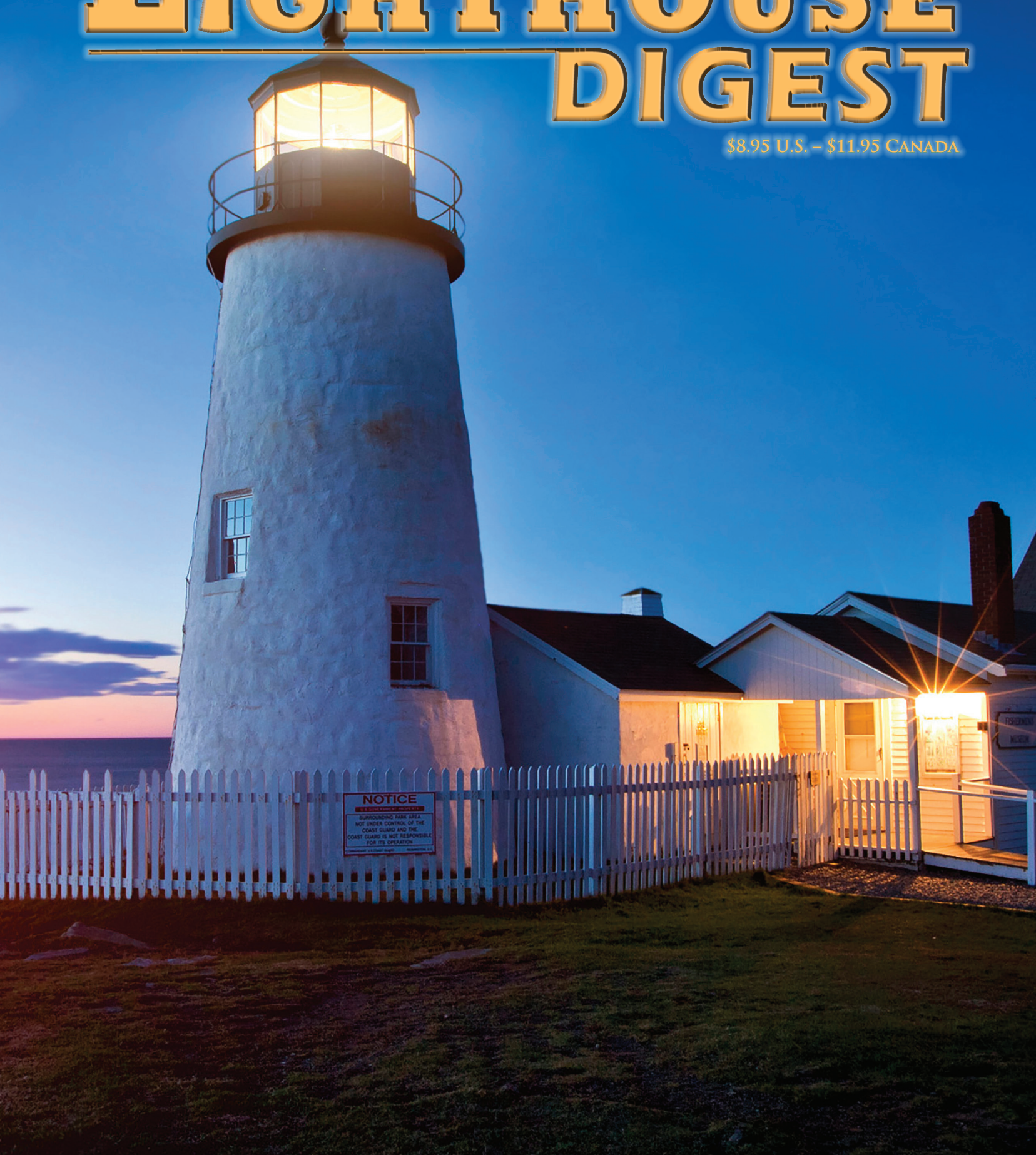


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Coastal project sheds light on importance of community collaboration

Montauk Point Lighthouse, New York

By JoAnne Castagna, Ed.D.

In the 1970s, if you took a helicopter ride from New York City to the Montauk Point Lighthouse, that sits on the eastern tip of Long Island, New York, you could have spotted a woman in her 60's crawling along the 65-foot cliff under the beacon, packing and shaping earth with her bare hands and her small garden hoe.

Her name was Georgina Reid, and she was desperately trying to stabilize the cliffs that have been eroding for years, putting the iconic and beloved historic lighthouse at risk from crumbling into the sea.

