

Recent Projects and Problems of the Michigan Karst Conservancy

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Abstract

Michigan Karst Conservancy was founded in 1983, bought their first property in 1987 (480-acre Fiborn Karst Preserve) and their second in 1990 (28-acre Stevens Twin Sinks Preserve). An additional 2.5 acres including the Bruski Sink was donated to add to the latter in 1997. A Landowner Liaison Program is attempting now to encourage future acquisitions. Most regular activities are concerned with management of the current preserves, with the development of interpretive trails, informative displays, research projects (geological and historical), and community outreach. In 1996 Michigan Karst Conservancy joined with the Northeast Michigan Karst Aquifer Protection Plan (a "319" project under the federal Clean Water Act), to conduct trash cleanouts, fencing, and diversion of flow and sediments at the Stevens Preserve, and in 1997 established an MOU with the Hiawatha National Forest to conduct a karst feature survey on a portion of the Niagaran Escarpment in Michigan's Upper Peninsula, and for the littoral caves in sandstone around Grand Island. Information about Michigan Karst Conservancy projects is on their web site at <http://www.caves.org/conservancy/mkc/>

Significant problems Michigan Karst Conservancy is trying to address are cultivating new, dedicated, volunteers to grow into the organization, to eventually replace the founders and early members that now form most of the board and active participants, to increase our outreach activities with communities in which our Preserves are located, and to find volunteers to assist in Preserve acquisition and management.

The Michigan Karst Conservancy was one of the early cave and karst conservancies founded on the "land trust" model—a private, non-profit organization, dedicated to the protection of caves and karst by means of direct purchase or by otherwise controlling land use with easements or leases. Our history and activities were described in a presentation at the 1995 National Cave Management Symposium, at a time when there were only a few conservancies actively seeking ownership of cave or karst preserves. (See "The Michigan Karst Conservancy: a Land Trust Approach to Cave Management," in the Proceeding of the 1995 Symposium.) In the four years since then the cave and karst conservancy movement has been growing rapidly, to the point where it is difficult to keep track of the new conservancies and their variety of purposes, organization, and activities. The best source of information about this is now

being maintained by the Conservancies Committee of the National Speleological Society, accessible at <http://www.caves.org/preserves/>. This account will be about recent activities of the Michigan Karst Conservancy, as being of potential value to other cave and karst conservancies that are being founded or as they choose their programs.

Landowners Liaison Program

Michigan Karst Conservancy owns just two preserves, as we did in 1995—the Fiborn Karst Preserve and the Stevens Twin Sinks Preserve. While Michigan is not a state with many caves, the Michigan Karst Conservancy board some years ago adopted a priority list of ten cave and karst sites for which we would try to acquire titles or easements. The Landowner Liaison program sends letters to the owners of these

sites approximately annually to keep them informed about the Conservancy, and also to send them information about karst and caves and land use issues (especially groundwater protection) related to these features. It is hoped, of course, that when they might want to sell their land that they will keep the Michigan Karst Conservancy in mind. We would much prefer a donation of land, but karst areas in Michigan are rural farming (or forested) areas and the equity of landowners is primarily in their land. Seldom is there a great tax advantage for these landowners to donate.

Preserve Management Activities

It is our purpose to keep our karst preserves as natural as possible while providing educational opportunities for the public. The following are the activities we have conducted at our two preserves:

Fiborn Karst Preserve is a 480-acre site containing Michigan's most significant (currently known) limestone caves. It is located on the Niagaran Escarpment between a higher ancient post-glacial bog and an alluvial lowland. An abandoned 80-acre quarry, and parts of the now ghost town of Fiborn Quarry (1907-1939), are also on the land. One weekend a month, from spring to fall, is devoted to trail maintenance and other management work at the Preserve. We also offer public tours of the Hendrie River Water Cave. An annual Geology and Hydrology Field Trip was begun in 1997, which has been quite popular. A Neighbors Get-Together is scheduled in August, attended by Michigan Karst Conservancy members, former residents of the old town of Fiborn Quarry (1907-1939), and current residents from the surrounding communities. Besides being enjoyable social events, these help maintain our association with many people with an interest in, or whose lives have been associated with, the Fiborn Quarry area.

