



2025 Annual Report

New Jersey Pinelands Commission



Cover photo: The Pine Island Cranberry Company in Washington Township, Burlington County, permanently protected 3,980 acres of its farm by severing Pinelands Development Credits in 2025.
Photo/Joel Mott

Protecting the New Jersey Pinelands

The New Jersey Pinelands Commission is an independent state agency whose mission is to preserve, protect, and enhance the natural and cultural resources of the Pinelands National Reserve, and to encourage compatible economic and other human activities consistent with that purpose.

The Commission was created by the passage of the Pinelands Protection Act in 1979.

To accomplish its mission, the Commission implements a comprehensive plan that guides land use, development and natural resource protection programs in the 938,000-acre Pinelands Area of southern New Jersey. The Commission's 15-member board consists of state, county and federal appointees who volunteer their time and expertise. The panel meets monthly and receives guidance from its Executive Director and staff.



Above: The state Pinelands Area is a million-acre mosaic of forests, farms, and towns, crisscrossed by rivers and streams and teeming with wildlife. It also boasts extraordinary scenic beauty, as shown in this photo of the 50-mile-long Mullica River.

Photo/Paul Leakan

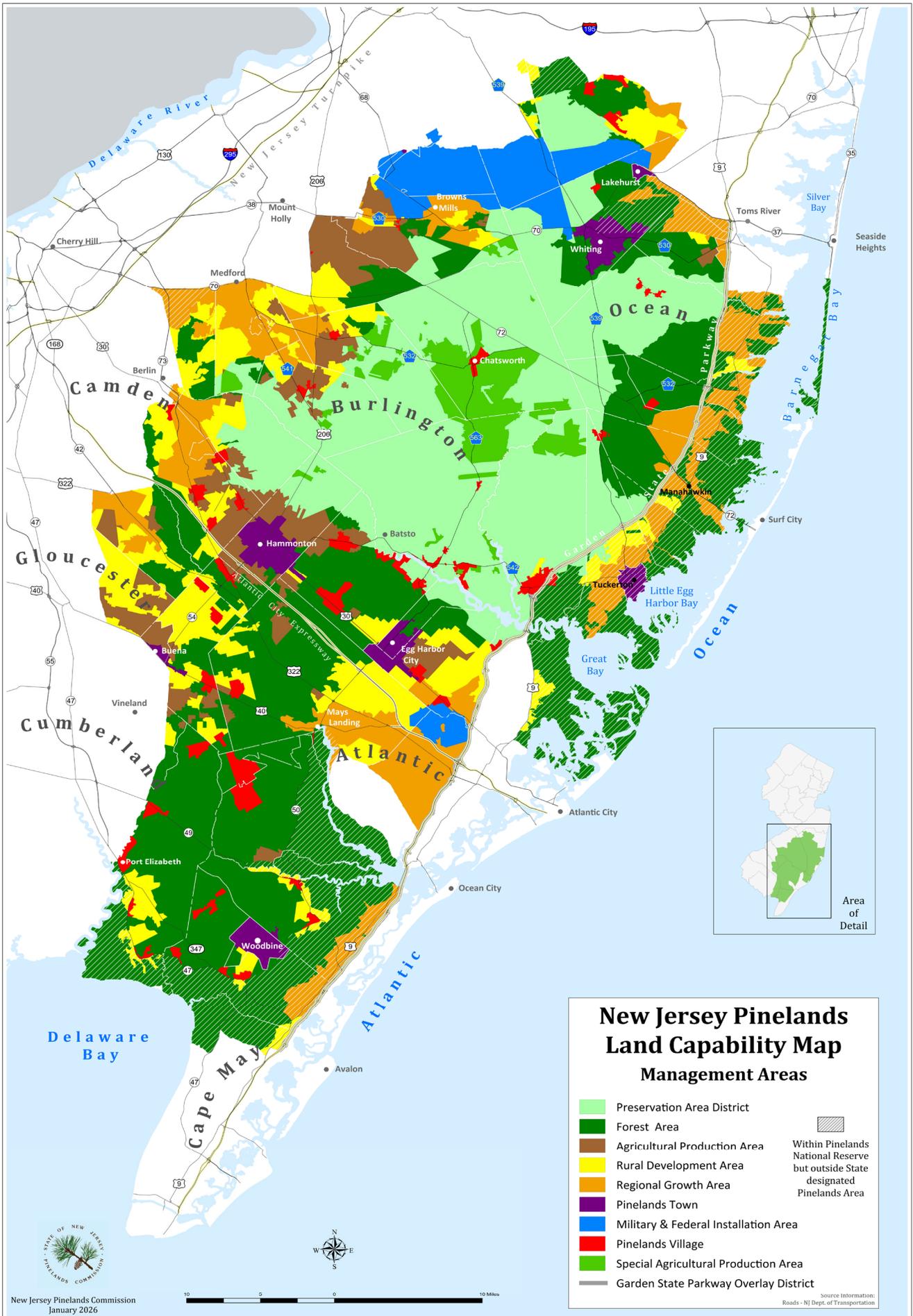
Commissioners:

Laura E. Matos, Chair
Alan W. Avery, Jr., Vice Chairman
Nicholas Asselta
Deborah Buzby-Cope
Daniel Christy (Jan. 1, 2025 - Jan. 28, 2025)
John Holroyd, Jr. (Jan. 1, 2025 - May 20, 2025)
Jerome H. Irick
Theresa Lettman
Mark S. Lohbauer
Gaetano Matro (August 25, 2025 - current)
Mark Mauriello
Jonathan Meade
William Pikolycky
Jessica Rittler Sanchez
Ryck Signor (Jan. 28, 2025 - current)
Doug Wallner

Susan R. Grogan, Executive Director

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Executive Director's Message

2025 ushered in a few changes and marked the successful culmination of years of hard work that will bolster the protection of the Pinelands.