What possessed this textile designer from New York City to do this? She witnessed firsthand the devastating effects of erosion on something else she loved - her dream retirement home. A nor'easter carried away 18-feet of shoreline from her Long Island cottage into the sea. She was able to save her property by developing a terracing erosion control method and now she was using her technique to save the lighthouse.

Just like Reid wanted to support the lighthouse, the community started to support her in her effort. This included the government, including the U.S. Army Corps of Engineers, New York District, the press, celebrity singers and locals including a self-proclaimed hippy who started working with Reid and ended up making protecting the lighthouse his career.

Over the years, the community performed a series of projects that were not completely successful at fighting the erosion, but recently the Army Corps completed a coastal erosion project that strengthened the cliffs and will protect the lighthouse for generations to come. The effort has demonstrated that when people come together, they can preserve history and more importantly protect their future by strengthening its coasts from coastal flooding and sea level rise.

The Montauk Point Lighthouse is located in Montauk Point, a hamlet in the Town of East Hampton, New York, on the eastern tip of Long Island, a peninsula that stretches out into the Atlantic Ocean.

The 111-foot-tall octagonal beacon sits on Turtle Hill that has cliffs that cascade into the ocean on the east and south sides of the structure. The lighthouse is white with a broad red band sitting across its middle



The eroded cliffs at the Montauk Point Lighthouse in 1968. (U.S. Army Corps of Engineers photo)



The stabilized cliffs after the completion of the Montauk Point Coastal Resiliency Project in 2023. (U.S. Army Corps of Engineers photo)

like a big belt, holding up its pants in the strong winds that come off the ocean.

The lighthouse and its cliffs have weathered the elements since 1796 when it was built at the authorization of President George Washington. Its purpose was and still is to guide ships along the south shore of Long Island into the New York Harbor, using its 290,000-candle power light that flashes every 5 seconds.

Today, the National Historic Landmark draws 100,000 visitors annually from around the world and to New Yorkers it's become a well-known symbol of the state's maritime history.

Because the lighthouse sticks out into the ocean, its cliffs are continually battered by wind, waves, and storms, causing extreme eroding over the years. When the lighthouse was constructed, it was 300 feet from the edge of the cliffs. More recently, due to erosion, it was less than 100 feet, putting the lighthouse at risk.

Following is a brief history of the work done by the community to help save the lighthouse in the last century.

In the 1940s, the lighthouse was owned and operated by the U.S. Coast Guard that realized the structure was in jeopardy of crumbling into the sea when a 12-foot portion of the cliff eroded and fell off during a storm in 1944.

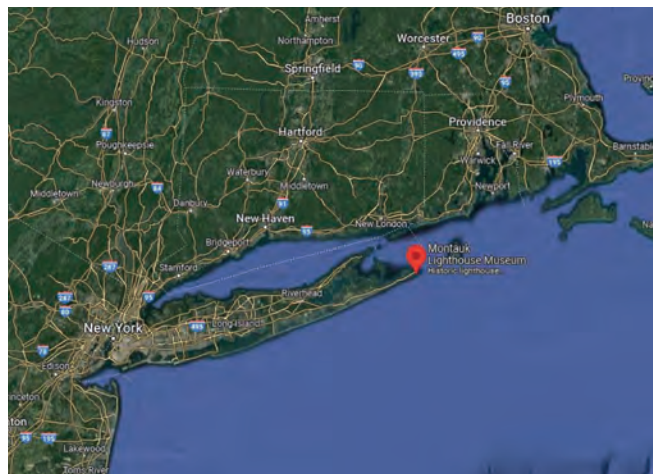
The following year, the Army Corps took its first step to stop the erosion by installing an 840-foot-long stone seawall along the beach below the cliffs, but in the early 1950s several severe storms and hurricanes caused waves to wash over the seawall and collapse it.

The Coast Guard in 1969, announced that the lighthouse would be replaced with an automated beacon by 1972 and that the old lighthouse tower would be preserved as an historic monument.

A local newspaper editor unhappy about this ran stories about the plight of the lighthouse and created a contest to come up with ways to save it. Reid read these articles and joined him in a "Light-in" at the lighthouse parking lot where thousands protested.

There was so much community support to save the lighthouse that the Coast Guard halted its plans and instead looked into ways to stop the erosion.

