



**2023  
Annual  
Report**

***New Jersey Natural Lands Trust***

**Preserving New Jersey's Natural Diversity**



# NEW JERSEY NATURAL LANDS TRUST

## 2023 ANNUAL REPORT

### STATEMENT OF PURPOSE

The New Jersey Natural Lands Trust, created by legislation in 1968, has been preserving New Jersey’s biodiversity for more than 50 years. The intent of the Trust’s enabling legislation was to create an independent agency with the mission of preserving land in its natural state for enjoyment by the public and protecting natural diversity through the acquisition of open space. The Trust preserves land primarily by donations of open space through acquisition of title in fee simple or of conservation easements, and manages its properties to conserve endangered species habitat, rare natural features, and significant ecosystems. The Trust invites passive use by the public for recreational or educational purposes wherever such use will not adversely affect ecological communities and biological diversity.

The Trust also recognizes that ownership and management alone are not enough to achieve its mission. Public education is an integral function of protecting natural diversity. The Trust distributes information designed to convey a conservation ethic for the protection of open space and its natural values.



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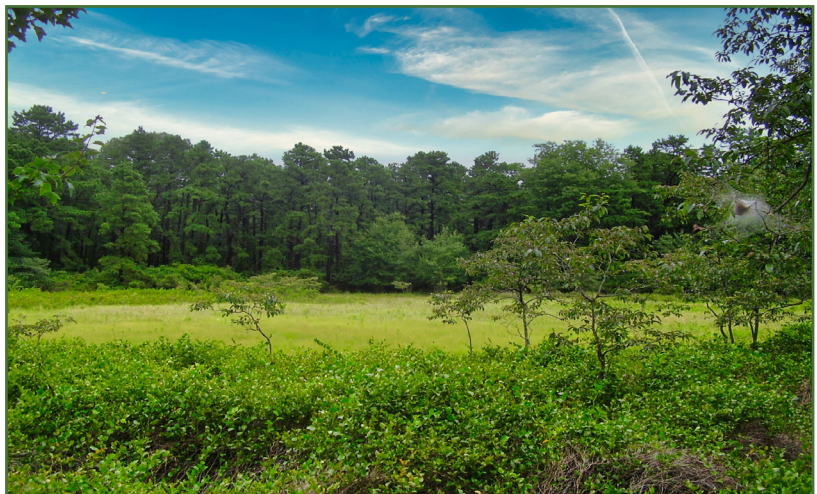
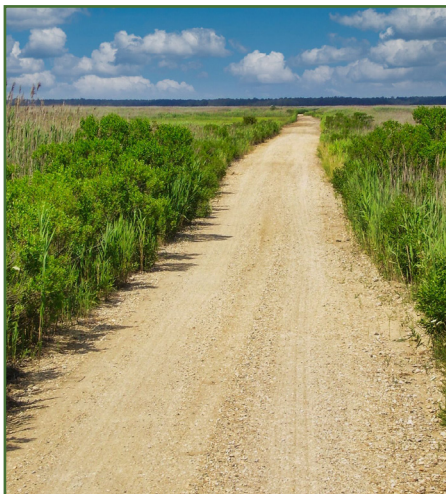
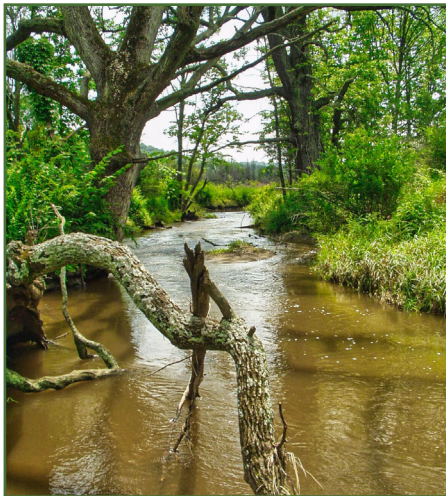
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# IN 2023...

The New Jersey Natural Lands Trust added approximately 119 new acres to its stewardship of more than 120 preserves throughout the state that comprise the Trust's system of nature preserves.

These 2023 acquisitions build up the Clarks Landing, Congleton, Mankiller, Papakating Creek, Sooy Place, and Wallkill preserves.



For every season, a Trust preserve to visit.  
Clockwise from top left: Congleton, Sooy Place, Papakating, Mankiller, Clarks Landing, and Wallkill preserves.



# A Quarter-Century with Michael Catania at the Helm

By: Cari Wild

This past year was bittersweet for the Trust as our long-term Chair, Michael Catania, stepped down from the Board and into his eagerly awaited retirement to Maine. While we are pleased that Michael will be enjoying the Pine Tree State and spending time with his wife Jan Rosenfeld and children, Taran, Leif, and Libby, we will miss his wisdom, humor, and wizardry as the Trust's Chair of almost 25 years.

It is fair to say that Michael was involved with the Trust in one form or another for most of his adult life.

Michael began to hone his skills within New Jersey's Office of Legislative Services from 1974 through 1981 drafting important environmental legislation and laying the foundation for the environmental protection movement in New Jersey. Anyone familiar with New Jersey environmental law will know that some of the most critical laws were passed during the late 70s and early 80s, including the Natural Areas Acts, the Water Pollution Control Act, the Spill Act, the Safe Drinking Water Act and, in 1979, the Pinelands Protection Act. Obviously, all this kept Michael remarkably busy, but somehow during these same years he also managed to get his law degree from Rutgers University and build his own timber-framed, passive solar house. A true Renaissance man.



**LEFT:** A very young Michael with colleague Tom Burke investigating a contaminated site during his NJDEP days.

**RIGHT:** Michael sharing his passion for the environment with the next generation--his son, Leif--in Costa Rica.

**PHOTOS:** Tom Burke (LEFT); Michele Byers (RIGHT)

After helping to enact all these important environmental laws, Michael turned to getting them implemented. What better place to accomplish this than the New Jersey Department of Environmental Protection (NJDEP), first as Director of the Office of Regulatory Services (ORS) and then as Deputy Commissioner. Amongst his many accomplishments, in 1985 Michael negotiated an agreement for Public Service Electric and Gas Company to establish a Delaware Bay Shorebird Fund to be managed by the Trust. For close to 40 years now, the Trust has used the Fund to support critical shorebird and horseshoe crab research. This research contributed to our understanding of the red knot, which stops in Delaware Bay during migration to feed on horseshoe crab eggs, and to its being listed by the U.S. Fish and Wildlife Service as a federally threatened species under the Endangered Species Act.



While at NJDEP, Michael also worked to ensure the passage of key environmental legislation, including the Freshwater Wetlands Protection Act (FWPA). In an e-mail dated October 31, 2023, Howard Geduldig, an ORS attorney and later a NJ Deputy Attorney General, recalled Michael's testimony to the New Jersey Legislature as "among the finest 'arguments' that I ever had the pleasure of directly observing. What I ... recall is that, without notes, Michael took us on a New Jersey history-laden journey that had everyone-in-the-room's rapt attention. As he finished speaking, it was obvious ... from the look on the committee members' faces, that enactment of the FWPA was a done deal."

"... without notes, Michael took us on a New Jersey history-laden journey that had everyone-in-the-room's rapt attention. As he finished speaking, it was obvious ... from the look on the committee members' faces, that enactment of the FWPA was a done deal."

In *New Jersey Governor Brendan Byrne ~ The Man Who Couldn't Be Bought*, author Donald Linky attributes the success of the Pinelands protection initiative to the long-term commitment of some of the key players to the passage of the Pinelands Protection Act, "thus giving the program a rare continuity of some of its key actors." One of those key players being "Michael Catania [who] later became a deputy commissioner of the [NJDEP] and executive director of The Nature Conservancy [TNC] of New Jersey, a group that raised private funding to buy large tracts in the Pinelands." Indeed, as TNC's executive director, Michael was instrumental in preserving some 45,000 acres and creating a system of 36 nature preserves.

In 2014, on the 35th anniversary year of the Pinelands Protection Act, Michael was inducted into the Pine Barrens Hall of Fame, joining the likes of Governors Brendan T. Byrne and James J. Florio.

As Michael transitioned from NJDEP into the private sector, first as TNC's Executive Director, and then as President of Conservation Resources Inc., an innovative conservation finance intermediary which provided technical and financial assistance to the New Jersey conservation community, he became even more involved with the Trust and eventually became



Not afraid to get his hands dirty, Michael chaired the Petty's Island trail construction crew.



