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Quick, Timely Reads
On the Waterfront

The Big Chill: A Neighborhood Glacier?

By David Frew
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Dr. David Frew, a prolific writer, author, and speaker grew up on Erie's lower west side as a proud "Bay Rat," joining neighborhood kids playing and marauding along the west bayfront. He has written for years about his beloved Presque Isle and his adventures on the Great Lakes. In this series, the JES Scholar-in-Residence takes note of life in and around the water.

Imagine an enormous ice shelf more than a mile high and slowly creeping to the south.

An “On the Waterfront” reader from Naples, Florida recently sent a note after reviewing an essay about Cascade Creek. While growing up in Erie he recalled a time when he was exploring the creek’s outflow into Presque Isle Bay, long before he had realized that the railroad had relocated the waterway to make room for the westernmost dock. Young Bruce Kennedy was scrounging through items that were imbedded in outflow materials from the running creek when he encountered an interesting item that he picked up and wondered about. Even as a youngster, Bruce was interested in anthropology and geology, which is what had drawn him to an exploration of Cascade Creek.

The item he found was clearly something that had washed down the creek from somewhere south of the bayfront. It was hockey puck-sized and seemed to have

been made of some kind of plastic, or as Bruce put it, Bakelite. He still recalls the item as having been remarkably light. Disappointed that it was not an arrowhead or other obvious Indian relic he tossed it back on the creek bank and went on hunting. All these years later, Kennedy apologized for discarding the apparent piece of trash on the creek bank. In his defense, Cascade Creek used to act as a disposal system for thousands of people who lived or played upstream. Summer rainstorms would flush thousands of bits of detritus into and down the creek. Broken yard tools, household garbage, old toys, and cigarette butts by the thousands would stream down the creek after rainstorms and line the banks with a coating of disgusting jetsam. Little wonder that Presque Isle Bay had earned the reputation and later designation of being a nasty, polluted body of water.

I had been hoping to do an essay on the Wisconsin Glacier and its impact both on the lake as well as Presque Isle Bay and the note from Bruce Kennedy served as a catalyst. In a way he turned out to be the expert whose vision was needed to push me along. Years later, as a paleontology student at the University of Arizona, Kennedy learned that the "plastic hockey puck" that he had inadvertently tossed back into Cascade Creek was probably a valuable artifact – far more interesting and important than an arrowhead. The artifact that he had uncovered was evidence of Paleo Indians who had been living or hunting somewhere along the banks of Cascade Creek after the glacier receded.

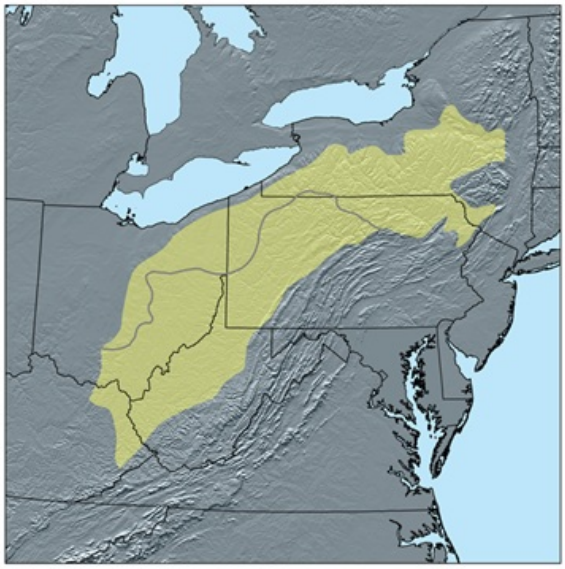
As grade school students of history and science, we learned that there had been a glacier and that the grinding action of the enormous ice sheet that had once covered the region was important in sculpting the local geography. But there were few details. During the time that I was privileged to direct the Erie County Historical Society and to design exhibits, I created a chronological system in the State Street History Center that began with the glacier. A voice at the exhibit entry point, where there were dinosaurs, told visitors to "look up" and imagine that they were standing at the bottom of a sheet of ice more than a mile high. But neither the glacier exhibit, nor our curatorial explanations were as nuanced as they could have been.