Modest scientific efforts also continue on the Preserve, such as studies of its small-mammal population (including bats), hosting a field trip from a Natural Areas Association Conference, providing assistance for a project surveying endangered or threatened dragonfly populations in the Upper Peninsula of Michigan, and most recently the start of a Fiborn Karst Origins Project, to attempt to document the chronology and causes of the development of this very rare (for Michigan), apparently post-glacial, karst area and its caves. The most extensive project has been the Fiborn History Project, devoted primarily to the industrial and personal histories of Fiborn Quarry itself and their

relation to and effects upon the caves, which is now documented at the Michigan Karst Conservancy web site (<http://www.caves.org/conservancy/mkc/>), on an outdoor exhibit of six large panels with photographs and text at the Emma Kalnbach Pavilion (Emma was the last teacher at the Fiborn Quarry school, and a member of Michigan Karst Conservancy prior to her death in 1995), and in a paper presented at this symposium (M. Warner, "Site History as an Asset in Preserve Management").

The primary management problem at the Fiborn Karst Preserve is to control unauthorized visits to Hendrie River Water Cave, which are potential sources of damage to the cave and surroundings and of accidents to very poorly equipped and informed people. The area is remote and cannot be regularly patrolled, so catching trespassers is very difficult. The trespass problem has even resulted in our discovering a new but well-worn trail to the cave, created by trespassers in 1999.

Stevens Twin Sinks Preserve consists of about 30 acres near Alpena in northeast Michigan on which are three deep (up to 30 meters) and impressive sinkholes, which resulted from collapse into large cavities dissolved out of evaporites situated below limestones, at depths of about 300 meters. The sinkholes are deep enough that a different plant community, more representative of areas to the north in Canada, has developed on the sinkhole floors, due to the delayed spring and the early fall microclimates.

The Preserve land was purchased with two ("twin") sinkholes, and the adjacent Bruski Sinkhole was donated to the Michigan Karst Conservancy in 1996. An interpretive trail has been laid out, but a lack of volunteers to help develop the trail and its interpretive material has slowed making this Preserve more accessible to the public. It may also be fairly said that there is less interest in this Preserve by many active members the Conservancy that are more interested in the caves at Fiborn. Consequently more effort has been devoted to developing a locally-based Preserve Committee, although this has recently floundered as initial local enthusiasm waned.

In 1993 a Northeast Michigan Karst Aquifer Protection Project was established with the nearby Presque Isle County Conservation District, with funding from the EPA "319 Project" (non-point source water pollution), under the Clean Water Act. The purpose has been to divert, treat, or mitigate groundwater pollution that has been occurring due primarily to farm operation runoff into sinkholes. Michigan Karst Conservancy has become a participant in this

project, with runoff diversion channels and filter areas being constructed in 1998 to prevent the erosion and transport of sediment into the sinkholes from adjacent farmland. In 1999 the project has been extended to begin the cleanup of a century or more of trash deposition into Bruski Sinkhole (located conveniently at the intersection of two country roads), and the fencing of the sinkhole to deter further dumping. The 319 Project pays 75% of the cost of these improvements: the 25% Michigan Karst Conservancy share has been covered by a grant from the Northeast Michigan Community Foundation, credits for the labor of volunteers and for the donation of the use of a large crane (and operator) for the cleanup, and by a donation from the Michigan Interlakes Grotto of the National Speleological Society.

Assisting Other Agencies

The cooperative 319 Project with a county agency has just been described. Michigan Karst Conservancy was also recently a participant with several state agencies in developing a management plan for an area known as Simmons Woods in the Upper Peninsula. This was a 10,000-plus acre site fronting on Lake Michigan which The Nature Conservancy bought from a steel company that had held the land because it is underlain by the Engadine Dolomite (a potential steel making flux rock), and transferred to the Michigan Department of Natural Resources. The Nature Conservancy was interested primarily in the plant communities that are associated with the beaches, but the whole area is a thinly mantled karst with forests, fields, and lakes, as well as much bare karst pavement. A cave with an entrance adjacent to the property presumably continues into Simmons Woods, although its course has not been determined.

