberry along the east preserve boundary.

As with other stewardship sites, the TLC conducts species inventories, detailed measurements of vegetation in sampling plots across the preserve, general observation, and extensive photographic documentation as part of the annual monitoring required by the MDEQ. The TLC inspects all preserves annually to monitor conditions and identify potential stewardship issues. A detailed monitoring report is submitted to the MDEQ by the end of January each year.

18.5-Acre Super Kmart / Sam's Club Preserve Port Huron Township, Saint Clair County 2016 to present

Starting in early 2016, the TLC has been assisting Port Huron Township in Saint Clair County with management of wetland and forest around the vacant Super Kmart and Sam's Club at the northeast corner of I-69 and 32nd Street. Wetland was constructed north and east of the stores, and natural swamp forest preserved, as mitigation for a wetland permit issued by the Michigan Department of Environmental quality back in 1992. In total, about 18.5 acres of wetland and forested upland is protected by a State of Michigan conservation easement. Management of the area has been lacking for years and became even more critical when the Super Kmart closed a few years ago.

TLC member and friend, Port Huron Township Fire Chief Craig Miller, has been a continued advocate for the preserve while working for a compromise allowing the Township better management of the area for public safety. In late 2016, County Sheriff deputies moved an encampment of about 15 young men living in tents and other shelters on the preserve to adequate housing elsewhere. They not only caused a lot of destruction on the preserve for years, but produced drugs and engaged in theft of local stores and customers. Relocating these men was key to gaining control of the preserve.



Super Kmart and Sam's Club preserves (areas 1, 2, and 3) in Port Huron Township.

The constructed wetland on the Super Kmart and Sam's Club preserve leaves a lot to be desired, being almost completely dominated by invasive Reed – *Phragmites australis*. The most striking part of the constructed wetland is a large pond east of the stores that is utilized by an abundance of waterfowl. In contrast, a large part of the preserve consists of the original native forest community with uncommon species like Blue-bead Lily, Fringed Polygala, Michigan Holly, Black Chokeberry, and a Scarlet Oak x Pin Oak hybrid particular to the Port Huron area. The TLC produced a detailed management plan for the preserve which has helped gain approval for management actions from the MDEQ while taking the sensitive natural features into consideration.



Canada Geese in the pond east of the stores, showing also the dominance of invasive Reed.



Left: Invasive Reed along north drive. Right: Litter north of stores before March 2016 clean-up.



Native forested wetland north of the stores. Despite surrounding impact, still a nice natural area.

In March and December of 2016, the TLC assisted a County community service crew with clean-ups, removing litter and materials left on the site by the young men that lived on the preserve. During unseasonably warm weather on February 26, the TLC assisted the Port Huron Township Fire Department in an attempt to burn the invasive Reed in the wetland east of the stores. Unfortunately, the air temperature was too low to sustain a good burn. However, based on a recent discussion with the Township Supervisor, another controlled burn should be attempted in the early spring of 2018 and the TLC will continue to assist the Township as we are able.

51-Acre Michigan Road Preserve Port Huron Township, Saint Clair County, Michigan 2011 to 2015

From 2011 through 2015, the TLC contracted with the Saint Clair County Drain Commissioner, Saint Clair County Road Commission and Pro-Tel Development to provide five years of annual monitoring and stewardship required by the Michigan Department of Environmental Quality as a condition of two wetland permits issued to the SCCRC and Pro-Tel Development. The SCCRC permit authorized impact of 0.57 acre of emergent marsh and 0.14 acre of shrub swamp wetland for the removal of the old Michigan Road crossing of the North Branch of Bunce Creek, and replacement of the crossing structure with a new bridge over the Canadian National Railway in Port Huron Township. The Pro-Tel Development permit authorized impact of 2.85 acres of wetland and relocation of 950 linear feet of the Read Drain for the purpose of commercial development at the southeast corner of Wadhams Road and Griswold Road in Kimball Township. In total, the MDEQ required preservation of 31.08 acres of existing natural wetland as mitigation for the permitted impacts. The SCCRC and Pro-Tel Development provided the required preservation on two adjacent parcels totaling just over 51 acres and the SCCDC subsequently accepted ownership of the land.