Michael and Trust Board and staff members ground truthing a diversion request.

its Chair. Michael's chairmanship was uninterrupted from 2000 until his recent retirement in 2023. The Trust is unique in that it is a quasi-state agency with an 11-member Board of Trustees comprised of six representatives from the private sector conservation community and five from state government. While it can be tough enough to get 11 people to agree to much of anything, it's harder still when they're a diverse group representing distinct agencies of state government as well as a number of private conservation organizations. While most of the time the Board is being asked to approve the preservation of land important to conserving New Jersey's biodiversity, occasionally it is asked to "un-preserve" property, sometimes for a public purpose, other times for private, commercial benefit. Navigating these requests for diversions can be tricky.

Known for being an affable pragmatist, many people thought Michael would be an easy sell. They'd call him to pitch ideas for things they thought would entice Board members or suggested would serve the Trust's mission. He'd first gently try to direct them in another direction. But sometimes they just



wouldn't take no for an answer. Trust meetings are public, meaning anyone is free to attend. These folks would show up to make their pitch to the Board thinking they could outmaneuver Michael and sell it to the Board. After patiently hearing them out, he'd refer to one of his favorite movies, *Cool Hand Luke*, explaining that "what we have here is a failure to communicate," making clear that while he had earlier tried to nicely direct them away from the Trust, he had actually been speaking for the entire Board. Notably, during Michael's tenure, never once was a diversion approved.

To protect the Trust from diversions even beyond his term, Michael helped to write and approve the Trust's *Guidelines for the Conveyance of Land*, modeled after the Green Acres diversion rules, but even tougher. These guidelines require that there must be a true public need with no feasible alternative and define specific compensation in the event the Board approves conveyance. Under Michael's leadership, the Trust's Board presented a united front in the face of every conveyance request. This may sound simple but, in some cases, there were significant politics at play behind the scenes. Only a very skilled leader could have guided the Trust through those perilous times.

Sometimes, even conservation could prove controversial. When the CITGO Petroleum Company (CITGO) offered the Trust a conservation easement and eventual full ownership of Petty's Island, a 500-acre island off the shoreline of Camden, it seemed like a no-brainer. Here was a chance to work with a large, motivated company to remediate and restore an industrial landscape in the Delaware River to its natural condition. Not only did CITGO agree to remain on the hook for any clean-up, it also offered the Trust millions of dollars for stewardship and seed money for a future cultural and environmental education center. But, as this deal was being formalized in 2004, a different plan was afoot by politicians and others who envisioned a different kind of refuge, one for the rich, as part of a plan by a North Carolina developer, Cherokee Investment Partners, to condemn and redevelop parts of the Cramer Hill neighborhood of Camden. The vision under this redevelopment scheme for Petty's Island included high end residential housing and a hotel



Michael becoming one with the habitat and showing Trust pride through his attire at a Trust preserve.



**ABOVE:** Michael with his trusted Trust staff. Martin Rapp, Michael, Cari Wild, Bob Cartica, and Darin Oliver.

**BELOW:** Michael and former Trust Secretary/Treasurer David Moore headlining the Trust's 50th Anniversary celebration.





and conference center complete with marina and golf course. The Trust Board was not so gently advised it could not accept the island. Michael chaired the Board's raucous public meeting to consider CITGO's offer at the Freedom Mortgage Pavilion, then named the Tweeter Center, before hundreds of concerned local citizens and environmentalists. After hours of testimony, a majority of the Board voted to accept CITGO's offer but, based on a quirk of the Trust's statute, the validity of all Board actions requires the affirmative vote of at least one governmental official, which was lacking. The scene could have quickly dissolved into chaos, but with Michael as Chair, while commiserating with the audience, he also gained their confidence and command.

As Michael was fond of saying, "Nature bats last." After the housing bubble of 2008, Cherokee pulled out of the redevelopment deal and CITGO came back to the Trust with the offer of a conservation easement over the island, which this time around the Board happily and unanimously accepted on Earth Day 2009 as its first urban preserve.

Although the Trust holds the easement, the island itself is still owned by CITGO, which is a wholly owned subsidiary to Petr6leos de Venezuela, S.A., the Venezuelan state-owned oil and gas company. The Trust cannot accept ownership of the island until it has been fully remediated to NJDEP standards.

Sadly, this process has taken on a life of its own and one of Michael's greatest frustrations was leaving the Board without having accomplished the transfer. Although he's moved on, the Trust will own the island someday and it will still be Michael's accomplishment. Michael's vision and indefatigable nature is what led to the Trust creating the Petty's Island Preserve, about which someone will note in the future, "This place is an incredible asset to the Camden region. Luckily, someone had the foresight and wisdom to preserve it." Those hiking "Michael's Trail" will probably understand and appreciate that THAT someone was named Michael.

Looking back on his work in New Jersey and with the Trust, Michael reminisces, "Some days, it feels like it is still the 1980s, and I am still that brash 30 year old; but most other days, when I look in the mirror, I wonder where the time has gone so quickly, and how I could possibly be in my 70s. But the memories of the things we have done together still never fail to bring a smile to my face and a bounce to my step, despite the bad knees and the disappearing gray hair..." The memories of Michael at the Trust's helm and his many accomplishments will always bring a smile to our faces, a bounce to our steps, and much gratitude to our hearts. Thank you, Michael, for giving so much of yourself and your time to the Trust and to protecting New Jersey's biodiversity and making the lives of New Jerseyans better.



The Trail that Michael built literally and figuratively at Petty's Island ~ Michael's Trail.

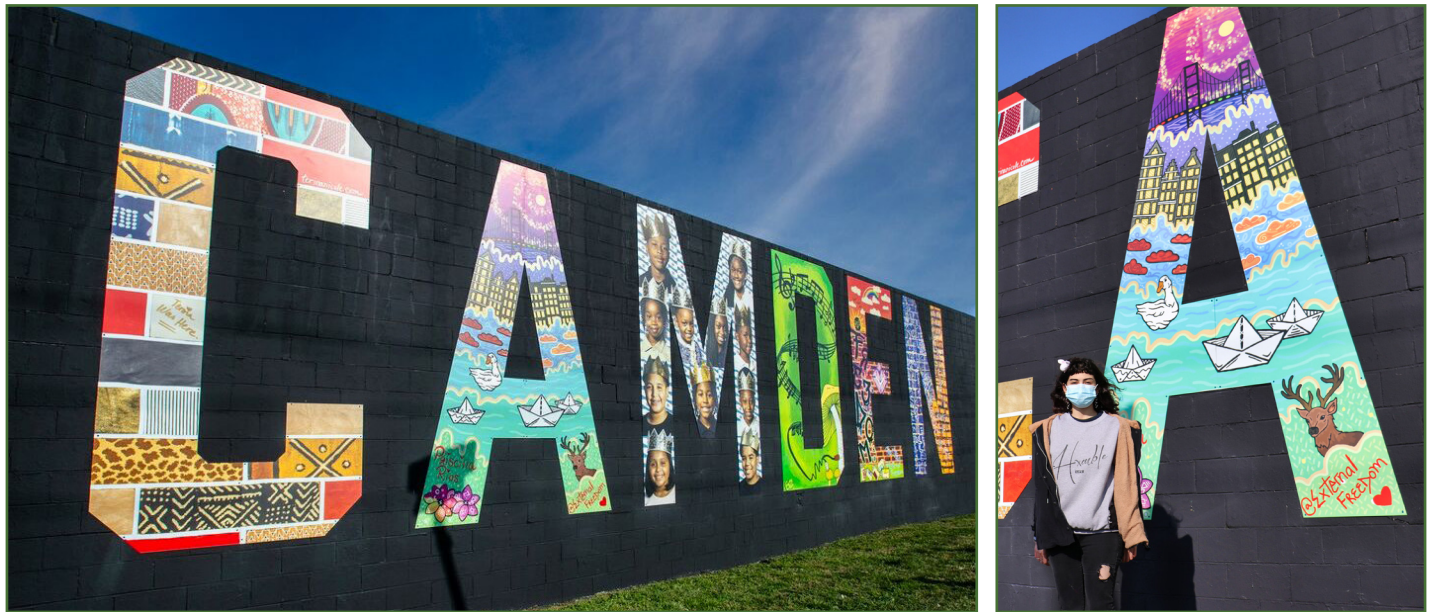


# Petty’s Island–Fostering Community Partnerships

By: Linda Cairnes

Over the past few years, the City of Camden has stepped up its efforts to live up to its mantra of “City Invincible,” borrowed from a quote by Walt Whitman, one of Camden’s most famous residents. Recently, Camden updated its City Invincible mural originally created by William Butler after being inspired by this quote. Local artists Erik James Montgomery, Donald T. Williams, Terina Nicole Hill, Priscilla Rios (a former New Jersey Natural Lands Trust Watershed Fellow), and Breiner Garcia each choose letters to artistically spell out “Camden” for the mural, officially tagging Camden as the invincible city. Camden’s recent transformation extends beyond art, however, as is most evident in the increase and expansion of green spaces and waterfront access. At 500 acres, once in public ownership, the Trust’s Petty’s Island Preserve stands to play a key role in this transformation due to its size, strategic location, and potential for public waterfront access.