The Commission welcomed two new Commissioners to the agency's 15-member board. The Commission also approved a package of amendments to the Pinelands Comprehensive Management Plan (CMP), including one that will greatly reduce permitted development intensity in the Black Run watershed in Evesham Township, Burlington County. The change to the Pinelands Land Capability Map redesignated approximately 2,440 acres in the Black Run watershed from a Rural

Development Area to a more protective Forest Area. The Commission studied the region for years, and the redesignation garnered widespread support from the public and was hailed as a success.

The Commission also made great strides to permanently preserve more land in the Pinelands. Fifty-two percent (or 488,000 acres) of the state Pinelands Area has been permanently protected, and that figure rose significantly in 2025, thanks largely to increased activity in the Pinelands Development Credit (PDC) program. A total of 126 PDCs were severed in 2025, permanently protecting a total of 4,033 acres in the Preservation Area District, Agricultural Production Area, and Special Agricultural Production Area. Meanwhile, in October, the Commission approved an award of \$3 million from its Pinelands Conservation Fund (PCF) to support the preservation of an approximately 835-acre parcel in the Medford-Evesham Priority Acquisition Area in Burlington County.

The Commission's staff also completed or advanced numerous projects related to planning, scientific research, technology, and information and outreach, while taking on a greater workload. Development application activity increased in 2025, with more new applications received than in 2024 and significantly more applications completed than in the prior 10 years. Staff also undertook new work to oversee the early design stages of a major project to rehabilitate one of the agency's principal office buildings, Fenwick Manor. Constructed in the early 1820s, the building needs stabilization work around its two front chimneys and several brick pier foundations, along with exterior updates, repairs and paint.

I am proud of our achievements in 2025, which will safeguard this region far into the future.



Above: Fifty-two percent (or 488,000 acres) of the state Pinelands Area has been permanently protected, including this property above. Photo/Paul Leakan

Susan R. Grogan
Executive Director

Commission Gains Two New Members in 2025

The Pinelands Commission gained two new members on its 15-member board in 2025, including new representatives appointed by Gloucester and Camden counties.

Ryck Signor took the oath of office during the Commission’s meeting on March 14, 2025. He replaced Dan Christy, whose term on the Commission expired on January 28, 2025. Mr. Signor attended York College of Pennsylvania and is a 2007 graduate of the National Joint Apprenticeship and Training Committee (NJATC) electrical apprenticeship.

A resident of West Deptford Township, Mr. Signor has worked in various facets of the electrical construction industry, including commercial, industrial, and infrastructure, and in various roles ranging from apprentice through General Foreman. Mr. Signor has been a member of the International Brotherhood of Electrical Workers (IBEW) Local Union 351 since 2002 and has been a Local 351 Business Agent since 2018 and Recording Secretary since 2019. He has served as a member of the Gloucester County Planning Board as well as the Gloucester County Land Development Review Committee since 2020.

Gaetano “Guy” Matro took the oath of office during the Commission’s meeting on September 12, 2025. He filled the seat that became vacant when John Holroyd, Jr., resigned from the Commission in May 2025. Mr. Matro’s father in law, Peter J. Burke, Jr., served as one of the original members of the Pinelands Commission, having been appointed to the panel by then-Governor Brendan T. Byrne in 1979.

A resident of Elm in Winslow Township, Mr. Matro owns and operates 800 acres of farmland in Atlantic, Camden, Cumberland, Gloucester and Salem Counties. The farms produce blueberries, sweet potatoes and soybeans. His son and nephew are fifth generation farmers. Mr. Matro is the Chairman of the Camden County Agriculture Development Board, and he serves on the Camden County Open Space Advisory Committee and on the Board of Trustees for St. Joseph Academy in Hammonton. Mr. Matro holds a Bachelor of Science in agriculture from Penn State University.

The Commission’s 15-member board consists of seven members who are appointed by the New Jersey Governor, one member appointed by each of the seven Pinelands counties, and one member appointed by the U.S. Secretary of the Interior. The gubernatorial appointees are subject to the review and consent of the New Jersey Senate. Commission members are unpaid volunteers who dedicate countless hours of their time and expertise while serving on the Commission.



Commissioner Ryck Signor



**Commissioner Gaetano
“Guy” Matro**

Planning Activities

Amendments to the Pinelands Comprehensive Management Plan

On October 10, 2025, the Pinelands Commission voted to approve a package of amendments to the Pinelands Comprehensive Management Plan (CMP), including one that will greatly reduce permitted development intensity in the Black Run watershed in Evesham Township, Burlington County.