The TLC inspected the conservation easement site annually for five years, documented site conditions, identified management concerns, and performed stewardship activities according to the requirements of the MDEQ permits and management plans produced by the TLC. Annual monitoring and stewardship reports included detailed vegetation data from sampling plots, descriptions of ecological conditions, vegetative development, human and natural disturbance, litter and refuse dumping, invasive species control results, controlled burn effects, native plantings, ecological enhancement, easement sign conditions, potential safety hazards, adjoining land use, a summary of annual management and maintenance activities, and extensive on-site photographs. Monitoring reports also included comparisons of current site conditions to those of previous years, descriptions of changes observed, and evaluation of the effectiveness of long-term management actions.

The Michigan Road Preserve is just 51 acres of a much larger northern woodland complex on upland sand ridges and lower wetland east of Michigan Road, north of Dove Road and along the south side of the Canadian National Railroad. Sand ridges are relatively broad, a few hundred feet in width, appearing to be Rousseau fine sands. Adjacent lower and wetter soils are Wainola-Deford fine sands. Most of the preserve is typical of relatively young woodland in the Port Huron area, recovering over the past 70 to 90 years after much of the area was cleared for timber. The forest community is composed of northern species like Red Maple, Paper Birch, Wintergreen, Bracken Fern, Wild Sarsaparilla, and Canada Mayflower mixed with southern species like Black Oak and Smooth Highbush Blueberry. The central and eastern portions of the Michigan Road Preserve are covered by disturbed northern shrub swamp dominated by Tag Alder, Black Chokeberry, and Glossy Buckthorn, with Narrow-leaved Cat-tail and Reed in the lowest and more open areas.



Typical wetland and upland complex on the Michigan Road Preserve, showing tip-up mounds.

Despite clearing decades ago, the Michigan Road Preserve has retained many species characteristic of the vegetation that existed before European settlement. The composition of the forest community on the preserve, like much of the forest in the Port Huron area, is a diverse blend of northern and southern flora, being located at a southern extension of Michigan's Transition or Tension Zone along the Lake Huron coast, with a moderated climate.

The habitat across much of the Michigan Road Preserve appears well suited for Michigan Endangered Painted Trillium - *Trillium undulatum*, known from other sites nearby. Painted Trillium is one of nearly 40 species of trillium native to North America, about 10 of which are found in Michigan. Saint Clair County is an isolated outpost for Painted Trillium on the western edge of its range in North America, reflecting the Blue Water Area's unique natural history. Its primary range is the Appalachian Mountains at higher elevations on organic soils, in rhododendron and Mountain Laurel thickets or Red Spruce groves, but nowhere is it considered common. In Saint Clair County, Painted Trillium is recorded only from mesic northern forest, on moist sands. Its occurrence strongly coincides with the interface of Rousseau fine sand or Chelsea-Croswell sand ridges and the lower and wetter Wainola-Deford fine sands, such as on the Michigan Road Preserve. Plants are often found along the base of sand ridges, near wetland. Painted Trillium also shows a strong affinity for distinct and dense tip-up mounds like those on the Michigan Road Preserve. Painted Trillium was first documented in Saint Clair County around 1900 by botanist, attorney, and city controller of Port Huron, Charles K. Dodge.



Atop a large sand ridge in northeast of the Michigan Road Preserve.



Royal Fern and Tag Alder (stem left) on the west edge of the shrub swamp.

A few small patches of Marsh Saint John's-wort - *Triadenum fraseri* occur in the shrub swamp in the central part of the preserve. This is a northern species not often encountered in Saint Clair County, but more common in northern Michigan. Marsh Saint John's-wort is indicative of wet sandy soils, occurring in alder thickets, such as the Michigan Road Preserve, but also bogs and sedge meadows, suggesting it may be remnant of a more open, fire-maintained community.