For over a century, Petty’s Island has been owned by CITGO Petroleum Corporation, or its predecessors, who used the island as an oil storage and refining facility. Until 2018, Crowley Maritime leased a portion of the island for a facility to transport shipping containers by barge and truck to and from Puerto Rico, leading to hundreds of trucks regularly traversing residential neighborhoods surrounding the island. Few Camden residents had any idea that there was an island at the end of 36th Street or that that was where all these trucks were headed to or coming from. The few Camden residents that knew still refer to Petty’s Island as “the place with the trucks,” even though operations ended years ago. It is hard to believe that Petty’s Island can be so big and so close, yet so invisible to the residents of Camden City.



Former Trust Watershed Fellow, Priscilla Rios, painted the A and the E in this amazing Camden Invincible mural.

The Trust, which holds a conservation easement over the island with the right to conduct limited public programming, has made a concerted effort to improve awareness about and access to the island, through Camden County-wide partnerships and alliances, and with the financial support of the [William Penn Foundation](#). For more than a decade, William Penn has generously supported environmental education programming on the island which, in 2023, allowed about 250 people to visit and attend programs led by the Trust’s programming contractor, the [Center for Aquatic Sciences](#) (CAS), including workshops, history tours, bird walks, and cleanups.



This year, William Penn expanded its financial support to include community engagement and co-design of programming. Engaging the communities closest to the island has been challenging for many reasons, including residents' historically negative experiences of misused urban green spaces, language and transportation barriers, non-centralized communication systems, and distrust towards those perceived as outsiders. But with a resolute and consistent community presence, the Trust is working to become a reliable, trusted, and sustainable ally within these communities.

*The mission of Camden FireWorks is to use art to create social change.*

Tremendously helping the Trust's efforts is the collaborative atmosphere in Camden neighborhoods with waterfront access, specifically Cramer Hill/ East Camden, North Camden, and Waterfront South. Community-based organizations within these neighborhoods have strong leadership who organize monthly meetings, bringing together residents, stakeholders, service-providers, and advisors to foster allyship and work through goals and barriers. Trust staff regularly attend these meetings to get to know residents, learn about their goals, and identify and support programming that aligns with their interests. These meetings also promote awareness about community events that Trust staff regularly attend to share information about Petty's Island.

In 2023, Trust staff attended events that reached about 650 residents, including the East Camden Cultural Fest, National Night Out, Byron Gardens Harvest Festival, and North Camden's Secret Santa Giveaway. Trust staff helped with the East and North Camden cleanups hosted by Camden Mayor Victor Carstarphen and Councilwoman Jeanette Ramos, which drew more than 130 participants. The Trust also partnered with Camden Community Partnership's Connect the Lots Program, CAS, Urban Promise, and American Water to host "I Paddle Camden" kayaking events with over a total of 350 participants. These community events are ideal for one-on-one conversations with Camden residents to promote opportunities for visiting Petty's Island.



Camden Lutheran Housing staff enjoying [Water Spirit](#) benches.



Camden FireWorks painted these vibrant birdhouses hung at Petty's Island by the Delaware River Climate Corps.

Since attending these community meetings and events, we have seen an increase in Camden residents' awareness and interest in Petty's Island, with many organizations, particularly those serving teens and young adults, interested in bringing their groups to Petty's for hikes and cleanups.

Throughout the year, Trust staff partnered with Camden organizations to create programs based on each group's unique interests/goals. For example, with [Camden Fireworks](#), we led a full-day program that included a visit to Petty's Island and a bird house painting session. A group of Camden teens involved with the [Delaware River Climate Corps](#) then installed the bird houses while clearing trails and removing 15 bags of plastic and other trash.

[Camden Lutheran Housing of North Camden](#) (Camden Lutheran Housing) brought their entire staff to Petty's, many of whom live in Camden, but had never heard of Petty's Island. Camden Lutheran Housing staff are now working with Trust staff to explore ways to include monthly Petty's Island programs/trips in their 2024 program calendar.





Climate Corps enjoying the shoreline views after a cleanup.

In July, the [Center for Family Services](#) brought a teen group to Petty's, then invited the Trust to table at the Camden Career Fair in the fall. It was impressive how many Camden high school students at the fair had already heard about Petty's. A few had been to the island for a previous program, hopefully spurring interest in jobs and internships involving the natural environment.

One of the greatest values of these group programs was the opportunity to listen and hear directly from those that live in Camden about the value of a space like Petty's. Students and young adults from several of these programs were asked to reflect on their experiences on the island and how it compares to their neighborhood. Through our Petty's Island Ponderings work sheet, they shared their favorite (peace and quiet) and least favorite (BUGS!) things about Petty's Island.

The Trust and CAS teamed up for the Petty's Island Shoreline Sweep which, with over 40 participants from local organizations and businesses, removed over 2,000 single-use plastic bottles and other debris that had washed up onto Petty's shoreline from the Delaware River. Several regular partners also helped, including Camden Lutheran Housing, Camden Community Partnership, and [Covanta](#). The [Camden County Municipal Utilities Authority](#) brought their front-loader to move about 50 bags of trash to the dumpster. By the end of 2023 this event, along with other smaller cleanups throughout the year, resulted in over a ton of plastic being removed from the environment. That's teamwork!



ABOVE: Camden residents enjoying | Paddle Camden.

BELOW: The Petty's sign is a popular spot for group shots.










Every summer, Petty's Island hosts a bat hike. Although the bats never disappoint, we do not know which species we are seeing. In 2023, the Trust conferred with bat experts to start studying the bats at Petty's. Bat researchers have two primary ways of gathering data; using acoustic recorders to capture ambient bat echolocation calls and capturing bats in mist nets to identify them. In 2024, we're going to start with the more passive option of recording bat calls and transforming the calls into sonograms or translated sounds within the audible human range to attempt identification. If these recordings suggest rare or unusual bat species at Petty's, then the next step will be deploying mist nets. Stay tuned to this bat channel for updates.



**Fowler's Toad**  
*A. fowleri*

**Physical Appearance**

- Brown body with dark warty spots
- Short, rounded snout
- Light stripe down the middle of back.

**Habitat**

- Open woodlands
- Meadow
- Beaches

**Hibernation**

- Burrows into the ground during hot, dry periods and during the winter

**Status:**  
Special Concerned

**Fun Fact**

The name, *fowleri*, is in honor of naturalist Samuel Page Fowler (1800–1888), who was a founder of the Essex County Natural History Society

8



Group enjoying a sunset bat hike at Petty's Island

blue-fronted dancer (*Argia apicalis*); Halloween pennant (*Celithemis eponina*); familiar bluet (*Enallagma civile*); big bluet (*Enallagma durum*); Eastern pondhawk (*Erythemis simplicicollis*); little blue dragonlet (*Erythrodiplax miniscula*); fragile forktail (*Ischnura posita*); slaty skimmer (*Libellula incesta*); blue-faced meadowhawk (*Sympetrum ambiguum*); and Carolina saddlebags (*Tramea Carolina*).