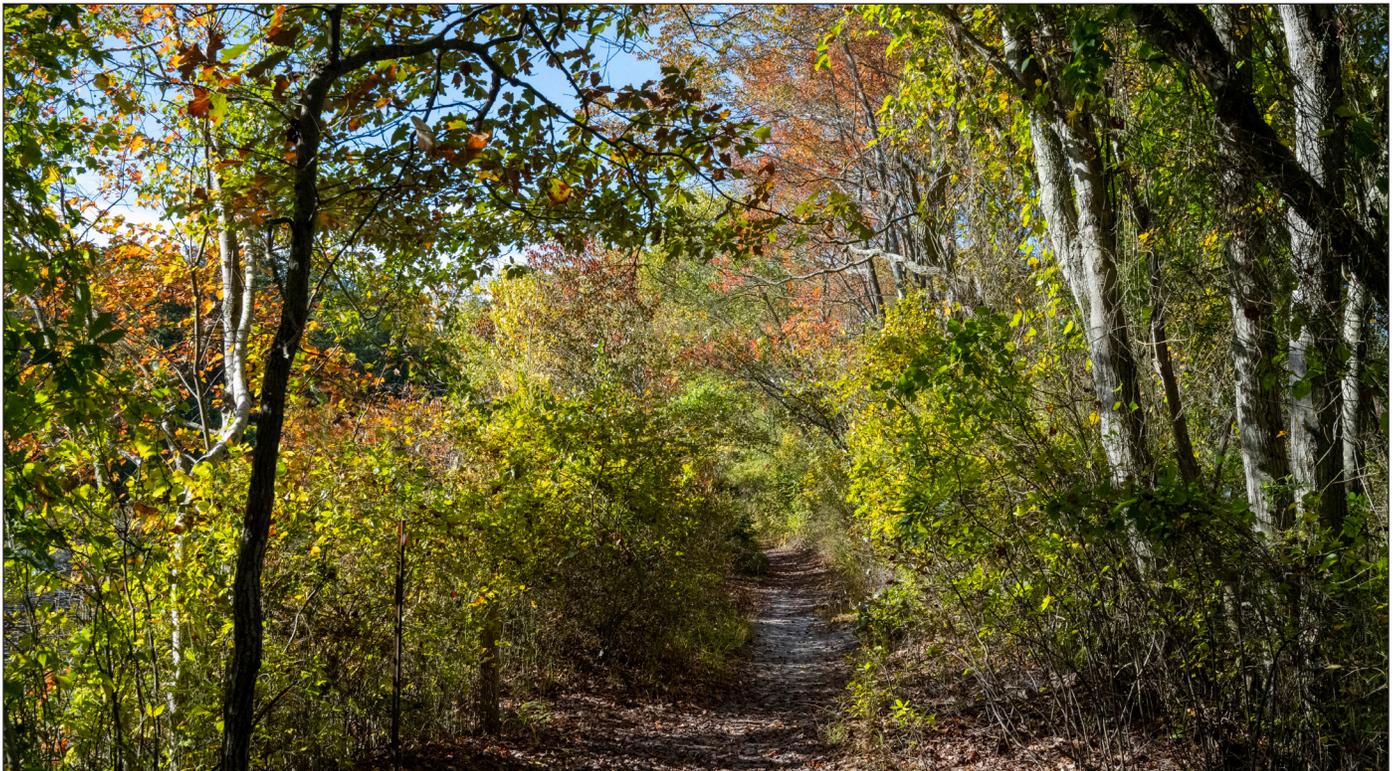
The change to the Pinelands Land Capability Map redesignated approximately 2,440 acres in the Black Run watershed from a Rural Development Area to a Forest Area, as shown on the map on page 6.

Over the past two decades, the Commission conducted extensive work to evaluate the Black Run watershed's ecological integrity and to identify appropriate measures to better protect its natural resources. The redesignation from Rural Development Area to Forest Area enhances resource protection by reducing development potential within the watershed.

Other parts of the adopted rules increase application fees for certain applications that require more staff time to evaluate and process, codify policy for the use and allocation of Pinelands Development Credits (PDC) and set expiration dates for completeness documents and decades-old waiver approvals issued by the Commission.

The Commission received nearly 500 public comments on the rule changes, with almost all of the commenters supporting redesignation of the Black Run Watershed and further protection of the Pinelands.

The new rules took effect on January 5, 2026. The official Adoption Notice can be accessed via the Commission's website by clicking [here](#).



Above: In 2025, the Commission approved amendments to the Pinelands Comprehensive Management Plan, including one that will greatly reduce potential development intensity in the Black Run watershed in Evesham Township. Photo/Paul Leakan

Adopted Black Run Watershed Redesignation

 Black Run Redesignation
Rural Development Area to Forest Area

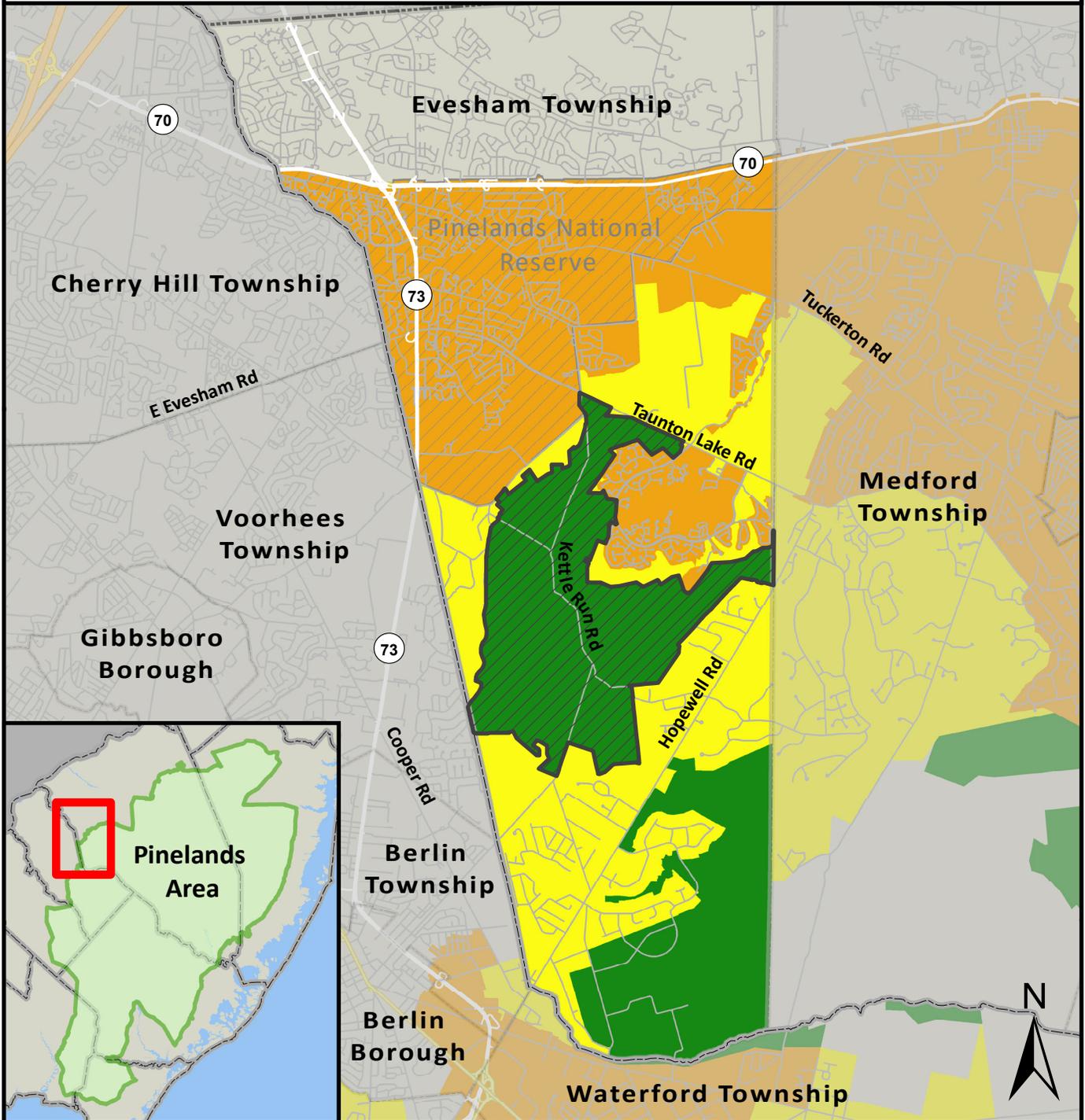
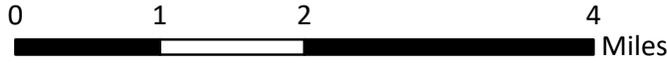
 Municipal Boundaries