Three invasive weeds are a management concern on the preserve, including Reed - *Phragmites australis*, Glossy Buckthorn – *Frangula alnus*, and Narrow-leaved Cat-tail - *Typha angustifolia*. Reed is limited to the open shrub swamp areas in the central and eastern parts of the preserve where it is mingled with Glossy Buckthorn, Black Chokeberry, and Tag Alder. Narrow-leaved Cat-tail covers far less area and is very limited, in only the few open patches in the north-central part of the preserve. Neither Reed nor Narrow-leaved cat-tail are spreading as they already occupy the full extent of open habitat on the preserve. Glossy Buckthorn, however, while fairly widespread across the open shrub swamp, is still spreading in the swamp forest. It is a co-dominant species of the forest understory across about a third of the preserve and is, by far, the greatest management concern.



Tangle of Black Chokeberry, Glossy Buckthorn, and Reed that dominates much of the shrub swamp on the preserve.

There appear to be few direct, recent human impacts on the Michigan Road Preserve. There are no trails on the preserve, being fairly well isolated by the North Branch of the Bunce Creek to the southwest, the Canadian National Railway to the north, and extensive forest to the east and south. Because wetland is so extensive in this area, there are few nearby residences, which is probably another factor in the lack of disturbance. Apparently for the same reasons, there is little refuse.

In the fall of 2011, land adjoining the west side of the preserve was completely cleared for the railroad crossing construction authorized by the same MDEQ permit that the Michigan Road Preserve provides wetland mitigation for. In response to the increased light, Glossy Buckthorn density and growth exploded along the west boundary of the preserve.

The adjacent forest clearing caused further degradation through yet more deforestation and by extending edge effects at least another 100 feet into the preserve. Forest quality is very dependent on maintaining large, unfragmented tracts that are less susceptible to invasion of edge and weed species. Large unfragmented forests are better able to maintain interior forest species, remnants of prehistoric populations that thrived prior to European settlement 150 to 200 years ago. The loss of adjacent forest made the preserve that much more unsustainable in the long term. With less forest, full sunlight extends further into the remaining forest, favoring weedy edge species over the remnant native flora. Wind-throw of mature trees from prevailing west winds will extend further into the preserve. Interior forest birds such as Wood Thrush are particularly vulnerable to nest invasion and territorial displacement by Cowbirds and other birds of open habitat and edge woodlands.

The TLC conducted several management activities on the Michigan Road Preserve to control invasive Glossy Buckthorn and to improve the native flora by reintroduction of a natural fire regime that characterized this type of forest community prior to European settlement. With the assistance of the Port Huron Township Fire Department, the TLC conducted two small controlled burns on 2014 April 12. Subsequent inspections of the preserve indicated that the burning was moderately effective in eliminating Glossy Buckthorn seedlings. Based on this, the TLC conducted a much larger burn on the preserve the following spring, on 2015 May 01. The burn was conducted without the PHTFD, but with new TLC intern, Alex Roland, from Saint Clair County Community College, her friend, Brook, and a few TLC board members. The natural fuel load (leaves and twigs) was greater and weather conditions were much more favorable that day to sustaining a good burn. The results of the burn were evaluated later in August, with the assistance of TLC interns Alex Roland, Jeff Hansen, and Nicole Barth, all students at SC4. An additional decrease in Glossy Buckthorn was observed, but with a significant increase in Black Cherry seedlings. Whether most of these seedlings would survive and eventually dominate the forest understory was uncertain. This could be a negative effect of burning, as well as our inability to burn Glossy Buckthorn in the lower and wetter portions of the wetland. A positive effect however, appeared to be increased density of fire-tolerant northern plant species, such as Bunchberry and Gay-wings, which would originally have likely been a larger component of the forest community before European settlement.



Port Huron Township Fire Department assisting with controlled burn on 2014 April 12.



Left to right, TLC President Cheryl Collins, TLC Stewardship Intern Alex Roland and her friend Brook at our 2015 May 01 burn.



Weather conditions and fuel load were very good for our 2015 May 01 burn.



