Hill, Pond, and April 2020 A MONTHLY NEWSLETTER FOR RESIDENTS OF THE

Community Spotlight: PETER AUGUST ON NAPATREE

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community spotlight By **Gregory Pettys** Photos by **Noelle Wolcin**

PETER AUGUST **SCIENCE IN THE SAND**

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It is arguably one of the most beautiful places in New England. It is also one of the most endangered as climate change and sea-level rise are threatening this mile and a half long pristine barrier beach. Napatree Point is the giant proverbial canary in a coal mine. Its unique ecosystem, governed by the ever-shifting wind and sea swept sand, is a place full of the powerful spirits of nature, sometimes quiet and tranquil and at other times, fearsome in its storms.

On any given day, winter or summer, you might catch sight of a distinguished looking gentleman with binoculars and a white beard walking through the dunes on Napatree, leading a group of people. Chances are it's Peter August and the Watch Hill Conservancy's Science Advisory team made up of some of the most distinguished scientists in New England. Peter is Professor emeritus of the Department of Natural Resources Science at the University of Rhode Island.

What are these renowned scientists doing on Napatree and why is it so important? It turns out the team has been working alongside The Watch Hill Conservancy's Napatree Area Manager, Janice Sassi, studying and documenting just what Napatree Point is, what its plants and animals are, and how the whole ecosystem is evolving.

Peter August's journey to Napatree was a long one. He was born in the Hawaiian Islands and when he was

four his family moved to California. "I grew up in LA by LA International Airport and spent much of my youth on the beach, surfing and sailing, enjoying the west coast," said Peter. "I went to college at the University of San Diego and that's where I developed an affinity for ecology and conservation. I had taken physics in high school but didn't like it. I thought, 'I like science but I know I don't like physics so, hey what about biology?' Early on I answered an ad for a job that one of the professors had as a field assistant. He was doing an ecological survey in this beautiful coastal scrub area in Huntington Beach, California. He needed a gofer to help carry the gear and help him with the field work. We would go out for three or four days at a time and catch rodents, snakes, and lizards, and inventory what's there. I thought, 'this is great, we go camping, we get to see interesting animals, and this is his day job! Sign me up. This is what I want to do."

Peter graduated from USD in 1974 and went to Texas Tech University for his Master of Science degree in zoology. He then applied to the Smithsonian Institution for a predoctoral fellowship to study rodents and bats in Venezuela. He moved to Venezuela for two years and lived in the bush with other scientists studying the fauna and flora. "It was a wonderful experience. When I finished the field work I moved to Boston where I entered the Ph.D. program at Boston University and I worked with Tom Kunz who is the world's leading bat ecologist. In 1981 I got my Ph.D. in biology and I applied for my first job at the University of Rhode Island. I moved to Rhode Island and haven't left."



While conducting research at URI Peter learned of a new technology being developed and saw its potential. "In 1985 my focus switched from trapping rodents and bats to digitizing roads, rivers, and boundaries. My research and outreach focuses on using Geographic Information System (GIS) technology on the analysis and conservation of natural resources in coastal environments. I am particularly interested in using GIS to model and map lands most important for conservation."

Peter explained what the GIS system does. "It works by compiling all the different spatial (map) data, analyzes, edits data, archives data, and presents the results in many different ways. Most everything that environmental conservationists study is spatial data. Where the rare species are, where the point sources of pollution are, what the land use is, how the habitats are changing, and how the shoreline is changing." His expertise in mapping using GIS is what led Peter to Napatree.

When you visit Napatree today it is hard to imagine what it looked like 400 years ago. The first European to sight Napatree was the rugged Dutch explorer Adriaen Block. Napatree was much larger then and covered in thick forest which was why Block named it "Nap of Trees." The name was shortened to Napatree. Today it is devoid of any large trees and has been that way since the Great Gale of 1815 destroyed the forest.

Over one hundred years later another great storm swept across Napatree, the hurricane of 1938. It destroyed the summer community, sweeping away thirty-nine large summer cottages.

The geology of Napatree is unique, being a perfect example of how a barrier dune ecosystem should work in its natural condition. Napatree is the most pristine dune system left in southern New England.

The end of Napatree was cut off and became an island, now called Sandy Point. The devastation was total and complete. Fifteen people lost their lives that day. After the hurricane Napatree began to return to its natural state. The ecosystem of the barrier beach was amazingly resilient.

Today the Napatree Point Conservation Area is a protected peninsula owned, managed, and protected by the Watch Hill Fire District, the Watch Hill Conservancy, the Town of Westerly, the state, and private landowners. There are conservation easements that protect it from future development.

