



# PINELANDS WATCH

## SPECIAL EDITION



May 2007

A Report by the Pinelands Preservation Alliance

SE - 11

# EXPANDING OUR APPRECIATION AND UNDERSTANDING OF PINELANDS NATURAL HISTORY

A Pinelands Commission staffer recently called my office with questions about a parcel in Buena Vista Township slated for development. I am a Pinelands Geographer, and resident of the municipality being queried. My current research at the University of Delaware chronicles 200,000 years of local climate change, and how regional environmental dynamics relate to human ecology. The contact was serendipitous! The property in review was part of a special place, an intact relic of an unusual inland dune field. As with other unusual cold, non-glacial (i.e., periglacial) landforms in the Pines, these sandy windblown deposits are likely to pos-



*In his inventory, McCormick was perplexed by the "numerous saucer-shaped depressions scattered throughout the Pine Barrens." These intermittent pools or "spungs" are now interpreted as blowouts created by powerful winds flowing off the Laurentide ice sheet. Photo taken by Dr. Mark Mihalasky.*

## *Presentation on Newtonville Dune Field*

*Sunday, May 20, 2007  
3:00 p.m.*

*Dr. Martin Luther King  
Community Center  
661 Jackson Road  
Newtonville*

sess significant natural and cultural resources. However, I quickly learned that no mechanisms exist to protect upland geologic features, no matter how outstanding they may be! It is suggested that a heightened appreciation for the natural history of the Newtonville dune field could provide the basis for its preservation. A one-hour program about this site will be presented at the Dr. Martin Luther King Community Center, 661 Jackson Road, Newtonville, NJ on Sunday, May 20th at 3:00 PM. A brief walking tour of the dune field will follow the meeting. Contact Mark Demitroff (856.696.2527) or the Pinelands Preservation Alliance for further details.

When Jack McCormick authored *The Pine Barrens: A Preliminary Ecological Inventory* in 1967, he advocated numerous ecological research opportunities to the National Park Service. The report laid the groundwork for the Pinelands National Reserve, and became a rallying point for many ecological, botanical, and zoological investigations. However, one important directive had been overlooked. McCormick recognized the outstanding

potential for geological study present in the Pines. He was particularly intrigued by the region's Ice Age legacy. On page 83, McCormick acknowledged, "Some geologists claim to have found evidence of severe tundra-like conditions, but others claim the region was subjected to conditions only slightly cooler and wetter than at present."

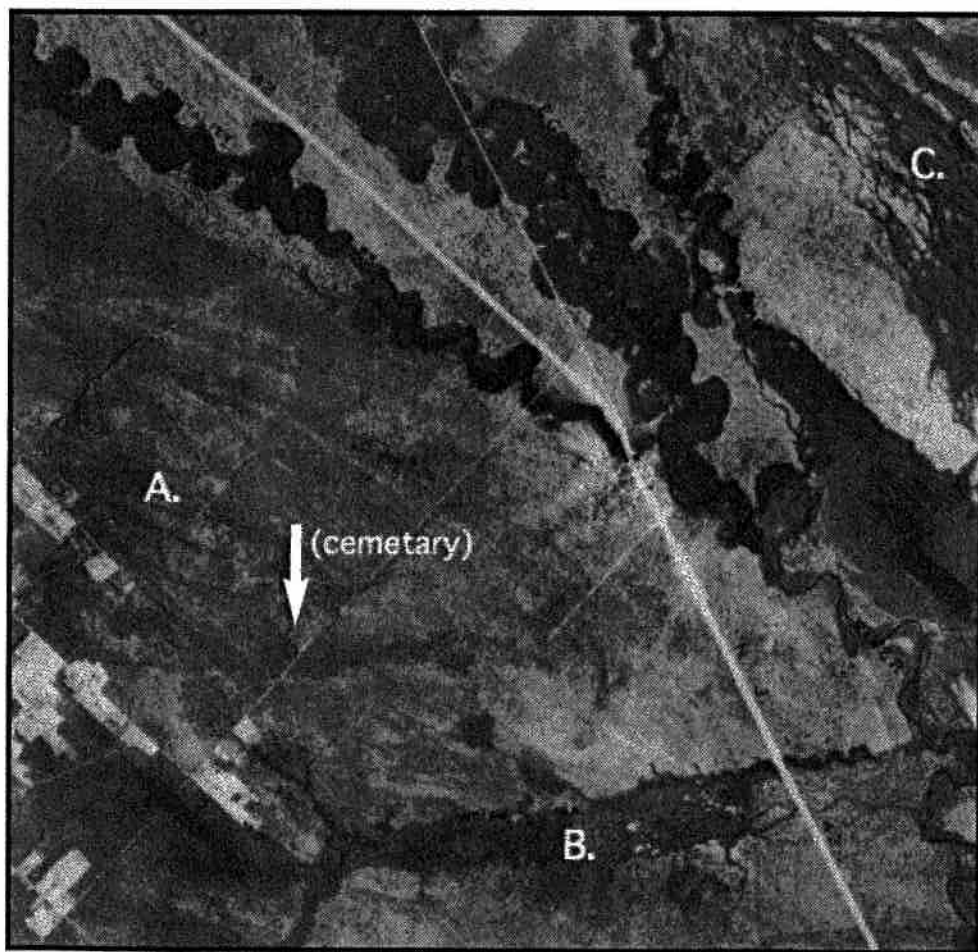
Recent work by the University of Delaware, the University of Ottawa, and the US Geological Survey indicates that South Jersey's Coastal Plain experienced multiple episodes of permafrost formation under cold and dry conditions during the Pleistocene. Strong winds flowed southwards from the continental ice margin across the sparsely vegetated, tundra to desert-like terrain of the Pine Barrens. Climatic conditions much different from those of the present reshaped the Pine Barrens' landscape, and impacted the size and shapes of peculiar landforms found in the Pinelands today.