An overall view of the glacier

The (east-west) width of the Wisconsin Glacier was massive, extending from Erie well beyond its namesake state of Wisconsin, where its actions helped to form today's Dells. And it was not just a continuous sheet of ice that came once and

then receded. It was a pulsating wedge that came and left seven times over the millennia. It first arrived two million years ago, during the Illinoisan Period. The glacier advanced and retreated twice during that period and then five more times during the later Wisconsin Era. It was the repetitive grinding motion of the glacier that created the sand and gravel that was dropped when the enormous ice shelf retreated for the last time.

Thanks to modern science as well as the dedicated work of professional anthropologists we now know so much more about the glacier than ever before. The portion of the glacier that visited northwestern Pennsylvania was called the "Erie Lobe," and its grinding action had an enormous impact on the geography of the region. On our side of Lake Erie, the impact of the seven advances and retreats created a clear mark of "glaciation." It is a simple matter to find the southern boundary of the track of the glacier(s) on the Allegheny Plateau. On the northern and glaciated side (closer to Erie), soil composition is different from the southerly unglaciated area. Natural depressions were filled with glacial sediments and the terrain was smoothed. Glacial deposits that filled ancient valleys were largely composed of limestone, which has helped to purify the entire French Creek Watershed, resulting in the great diversity of plants and animals that are now endemic to the watershed.



A map of the Allegheny Plateau, showing the glaciated portion in yellow

Today's French Creek, which would be a river had George Washington not named it

With respect to French Creek and its watershed, the glacier fundamentally redirected the flow of water. In ancient times the creek ran north and into Lake Erie from near today's Warren, Pennsylvania and emptied on the Erie side of the Ohio border. The Allegheny River, which now passes through Warren, ran parallel to and east of French Creek, entering Lake Erie near today's Dunkirk, New York.

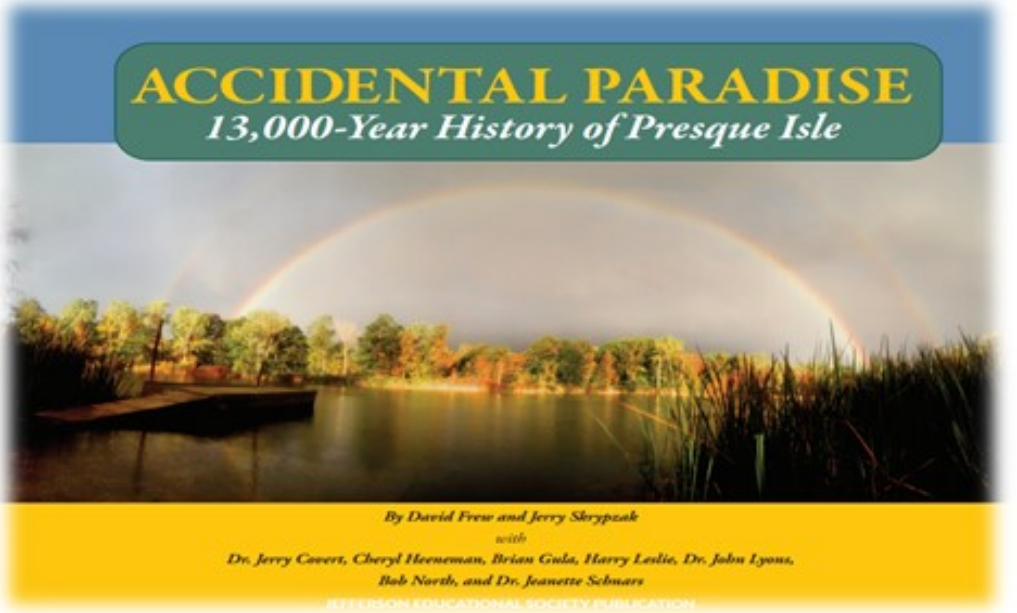
The French Creek of prehistory was much larger than the Allegheny. Pulsations of the glacier changed both waterways, redirecting their flow to the south and creating the passageway that Native Americans and then the French discovered as a gateway to the Gulf of Mexico. It was the Iroquois who advised the French as they were seeking a river-creek passage from Lake Erie to New Orleans. Iroquois tribes had been using the waterway for more than a century prior to European arrival, floating goods downstream on rafts and then walking back on trails that paralleled the waterways. The glacier also created the visible escarpment ridge just south of Erie that currently separates the Lake Erie watershed from the French Creek and Allegheny River watersheds.

