

Thumb Land Conservancy NEWS

January 13, 2019

TLC 2018 Year-In-Review

2018 was full of stewardship, education, and grant application writing. Following is a summary of our monthly activities.

January

- Completed and distributed the TLC 2017 Annual Report.
- Completed and submitted Michigan Department of Environmental Quality monitoring and stewardship reports for the Dead End Woods Sanctuary and Peltier Beach Ridge Sanctuary in Fort Gratiot, Saint Clair County.
- Completed and submitted the Michigan Department of Environmental Quality 2017 monitoring and stewardship report for the Deerfield Preserve in Huron Township, Huron County.
- Assisted the Port Austin Bible Campus / Michigan House of Hope of Port Austin, Michigan in obtaining firewood in return for their stewardship work for the TLC in 2017.

February

- Drafted project plans and grant application materials for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County.
- Assisted the Port Austin Bible Campus / Michigan House of Hope of Port Austin, Michigan in obtaining firewood in return for their stewardship work for the TLC in 2017.

March

- Held the first quarter executive board meeting at the home of Dorothy Craig in Fort Gratiot Township, Saint Clair County.
- Volunteers cut invasive Japanese Barberry and Multiflora Rose on the 12-acre Deerfield Preserve in Huron Township, Huron County, west of Port Hope.
- Drafted project plans and grant application materials for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County. Contacted potential project partners and funders.

April

- Prepared presentation on Michigan Endangered Painted Trillium for the Saint Clair County Earth Fair.
- Participated in the 2-day Saint Clair County Earth Fair at the Goodells County Park with partner organization Clyde Historical Society.
- Completed project plans and grant application materials for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County. Contacted potential project partners and funders.

May

- Pulled invasive Garlic Mustard at the 17-acre Dead End Woods Sanctuary in Fort Gratiot, Saint Clair County.
- Pulled invasive Garlic Mustard at the Port Huron State Game Area in Clyde Township, Saint Clair County.
- The Port Huron Times Herald featured our May 26 Port Huron State Game Area Garlic Mustard pull:
<https://www.thetimesherald.com/story/news/local/2018/05/26/volunteers-yank-invasive-weed/647418002/>

- Completed grant applications for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County. Contacted potential project partners and funders.

June

- Held the second quarter executive board meeting at the home of Terry Gill in Greenwood Township, Saint Clair County.
- Cut and burned invasive Japanese Barberry and Multiflora Rose on the 12-acre Deerfield Preserve in Huron Township, Huron County, west of Port Hope.
- Pulled invasive Garlic Mustard at the 17-acre Dead End Woods Sanctuary in Fort Gratiot, Saint Clair County.
- Completed grant applications for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County. Contacted potential project partners and funders.

July

- Held the first annual Thumb Land Conservancy Yard Sale at the Yale Bologna Festival, City of Yale, Saint Clair County.
- Conducted monitoring and vegetative sampling on the 12-acre Deerfield Preserve in Huron Township, Huron County, west of Port Hope.
- Cut invasive Japanese Barberry and Multiflora Rose on the 12-acre Deerfield Preserve in Huron Township, Huron County, west of Port Hope.
- Completed grant applications for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County. Contacted potential project partners and funders.

August

- Coordinated purchase offers for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County. Contacted potential project partners and funders.

September

- Held the third quarter executive board meeting at the home of Dorothy Craig in Fort Gratiot Township, Saint Clair County.
- Cut invasive Japanese Barberry and Multiflora Rose on the 12-acre Deerfield Preserve in Huron Township, Huron County, west of Port Hope.
- Conducted monitoring and vegetative sampling on the 12-acre Deerfield Preserve in Huron Township, Huron County, west of Port Hope.
- Cleaned and repaired the historic North Street rail station, post office, and general store in Clyde Township, Saint Clair County.
- Coordinated plan for GIS mapping project of Thumb natural areas.

October

- Cleaned and repaired the historic North Street rail station, post office, and general store in Clyde Township, Saint Clair County.
- Completed baseline monitoring and drafted agreements for proposed Harsens Island preserve donation, Saint Clair County.
- Completed grant applications for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County. Contacted potential project partners and funders. Coordinated purchase offers.

November

- Completed grant applications for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County. Coordinated purchase offers.

December

- Drafted the Michigan Department of Environmental Quality 2018 monitoring and stewardship report for the Deerfield Preserve in Huron Township, Huron County.
- Completed grant applications for the proposed Southern Lake Huron Coastal Park land acquisitions in Burtchville Township, Saint Clair County.

Three New Preserves in Saint Clair County

Back in July of 2016 I informed you of three new preserves to be established by the Saint Clair County Drain Commissioner as mitigation for permitted wetland impacts for the Stocks Creek Drain Project in Kimball Township. A few months ago, the conservation easements were finally approved by the Michigan Department of Environmental Quality and recorded at the Saint Clair County Register of Deeds. Formal protection of these sites was a long time coming, dating back to 2012. The three new preserves are 70 acres in total, containing about 36 acres of wetland preserved as mitigation for about 4.5 acres of impact to very low quality wetlands in the Stocks Creek Drain Project, much of it consisting of ditches and areas dredged years ago. I worked as the wetland consultant to the Drain Commissioner on this project, advising on wetland impacts and coordinating the mitigation agreement with the MDEQ.