Slaty skimmer at Petty's Island.  
PHOTO: Mike Hannisian

Speaking of interesting flying critters, after observing many dragonflies and damselflies (Odonates) across many different habitats at Petty's, the Trust inventoried them in 2023. The Trust hired two separate Odonate experts, Mark Manning and Mike Hannisian and his assistant Nancy J. Watson, to make multiple visits to the island. In total, they identified 28 species of Odonates including:

Notably, Petty's Island supports populations of at least 14% of the total Odonates native to New Jersey (188 species), and at least 25% of the total Odonates native to Camden County (112 species). These numbers are impressive considering that many of the species listed in New Jersey do not occur in Camden County, and many of the species listed as native to Camden County may only occur in the New Jersey Pine Barrens (e.g., scarlet bluet (*Enallagma pictum*)), and would not be expected to be found at Petty's Island. It is fair to say the 2023 survey demonstrates significant diversity at Petty's worthy of further survey, especially to determine how many of these species are breeding on the island.



Wingless critters get less attention, but this past summer two Rutgers University students undertook studies to better understand ants in the urban environment. Both students were working under Dr. Amy Savage. Among the many monitoring locations throughout Camden, some were on Petty's Island. Chiara Garcia specifically explored [microclimate effects on ants in urban greenspaces](#), while Caitlin Tanoue investigated [ant abundance in urban ecosystems with high heat vulnerability](#). Both students intend to continue collecting ants and other insects at Petty's, so hopefully we'll learn more.

While the Trust looks forward to owning Petty's Island and opening it to the general public for passive recreation, we hope that people remember the home it provides for so many critters as well as plants. Once the Trust owns Petty's, there may be a lot of pressure to develop and allow active recreation, but it is the Trust's hope and intention to keep Petty's Island in a natural state with opportunities for unique educational and passive recreational experiences, as well as protection of habitat for critical biodiversity.



Juvenile bald eagles flying high.  
PHOTO: William Culp



Chiara Garcia (LEFT) and Caitlin Tanoue (RIGHT) collecting and studying insects at Petty's.





*Because the Trust's mission is to preserve land in its natural state and protect New Jersey's natural diversity, our annual report profiles a selected rare plant each year.*

*This year we profile **Parnassia glauca**,*

## **Grass of Parnassus**

By Elena Williams

*Pale star that by the lochs of Galloway,  
In wet green places 'twixt the depth and height  
Dost keep thine hour while Autumn ebbs away,  
When now the moors have doffed the heather bright,  
Grass of Parnassus, flower of my delight,  
How gladly with the unpermitted bay—  
Garlands not mine, and leaves that not decay—  
How gladly would I twine thee if I might!*

*The bays are out of reach! But far below  
The peaks forbidden of the Muses' Hill,  
Grass of Parnassus, thy returning snow  
Between September and October chill  
Doth speak to me of Autumns long ago,  
And these kind faces that are with me still.*

By Andrew Lang

(from his book, *Grass of Parnassus: Rhymes Old and New* published in 1888)



Grass of Parnassus (*Parnassia glauca*) may seem like an unusual choice for the Trust's annual rare plant profile. For one thing, it's not yet listed as a rare species in New Jersey. For another, different species in the *Parnassia* genus can be found throughout the Northern Hemisphere. This includes *Parnassia palustris*, found in Scotland and recalled with nostalgia in Andrew Lang's poem above. However, as we will see, *P. glauca* and New Jersey are at the center of trends in evolution and climate change that are reshaping the world.

The name 'Grass of Parnassus' evokes ancient Greece and Mount Parnassus – home of the Muses and sacred to Apollo. And indeed, the [origin of the plant name](#) goes back almost two millennia where it originally appears as 'Parnassos Agrostis' in a first century manuscript. Carl Linnaeus then applied the familiar Latin binomial to the plant when he named the Eurasian species *P. palustris*. Despite the fact that Grass of Parnassus is more common in northern climes, it can still be found in the mountainous regions of Greece, including Mount Parnassus itself.

Grass of Parnassus is not a grass but, instead, belongs to the Celastraceae (staff-vine or bittersweet) plant family. This family includes common invasive species such as Asiatic bittersweet (*Celastrus orbiculata*) and winged euonymus (*Euonymus alatus*), as well as close relatives, wahoo (*Euonymus atropurpurea* var. *atropurpurea*) and climbing bittersweet (*Celastrus scandens*), that are native and rare in New Jersey.

There are over ten species of *Parnassia* in the world, but only one species, *P. glauca*, is found in New Jersey. New Jersey is at the southern limit of the range of this species which extends northeast into Newfoundland and as far west as the Dakotas and Saskatchewan.

Grass of Parnassus is a perennial herb with broad, long-stalked leaves forming a basal rosette. A single flower then develops at the top of flowering stalks that are leafless except for a single leaf that may be found along the lower third of the stem. The stems grow up to one and a half feet tall and superficially resemble a field of grass when viewed from a distance.



[Basal rosette.](#)



[Flowering stalks with single leaf.](#)





Grass of Parnassus flower.

The plant blooms in late summer and early fall (August-September) when a single white flower appears at the top of each flowering stalk. The attractive flowers can be up to one inch wide with prominent greenish veins displayed in each of the five petals. After flowering, seed capsules develop which divide into three or four parts at maturity and release numerous tiny seeds which may then be dispersed by the wind.

Over millennia this beautiful plant evolved to live in a narrow range of habitats and with specialized adaptations that enabled it to thrive in its chosen environment. This strategy succeeded until recently when humans began to play a larger and larger role in the environment.

One dilemma is that *P. glauca* is found in an ecological community that is extremely rare in New Jersey. Another common name for this plant is Fen Grass of Parnassus - and fens are one of the rarest ecological communities in the state. Fens are wetlands with a unique water chemistry created by the mineral rich waters that feed into the fen community. Grass of Parnassus is an obligate wetland species and cannot survive in drier habitats.

In New Jersey, Grass of Parnassus is most commonly associated with calcareous fens. The water in these habitats has a basic pH that results from a groundwater supply rich in [calcium and magnesium bicarbonates](#). This in turn supports a unique community of plants, such as *P. glauca*, that have evolved to thrive in calcium-rich habitats. Numerous

species of rare plants and animals now occur only in these fen habitats.

Unfortunately, calcareous fens are now found only in the northwest part of New Jersey and are facing increasing threats. These fens rely on a constant supply of cold, oxygen-poor groundwater. Alterations to the quantity or quality of the water replenishing the ecological system are detrimental. This can be caused by nearby development or increasing nutrient inputs from fertilizer applications and other sources. Another serious threat is the proliferation of invasive plant species that quickly overrun the habitat and the native plant species (such as Grass of Parnassus) living there.

Looming over all these other factors is the threat of climate change. New Jersey is at the southern limit of the current range of *P. glauca*. As the climate warms, this species may retreat further north and no longer be found in the state. And the disappearance of this plant species would not be the only loss to New Jersey's biodiversity.

While Grass of Parnassus was evolving, so were its pollinators. In fact, one species, the Parnassia mining bee (*Andrena parnassiae*) is now entirely dependent on *P. glauca* as its sole food source. And if Grass of Parnassus disappears from New Jersey, so will this rare bee species.



[Five unfolded stamens in top flower, and one unfolded stamen and four bent stamens in bottom flower.](#)



There are over 1,200 different species of bees in the *Andrena* genus found in North America north of Mexico. These bees are commonly known as mining bees for their habit of excavating nests in the ground. Unlike the European honey bee, these bees are solitary and do not congregate in colonies. Instead, they dig tunnels with individual brood chambers in which a single egg is laid and then provisioned with a ball of nectar and pollen for the developing larva. And also in contrast with honeybees, mining bees tend to pollinate and feed on a limited number of flowering plant species. The Parnassia Mining Bee has taken this to the extreme and only feeds on and provisions its young with nectar and pollen from flowers of *P. glauca*.

Specialized [relationships between pollinators and plants](#) maximize the efficiency of pollen and nectar collection, and avoids waste when pollen is carried to unrelated plant species. The Grass of Parnassus flower has several features to guide pollinators and maximize pollen transfer to different flowers and avoid self-pollination. The male (stamens) and female (pistil and stigma) structures mature at different times within the same flower. Along with five fertile stamens, the flower also has infertile stamens (staminodes) that appear to the bee as droplets of nectar. The fertile stamens are initially bent over the immature stigma. When the bee tries to

obtain the nectar from the fake stamens, it dislodges pollen from the bent stamen onto itself. The fertile stamen then unfolds back against the white petals. Meanwhile, the bee visits and deposits some of the pollen on the mature stigma of another flower. Stamens do not all bend and unfold at the same time, rewarding multiple visits by bees to the same flower.