Here is a typical southern Ontario tobacco farm with the crop in the foreground and wooden drying kilns in the background.

The action of the glacier created the modern drainage flow of the Great Lakes in which upper Lakes Superior, Michigan, and Huron drain into Lake Erie and then over Niagara Falls. Earlier drainage systems contained a waterfall in the center of today's Georgian Bay that was larger and more spectacular than Niagara and directed water into the St. Lawrence River. The one-time gift of sand that the glacier(s) provided to Lake Erie created the breaches, spits (including Presque Isle), and sandy bluffs along both sides of the water. On the Canadian side of Lake Erie, the glacier(s) dropped an enormous shelf of sand that extends from the lakeshore to today's Highway 401. This "Haldimand Sand Plain" provided ideal growing conditions for the wild tobacco that Native North Americans harvested and used as a ceremonial plant and subsequently led to the massive tobacco-growing, agricultural industry that used to characterize the area just west of today's Port Dover.

A museum dedicated to tobacco growing in Delhi, Ontario celebrates the once-powerful local tobacco industry.

During the early 1970s, at about the same time that Bruce Kennedy was exploring Cascade Creek, I was walking along the old path from the Cascade Docks to Dave Bierig's sailmaking loft with my three small children. Nearing the creek we encountered Dave's dad. Harry Bierig was standing in the swollen water with a large pole after a summer rainstorm as he retrieved pieces of wood from the water. The rainstorm had dislodged an astonishing array of boards from the creek bank to the south. And as we watched, Mr. Bierig was fishing nearly new 2-by-4s, 2-by-6s, and pieces of hardwood from the water. "These will come in handy later," he chucked as he acknowledged our presence. "Wait! Don't go yet," he added. Then, after stepping out of the water, he produced three almost-new balls that had floated along and presented them to my delighted children. It was a surprise gift that they still recall decades later. They were not anthropological artifacts but they were even more exciting for my kids.



The beautiful book on Presque Isle published by authors David Frew and Jerry Skrypzak – "**Accidental Paradise: 13,000-Year History of Presque Isle**" – is on sale at the Tom Ridge Environmental Center's gift shop and through a special website, AccidentalParadise.com.

The book, priced at **$35 plus tax and shipping**, can be ordered now through the website sponsored by the TREC Foundation, AccidentalParadise.com.

Presque Isle Gallery and Gifts on the main floor of TREC, located at **301 Peninsula Drive, Suite #2, Erie, PA 16505** will also handle sales *daily from 10 a.m. to 4 p.m.*

For more information, send an email to aperino@TRECF.org.

To watch "Accidental Paradise: Stories Behind The Stories" click here.

ABOUT THE AUTHOR

Historian and author David Frew, Ph.D., is a Scholar-in-Residence at the JES. An emeritus professor at Gannon University, he held a variety of administrative positions during a 33-year career. He is also emeritus director of the Erie County Historical Society/Hagen History Center and is president of his own management consulting business. Frew has written or co-written 35 books and more than 100 articles, cases, and papers.

In Case You Missed It

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