Reid thought she could help them with her own terracing method. The technique was born when she was cleaning up debris from her damaged property that was located 50-feet from cliffs



Location map of the historic and iconic Montauk Point Lighthouse. (U.S. Army Corps of Engineers photo)

that overlooked the Long Island Sound in Rocky Point, Long Island.

She noticed pieces of lumber and reeds along the beach with sand piled up behind them. The rubble gave her a simple but effective idea for controlling cliff erosion.

She gathered the debris and began to work on the cliff below her property. She terraced it by stuffing reeds behind the lumber and packing them tightly with sand. Support stakes held the lumber in place, and the sand allowed growth of vegetation. The reeds prevented the sand from leaching out and the hollow stems provided organic matter and water retention for plantings. The cliff was stabilized so that land was not carried away as heavy rains washed down each terrace level.

When she completed her home's embankment, another major nor'easter blew in and the cliff remained intact. She was so impressed that she patented her "Reed Trench Terracing" method and wrote a book about it.

"So, this 4-foot-10 little dynamo named Giorgina Reid arrives at the lighthouse to

speak with the Coast Guard to discuss how she can help restore their eroded cliffs using her method," said Greg Donohue. "I'm sure the Coast Guard engineers had a good chuckle in their lunchroom after meeting this sassy life force. But they realized that up till now nothing else has succeeded, so what did they have to lose." They told her that they'll give her a pilot erosion control project, but they were unable to pay her, and she agreed.

On April 22, 1970, her husband drove her to the lighthouse because she didn't have a license. She emerges from the car with a garden hoe and started digging into the embankment and wouldn't stop for 16 years." Donohue at the time was a local landscaper and self-proclaimed "Hippie" who would soon volunteer to help Reid.

Several times a week, she would be out on the cliffs. Sometimes she was alone and sometimes with volunteers, like Donohue, who would often gather reeds for her to use. He said, "She would always be moving the project forward. She was a textile designer by trade, so she had an artful eye. She

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Col. Matthew Luzzatto, former commander, New York District, U.S. Army Corps of Engineers visiting the project team during construction on the Montauk Point Coastal Resiliency Project. (U.S. Army Corps of Engineers photo)

The seawall around the base of Turtle Hill, around the Montauk Point Lighthouse was expanded using more than 60,000 tons of granite boulders. (U.S. Army Corps of Engineers photos)



actually became a sculptress. She sculpted and sculpted and sculpted and dug as she graded the steep cliff into terraces. The daily assignment was to dig like a mole and climb like a goat.”

During this time, the Coast Guard constructed a temporary sea wall to support Reid while she performed her work. It did last a while but eventually was blown out by a storm.

Reid and her volunteers were successful at stabilizing the eastern cliff of Turtle Hill, but the south cliff proved to be challenging because it was almost a vertical slope, making it difficult to terrace. This didn't stop her. She sculpted the cliff face by hand in order to create a proper angle for terracing. In the end the work was successful at controlling runoff and stabilizing the soil, even though Reid broke a leg in the process.

Reid would eventually retire from doing the work, but her efforts were recognized by President Ronald Reagan who presented her with a proclamation and a letter of commendation in 1986.

The following year, a museum was established inside the lighthouse by the Montauk Historical Society and a room was dedicated to her.

Since the lighthouse was now a public museum, there was even more of a need to continue the erosion project and to find funding to do it.

At the time, Donohue constructed his own sea wall in an attempt to stabilize the cliffs. He in collaboration with the

Coast Guard, Montauk Historical Society, and the New York State Office of Parks, Recreation and Historic Preservation, built the 1,300-foot seawall made from 28,000 tons of stone. He said “I’m proud to say that it’s still intact. The extra heavy metal stakes that I used to support the cliff 34 years ago, are still there, still functioning and supporting.” Donohue would eventually become the Montauk Point Lighthouse Director of Erosion Control.

Donohue also tried to garner funding that included organizing events like clam bakes, but it wasn't enough.

Then members of the Montauk Historical Society heard that the singer, Paul Simon, who lived not far from the lighthouse was practicing with his band in West Hampton for a Graceland International Tour. Donohue said, “They asked Paul if he could maybe sing a song for us. He ended up doing a show for us with his band and raised \$585,000 for our erosion project.”

After this, two major storms in 1991 eroded the cliffs further stressing the need for more money and erosion control work.