Specialized evolutionary relationships such as that between *P. glauca* and *A. parnassiae* have allowed the plant and its pollinator to thrive for countless years. But now, changing environmental conditions may lock these two species together in a death spiral. Fortunately, that doesn't have to be the case. There have been extensive studies carried out on fens and the various *Parnassia* species. And now, a Rutgers University graduate student, Max McCarthy, probably the world's expert concerning the once obscure Parnassia Mining Bee, is conducting surveys for this species on Trust preserves and other promising sites throughout the region. His current research concentrates on the biology of *A. parnassiae* and may provide insights into its ability to survive as conditions change. And the Trust already manages several fens on its preserves with the goal of ensuring that these habitats and the unique species found on them will always be part of New Jersey's biodiversity heritage.



Parnassia Mining Bee and Grass of Parnassus flower with staminodes  
PHOTO: Max McCarthy



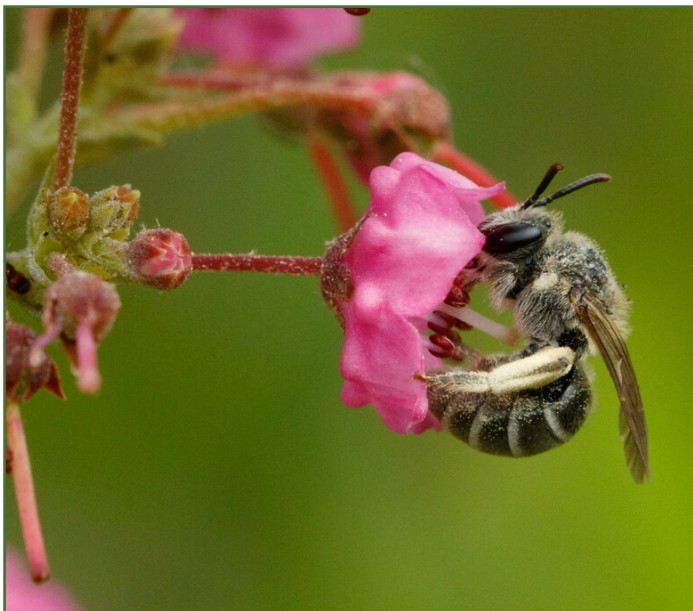
# Surveys and Inventories: Getting a Handle on What's Out There

By Jason Hafstad

Each year, the Trust's Board of Trustees appropriates funds for biodiversity inventories. Surveys inform staff about what biota our preserves support so the Trust can properly manage and protect their essential habitats. Surveys also contribute to the understanding of species' rarity, distribution, and life histories more broadly in New Jersey. Surveys also provide baseline data that allows staff to measure how these resources are faring over time, with or without management.

In the past, the Trust sought competitive bids on one or two large-scale inventories that would include comprehensive surveys on selected Preserves for plants, birds, moths, butterflies, reptiles, mammals, odonates (dragonflies and damselflies), and/or ecological communities. More recently, the Trust decided to try to spread its limited budget around as much as possible, contracting instead for smaller-scale surveys that are not intended to be comprehensive but capture a snapshot of target taxa groups over a handful of visits. During 2023, this included surveys at six preserves:

\* **Lichenized fungi (fungal species partnered with an algae and/or cyanobacteria)** at **Mackenzie's Preserve**: This inventory by Dennis Waters yielded 73 taxa, including species that have not been recorded from New Jersey since the 1800s, and some that are newly reported for the state. Some species are considered old-growth indicator species and contributed to the Trust's decision to nominate Mackenzie's Preserve to the Old-Growth Forest Network.



*Colletes bradleyi* on sheep laurel, per usual.  
PHOTO: Max McCarthy

\* **Native bees at Crossley Preserve**: This survey by Max McCarthy recorded 33 species, including a population of *Colletes bradleyi*, a bee thought to be endemic to the New Jersey Pine Barrens, and to be a specialist on sheep laurel (*Kalmia angustifolia*). That means that despite sheep laurel being common and widespread across the Northeast, this bee has only ever been reported from the New Jersey Pine Barrens, and always visiting the flowers of sheep laurel. Max also found a population of *Perdita novaeangliae*, thought to be a specialist on *Lyonia* (or staggerbush, a member of the heath family), which appears to be the first record for New Jersey since 1954. Another significant find was *Melitta americana*, a cranberry specialist.

\* **Native bees at Bennett Bogs Preserve**: Max McCarthy's survey yielded less significant results than we were hoping for or expected. Unfortunately, this preserve suffers from a high abundance of the non-native and invasive European honey bee (*Apis mellifera*). The extent to which this has affected the native bee diversity at Bennett Bogs is difficult to determine. A total of 17 bee species were recorded for this two-day survey.





Bleeding fairy helmet fungi at Game Branch  
PHOTO: Brandon Roddy

\* **Non-lichenized fungi** (fungi that is not a lichen) at **Game Branch Preserve**: Brandon Roddy found 126 taxa total, the longest species list of any of the 2023 inventories. Many fungi in New Jersey are under-documented and have questionable taxonomies, making it difficult to infer rarity or conservation significance. That said, Brandon located several rare to under-documented species, including some previously not reported from New Jersey. These include *Syzygospora mycetophila*, *Tubaria conspersa*, *Tolypocladium paradoxum*, *Psilocybe fuscofulva*, and *Microporellus obovatus*. Some of these species were sent off for genetic sequencing as part of the 2023 [Fall Continental Mycoblitz](#).

\* **Moths at Game Branch Preserve**: This survey by Ann Marie Woods yielded 87 moth species (two of which were not native to New Jersey), including several thought to be uncommon but none that were considered rare or Species of Greatest Conservation Need (SGCN) in the [NJ Wildlife Action Plan](#) (2018). These include the inimical borer (*Pseudogalleria inimicella*), the peppered haimbachia (*Haimbachia placidellus*), the pickerelweed borer (*Bellura densa*), the black-dotted ruddy moth (*Ilexia intractata*), and the gray sparganothis (*Cenopis cana*). Also noteworthy was an exceptionally large population of the scarlet-winged lichen moth (*Hypoprepia miniata*).



Moth biologist Ann Marie Woods studying Game Branch moths (LEFT) including the black-dotted ruddy moth (*Ilexia intractata*) (RIGHT).





Little blue dragonlet.

\* **Avian diversity at Readington Preserve:** This survey by Wild Bird Research Group, Inc. yielded 64 species, including evidence of breeding for 44 of those species. A total of 18 SGCN were observed, including the belted kingfisher, black-throated green warbler, brown thrasher, veery, and wood thrush.

\* **Odonates at Petty's Island Preserve:** The Trust hired two separate Odonate experts, Mark Manning and Mike Hannisian, who collectively visited Petty's Island for five days. A total of 28 species of dragonflies and damselflies were included in their reports, including the uncommon little blue dragonlet (*Erythrodiplox minuscula*).

The Trust intends to continue these smaller-scale surveys in 2024, particularly for under-appreciated taxa groups. Although the NJDEP promulgates lists of State Threatened and Endangered animal species and State Endangered plant species, these lists only include taxa groups that have been assessed for rarity (vascular plants, birds, snakes, turtles, bats, freshwater mussels, etc.). There are many other species deserving of such status, but the Department lacks the statutory authority, expertise and/or data to focus on them (liverworts, spiders, syrphid flies, beetles, snails, slime molds, mushrooms, etc.). Contributing data to better understand these species' statuses, trends, ecologies, and distributions in New Jersey is a primary goal for the Trust.

In addition to the contracted biodiversity surveys, Trust staff also conducted ecological inventory work. We updated data for 17 known populations of rare plant species and documented seven previously unknown populations. We also collected vegetation plot data at five Trust preserves and the newly hired part-time bryologist with the NJDEP's Office of Natural Lands Management, Blair Young, conducted moss inventories at both Strader's Pond and Bear Creek preserves.

Three Rutgers University PhD students conducted ecological research on Trust preserves in 2023. Ryan Schmidt continued his work conducting botanical inventories at Petty's Island, Morgan Mark began her research on scavengers using deer carcasses at over a dozen preserves, and Max McCarthy is studying a rare native bee called *Andrena parnassiae* at several Trust preserves.