TLC Intern Jeff Hansen collecting vegetation data during 2015 August 12 monitoring.



Bunchberry and Gay-wings in burned area.

TLC Mission

TLC Territory

The Thumb Land Conservancy is working to preserve natural areas in the Thumb of Michigan, a post-glacial landscape where northern forest blends with central hardwoods, bordered by Lake Huron, the Saginaw Bay, the Saint Clair River, and Lake Saint Clair. The mission territory of the TLC is Saint Clair, Sanilac, Huron, Tuscola, Lapeer, and Macomb Counties, but we can also work in adjacent areas as opportunities arise. The TLC will seek to work with local partners where our service territory overlaps that of other conservancies and similar organizations.



TLC Purpose and History

The Thumb Land Conservancy was formed in 2008 to provide an organization dedicated to filling the gap of nature preservation in Michigan's Thumb. Although much attention has been given to a few areas near Lake Saint Clair, the Thumb has been largely ignored. In recent years, we are happy to see that some new lands have been preserved, but so much remains unprotected.

There is a popular misconception that little is worth saving north of Detroit because of urban development and agriculture. While much of the landscape has been drastically altered, many high quality natural areas remain. A few places are nearly pristine, resembling conditions that existed before European settlement about 200 years ago.

The extensive destruction of natural areas in the Thumb makes preservation even more critical. Small, degraded fragments can be restored and expanded, and often serve as isolated havens for rare plant species. We believe all natural landscapes are important locally because they reflect a unique combination of history and features particular to that location. Many benefits of nature are obtained and enjoyed only locally. We believe it is especially important for children to have natural areas nearby where they can play, grow, and learn.

We have not forgotten what it's like to see a treasured woods in a neighborhood cut down, or wetlands carved up for more development. The TLC wants to work with any concerned individual before these places are lost.

The TLC is carrying on a legacy in the Thumb. In 1952, Macomb and Saint Clair Counties were the birthplace of what became the Michigan Nature Association, the first statewide land preservation group in Michigan. The MNA was led for many years by the late Bertha Daubendiek of Kenockee Township in Saint Clair County, and is one of a very few organizations that has protected land in the interior of the Thumb, with 18 sanctuaries here. Most of our board members personally knew MNA cofounder Bertha Daubendiek. Some are MNA members and did volunteer work for MNA. TLC President, Cheryl Collins, served on the MNA board from 2003 through 2008.



1970 - The MNA board goes statewide at the office of attorney Frank Giambrone in Mount Clemens. Not exactly a radical looking bunch, but dedicated visionaries. Left to right, front: Bertha Daubendiek, Thelma Sonnenberg, Marie Moran Peter, Julius C. Peter, back: Frank Giambrone, Rita Juckett, and Richard W. Holzman. Photo by Ralph Polovich.

TLC board members have been involved with environmental issues and natural area protection in the Thumb for many years. From 1989 through 2006, as members of the Mill Creek Coalition, we helped protect the Mill Creek, a major tributary of the Black River, from an 18-mile dredging and channelization project. In the 1990's, as members of the Thumb Bioregional Alliance, we opposed development of the roughly 800-acre Wingford Estate along the Black River in the middle of the Port Huron State Game Area, and supported the State of Michigan in protecting the Minden Bog, the upper headwaters of the Black River in Sanilac County, from an expansion of peat mining. Most of the TLC board members were involved in the Painted Trillium Tours in Saint Clair County from 2001 through 2004 and worked to acquire the MNA Sharon Rose Leonatti Memorial Nature Sanctuary in Kimball Township. Bill and Cheryl Collins co-founded the Macomb Land Conservancy in 2000, which merged with the Oakland Land Conservancy to become Six Rivers Land Conservancy. They monitored Michigan Threatened Pitcher's Thistle in Huron County in the late 1990's. As Huron Ecologic since 1998, Bill and Cheryl have defended natural areas across the Thumb on behalf of several citizen groups through the enforcement of State and federal environmental regulations.