Pinelands Management Areas

 Forest Area

 Rural Development Area

 Regional Growth Area



Reviewing Municipal Ordinances

The master plans and land use ordinances of all 53 Pinelands municipalities and seven counties must align with the Pinelands Comprehensive Management Plan (CMP). This consistency is ensured through the conformance process, in which municipalities and counties submit any amendments to their master plans and ordinances to the Commission for review and certification.

In 2025, the Commission received and reviewed 137 municipal master plan and ordinance amendments. Much of this activity reflected municipal efforts to meet their fourth round affordable housing requirements, as evidenced by the Commission's review of 39 Housing Element and Fair Share Plans (please see pages 7-8 for more details). The Commission anticipates this trend will continue into 2026 as municipalities adopt zoning

amendments needed to implement those plans. The Commission also continued to review a significant number of zoning amendments related to the emerging adult-use cannabis market, including 14 such ordinances in 2025. Commission staff worked closely with municipalities to ensure that cannabis establishments, whether for cultivation, manufacturing, warehousing, distribution, delivery, or retail, are permitted in appropriate Pinelands management areas consistent with the CMP.

As with most years, the Commission reviews numerous routine planning matters such as master plan reexamination reports and ordinances that fine-tuned development application procedures and standards for things like accessory uses and structures, signs, and lot coverage.

Interagency Council on Climate Resilience

Commission staff continued to participate in the State's Interagency Council on Climate Resilience (IAC), which held 11 meetings in 2025. Commission staff also participated in the IAC's Vulnerability Assessments Workgroup, which met 10 times during the year. Through this participation, staff contributed to interagency coordination on climate-related planning and resilience initiatives.

The Commission's ongoing work in support of climate resilience was highlighted in the IAC Flood Resilience Initiatives Report issued in 2025 and will also be highlighted in the IAC's 2025 Annual Report. In 2025, the IAC also organized an Extreme Heat Awareness Week and a Flood Safety Week, which the Commission supported by sharing information to the public through its social media channels.

Fourth Round of Affordable Housing

In 2025, municipalities across New Jersey began the fourth round of affordable housing planning. This process applies to municipalities inside and outside the Pinelands Area and is intended to ensure that communities provide realistic opportunities for the development of their fair share of affordable housing.

Under the State's Fair Housing Act (FHA), municipalities must prepare and adopt a Housing Element and Fair Share Plan every ten years, which becomes part of their municipal master plan. Because these plans amend municipal master plans, those adopted by Pinelands Area municipalities must be reviewed and approved by the Pinelands Commission before taking effect. Each plan identifies a municipality's affordable housing obligation and describes how it will be met, including sites identified for future affordable housing and any necessary implementing ordinances. Municipal Planning Boards were required to adopt these plans by June 30, 2025.

The FHA recognizes the planning framework of the Pinelands CMP in its methodology for determining a

municipality’s obligation for new affordable housing units. A key component is land capacity, which is the availability of developable land for new residential development. Within the Pinelands Area, developable land is only counted toward a municipality’s land capacity if it is within a Regional Growth Area or Pinelands Town management area. This aligns with the CMP, as these are the areas permitted to have sewer and residential densities sufficient to support new affordable housing development. Most new affordable housing in the Pinelands Area is developed through inclusionary projects that combine market-rate and affordable units. They typically require densities exceeding five dwelling units per acre and sewer infrastructure. Municipalities without a designated Regional Growth Area or Pinelands Town are therefore not expected to target development of new affordable housing projects in the Pinelands Area; instead, they often have small or deferred obligations or identify sites outside the Pinelands Area.

In the second half of 2025, Commission staff reviewed all 39 housing plans adopted by Pinelands Area municipalities. Those that did not prepare a plan generally had very small obligations. Of the plans submitted, only ten municipalities identified sites within the Pinelands Area, with the large majority appropriately targeting sites in Regional Growth Areas or Pinelands Towns. In the year ahead, the Commission anticipates the submission of many implementing ordinances, including zoning amendments needed to effectuate proposed sites in the Pinelands Area. These will require careful analysis to ensure consistency with CMP standards, such as those related to the Pinelands Development Credit Program. Those ordinances must be adopted by March 15, 2026.