Lastly, an ongoing study on rare snakes is underway on one of our preserves, and we are working with the NJDEP's Endangered and Nongame Species Program to manage habitat for rare turtles at several sites. Locations for this work are kept confidential to prevent poaching.



Black-throated green warbler, belted kingfisher, and veery were found during an avian survey at Readington Preserve.

PHOTOS: William Culp



# Mackenzie's Preserve Inducted into the Old-Growth Forest Network

By: Cari Wild

On November 30, 2023, Mackenzie's Preserve was inducted into the [Old-Growth Forest Network](#) (OGFN). Brian Kane, Mid-Atlantic Director of the OGFN, conveyed the distinction to the Trust's Executive Director, Robert Cartica. After an initiation ceremony, a hike was led by Trust naturalist and preserve manager Jason Hafstad, who explained the forest's ecological significance.

The preserve's forest is classified as a Sugar Maple-Chinquapin Oak/Sedge forest, which occurs on upper slopes and wooded summits on limestone, dolomite, or marble bedrock in the northeastern United States. Many hardwood trees at Mackenzie's Preserve are estimated to be over 110 years old, and one white oak (*Quercus alba*) was determined to be nearly 160 years old. Several lichen species found at Mackenzie's Preserve are thought to occur primarily or exclusively in old-growth forests.

Hand-drawn maps created by C.C. Vermeule between 1870 and 1887 are detailed topographic maps of northern New Jersey, including forested areas. These maps are invaluable in locating areas of northern New Jersey with older-growth forests. Vermeule clearly depicts the older-growth portion of Mackenzie's Preserve as forested back in the 19th century.



**FROM LEFT:** Bob Cartica, Brian Kane, Larry Torok, David Snyder, Jason Hafstad, and Cari Wild at the Mackenzie's Preserve's induction into the Old-Growth Forest Network.



Mackenzie's Preserve was named for Kenneth Kent Mackenzie, the botanist who in 1914 discovered its botanical splendor. A New York City attorney, Mackenzie became one of the most knowledgeable field botanists in New Jersey from approximately 1902 until his death in 1934. In addition to discovering hundreds of rare plants, he also discovered some of the state's most important botanical sites.

As the Trust's Chair, Margaret Waldo, noted, "We are thrilled to have Mackenzie's Preserve inducted into the prestigious Old-Growth Forest Network. This designation is a testament to the Trust's mission of preserving New Jersey's exceptional ecological resources in perpetuity. We are proud to steward this rare forest ecosystem and to make it accessible for public enjoyment."

Mackenzie's Preserve joins three other New Jersey forests in the OGFN, including the Trust's Bear Swamp at Red Lion and Game Branch preserves as well as Clayton Park in Monmouth County. Founded in 2012 by Dr. Joan Maloof, the OGFN includes over 228 forests across 35 states.



Older-growth forest within Mackenzie's Preserve



Lichen diversity at Mackenzie's Preserve contributed to its designation as an older-growth forest, including the rare to under-documented false Russell's fishscale (*Psora pseudorussellii*) (LEFT) and the smooth lungwort (*Ricasolia quercizans*) (RIGHT), an old-growth forest indicator species, both of which are found at Mackenzie's Preserve.





# Managing Trust Lands and Neighbors: Encroachments, Trespass, and Easements

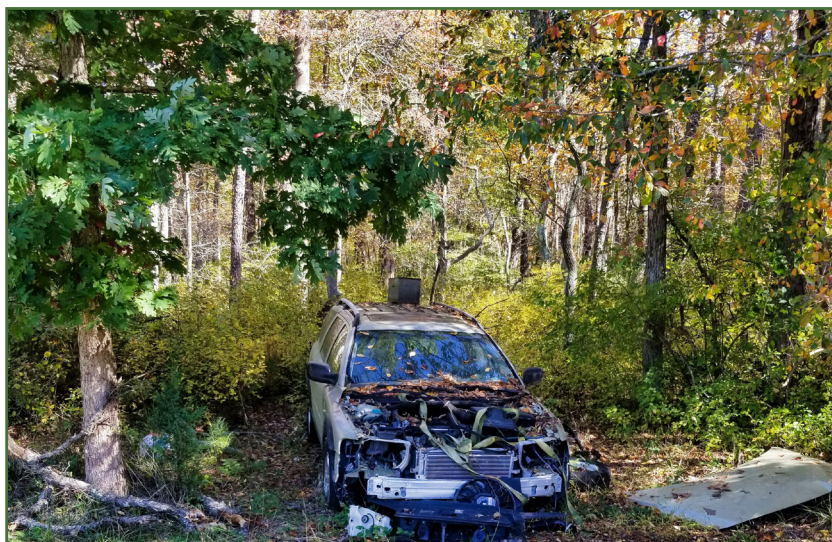
By: Terry Caruso and Terry Schmidt

## ~ Encroachments and Trespass ~

The Trust has one full-time and two part-time staff managing over 30,000 acres of land, including over 600 miles of perimeter boundaries, from New Jersey's border with New York south to Cape May. That's a lot of land and a lot of neighbors.

The most time-consuming management responsibility is addressing encroachments from adjacent landowners. The Trust does its best to post signage along property boundaries to visually establish our shared property lines with adjacent landowners. Unfortunately, notwithstanding signs, some Trust neighbors intentionally extend their properties onto the Trust's land by building structures such as sheds, parking vehicles, or storing equipment. Others use Trust lands as a dumping ground for their landscape clippings or junk disposal. These inappropriate activities on Trust preserves are every bit as much of a trespass as ATV riding or illegal hunting. There are also unintentional encroachments by folks who legitimately do not know where their property lines (or the Trust's) are located.

The Trust's goals in addressing encroachments are to achieve compliance and be a good land steward. When trying to determine whether an activity is an encroachment, Trust staff reviews property boundaries using surveys, aerial photography, and GPS/GIS technology. Once documented as an encroachment, a certified letter with supporting evidence (photographs, coordinates, references to existing surveys) is sent to the landowner with a date to remove the encroachment or to supply evidence to dispute the Trust's claim. The landowner is advised of the Trust's legal responsibility to ensure that lands held in the public trust are protected, and of the Trust's unique mission of preserving land in its natural state while protecting valuable habitat for rare plant and animal species. In most cases, this or a brief chat with the landowner results in an amicable resolution.



Illegal dumping is a problem on all of New Jersey's preserved lands, not just Trust preserves. If you spot illegal dumping, call 1-877-WARN-DEP. Trust signs like that to the right are posted along most of the preserve perimeter boundaries although many any removed, vandalized, or shot at.





In cases where encroachments are not removed, the Trust seeks the assistance of the NJ State Park Police and the NJ Attorney General's Office.

These are just a few of the encroachment successes that Trust staff recorded in 2023:

\* Four large encroachments were dealt with at Great Piece Meadows Preserve. One landowner had cut trails through the preserve and decorated them to provide Halloween tours.

\* A landowner adjacent to the Collings Pines Preserve had a landscape company remove vegetation on Trust property so they could extend their outdoor living space, including furniture, lighting, and lawn decorations. The landscaper piled the cut trees and underbrush on the Trust property. The landowner eventually removed all the items and refuse.

\* A neighbor to the Retreat Preserve did not care for the wetlands behind their house and created a pond with non-native vegetation. After several exchanges and a letter from the local homeowner's association and the NJ Pinelands Commission, the issue was resolved. In the process of investigating this encroachment, three additional encroachments were found, and landowners were sent letters.

\* An adjacent landowner was using the Thompsett Preserve, which has little public access, as a private hunting preserve including the creation of ATV trails for personal use even though motorized vehicles are prohibited on Trust preserves. This landowner also built a substantial bridge that had to be removed by staff as well as other encroachments. The landowner has been notified that any further damage to the preserve will result in citations.

\* A nearby landowner to the Pancoast Preserve was using the preserve to store an abandoned motor vehicle. Another landowner removed vegetation to install a large solar powered deer feeding station. Both issues have been resolved.

\* A neighbor to the Clamming Creek Preserve created boardwalks leading from their properties with floating docks at the bayside. One was immediately removed. The other is still in progress.



Before (ABOVE) and after (BELOW) views at the Thompsett Preserve.