The 30-acre Marzolf Preserve is located north of Lapeer Road and west of Range Road in Kimball Township, adjacent to the south side of the 10-acre Sharon Rose Leonatti Memorial Sanctuary, owned by the Michigan Nature Association. The addition of the Marzolf Preserve has effectively created a 40-acre preserve containing a high-quality complex of northern upland and southern swamp forest, complete with ancient tip-up mounds, Michigan Endangered Painted Trillium, and other significant species. Walking through this preserve is about as close as you can get to the primeval forest that covered the Port Huron area before European settlement.



Marzolf Preserve outlined in yellow. A small addition in the northeast has since been added.

The 20-acre Shorewood Forrest Preserve is located at the southeast corner of Parker Road and Brace Road in Fort Gratiot Township, the north end of an 80-acre parcel. The remainder of this parcel and another 80-acre parcel along the west side of the Shorewood Forrest subdivision are to be preserved as wetland mitigation for future projects. The Shorewood Forrest Preserve is just a small portion of the unique beach ridge and swale complex, a series of parallel sand ridges and muck wetlands covering an approximately mile-wide swath along Lake Huron from Fort Gratiot into Sanilac County. The landscape began forming about 4,500 years ago as the high water of post-glacial Lake Nipissing receded due to the rapid down-cutting of the new Saint Clair River. At the same time, the earth's crust rose, having been depressed by the weight of ice during the last glacial advance, and is still rising slightly. The continued rise of the land and lowering of the Great Lakes left a series of dry upland sand ridges and mucky wetland troughs or swales between. 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, including 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 that move and nest along the coastline.



Two 80-acre Shorewood Forrest parcels outlined in yellow. Other conservation easements outlined in blue (Lake Huron Woods Presbyterian Village at lower right). North 80-acre parcel with wetland shown at right.



20-acre Shorewood Forrest Preserve outlined in yellow.
Wetland in blue.

The 20-acre Water Works Preserve is located east of the Detroit Water intake plant, south of Metcalf Road and north of Brace Road in Fort Gratiot Township. The Water Works Preserve is also part of the beach ridge and swale complex along Lake Huron, and is adjacent to the south end of the 11.5-acre TLC Peltier Beach Ridge Sanctuary, effectively creating a 31-acre preserve in that area. While more degraded than the Shorewood Forrest Preserve, the Water Works Preserve also contains uncommon species like Purple-flowering Raspberry, Yellow Lady-slipper orchid, Eastern Hog-nosed Snake, and Blue-spotted Salamander, and equally important for migratory birds. The preserve also contains a portion of the large sand ridge that marks the west edge of this landscape in Saint Clair County, extensively mined for sand decades ago. This is the same huge sand ridge that extends through Lakeside Cemetery and all the way to the Blue Water Bridges in Port Huron.



Spring Just a Few Weeks Away. Really.

It can be hard to imagine in the middle of January, but spring will be here again in only 8 or 9 weeks, officially 10 weeks. If anything like last winter, it will show up in mid-February before going back to winter again, but who knows anymore. As usual, the TLC has a lot of work planned for spring. Stewardship is at the top of the list. Below is a list of our plans so far. If you are interested in participating, please contact us:

March

- Deerfield Wind Energy Preserve Japanese Barberry control

April

- Deerfield Wind Energy Preserve Japanese Barberry control
- Friends of Beard's Hills litter clean-up
- Saint Clair County Earth Fair
- North Street Station clean-up and restoration

May

- North Street Station clean-up and restoration
- Port Huron State Game Area Garlic Mustard removal
- Dead End Woods Sanctuary Garlic Mustard removal

Lake Huron Coastal Park Project

Burtchville Township, Saint Clair County

The TLC continues to work on possible land acquisitions in Burtchville Township, Saint Clair County, that would be part of the proposed Southern Lake Huron Coastal Park. We have been completing grant applications, contacting potential project partners, and coordinating three purchase offers with real estate agent, David Ladensack of Summit Realty in Fort Gratiot. The proposed acquisitions would protect key properties needed to connect Port Huron to Lakeport State Park through an approximately 4.5-mile coastal park located on the beach ridge and swale complex. If you are interested in helping with this project, please contact us.



Ecology News

Edge Populations Important For Species Diversity

Agencies and organizations tracking rare species give consideration not only to total abundance of a species, but to the distribution of a species across its range in determining whether it should be protected in a particular state, province, or other region. So, for example, while Fragile Prickly Pear cactus is an Endangered species in Michigan, at the eastern edge of its range, it is not protected throughout most of the central and western United States and Canada where it is widespread. Similarly, Bunchberry, Blue-bead Lily, Silky Dogwood, and Northern White-cedar are Endangered species in Indiana, but widespread in Michigan and into northern Canada. The vast majority of protected species are rare no matter what region, so don't get the wrong idea. And as we sometimes read, the protection of species can be highly political. Pure ecological rankings are not political, but based on our best scientific understanding.