Stockton University Facilities Master Plan

The Pinelands Commission acted on several matters in 2025 related to Stockton University, whose 1,600-acre main campus is located in Galloway Township. The campus spans both a Regional Growth Area and a Rural Development Area and includes significant areas of wetlands and threatened and endangered species habitat.

In 2010, the University permanently preserved more than 1,200 acres of environmentally sensitive lands on campus pursuant to an agreement with the Pinelands Commission that allowed for campus expansion. For several years, however, Commission action on the University’s master plan and development applications was on hold due to discrepancies in Stockton’s original deed of

conservation restriction, which inappropriately included lands with existing infrastructure and lands needed for future infrastructure improvements. The University presented corrected mapping to the Commission’s CMP Policy and Implementation Committee in late 2022 before submitting a request to amend the deed to the New Jersey Department of Environmental Protection (NJDEP). In December 2024, NJDEP approved an amended deed of conservation restriction with updated mapping that clarified preserved land boundaries, removed



Above: In 2025, the Commission approved the 2020 Facilities Master Plan and several related applications at Stockton University. Photo/Paul Leakan

previously developed areas and areas needed for infrastructure improvements, and added new preserved lands to offset those that were removed.

The amended deed was recorded in March 2025, allowing the Commission to resume its review of Stockton’s plans and development applications, including approval of the 2020 Facilities Master Plan and several related applications.

Alternate Design Wastewater Treatment Systems Pilot Program

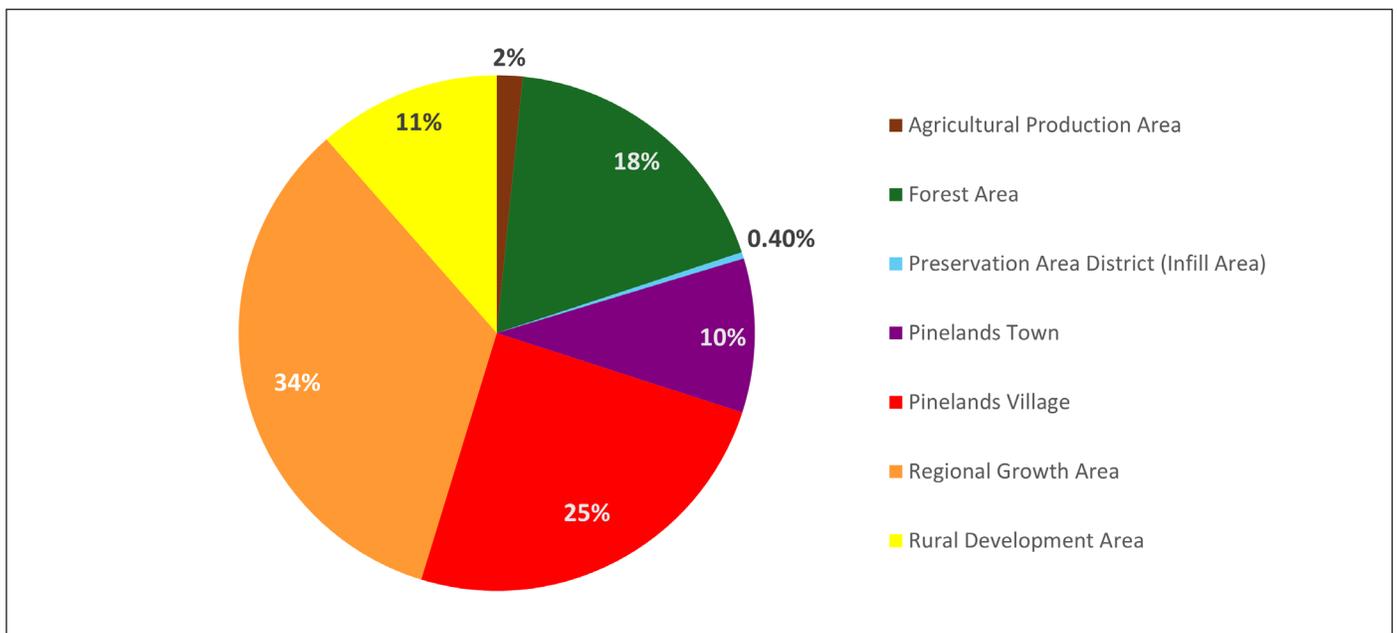
In November 2025, the Commission issued its [Alternate Design Wastewater Treatment Systems Pilot Program Implementation Report](#), which evaluates the advanced wastewater treatment systems that are currently being piloted for residential use in the Pinelands Area.

The Commission launched the Pilot Program in 2002 to test high-performance wastewater treatment systems that better protect the Pinelands environment by reducing the levels of nitrogen that enter groundwater. Through the program, the Commission has evaluated numerous septic systems technologies and identified several that successfully meet Pinelands water quality standards for residential development on lots as small as one acre. To date, nearly 500 Pilot Program systems have been installed to service single-family residential development in the Pinelands Area. The chart below shows the location of installed systems by Pinelands Management Area. As noted

in the 2025 Implementation Report, no changes in the currently enrolled technologies, including the Hoot ANR, the Fuji Clean CEN Series, the Waterloo Biofilter, Pugo Systems, and the Busse Model MF-B-400, were recommended.

During a presentation that was delivered on November 14, 2025, staff noted that the number of systems and data from the installed systems are too limited at this time to make any recommendations for graduation of a technology or for recommending a technology’s removal from the Pilot Program. Therefore, staff recommended that the systems should continue to be piloted and monitored for an additional two years, as permitted by the CMP. The Commission agreed to continue the pilot program for the five identified technologies. Another report, including data from installed systems, will be issued in 2027.