Peter August explained how he got involved with Napatree. "In 1999 The Watch Hill Conservancy

was formed and one of its prime missions was to protect and preserve Napatree Point. Chaplin Barnes was one of its founders and he needed to understand the ecological complexities of the Napatree ecosystem. I was the founding president of the Rhode Island Natural History Survey that we started twenty-five years ago. The idea for it, an organization to bring together all the people interested in biodiversity, natural history, and the conservation of plants and animals. In 2005 Chap commissioned the RI Natural History Survey to conduct an ecological reconnaissance of

Napatree. Their work proved to be extremely helpful to the Conservancy. In 2010, Chap re-commissioned the RI Natural History Survey to do a follow up study to answer questions like, 'Are things getting better or are they getting worse?' This scientific report card for Napatree became a reality with the completion of the 2013 State of Napatree report."

After the 2010 survey Chap and Peter were discussing Napatree. "I said to him, 'Instead of doing this survey every five years why don't you pull together a small team of top scientists as

advisers so that when issues come up you don't have to wait for years to find a solution?' Chap replied, 'That's a great idea Pete, make it happen.' So we created the Napatree Point Conservation Area Science Advisors and I became its chairman.

"Every year we would get together with Janice, Chap, Grant (Simmons), members of the Conservancy Board and we would talk about the scientific issues, the monitoring needs, and the rare and endangered species management issues that the science advisers were thinking about," said Peter. "We've continued these annual meetings and commit our observations to the State Napatree Report. For me this has been one of the most gratifying professional endeavors I've ever experienced be-



cause it gives me a chance to practice what I preach at the University. It allowed me to build a database that we turn to when management issues come up, and it's given me a chance to revisit my roots as a field ecologist. I have as much fun as anyone pulling the fish seine through the lagoon and seeing what we discover or helping Brian Oakley with his dune transits or going out in the boat and helping with water quality monitoring with Grant Simmons. We also do eelgrass mapping now, which is an important part of the whole Napatree ecosystem. We work closely with Deborah

Lamm, Chairman and President of The Watch Hill Conservancy, who has been incredibly supportive and has embraced Napatree as a core function of the organization. Working with Jocelyn Lahey, our Executive Director and Janice Sassi and her team of naturalists has been professionally gratifying and rewarding. Any day I spend down here is a good day.

"Napatree is an exceedingly special place for a lot of different reasons. It's part of a larger ecosystem which includes the one-thousand-acre Barn

Island Refuge, Sandy Point, Little Narragansett Bay and the Watch Hill Reefs," explained Peter. "It's a biodiversity hotspot. The National Audubon Society has designated Napatree a Globally Important Bird Area. That's an international recognition; across the globe, Napatree is recognized as an important site because it's a migratory stopover for birds flying north and south during their migration. Reynold T. Larsen (Rey) has identified 303 different species of birds on Napatree. It's also important because Napatree's habitats are some of the rarest in the state and they're in pristine condition. The rare dune grass habitats and the maritime shrub lands are in really good shape. The off-shore mussel beds bring in a whole suite of birds that forage on the mussels. It's an important horseshoe crab breeding area with many species of birds feeding on the horseshoe crab eggs.

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"The geology of Napatree is unique, being a perfect example of how a barrier dune ecosystem should work in its natural condition. Napatree is the most pristine dune system left in southern New England. When we get big storms like Hurricane Sandy when the wave action and the tidal surge punch through

the dunes, it creates the wash over fans on the backside. So the dunes are constantly moving. They're rolling over themselves and they can, because we're letting the sand do what it wants to do on Napatree. One of our big initiatives is to remove the dune fencing that traps sand and replace them with split rail fencing to guide people away from this sensitive habitat. If you look at historic pictures of Napatree, since 1939 the whole split has moved north one full dune-width. That's just the natural movement of sand. After Hurricane Sandy, the science team was out there, and it was a moonscape. There was no vegetation. There were washover fans everywhere. It looked like it was ruined forever. Sandy happened in October but by that spring you couldn't tell anything had happened. The dune grass sprouted through all the sand and recovered. So Napatree is a very resilient ecosystem."

Peter spoke about why Napatree is so special to him. "Napatree is amazing and important because it's a place where people can find so many things, many of which are almost spiritual. It's extremely calm and peaceful, especially in the wintertime. The people on the beach in the winter love the peace and tranquility and the whole naturalness of Napatree. It has such value as a natural place for all people: rich, poor, male, female, young, old. It offers something for everyone. I could give you a dozen exciting natural history observations, but I think the whole gestalt of the place is what makes it so special."