

The Lakeshore Guardian, 2010 August
Thumb Habitats
New Thumb Land Conservancy Sanctuary
by Bill Collins

My blood pressure was down at my last doctor visit. Apparently my swim in Lake Huron and time at the beach with my wife the day before did some good. It is wonderful to get back to the water at least once a summer. The Thumb is blessed to have the magnificent Lake Huron shoreline. The Great Lakes and all waterways that flow to it deserve every bit of protection we can give.

On June 28, the Thumb Land Conservancy received donation of its third nature sanctuary since forming in late 2008: 11.5 acres of beach ridge and swale forest about a half-mile inland from Lake Huron in northern Fort Gratiot Township in Saint Clair County. The land is located a quarter-mile south of Metcalf Road, east of the Detroit Water intake facility.



Thumb Land Conservancy Peltier Beach Ridge Sanctuary outlined in yellow.

Those living near Lake Huron are probably familiar with the sand ridges and swales (low troughs between) that parallel the shoreline from Port Huron up through southern Sanilac County, the Forester area, and from the tip of the Thumb along Saginaw Bay where they become wind-blown dunes. Like the annual rings of a tree, each ridge and swale is a record of our shoreline's ancient past. About 11,500 years ago, as the last glacier melted back, early Lake Huron was about 30 feet higher than today, extending up to two miles inland from the present shoreline around the Thumb and about 30 miles southwest from Saginaw Bay. Then 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 great pyramids of Egypt were completed and the drainage outlet from Georgian Bay raised such that early Lake Huron again filled 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 to the Saint Clair River which rapidly downcut and lowered the Great Lakes to modern levels, leaving a series of beach ridges as the water dropped.



TLC Peltier Beach Ridge Sanctuary outlined in yellow on 1998 infrared aerial photograph. Inset map shows upland sand ridges marked by "R" and wetland muck and mucky sand swales marked by "S". Landscape continues north and south with exceptional ridges and swales north of Metcalf Road. Michigan Department of Natural Resources, Aerial Imagery Archive.

Much of the landscape was impacted years ago by forest clearing, livestock grazing, and sand mining, but remains home to several unique species. These include Purple-flowering Raspberry, the LP's equivalent of the UP's Thimbleberry and probably native to only seven of Michigan's 83 counties, Yellow Lady's-slipper orchid, Pink Lady's-slipper orchid, the Eastern Hog-nosed Snake, and an abundance of warblers and other migratory birds that move along the shoreline.

Ray and Nancy Peltier of Fort Gratiot Township donated the land to the TLC as part of a wetland permit agreement with the Michigan Department of Natural Resources and Environment. The permit allows filling of slightly over a half-acre of State-regulated wetland for future development by Dr. Syed L. Husain Hamzavi of Hamzavi Dermatology in Fort Gratiot. Dr. Hamzavi paid the Peltiers to place a conservation easement on their land in order to obtain his wetland permit.



Wetland swale on Peltier Beach Ridge Sanctuary. Photograph by Bill Collins.

About 6.3 acres or 55% of the preserve is wetland, being the low muck-covered swales between the upland sand ridges. For wetland impacts over one-third acre, the MDNRE requires mitigation to replace the wetland destroyed. Mitigation can be constructed by digging out upland to capture surface water or expose groundwater, placing topsoil in the excavation, and planting wetland species. The MDNRE typically requires a 1.5 to 1 replacement ratio, meaning for every acre of wetland destroyed, 1.5 acres must be created.

Another mitigation option has become popular in the past few years with lower land prices. Instead of building artificial wetland, which can be expensive and often fails, natural wetland can be preserved at a 10 to 1 ratio. For each acre of wetland destroyed, 10 acres is preserved. This does not replace wetland, but removes development pressure from wetland that might otherwise be destroyed. As a consultant, I have been involved with several mitigation sites like this, resulting in preservation of well over 100 acres of natural wetlands, including the TLC's new sanctuary.

One catch with preservation is that the wetland must be determined to be high quality by the MDNRE. This requires up-front analysis of the vegetation, landscape and wetland functions. The MDNRE is interested in relatively undisturbed wetland communities with abundant presettlement vegetation, or communities that support rare species. Great Lakes marsh, lakeplain prairie, and bogs are obvious candidates. All of my projects have involved the beach ridge landscape along Lake Huron, or mature southern swamp with northern forest uplands supporting Michigan Endangered Painted Trillium.

Ironically, the lack of permitted wetland destruction in the past few years has provided less opportunity to protect wetland. With development way down, there are few wetland permits and so less need of mitigation. Opportunities still arise and landowners who are prepared can get paid to preserve their wetland.

2026 Note: State wetland regulation was originally under the jurisdiction of the Michigan Department of Natural Resources from 1980 through about 1994. The wetland program was then transferred to the Michigan Department of Environmental Quality in 1995 until it was transferred to the short-lived Michigan Department of Natural Resources and Environment in 2009. Jurisdiction was again transferred in 2019 to the Michigan Department of Environment, Great Lakes, and Energy.