Total Installations of Alternate Design Wastewater Treatment Systems by Pinelands Management Area



New Zoning System

The rebuild of the Commission's internal Zoning System was completed in September 2025 and rolled out to Commission staff in early October 2025. The system tracks approximately 600 Commission-certified municipal zoning districts and redevelopment areas across 53 Pinelands Area municipalities, including data on permitted uses, minimum lot size requirements, and Pinelands Development Credit (PDC) requirements. Commission staff routinely use this information in the review of municipal master plans and land use ordinances, as well as individual development applications.

The new, modern, browser-based interface replaced a platform originally designed in the late 1990s and includes substantial updates to both the underlying data and the presentation of information unique to specific zoning districts, such as PDC requirements, municipal density transfer programs, and mandatory clustering provisions. Commission staff are continuing to develop a public-facing version of the system, with release anticipated in spring 2026.

Development of the new Zoning System was funded by the National Park Service.

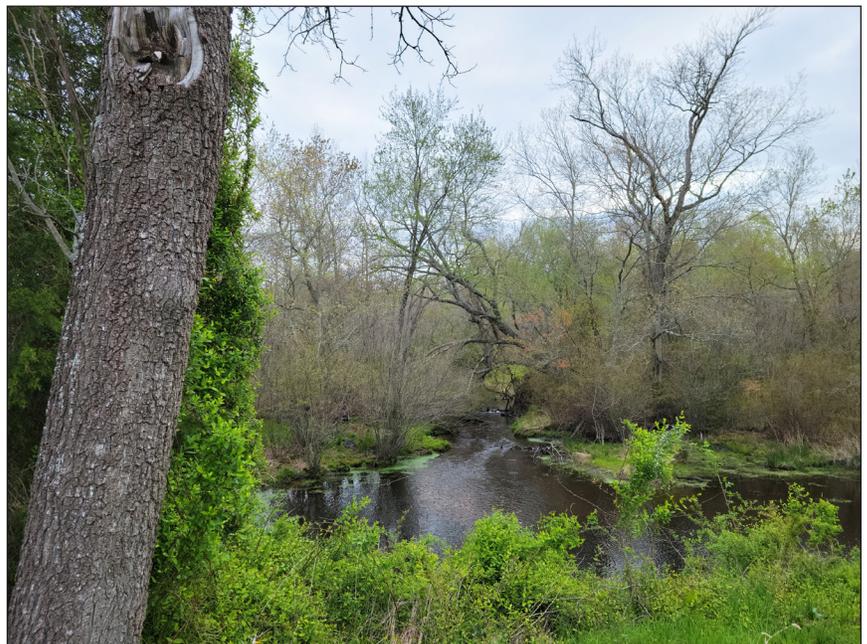
Historical Marker for the Brotherton Reservation

In commemoration of the 250th anniversary of the signing of the Declaration of Independence, the New Jersey Historical Commission reinitiated its State Historical Marker Program. The initiative will fund a total of 50 new or replacement markers throughout the state.

In 2025, the state Historical Commission accepted the Pinelands Commission's application for a historical marker to be installed at the former location of the Brotherton Reservation in Shamong Township.

Located in the Pinelands Area, the Brotherton Reservation was the first and only Native American reservation in the state of New Jersey. It was established in 1758 by the provincial New Jersey government in exchange for the remaining land claims of the Lenape, or Delaware Indians, in southern New Jersey. The reservation was approximately 3,000 acres in size and was home to approximately 300 Lenape. The population reportedly dwindled throughout the second half of the 18th century. In the beginning of the 19th century, the remaining Lenape agreed to relocate to upstate New York to join their brethren, the Oneida Indians. In 1802, the reservation was subdivided and sold at auction. The funds were used to relocate the remaining residents, approximately 100 in number, to Stockbridge, New York.

Pinelands Commission staff will be working with the state Historical Commission and the Lenape/Delaware Nation to finalize the language to be depicted on the sign in 2026.



Above: The Brotherton Reservation was established in Shamong Township in the Pinelands in 1758. Photo/Paul Leakan

Ground-penetrating radar surveys

The Pinelands Commission continued to conduct ground penetrating radar studies (GPR) in the Pinelands in 2025.

Ground penetrating radar is a non-invasive survey technique that uses electromagnetic pulses to produce images of the subsurface. In archaeological context, these anomalies could represent potential archaeological resources.

The Commission's staff archaeologist conducts the GPR studies, which are funded by the National Park Service.

The initial field work for a GPR survey at Whitesbog Historic Village was conducted by Commission staff in April 2025. The survey was performed at the request of Whitesbog Preservation Trust Executive Director Allison Pierson who contacted Marc Paalvast, Pinelands Commission archaeologist, regarding the potential for subsurface remnants of historic buildings in a portion of the property. Although the data is still being processed, from cursory review no obvious evidence of subsurface building remains was detected (i.e., masonry walls or cellars). If buildings were present, they may have been constructed on

above-ground brick or stone piers that would leave very little or no subsurface evidence detectable in GPR data.

In July 2025, the results of prior surveys at St. Mary's in the Pines Cemetery (Pleasant Mills) and the African Methodist Episcopal Church Cemetery (Tabernacle) was presented at the Pinelands Commission Policy and Implementation Committee meeting. The Commission's GPR survey report of the AME Cemetery was cited in a journal article that was published in the Journal of the Afro-American Historical and Genealogical Society, and the cemetery has been included on the New Jersey Black Heritage Trail.

The Commission archaeologist and science staff conducted a field test of the GPR unit's capability to locate eggs within snake dens. The test was a valuable learning experience and provided an understanding of the equipment's capabilities, including the need to calibrate the machine appropriately to the target subject.

In 2026, the GPR survey at Whitesbog Historic Village will be completed and a follow-up to the snake den GPR tests is planned.



Above: Marc Paalvast, Pinelands Commission archaeologist, conducted a GPR survey at Whitesbog Village in 2025.