In most cases, land that we fought to protect never became available for acquisition. However, we sometimes got to a point where we needed the help of a land conservancy. Lack of a conservancy dedicated to the Thumb proved to be a problem. While a few conservancies based outside the region could acquire land in our area, we have found a general lack of interest as they pursue acquisitions elsewhere. For some time, a local conservancy claimed to exist but never materialized. Finally in late 2007, with the potential of a land donation approaching, we decided it was time to form the TLC. Articles of Incorporation were filed with Michigan in October 2008 and the IRS confirmed the tax exempt status of the TLC in February 2009. Since late December 2008, the TLC has acquired three sanctuaries in Saint Clair County through donation.

Thumb Land Conservancy IRS Tax Exempt Confirmation

INTERNAL REVENUE SERVICE
P. O. BOX 2508
CINCINNATI, OH 45201

DEPARTMENT OF THE TREASURY

Date **FEB 26 2009**

THUMB LAND CONSERVANCY
4975 MAPLE VALLEY RD
MARLETTE, MI 48453-8348

Employer Identification Number:
41-2247569
DLN:
17053358350038
Contact Person:
DEL TRIMBLE ID# 31309
Contact Telephone Number:
(877) 829-5500
Accounting Period Ending:
December 31
Public Charity Status:
~~170(b)(1)(A)(vi)~~
Form 990 Required:
Yes
Effective Date of Exemption:
October 29, 2008
Contribution Deductibility:
Yes
Addendum Applies:
No

Dear Applicant:

We are pleased to inform you that upon review of your application for tax exempt status we have determined that you are exempt from Federal income tax under section 501(c)(3) of the Internal Revenue Code. Contributions to you are deductible under section 170 of the Code. You are also qualified to receive tax deductible bequests, devises, transfers or gifts under section 2055, 2106 or 2522 of the Code. Because this letter could help resolve any questions regarding your exempt status, you should keep it in your permanent records.

Organizations exempt under section 501(c)(3) of the Code are further classified as either public charities or private foundations. We determined that you are a public charity under the Code section(s) listed in the heading of this letter.

Please see enclosed Publication 4221-PC, Compliance Guide for 501(c)(3) Public Charities, for some helpful information about your responsibilities as an exempt organization.

Letter 947 (DO/CG)

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THUMB LAND CONSERVANCY

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Choi". The signature is fluid and cursive, with the first name "Robert" and last name "Choi" clearly distinguishable.

Robert Choi
Director, Exempt Organizations
Rulings and Agreements

Enclosures: Publication 4221-PC

Letter 947 (DO/CG)

Thumb Land Conservancy Articles of Incorporation

BCS/CD-502 (Rev. 12/05)

MICHIGAN DEPARTMENT OF LABOR & ECONOMIC GROWTH BUREAU OF COMMERCIAL SERVICES	
Date Received	(FOR BUREAU USE ONLY)
	OCT 29 2008
	Tran Info: 14361429-1 10/24/08 Chk#: 0199 Amt: \$20.00 ID: CHERYL COLLINS Administrator BUREAU OF COMMERCIAL SERVICES
This document is effective on the date filed, unless a subsequent effective date within 90 days after received date is stated in the document.	
Name: Cheryl Collins Address: 4975 Maple Valley road City: Marlette State: Michigan Zip Code: 48453	
EFFECTIVE DATE:	

Document will be returned to the name and address you enter above.
 If left blank document will be mailed to the registered office.

70398K**ARTICLES OF INCORPORATION****For use by Domestic Nonprofit Corporations**

(Please read information and instructions on the last page)

Pursuant to the provisions of Act 162, Public Acts of 1982, the undersigned corporation executes the following Articles:

ARTICLE I

The name of the corporation is:
 Thumb Land Conservancy

ARTICLE II

The purpose or purposes for which the corporation is organized are:

To implement educational programs of natural history and conservation; Acquire, protect, and maintain natural areas and examples of flora and fauna in the Thumb region of Michigan and adjacent areas; and conduct activities as permitted by the Michigan Nonprofit Corporation Act

ARTICLE III

- The corporation is organized upon a Nonstock basis.
 (Stock or Nonstock)
- If organized on a stock basis, the total number of shares which the corporation has authority to issue is _____ . If the shares are, or are to be, divided into classes, the designation of each class, the number of shares in each class, and the relative rights, preferences and limitations of the shares of each class are as follows:

PK

page 1

ARTICLE III (cont.)