The Trust believes that the most important part of being a good neighbor when addressing encroachments is excellent communication. Our neighbors often seem surprised when they encounter Trust staff but usually enjoy talking to us about their experiences on our preserve. After getting to know us, they often become a reliable set of eyes and ears for future encroachments or trespasses, such as ATV use or dumping that may occur on the preserve. While encroachment issues are sure to continue at Trust preserves, it is satisfying to make a difference in places before the issues get beyond our grasp while creating beneficial relationships. We are looking forward to another successful year in 2024!



## ~ Easements ~

Another important land management responsibility is easement monitoring. In the 80s and 90s, conservation easements were viewed as an attractive method of land preservation without the cost, responsibilities, and obligations of full land ownership. As properties changed hands, however, maintaining the awareness of and commitment to conservation easements was ignored or deemed to be more burdensome than outright ownership. Regular easement monitoring and communication with the fee property owners is essential for the easements that are part of the Trust's land portfolio.

In total, the Trust holds 24 conservation easements that protect almost 2,800 acres of land in environmentally sensitive areas of 11 counties. Some were acquired as donations from landowners interested in conservation or because of a regulatory permit condition. Others were acquired to protect endangered and threatened animal or plant species habitat where full ownership was not possible. All easement acquisitions were approved by the Trust's Board as part of their land acquisition and management responsibilities.

Over the past year, Trust staff monitored 13 easements (Congelton-with five separate landowners, Curlic Lake-with five separate landowners, Stevens, Collins, and Unexpected Wildlife Refuge). Fortunately, most of the property owners were following the easement conditions.

Ownership of the land has changed on some easements, requiring staff to educate the new property owner about the Trust's mission, often accomplished by walking the land and having conversations about the history and purpose of the easement. Two of the 13 easements had encroachment issues from neighboring properties, while one easement had a dumping and debris issue. After the easement holders were notified about these issues, they initiated corrective action.

In 2024, the Trust will monitor the remaining 11 easements held by the Trust. In addition, the Trust is digitizing its easement files to facilitate a planned three-year monitoring schedule.

In sum, conservation easements serve as a valuable tool for both government and non-profit land conservation organizations but are not the first choice for land protection due to the need for monitoring and compliance. Easements may be the only way to protect important habitat, especially if fee ownership is not possible or if land acquisition costs are prohibitive. The ecological significance of the land is a key consideration in determining whether to accept an easement and its associated demands.



Inspection of the Stevens easement revealed it was being used as a dumping ground.



# An Added Layer of Protection for Two Trust Preserves

By: Cari Wild

In 1961-- before Rachel Carson published her seminal work *Silent Spring*, and before 'endangered species' became a household term--the New Jersey Legislature established the Natural Areas System to identify and designate sites rich in rare species and rare or exemplary ecological communities, and then promote ecological management to maintain these biodiverse habitats. Only lands owned in fee or held as a conservation easement by the State of New Jersey may be considered for designation to the Natural Areas System, thus making Trust Preserves eligible for this additional protective designation. And on July 3, 2023, two Trust preserves were so designated by the New Jersey Department of Environmental Protection (NJDEP): Bennett Bogs, which encompasses about thirty-one acres in Lower Township, Cape May County, and Hirst Ponds, with about 345 acres in Galloway Township, Atlantic County.

Along with these designations comes an additional set of rules by the NJDEP to help ensure that the resources these Natural Areas were created to protect are incorporated into their management. Rules at N.J.A.C. 7:5A et seq. outline how Natural Areas are to be administered, used, and managed, and define the role of the Natural Areas Council (Council), a seven-member advisory board to the NJDEP Commissioner, in the oversight of these lands.



Two of many different flowering plant species within Hirst Ponds.



One of the ponds at Hirst Ponds Preserve, one of the state's newest Natural Areas.

Adding new lands to the Natural Areas System is a two-step process that is both time consuming and laborious, as perhaps it should be considering that it is likely permanent, with no State Natural Area having ever been removed from the System. First, the area must be listed on the Register of Natural Areas of public and private lands which may be suitable for inclusion within the Natural Areas System. Upon request of the NJDEP Commissioner or a majority vote of the Council, NJDEP staff performs an evaluation of a Register Site to determine its suitability for designation as a Natural Area. Based on the findings of this Designation Study, the Council may recommend to the NJDEP Commissioner that a site be added to the System. If the Commissioner agrees, NJDEP proposes the designation as an amendment to the Natural Area System rules and holds a public hearing. After this public process and the approval of the Governor, the DEP may designate the new Natural Area.



The Council recommended that the Trust's Bennett Bogs and Hirst Ponds preserves become Register Sites and requested that the NJDEP prepare Designation Studies to assess the appropriateness of each as a potential Natural Area. After reviewing the studies, the Council recommended that the Bennett Bogs and Hirst Ponds Register Sites be designated in their entirety to the System. The NJDEP Commissioner concurred with the Council's recommendation, and the NJDEP published notice of the proposed designations and announced a public hearing, held on March 16, 2020. On June 15, 2021, Governor Philip D. Murphy concurred with the designations and the preserves became Natural Areas, effective on July 3, 2023.

Designation of Bennett Bogs and Hirst Ponds preserves into the Natural Areas System does not alter public access or use because, like Trust preserves, natural areas are open to the public for passive uses such as hiking, birding, fishing, hunting and non-motorized boating. Designation, however, does prohibit activities that would alter or impair the resources of the natural area or be counter to the Natural Areas designation objective, such as farming or grazing by domestic animals, alteration of vegetation, introduction of invasive plant and animal species, and soil or mineral extraction.

The management objective for Bennett Bogs Natural Area is the "preservation of a rare coastal plain intermittent pond ecological community which provides habitat for numerous rare plant and animal species" while the management objective at the Hirst Ponds Natural Area is the "preservation of rare coastal plain intermittent pond ecological community ... and numerous other rare plant and animal species." The Trust will periodically evaluate and implement ecological management activities to maintain and enhance these important habitats.

Designation of the Bennett Bogs and Hirst Ponds natural areas, along with the 1,367-acre West Branch Wading River Natural Area within Wharton State Forest, also effective on July 3, 2023, were the first designations since 2004, bringing the number of designated State Natural Areas to 47 with a combined area of approximately 43,616 acres.



Bennett Bogs Preserve, one of the state's newest Natural Areas at the height of rattlesnake master's (INSET) summer bloom.



# Hunting News

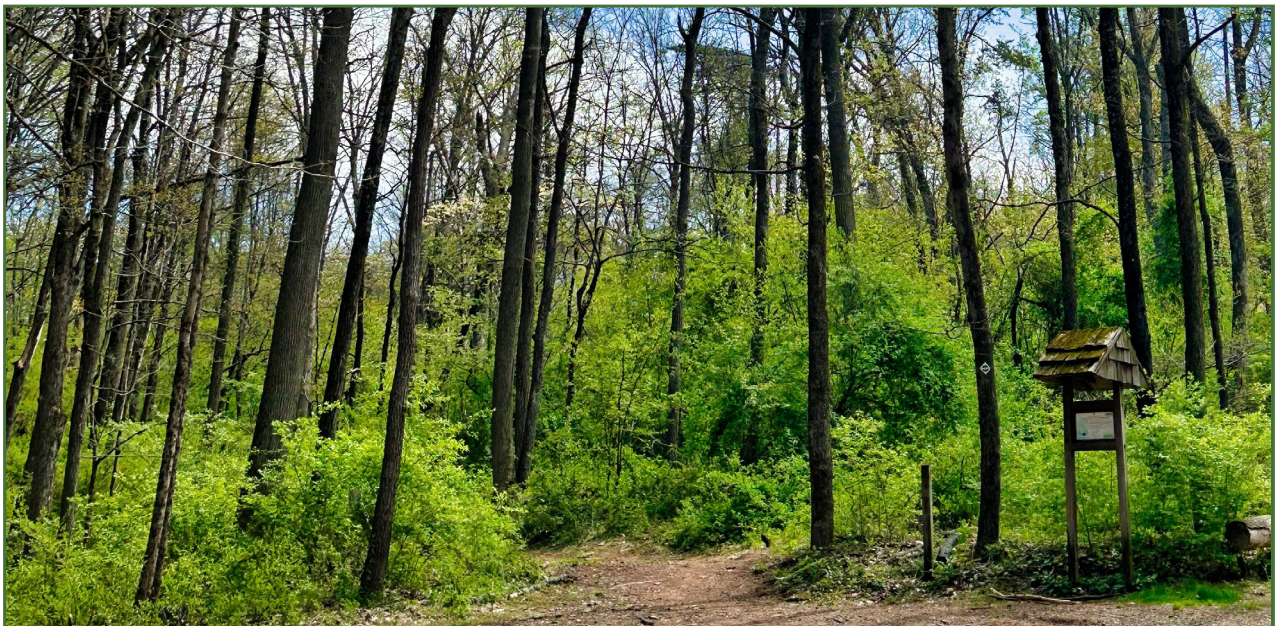
During the 2023-2024 hunting season, there were 3,500 hunting registrations through the Trust's website. In many cases, the same hunters registered at multiple Trust preserves with 1,600 individual hunters registering to hunt. The Trust allows hunting for deer only at 34 preserves totaling over 19,000 acres to maintain biodiversity. The deer population in New Jersey is far greater than the ecosystem can sustain. Over browsing by deer depletes native vegetation resulting in impacts to animal and plant habitat, such as decreased food sources and increased invasive plants.