An even larger project was begun in 1997 with the establishment of a Memorandum of Understanding between Hiawatha National Forest and Michigan Karst Conservancy, for us to coordinate a Hiawatha Forest Karst Survey Project. While two volunteer survey teams were immediately created and given areas of the Forest to survey for karst features and endangered or threatened plants, in this case volunteerism faltered and these first teams have not gotten into the field. We are attempting to reinvigorate this project, although it does face some impediments, in that what cavers call "ridge walking" is here more like "swamp slog-ging," and with no as-yet known caves in the Forest, the attraction to cavers is somewhat minimal.

However an offshoot of the Hiawatha Forest Karst Survey Project arose in 1998 when the Forest Service widened a road on Grand Island, a National Recreation Area in Lake Superior, and altered some sandstone overhangs (related to the impressive features of the nearby Pictured Rocks National Seashore). A flurry of local activism arose, which led Michigan Karst Conservancy to get involved when we pointed out the existence of the Federal Cave Resource Protection Act, which applies also to "recesses"—even in sandstone. A reconnaissance trip was conducted to the island that year, and in 1999 the Michigan Interlakes Grotto took on a survey of the littoral ("sea") caves around the island as a project on behalf of the National Forest, conducting their own reconnaissance of part of the shoreline in 1999 (described at <http://www.caves.org/grotto/mig/>).

Future Directions

This report of Michigan Karst Conservancy activities may well be the last one at a National Cave and Karst Management Symposium, as our activities become dwarfed by other land trust cave conservancies elsewhere, such as the magnificent efforts of the new Southeastern Cave Conservancy, reported upon at this symposium. However, regardless of size, all cave and karst conservancies will at some point be struggling with some of the same issues Michigan Karst Conservancy faces. These include:

Aging of the founders: almost all cave and karst conservancies in the USA today are still being managed primarily by their founders. It is a serious challenge for them to develop the "new blood" leadership that will have the enthusiasm of those that came before. This can be particularly difficult for Michigan Karst Conservancy, not having a large number of caves in the state to help recruit interested cavers, while also not having a very prominent extent of public interest in karst, needed to recruit from citizens not specifically interested in caves.

Shift from participant to institutional boards: people who follow the evolution of non-profit charitable corporations observe a general pattern. The earliest boards consist of active participants in the group's activities, although they often mostly do not have particular knowledge or skills in business, law, finances, corporate management, public relations and fundraising - the skills most essential to maintaining an effective organization. In time, though, most such corporations move their active participants from their boards to be executives or staff, and acquire on their boards individuals with the supportive professional

and resource skills that are needed. This has been recognized for a long time by the Land Trust Alliance (association of land trusts, <http://www.lta.org>) to be a difficult transition, which is however made easier by the extent to which a participant board engages in introspection and board development activities.

Developing citizen volunteers: even the best board and officers will not make a charitable non-profit function effectively if they do not have volunteers to carry out the tasks of the organization. Often, the board and officers *are* the volunteers! But there is a much larger group of publicly spirited citizens in any community who will volunteer for causes if they are convinced they are worthwhile. Cave conservancies have little experience in cultivating and leading such citizen volunteers. Few have a "volunteer development function" within their organization, as does The Nature Conservancy.

It is immensely satisfying to be in at the beginning of a worthwhile effort. The problem we all face in this new era of cave and karst conservancies is to provide for the continuation of our dreams *in perpetuity* - a time scale

about which few people think when they are up to their ears in the challenges of the day. Michigan Karst Conservancy took one step toward *in perpetuity* in 1995 by placing part of our Endowment Fund with the Community Foundation of Northeast Michigan. In this arrangement, the principle of the investment is transferred *in perpetuity* to the Community Foundation, but a donation is matched by the State with a tax credit, in addition to having federal tax deductibility. The effect is that, while the principle cannot be recovered, the return to Michigan Karst Conservancy from the net donation can currently approach 23% per annum.

There are a lot of resources available to cave and karst conservancies, especially joining with other types of conservancies and their national organization, the Land Trust Alliance, or local consortiums of "land trusts," provided in Michigan by an annual Michigan Land Trust Conference. The problem is to seek out and draw upon those resources, while not losing our enthusiasm for the very specific knowledge and goals of cave and karst protection.