3. a. If organized on a nonstock basis, the description and value of its real property assets are: (if none, insert "none")
none

b. The description and value of its personal property assets are: (if none, insert "none")
none

c. The corporation is to be financed under the following general plan:
grants, fundraising, donations, contributions, and gifts from the general public

d. The corporation is organized on a Directorship basis.
(Membership or Directorship)

ARTICLE IV

1. The address of the registered office is:
4975 Maple Valley Road Marlette, Michigan 48453
(StreetAddress) (City) (ZIP Code)

2. The mailing address of the registered office, if different than above:
_____, Michigan _____
(Street Address or P.O. Box) (City) (ZIP Code)

3. The name of the resident agent at the registered office is:
Cheryl Collins

ARTICLE V

The name(s) and address(es) of the incorporator(s) is (are) as follows:

Name	Residence or Business Address
William Collins	4975 Maple Valley Road, Marlette, MI 48453
Terry Gill	8168 N. Bricker Road, Greenwood, MI 48006
Traci Brown	1707 Whipple Street, Port Huron, MI 48060
Dan Rhein	1327 20th Street, Port Huron, MI 48060

Use space below for additional Articles or for continuation of previous Articles. Please identify any Article being continued or added. Attach additional pages if needed.

ARTICLE VI - EXEMPTION REQUIREMENTS

At all times the following shall operate as conditions restricting the operations and activities of the corporation:

1. No part of the net earnings of the organization shall inure to the benefit of, or be distributable to its members, trustees, officers, or other private persons, except that organization shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in furtherance of the purpose set forth in the purpose clause hereof.
2. No substantial part of the activities of the corporation shall constitute the carrying on of propaganda or otherwise attempting to influence legislation, or any initiative or referendum before the public, and the corporation shall not participate in, or intervene in (including by publication or distribution of statements), any political campaign on behalf of, or in opposition to, any candidate for public office.
3. Notwithstanding any other provisions of this document, the organization shall not carry on any other activities not permitted to be carried on by an organization exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code or corresponding section of any future tax code, or by an organization, contributions to which are deductible under section 170(c)(2) of the Internal Revenue code, or corresponding section of any future tax code.

ARTICLE VII - BOARD OF DIRECTORS

The management of the affairs of the corporation shall be vested in a board of directors, as defined by the corporation's bylaws. No director shall have any right, title, or interest in or to any property of the corporation. the number of directors constituting the initial board of directors is four (4); their names and addresses are as follow:

William Collins, 4975 Maple Valley Road, Marlette, MI 48453
Terry Gill, 8168 N. Bricker road, Greenwood, MI 48006
Traci Brown, 1707 Whipple Street, Port Huron, MI 48060
Daniel Rhein, 1327 20th Street, Port Huron, MI 48060

I, (We), the incorporator(s) sign my (our) name(s) this 18th day of September, 2008.

Traci Brown

Terry A. Diec

William C. Collins

Daniel G Rhein

CONTINUATION SHEET

ARTICLE VII — BOARD OF DIRECTORS, continued

Members of the initial board of directors shall serve until the first annual meeting, at which their successors will be duly elected and qualified, or removed as provided in the bylaws.

ARTICLE VIII — PERSONAL LIABILITY

No member, officer, or director of this corporation shall be personally liable for the debts or obligations of this corporation of any nature whatsoever, nor shall any of the property of the members, officers, or directors be subject to the payment of the debts or obligations of this corporation.