Photo/Paul Leakan

Pinelands Development Credit Program

The Pinelands Development Credit Program is a regional transfer of development rights program that preserves important agricultural and ecological land. Pinelands Development Credits (PDCs) are allocated by the Commission to landowners in the Preservation, Agricultural Production and Special Agricultural Production Areas, which are the sending areas. PDCs can be purchased by property owners and developers who are interested in developing land in Regional Growth Areas, which serve as the receiving areas. PDCs are most often used for residential development, either to increase permitted density, allow development on an undersized lot or as a required component of a residential subdivision or redevelopment project. Each PDC transfers the right to build four homes and can be bought and sold in ¼ credit increments.

Once PDCs are “severed” from a sending area property, the property is permanently protected by a conservation or agricultural deed restriction and the PDCs allocated to that property can be sold on the private market.

The PDC Program continued to be active during 2025. The Commission allocated 112.11 PDCs to 16 sending area properties. A total of 126 PDCs were severed, permanently protecting a total of 4,033 acres of land spanning the Preservation Area District, Agricultural Production Area, and Special Agricultural Production Area on properties located in

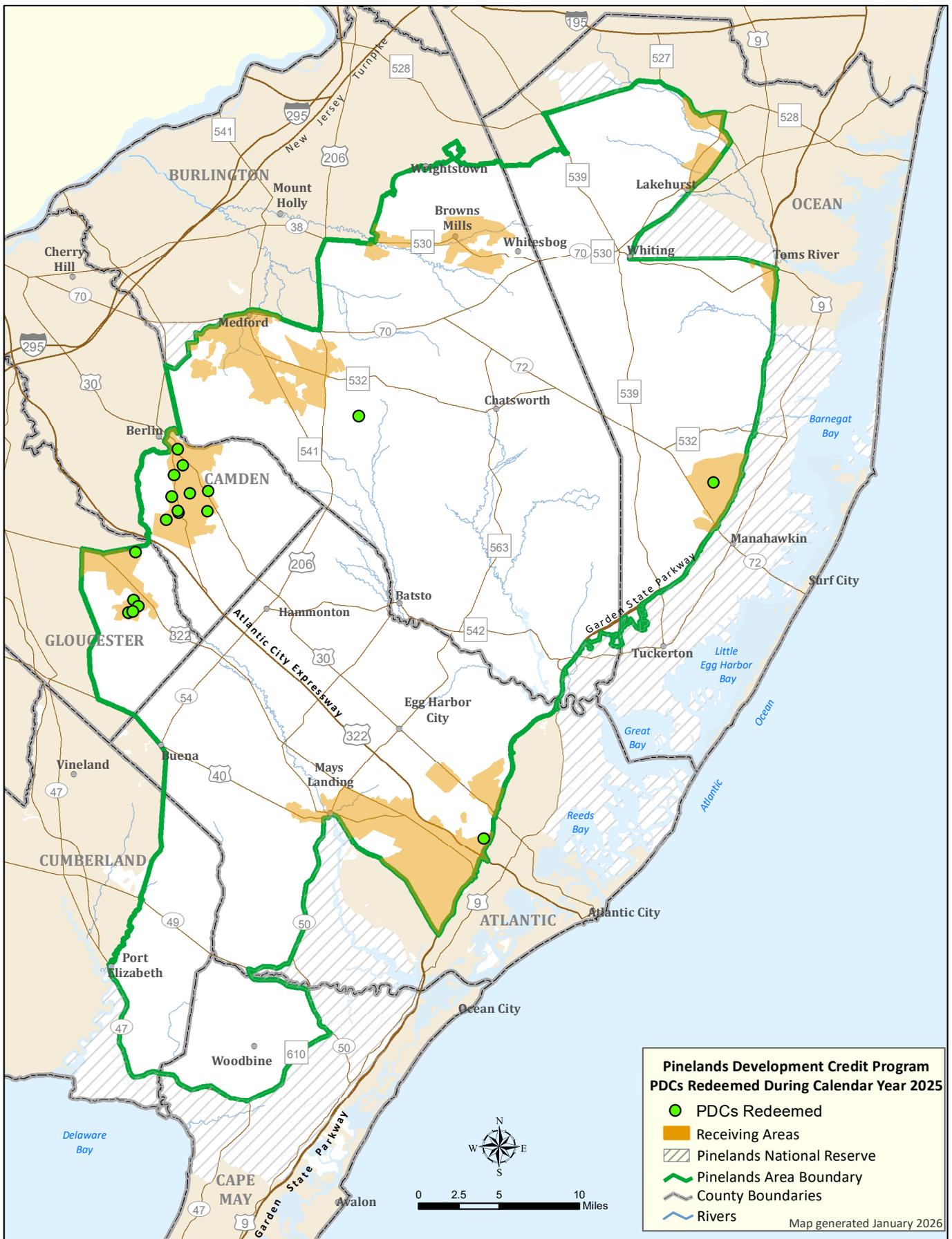


Above: The Pine Island Cranberry Company in Washington Township, Burlington County, permanently protected 3,980 acres of its farm by severing Pinelands Development Credits in 2025. Photo/Joel Mott

Franklin Township, Galloway Township, Hammonton Town, and Washington Township. Since 1982, a total of 62,384 acres in the Pinelands Area have been permanently preserved through the PDC Program. In 2025, a total of 41.25 PDCs were sold, with an average sales price of \$23,109 per PDC quarter-credit. A total of 40.75 PDCs were redeemed as part of 18 development projects. Fourteen of the projects were for residential development, including single-family homes and townhouses. Four of the projects were for non-residential development, including a warehouse and a solar energy facility. These projects are located in Barnegat Township, Chesilhurst Borough, Egg Harbor Township, Monroe Township, Tabernacle Township, Waterford Township, and Winslow Township.



