Geoheritage: Getting to the Bottom of All That Scenery

Professor of Geological and Mining Engineering and Sciences Bill Rose may have retired from teaching at Michigan Technological University, but he has hardly retired from teaching. Instead, this longtime IRKPA life member has embraced the opportunity to share the extraordinarily rich geoheritage of the Keweenaw and Isle Royale with a broader audience. Geoheritage, or geologic heritage, is a relatively new holistic concept combining education, protection of geologic resources, and sustainable development that is spreading worldwide. Geoparks, which are globally significant geologic areas managed at the local/regional level but recognized by the United Nations, are the most prominent example of the concept.

According to the National Park Service’s working definition, “Geologic heritage encompasses the significant geologic features, landforms, and landscapes characteristic of the United States which are conserved in consideration of the full range of values that society places on them, including scientific, aesthetic, cultural, educational, recreational, commercial/tourism, and other values, so that their lessons and beauty will remain as a legacy for future generations.”

In that spirit, Rose has developed an information-rich website that aims to educate residents and visitors about dozens of geoheritage sites to visit in person or from a distance, found by searching on “Keweenaw Geoheritage.” Together, these sites tell the story written in the rocks and landscape features over the past billion years or so.

“I taught at Michigan Tech for 43 years, from 1970 to 2012,” says Rose. “I took hundreds of students outside and found many special educational places that teach about how the Earth works. This led to a lot of knowledge of outdoor places, and the Keweenaw and Isle Royale are very rich in geoheritage, a word we use to describe places that communicate between the Earth and people, places where the planet shapes our lives.”

The smartphone-friendly Keweenaw Geoheritage website has GPS locations, maps, video, aerial photos and information on more than 200 locations in the Keweenaw and Isle Royale. It revolves around five main themes: Lavas and the Continental Rift, Red Sediments and Filling of the Hole, The Keweenaw Thrust Fault, Massive Ice Sheets and The Feel and Look of the Lake. Rose developed the site when he realized that many people never acquired a basic knowledge of Earth science.

“A lack of public understanding of the Earth is a widespread problem—maybe worse in the US than many other places. Issues like global warming, natural hazards, natural resources, and energy needs are widely misunderstood by the public and politicians,” he says.

“This creates unnecessary friction and destructive arguments.

“As geoscientists, it is our fault not to have more broadly explained these things. But we do live with them around us, and if we go outside and look more, understanding will grow. I see my grandchildren spending lots of time with their cell phones and TV, but I want them to go out and look at the world—especially here, where it is so beautiful and illustrative.”

Rose also designed guided field trips for the public this summer through the Western Upper Peninsula Center for Science, Mathematics and Environmental Education and led an in-depth, week-long course last summer with Isle Royale and the Keweenaw as the classroom. More than 60 people participated in IRKPA’s 2013 annual meeting cruise of the Keweenaw Waterway that Bill co-narrated with historian Larry Lankton.
From the 1890s to the 1920s, a largely Scandinavian commercial fishing community grew on Isle Royale to about seventy-five families. Many continued to fish for decades. Families intermarried and moved from site to site. So it was that Swedish-born Holger Johnson, Sr., came to Chippewa Harbor in 1904 with his father, Mike, and uncle, Sam, to establish a commercial fishery. Mike then purchased the site now known as the Edisen Fishery near the Rock Harbor Lighthouse from Louis Mattson and John Anderson in 1905. The family fished both locations.

After Holger married Lucy Sawyer, they settled in 1914 into an existing Chippewa Harbor cottage, used by many fishermen before them, to raise their seven children. Because they overwintered on the island, a schoolteacher lived with the family each year from 1932 to 1936, starting with Dorothy Peterman Simonson of The Diary of an Isle Royale School Teacher fame. The Johnsons’ commercial fishing operation continued until 1954, shortly after Holger’s death. However, the Chippewa Harbor Johnsons weren’t known only for fishing.

In the early 1900s, “cottagers” and tourists began to travel to Isle Royale from cities like Chicago, Minneapolis, St. Paul, Omaha, and Duluth for outdoor recreation and relief from hay fever. To accommodate them, rustic resort hotels and cabins sprang up in Washington, Rock, and Tobin Harbors.

In 1930, the Johnsons added on to the Chippewa Harbor log cabin that Lucy’s father, George Sawyer, had built and occupied. It was the beginning of a resort with dining room and store known at various times as Isle Royale Supply, Johnson’s Store, and Johnson Resort. The resort added a public dock and five rental cabins in the 1930s to the ones family members already occupied. Offering simple home-cooked meals, lodging, dining, guide services, and fishing trips, the resort in its beautiful natural setting attracted many repeat visitors—and also supplemented the family’s income.