ARTICLE IX - DURATION/DISSOLUTION

The duration of the corporate existence shall be perpetual until dissolution. Upon the dissolution of the organization, assets of the corporation shall be distributed for one or more exempt purposes within the meaning of Section 501(c)(3) of the Internal Revenue Code, or corresponding section of any future federal tax code, or shall be distributed to the federal government, or to a state or local government, for a public purpose.

ARTICLE X - INCORPORATORS In witness whereof, we, the undersigned, have hereunto subscribed our names for the purpose of forming the corporation under the laws of the State of Michigan and certify we executed these Articles of Incorporation this September 18 of 2008.

Trace Brown

Signature (Incorporator 1)

1707 Whipple Port Huron, MI 48060

Address, City, State, Zipcode

Terry A. Dill

Signature (Incorporator 2)

8168 Bricker Rd. Greenwood, MI 48006

Address, City, State, Zipcode

William C. Collins

Signature (Incorporator 3)

4975 Maple Valley Road, Marlette, Michigan 48453

Address, City, State, Zipcode

Daniel & Rhein 1327 20th St Port Huron, MI 48060

Signature (Incorporator 4)

Address, City, State, Zipcode

Thumb Land Conservancy Bylaws

BYLAWS OF THUMB LAND CONSERVANCY

ARTICLE 1 - NAME

Section 1: The name of the organization shall be Thumb Land Conservancy. It shall be a nonprofit organization incorporated under the laws of the State of Michigan.

ARTICLE 2 - PURPOSE

Section 1: Thumb Land Conservancy is organized exclusively for charitable, scientific and education purposes that will benefit the citizens of the State of Michigan. These purposes include:
To preserve natural areas through negotiation, acquisition, obtaining conservation easements and/or securing development rights;
To educate the public on the importance of maintaining natural areas for environmental protection, wildlife habitat, and for enhancing the quality of life of area residents;
And, overall, to promote, preserve, and maintain our resources for the benefit of present and future generations.

ARTICLE 3 - MEMBERSHIP

Section 1: Membership shall consist of the Board of Directors

Section 2: The Board shall have the authority to establish and define nonvoting categories of membership.

ARTICLE 4 - BOARD OF DIRECTORS

Section 1: The Board is responsible for the overall policy, direction of the association property and business of this non-profit charitable corporation shall be managed by the Board of Directors. The Board may have up to seven members but not fewer than four. The Board receives no compensation other than reasonable expenses.

Section 2: Two founding members shall serve a one-year term and two founding members shall serve two-year terms. Thereafter, terms of office shall be for two-years.

Section 3: If for any reason the position of any Director becomes vacant, nominations for new members may be received from present Board members by the Secretary two weeks in advance of a Board meeting. These nominations shall be sent out to Board members with the regular Board meeting announcement, to be voted upon at the next Board meeting. These vacancies will be filled only to the end of the particular Board member's term.

Section 4: During the last quarter of each fiscal year of the corporation, the Board of Directors shall elect Directors to replace those whose terms will expire at the end of the fiscal year. This election shall take place during an annual meeting of the Board of Directors, called in accordance with the provisions of these bylaws.

Section 5: **Election Procedures**

New directors shall be elected by a majority of directors present at such meeting, provided there is a quorum. Directors so elected shall serve a term beginning on the first day of the next fiscal year.

Section 6: **Quorum**

For the purpose of doing business, a quorum shall constitute a majority of Board members.

Section 7: **Meetings, Special Meetings and Notice**

The Board shall meet at least quarterly, at an agreed upon time and place. An official Board meeting requires that each Board member have either written notice at least 10 days in advance unless it is a Special Meeting. Directors may participate in an official meeting by conference call if they are not able to attend in person.

Special Meetings may be called by either the President or three Board members.

Any action by the Directors may be taken without a meeting if all directors thereto give consent and filed by the Secretary in the permanent record of the Board. Verbal consent or electronic mail shall be considered a valid form of written consent for this purpose. Such consent must be reaffirmed at the next meeting of the Board.

The Annual meeting shall be held in the second quarter of the fiscal year at a time and place determined by the Board.