Prior to recent years, the importance of species on or near range edges seems to have been more an assumption based on a few limited studies. As the article below mentions, biologists have long debated how much effort should be dedicated to conserving edge populations. Isolated populations can be genetically lacking, or depauperate, due partly to inbreeding. But other populations have been shown to possess unique physical and genetic attributes that may be critical to the survival of the species as a whole. With growing concern about global warming, some have argued that populations at northern range edges may be especially well suited to lead northward expansions of their species as the current range becomes intolerable.

With the advent of much improved genetic analysis, understanding, and field techniques, the importance of edge populations is now being more fully revealed, sometimes with surprising details. Ecologists with McGill University and Queens University spent three years in the Rocky Mountains of Alberta planting more than 20,000 seeds of *Rhinanthus minor*, known as Yellow Rattle, at higher elevations to determine whether plants from the highest natural colonies are better suited to spread to even higher elevations. In essence, they wanted to find out if certain colonies or populations were better adapted to a colder and shorter growing season that would exist at higher latitudes. This will be important for the survival of many species if global warming continues and it becomes necessary to move them, or otherwise assist a rapid northward migration.

To test whether cool summers prevent Yellow Rattle from growing at higher elevations, the researchers enclosed some planting sites with plastic cones that warmed the air and soil like min-greenhouses. Their findings show that cool summers currently limit Yellow Rattle from growing at higher elevations. More importantly, they found that plants from the highest natural colonies actually are better adapted to the cooler high-elevation summers. These plants flower earlier and produce seeds where plants from lower elevations fail. This means that, for Yellow Rattle at least, the plants from the highest range edge are, in fact, best suited for a northward migration of the species. This seems to be more evidence of what plant people have generally observed for years. Plant stock from Georgia, for example, is probably not going to grow as well in Michigan as native stock from Michigan, at least for the reason that it's not adapted to our climate. It may be that stock from Ohio may not do as well, and sometimes even shorter distances make a difference.

However, the experiment also yielded a surprising result. The researchers found that a high-elevation "super edge population" of Yellow Rattle from a particular mountain outperformed all other populations in natural and warmed plots, both at and above the natural high-elevation range edge. This superior genetic trait was not found in other populations only one kilometer away. The conclusion is that potentially important genotypes can get trapped in isolated edge populations. They are not always genetically depauperate, but may have taken some of the best attributes of the species with them. Kind of like people, groups can accomplish great things cooperatively, but sometimes that one loner makes a contribution

that changes everything. The researchers say that this study shows an unexpected pattern that biologists need to consider, and that facilitating gene flow across edge populations might help them cope with environmental change.

I believe this discovery further strengthens my argument that local populations are important simply because they most truly represent the natural history of an area. They are a product of their location as no other population could be. I've attributed this to more of an aesthetic value while believing that science would eventually bear it out.

<https://www.mcgill.ca/newsroom/channels/news/importance-edge-populations-biodiversity-292538>

Over 10,000 Acres Preserved by Cleveland Museum of Natural History

Since 1956, the Cleveland Museum of Natural History has preserved more than 10,000 acres of natural areas in northern Ohio as examples of the area's geologic and natural history. The museum now has 58 preserves in ten counties. This is a great achievement and something that every museum of natural history should be doing.

As I learned from my early days teaching nature at Silver Trails Scout Reservation near Jeddo, collections and displays of nature indoors can be helpful, but the real classroom is outdoors. Without natural areas and the ability to interpret them, we really have very little to teach.

A few years ago I attempted to start a similar program focused on natural areas with the Port Huron Museum, but there seemed to be little interest. Our proposed Southern Lake Huron Coastal Park would be a great fit for the museum. It may not look like it sometimes, but the Thumb has a lot of unique and exemplary natural areas that should be available for learning and enjoyment. If you are interested in working with local museums to start this type of natural areas program, please contact us.

https://www.cleveland.com/opinion/index.ssf/2019/01/cleveland_museum_of_natural_hi.html

2019 TLC Membership

Since our formation in 2008, the TLC has been informal about its membership requirements. We had hoped to offer more membership benefits, but have not been in a financial and administrative position to do so. With your help, we can change that, and as we build our membership, the TLC will be better enabled to protect important natural areas in our region.

We offer three membership levels as shown below: Individual \$25, Family \$30, and Business \$100. Members will receive our e-mail news. Some of you are members based on your previous donations, volunteer efforts, or other help, and so will continue to receive our e-mail news. Otherwise, if we have not heard from you in a long while, you will likely be removed from our membership list. If you wish to continue receiving the e-mail news but cannot financially justify paying for a membership, please contact us.

You can also make donations in honor or memory of someone or something. For donations of \$100 or more, your name will be listed on our web site. For larger donations, please contact us for details. You may print and complete the form below. Make checks payable to "Thumb Land Conservancy". Mail checks and forms to: Thumb Land Conservancy, 4975 Maple Valley Road, Marlette, Michigan 48453

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