Another interesting part of the family’s history is Holger Johnson’s role in moose management on the island and Michigan’s Upper Peninsula. Without natural predators on Isle Royale, moose numbers grew to about 3,000 by the 1930s, more than the habitat could support. Holger radioed the Michigan Department of Conservation in winter 1932-33 to express his concern about die-offs from the lack of browse. He offered to corral and crate moose for transport to the UP, where moose had nearly died out.

Between 1934 and 1937, 69 Isle Royale moose were released in the UP, with two more going to the Detroit Zoo. The mainland moose numbers didn’t increase as much as hoped, so about 60 more were transplanted in the 1980s from Ontario. Even so, it’s likely that descendents of those Chippewa Harbor moose still roam the wild UP. It’s just another example of the intertwined natural and human histories so characteristic of Isle Royale.
Geoheritage, from p. 1

Other related outreach includes developing EarthCaches (www.earthcache.org), City of Houghton Geo-Walk signs, and a Boulder Garden on the Michigan Tech campus with examples of all major rock types found on the peninsula.

“Many people know very little about the geosciences. Having resources like this website available to the public can really go a long way in helping people to learn more about the natural and human history of their local area,” says Jackie Huntoon, associate provost and dean of the Graduate School at Michigan Tech. “One of my personal goals for the upcoming years is to visit all of the sites, and I encourage others to do the same.”

The Department of Geological and Mining Engineering and Sciences at Michigan Tech hosts the website. “Public outreach about our disciplines is vital, and online resources are the most accessible and flexible approaches for sharing information about the local landscape,” says Department Chair John Gierke. “Bill Rose created a comprehensive factual resource that is readily accessible with today’s smartphone technology, and our department will host the web information for students and the public to access in perpetuity.”

All quotes in this article are from a June 2014 news release, used with permission from Marcia Goodrich, recently retired senior writer at Michigan Tech.

Right: Members of three Isle Royale families on the July 2014 IRKPA annual meeting tour at the Edisen Fishery in Rock Harbor, where Nancy Johnson Stegman (fourth from left) and Lou Mattson (far right) discussed their families’ histories for about 35 participants. From left, Nancy’s brother-in-law John Stegman, niece Pat Ochodnicky, and son Harold Stegman; Nancy and her niece, Susan Harri; Susan’s husband, Neil Harri; Marilyn and Grant Merritt of Tobin Harbor; Peggy and Lou Mattson, also of Tobin Harbor. Heavy fog prevented Rock Harbor Lodge’s tour boat, the Sandy, from continuing on to Chippewa Harbor that day. Fortuitously, the National Park Service had natural resources work to do nearby two days later. They dropped off the Johnson family members there so Cultural Resources Manager Seth DePasqual could record an oral history on site. Photo: Lynn Bjorkman.

Nancy Stegman’s son, Harold, photographs the site of the original Johnson house and apple trees, July 2014. Photo: Kristine Bradof

Lou Mattson of the Tobin Harbor fishing family shows IRKPA tour participants a photo of his family displayed in the Rock Harbor Lighthouse. Photo: Lynn Bjorkman.
**KNHPAC Acquires Smelter**

The Keweenaw National Historical Park Advisory Commission finalized the purchase of the historic Quincy Smelting Works from Franklin Township on August 29, 2014. Built by the Quincy Mining Company in 1898, the site is the most complete late-nineteenth century copper smelting facility left in the world. The remaining industrial structures and equipment provide a unique opportunity to explore an important part of the copper production story.

Although the property deteriorated in the decades after the smelter closed, Franklin Township, the National Park Service, and the Environmental Protection Agency have helped make the site safer for public tours. The Advisory Commission is now poised to work with the National Park Service and the Quincy Smelter Association to preserve and interpret this important piece of our national history. Ultimately, the Commission intends to transfer the property to the National Park Service to ensure its long-term protection. One future use being discussed is a visitor center operated jointly with Isle Royale National Park.

The Commission would also like to thank the Americana Foundation and the many corporate and individual donors who helped make this purchase possible.

---

**Artist-in-Residence Events**

At the suggestion of Isle Royale interpretive staff and IRKPA, the Copper Country Community Arts Center—the third Artist-in-Residence program partner—displayed art in September from artists who held residencies on Isle Royale. The Center also hosted sculptor and 2014 Isle Royale Artist-in-Residence Alan Tollakson for a presentation in July. Greg Blust of the National Park Service has coordinated the program since it began in 1991. It celebrates its 25th year in 2015. Applications for next year’s residency are due February 16, with notification of those selected by May 1.

---

**Isle Royale National Park 2015 “Greenstone” Jubilee**

Sometime during summer 2010, I discovered that Isle Royale National Park had quietly passed the 70th anniversary of its establishment on April 3, two days after I became IRKPA executive director. Let’s make sure we don’t miss an opportunity to celebrate the park’s “greenstone” jubilee on April 3, 2015! (Credit that variation on the traditional diamond jubilee to a recent meeting of interpretive staff.) So, share your celebratory ideas and stay tuned!