Section 8: **Resignation, Termination, and Absences of Director**

Resignation from the Board must be in writing and received by the secretary. A Director may be dismissed from office by the Board of Directors if three consecutive Board meetings are missed without due cause. The removal of a Director requires a three-fourths vote of the remaining Directors.

ARTICLE 5 - DUTIES OF DIRECTORS

Section 1: **Officers and Duties**

Officers shall be elected annually by the Board of Directors and shall include President, Vice-President, Secretary and Treasurer. All officers shall have a vote on the Board of Directors.

Section 2: **President**

The President shall preside at meetings, work with committees, coordinate strategies of action for the Board to consider, set the agenda for the next board meeting, and represent the Conservancy at public functions, land negotiations, etcetera unless otherwise delegated.

Section 3: **Vice President**

The Vice-President shall assist in the duties of the President and preside in his/her absence.

Section 4: **Secretary**

The Secretary shall be responsible for keeping of records of Board actions, including overseeing the taking of minutes at all Board meetings, sending out meeting announcements, distributing copies of minutes and the agenda to each Board member, and assuring that corporate records are maintained. The Secretary may sign in the name of the corporation for those instances required by law or by position.

Section 5: **Treasurer**

The Treasurer shall make a report at each Board meeting. The Treasurer shall chair the finance committee, assist in the preparation of the budget, help develop fundraising plans, keep track of all assets of the Conservancy, keep a record of all receipts and expenditures and make financial information available to Board members and the public.

Section 6: **Other Positions**

The Board of Directors may establish other officer positions as deemed necessary.

ARTICLE 6 - FISCAL YEAR

Section 1: **Fiscal Year**

The fiscal year shall be the calendar year.

ARTICLE 7 - COMMITTEES

Section 1: **Committee Formation**

The Board may establish committees as needed. Volunteers for committees shall be sought from the general public. Committees shall elect Chairpersons and make recommendations to the Board of Directors.

Section 2: **Executive Committee**

The four officers serve as the members of the Executive Committee. The Executive Committee may meet periodically and discuss recommendations that will be presented to the full Board at either the next regular meeting or special meeting.

Section 3: **Finance Committee**

The treasurer is the chair of the Finance Committee which includes three other Board members. The Finance Committee is responsible for developing and reviewing fiscal procedures, fundraising plan, and annual budget with other Board members. The Board must approve the budget and all expenditures must be within budget. Any major change in the budget must be approved by the Board. Annual reports are required to be submitted to the Board showing income, expenditures, and pending income. The financial records of the organization are public information and shall be made available to Board members and the public.

ARTICLE 8 – BENEFIT

Section 1: **Benefit**

No part of the earnings of the corporation shall inure to the benefit of, or be distributable to its members, directors, officers, or other private persons, except that the corporation shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in furtherance of the purposes set forth in Article 2 hereof. No substantial part of the activities of the corporation shall be carrying on propaganda, or otherwise attempting to influence legislation, and the corporation shall not participate in, or intervene in (including the publishing or distribution of statements) any political campaign on behalf of any candidate for public office. Notwithstanding any other provisions of these articles, this corporation shall not, except to an insubstantial degree, engage in any activities or exercise any powers that are not in furtherance of the purposes of this corporation.

ARTICLE 9 - AMENDMENTS

Section 1: **Amendments**

These bylaws may be amended when necessary by two-thirds of the board of directors.

ARTICLE 10 - PROPERTY HOLDINGS

Section 1: **Holdings**

It will be the policy of the Thumb Land Conservancy not to sell their land once it has been acquired.

ARTICLE 11 - DISSOLUTION

Section 1: **Dissolution**

In the event of dissolution, all debts and liabilities shall first be paid according to their respective priorities. Any remaining assets shall be contributed to a similar non-profit charitable organization which is exempt from income taxes under Section 501(c) 3 of the Internal Revenue Code.

CERTIFICATION

These bylaws were approved at a meeting of the board of directors by a two-thirds majority vote on

Secretary: 

Date: 11-15-08