To hunt deer at selected Trust preserves, hunters access the Trust's website, electronically submit information to the Trust, and print their own hunter registration letter with the required accompanying preserve map. The Trust can use this information to sort hunter registrations by preserve. Trust staff may reach out to hunters registered at a specific preserve to determine their interest in volunteering for cleanups and maintenance projects.

It is important to note that the Trust does not allow hunting for waterfowl, small game, turkey, or bear, as it maintains that only over browsing by deer poses a threat to biodiversity. In addition, Sunday bow hunting is not authorized on Trust preserves as it is on state wildlife management areas and private property during deer season.

While hunting on Trust preserves, all rules and regulations in the New Jersey Fish and Wildlife game code must be followed. Hunting deer by bow and arrow, shotgun or muzzleloader are acceptable, depending on the preserve. No target shooting or discharge of weapons other than for deer hunting purposes is permitted. Permanent deer stands are not allowed, and portable deer stands, while permitted, must be removed after the hunting season is completed or are subject to confiscation by the Trust.

*"Impacts of deer abundance are not limited to plant species, but cascade throughout the food web." \**



Deer hunting with bow is permitted at the Thomas F. Breden Preserve at Milford Bluffs.

\*Kelly, JF. 2018. Results of white-tailed deer (*Odocoileus virginiana*) surveys in Watchung Borough in April 2018. Raritan Valley Community College.





# Thanks to Our Volunteers

The Trust would like to acknowledge and thank its many volunteers for their invaluable contributions to the maintenance of Trust preserves.



Always something to clean up at Petty's Island. Always lots of volunteers on hand to help.

PHOTOS: Linda Cairnes and Anthony Lara



# Contribute to the Delaware Bay Shorebird Fund

Each spring in Delaware Bay, from about the first week in May to the second week in June, the largest concentration of horseshoe crabs in the world comes onshore to spawn. At the same time, tens of thousands of shorebirds arrive at the Bay en route from southern wintering grounds to Arctic breeding territory, and Delaware Bay is their most critical stopover. The shorebirds need to quickly double their weight to complete their migration north and breed successfully. To refuel at such capacities and in only a 10-day window, high-energy horseshoe crab eggs provide essential nourishment. But since the early 1990s, there have been major declines in both the number of adult horseshoe crabs and their eggs. With the decline of their critical food source, shorebird numbers also plummeted. For the past 35 years, the Trust has funded scientific research and conservation efforts through the Delaware Bay Shorebird Fund with the goal that someday Delaware Bay's skies will be once again filled with shorebirds.

The Delaware Bay Shorebird Fund was initially created in 1985 through an agreement between the Department of Environmental Protection and Public Service Electric and Gas Company (PSEG). The agreement provided that \$600,000 would be transferred to the Trust, as a fiduciary, to invest and administer solely for protection and management of shorebird habitat. After funding critical shorebird research for the past 35 years, the Delaware Bay Shorebird Fund is now nearing depletion. With contributions, the Delaware Bay Shorebird Fund could continue critical long-term shorebird and horseshoe crab research.

In order to protect these shorebirds, please consider making a donation to the Trust's Delaware Bay Shorebird Fund. Donations can be made online through PayPal:

Donate with PayPal button:



Please indicate that the donation is being made to the Delaware Bay Shorebird Fund.



Delaware Bay Shorebirds  
PHOTOS: William Culp



# Donations



Duke Farms  
William Penn Foundation  
New Jersey Conservation Foundation  
The Nature Conservancy  
Judith Kanzler  
Urban Promise  
New Jersey Audubon Society  
CITGO Petroleum Corporation  
Shania Hackett  
AmeriCorps/PowerCorps Camden  
William Culp  
Driscilla Carbente  
Stewards of Open Space Camden County/South Jersey Land and Water Trust  
NJDEP Endangered and Nongame Species Program  
Dr. Jay F. Kelly/Raritan Valley Community College  
Ridge and Valley Conservancy  
Pinelands Preservation Alliance  
Bruce Bieber  
Keith Seager  
Christine Hill  
National Fish & Wildlife Federation  
Barnegat Bay Sportsmen's Club  
Herpetological Associates Inc.  
Wayne Township  
Wildlife Preserves, Inc.  
Edward Casson  
Betsey Schnorr  
Brett Berry  
Edward Martoglio

*For more information about how you can donate to further the Trust's mission to acquire, preserve and manage natural lands for the protection of natural diversity, please visit the [Trust's website](#).*





## Board of Trustees

The Trust is governed by an eleven-member Board of Trustees. The Board is comprised of six representatives from the private sector and five representatives from State government. The State government members include the Commissioner of DEP and two DEP staff members designated by the Commissioner; the State Treasurer; and a member of the State House Commission. Employees of the Office of Natural Lands Management, State Parks, Forests, and Historic Sites, serve as staff to the Trust and implement the policy set by the Board.

**Margaret Waldock**

*(Chair) Executive Director, Duke Farms*

**Anne Heasley**

*(Vice Chair), Program Manager of Policy and Planning, Sustainable Jersey*

**John Cecil**

*Assistant Commissioner, State Parks, Forests & Historic Sites, Representing NJDEP Commissioner*

**Emile DeVito**

*Director of Conservation Biology, New Jersey Conservation Foundation*

**Robert Jackson**

*New Jersey Natural Areas Council*

**Alex Sitts**

*NJ Department of the Treasury. Representing the State Treasurer*

**Honorable Bob Smith**

*Senator, New Jersey Legislature, Representing the State House Commission*

**Larry Torok**

*Division of Watershed Protection and Restoration, Department of Environmental Protection*

**Angela Wenger**

*Director for Southeastern PA Centers, Audubon Mid-Atlantic*

**Kelly Wenzel**

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**Judeth Yeany**

*Green Acres Program, Department of Environmental Protection*

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*Executive Director*

**Linda Cairnes**

*Camden Community Engagement (part-time)*

**Terry Caruso**

*Project Manager (part-time)*

**Jason Hafstad**

*Ecologist, Preserve Manager*

**Kathrine Hunt**

*Counsel (part-time)*

**Deloris Nyerges**

*Administrative Support (part-time)*

**Terry Schmidt**

*South Jersey Preserve Manager (part-time)*

**Cari Wild**

*Secretary/Treasurer*



*In the spirit of healing, the Trust acknowledges and honors the Lenni-Lenape, Munsee Lenape, Ramapough Lenape, and Nanticoke Tribes, the original people of the lands that we manage as Trust preserves. These people have been here for many thousands of years and the Trust acknowledges, honors, and respects their past, present, and future deep ties to this land. The Trust takes responsibility to:*

- \* better honor and represent the original people of this land in the stories we tell;*
- \* provide platforms for Native voices;*
- \* seek Native representation in managing these lands; and*
- \* remain humble and curious.*

*The Trust strives to take all actions in the spirit of repair and justice without further harm or injustice to the Lenni-Lenape, Munsee Lenape, Ramapough Lenape, and Nanticoke Tribes or these lands.*



Looking over the vast freshwater intertidal marsh surrounding much of Petty's Island. Lenni-Lenape gathered the edible arrow-arum, also known as tuckahoe, seasonally from the marsh surrounding Petty's Island.