Donohue said that not long after this a miracle happened. At the time, he landscaped for a man that lived down the road from the lighthouse. This man was soon to become New York Senator Daniel Patrick Moynihan's son-in-law. When Moynihan heard about the lighthouse's need for funding, he was able to get the ball rolling to provide funding to the Army Corps to eventually conduct a study of the area.

When the Army Corps completed its study, it was determined that a rock seawall of about 28,000 tons could protect the lighthouse from erosion, so the Coast Guard engineers in collaboration with the Montauk Historical Society, and Parks Department constructed a 770-foot-long seawall with the Army Corps' consultation. The work proved to be successful, and the project was able to withstand several storms.

In 1996, the Montauk Historical Society took ownership of the lighthouse property and expressed interest in continuing the Army Corps' study to address long term needs of the erosion control project.

Then Hurricane Sandy came to the New York region in October 2012. Sandy's intense winds and storm surge created erosion all along the New York State shoreline, but thankfully there wasn't tremendous damage to the cliffs at the lighthouse, but there was further weakening of the previous stonework.

The Army Corps received funding and authority to restore this with the Hurricane Sandy Disaster Relief Appropriations Act of 2013 or “Sandy Bill.”

This funding was used to start the Montauk Point Coastal Resiliency Project that further strengthened the stonework that surrounds the lighthouse from more frequent intense storms and sea level rise.

Donohue said, “The reason this funding was so important is that there has never been an engineered plan to correctly stabilize these cliffs . . . We've always

done this piecemeal, so it's exciting that we now have a specific plan to stabilize these cliffs to withstand even the most powerful storms and hurricanes."

This project was performed by the Army Corps in cooperation with the New York State Department of Environmental Conservation, Montauk Historical Society, New York State Office of Parks, Recreation and Historic Preservation, Town of East Hampton, and Army Corps Contractor, H&L Contracting of Hauppauge, New York.

Frank Verga, project manager, New York District, U.S. Army Corps of Engineers, who has worked on this project for 26 years said, "The project is designed to shore up the beachfront surrounding the historic Montauk Point Lighthouse to protect it from future coastal storms."

This work was recently completed and included expanding the stone seawall around the base of Turtle Hill. The wall was nearly doubled in width and breadth, using more than 60,000 tons of granite boulders to broaden the flanks of the wall, cutting Turtle Cove about in half, and forming a new seaward bulge at the face of the point with two flattened "benches" to allow foot traffic to cross the front of the seawall.

Donohue said, "When the last stone was set, Frank sent an email to the team saying, 'Everybody we really did a good thing here.'"

While the Army Corps was performing this work the Montauk



Frank Verga, project manager, New York District, U.S. Army Corps of Engineers (Right) with Greg Donohue, Montauk Point Lighthouse Director of Coastal Erosion at the ribbon cutting ceremony in the summer of 2023. (U.S. Army Corps of Engineers photo)



Giorgina Reid using her reed terracing method to stabilize the Montauk Point Lighthouse cliffs in the 1970s. (Photo courtesy of Dan's Paper)

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The U.S. Army Corps of Engineers, New York District team that worked on the Montauk Point Coastal Resiliency Project with Col. Alexander Young, Commander, New York District, U.S. Army Corps of Engineers. (U.S. Army Corps of Engineers photo)

Historical Society was conducting a major renovation of the exterior of the lighthouse that included installing a new iron cap on the top of the tower to stop water leaking, restoring the joints between the sandstone blocks that make up the main section of the tower, and repainting the white tower and freshening up its red belt.

A ribbon-cutting ceremony was held to celebrate the completion of the erosion control project and renovation. Donohue said, "During the ceremony Frank apologized that the project took so long. I thought this was hilarious because the project just had to evolve in its own way, and it did. I told him, 'Frank look, look down at the wall we built.'"

Donohue said of Reid who passed away in 2001, "Georgina would be proud of this work. It's been 53 years since she showed up with all of her chutzpah and sassiness and said, 'Get out of my way, boys. I'm here! Okay? I'm going to take over' and she sure did."

She planted a seed and then all these little good things happened. This project turned into an incredible testament to professionalism, to people listening to each other and communicating. Hats off to



Georgina Reid performing her work. (Montauk Point Lighthouse Archive photos)

the U.S. Congress and the State legislature for funding; and all of the engineers and the Army Corps. Today, families are visiting this national historic landmark and fishermen are using the wall. It's phenomenal. Absolutely phenomenal."

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Aerial image of the Montauk Point Coastal Resiliency Project. (U.S. Army Corps of Engineers photo)