An outstanding example of this Ice Age inheritance was recently discovered in Newtonville, in Atlantic County. A well-preserved Late Pleistocene dune field exists along the southern banks of the Great Egg Harbor River. Rare hairpin parabolic dunes created a rugged landscape at this location. Their form is comet-like, with trailing arms that

can stretch for a mile or more. Similar inland dunes are found in Saudi Arabia, northwest India, and northern Canada, and are associated with strong directional winds in sparsely vegetated terrain. Little is known about Ice Age dunes in the United States, although they have been intensively studied in Europe. In Netherlands, Germany, and Poland, similar features are valued and preserved as parks and monuments for their cultural and environmental significance.

Witmer Stone noted this place as a "wild spot" in *The Plants of Southern New Jersey* (p. 799). Railroad era settlers avoided this desolate patch; their 19th century roads cut across the windblown sugar sands soon crumbled and were quickly abandoned. Black colliers, making charcoal for Weymouth Furnace, were segregated to camps adjacent to this barren land. It wasn't until the mid 1920s that blacks could move to other sections of town. A fair-skinned woman of mixed race, Rose Washington, put an end to Newtonville's racial discrimination. Developers made no secret of selling certain properties only to whites. Many Pine Barrens villages were considered "white bread, mayonnaise." Rose could pass for being Caucasian, and purchased lots off-limits to blacks and resold them to

newcomers seeking a better life in pastoral solitude. Today, this geological wonder is threatened by development. Unfortunately, hairpin parabolic dunes are afforded little protection under the Pinelands Comprehensive Management Plan (CMP). When the CMP was drafted to preserve and protect the significant and unique natural resources of the



*Often, Pinelands dune features are dismissed as "fire shadows" on aerial photos. Lineations (A) on this 1931 aerial photo are hairpin parabolic dunes. Patterned ground (B) is present at Indian Branch, relics of ancient frost cracks related to frozen ground. The braided channels of Penny Pot Branch (C) were created when spring snowmelt flooded over frozen tundra. Some graves in an old "coloured" cemetery (arrow) display African burial customs.*

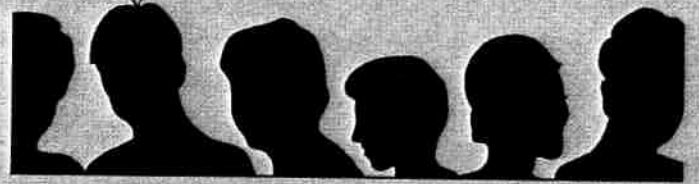
region, geological phenomena were overlooked. Three decades hence, Pinelands Commissioner staffers are fettered to rules that don't necessarily address new insight. Geomorphology is an underutilized tool in land-preservation efforts, particularly in the USA. Geotopes, locations where natural geological or geomorphological features worthy of protection exist, were recognized in 1972 at UNESCO's *Convention on the Protection of the Cultural and Natural Heritage of the World*. Unlike biotopes, geotopes have not received the attention in the United States that they have in Europe. In Germany alone, 76 national geotopes have been recognized as worthy of protection for tourism and study.

My point is that geology can provide a basis for the conservation of preserves and heritage sites, as it has at the Ice Age Scientific Reserve in Wisconsin. Through better recognition, understanding, and appreciation of exceptional geologic sites in the Pinelands, we can help protect our collective heritage from exurban sprawl. Such sites are often intimately linked to the greater human ecology. If you wish to learn more about how this marvelous Ice Age landscape influenced Newtonville's physical, cultural, and biological systems, please attend the May 20th commemoration. Berger and Sinton in *Water, Earth, and Fire: Land Use and Environmental Planning in the New Jersey Pine Barrens* (1988: xviii) state, "The beauty and complexity of the Pine Barrens should awe the officials in charge of the region's future." That's wishful thinking! In reality, it's up to us to champion the natural drama that is the Pine Barrens.

--article written by Mark Demitroff

## What can you do?

**Attend the presentation on Sunday, May 20 at 3 p.m. to learn more about the area so you have the information to participate in activities to protect the area.**



Elizabeth Marsh described the Pine Barrens as an ethnic archipelago, resulting in islands of ethnic settlement. African Americans lived and worked in the Pines since the 17th century, yet their valuable contributions to Pinelands culture remain poorly documented. The African American Heritage Museum of Southern New Jersey provides important insight into South Jersey's black community. The museum is located in the Dr. Martin Luther King Center (<http://www.aahmsnj.org/>), and open to the public from Tuesday through Saturday, free of admission.

African American Heritage Museum of  
Southern New Jersey  
661 Jackson Road  
Newtonville, NJ 08346  
609-704-7262; (fax: 704-7263)  
email: [rhunter@AAHMSNJ.org](mailto:rhunter@AAHMSNJ.org)

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