Above: Ocean Club in Egg Harbor Township, Atlantic County, redeemed a total of 20.75 PDCs for the development of 657 dwellings. Photo/Paul Leakan



2025 PDC Severance Spotlight: Pine Island Cranberry Co.

Of the 4,033 acres preserved through PDC severance in 2025, 3,980 acres were located in Washington Township's SAPA and preserved through severances by the Pine Island Cranberry Company.

The Pine Island Cranberry Company was established in 1988 to manage the day-to-day operations of the Haines family farm, which was originally founded in 1890 by Martin L. Haines. The company remains family-owned and operated and currently owns approximately 14,000 acres of land. To date, it has preserved 4,384 acres through the PDC Program.

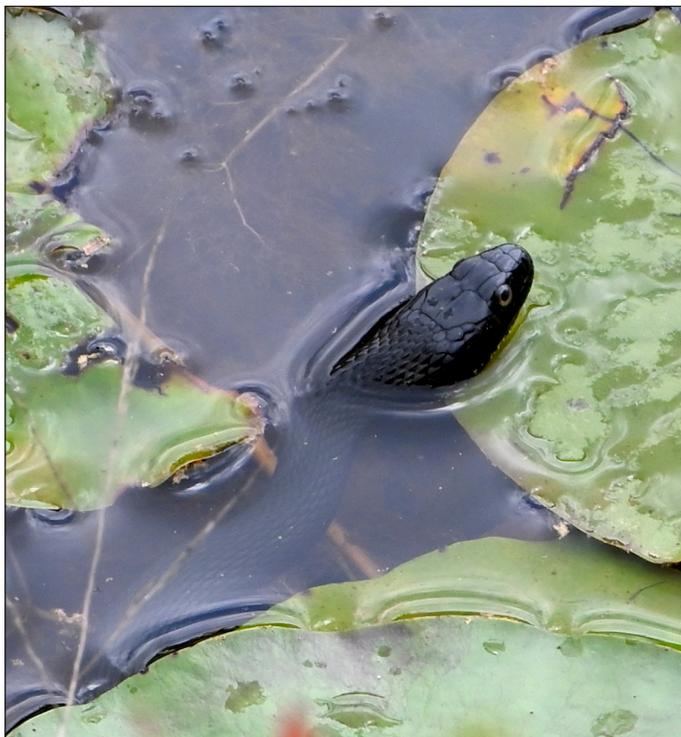


Top: Crimson berries float in flooded bogs during the fall harvest season at Pine Island Cranberry Company, as shown in a photo collage at the farm's office.

Bottom left: Native northern water snakes forage in a reservoir onsite, along with other wildlife such as great egrets, carpenter frogs and turtles.

Bottom right: Visitors to Pine Island can see a bread oven that was built and used by Italian immigrants from Philadelphia who harvested cranberries at the farm more than 100 years ago.

Photos/Paul Leakan



Permanent Land Protection

Pinelands Conservation Fund

Land Acquisition Grants: On October 31, 2025, the Commission’s Policy & Implementation Committee approved an award of \$3 million from the agency’s Pinelands Conservation Fund (PCF) to support the preservation of an approximately 835-acre parcel in the Medford-Evesham Priority Acquisition Area in Burlington County.

The funds were awarded to the New Jersey Conservation Foundation (NJCF), which has a one-year timeframe to complete the grant agreement.

Commission staff recommended the grant because the project scored very highly on the agency’s matrix of evaluation factors, including the property’s location in the acquisition target area, the large size of the parcel (over 800 acres), the contiguity with other preserved open space, and the number and extent of threatened or endangered species and their habitats that will be protected through permanent preservation.

The Commission allocated a total of \$9.42 million from the PCF during a series of funding rounds between 2007 and July 1, 2019. All 40 of the projects funded during that time period were successfully closed as of July 1, 2019, resulting in the permanent protection of 8,971 acres in the Pinelands Area.



Above: The Commission approved a \$3 million grant from its Pinelands Conservation toward the preservation of a 835-acre parcel in the Medford-Evesham Acquisition Priority Area. The parcel is contiguous with permanently preserved land such as the property above. Photo/Paul Leakan



Above: In December 2025, Commission staff joined with three staffers from Ocean County to tour two properties that were permanently preserved with support from the Pinelands Conservation Fund. Photo/Paul Leakan

Permanent Land Protection Monitoring: In 2025, Commission staff continued to conduct site visits at properties that have been permanently preserved through the PCF.

Since 2023, staff has visited 11 sites to monitor conditions at the properties and ensure compliance with the terms of conservation restrictions. The visits also enable staff to identify any potential issues, such as the removal of sand, gravel or rock; significant erosion or flooding; trash accumulation or dumping; construction of non-permitted structures; and evidence of damage caused by the illegal use of off-road vehicles. Staff reports any issues to the property owners discusses the site visits with the Commission’s Policy & Implementation Committee.

Land Preservation Summit

More than 20 people attended the Pinelands Commission's third annual Permanent Land Protection Summit on April 3, 2025. The summit focused on accessible trails in the Pinelands.

Cecile Murphy and Mackenzie Piggott of the New Jersey Green Acres Program discussed funding and resources for creating accessible trails. Sean Kane-Holland, Nature and Disability Advocate for the Pinelands Preservation Alliance, discussed the "Pinelands is for Everyone" initiative, along with Scott Chesney, Communications Facilitator. Peter Dolan of the NY-NJ Trail Conference provided trail construction guidance.

Gina Berg, the Commission's Director of Land Use Planning, discussed the project criteria and schedule for the next round of permanent land preservation grants through the Commission's Pinelands Conservation Fund. Matthew R. von der Hayden, Stafford Township Administrator, discussed the township's Forecastle Basin Accessible Trail Project. Katie Elliott and Amber Mallm, Commission Planning Specialists, then facilitated a round table discussion about accessible trail standards.



Above: The Pinelands Commission facilitated a round table discussion about accessible trail standards during the agency's third annual Permanent Land Protection Summit on April 3, 2025. Photo/Paul Leakan

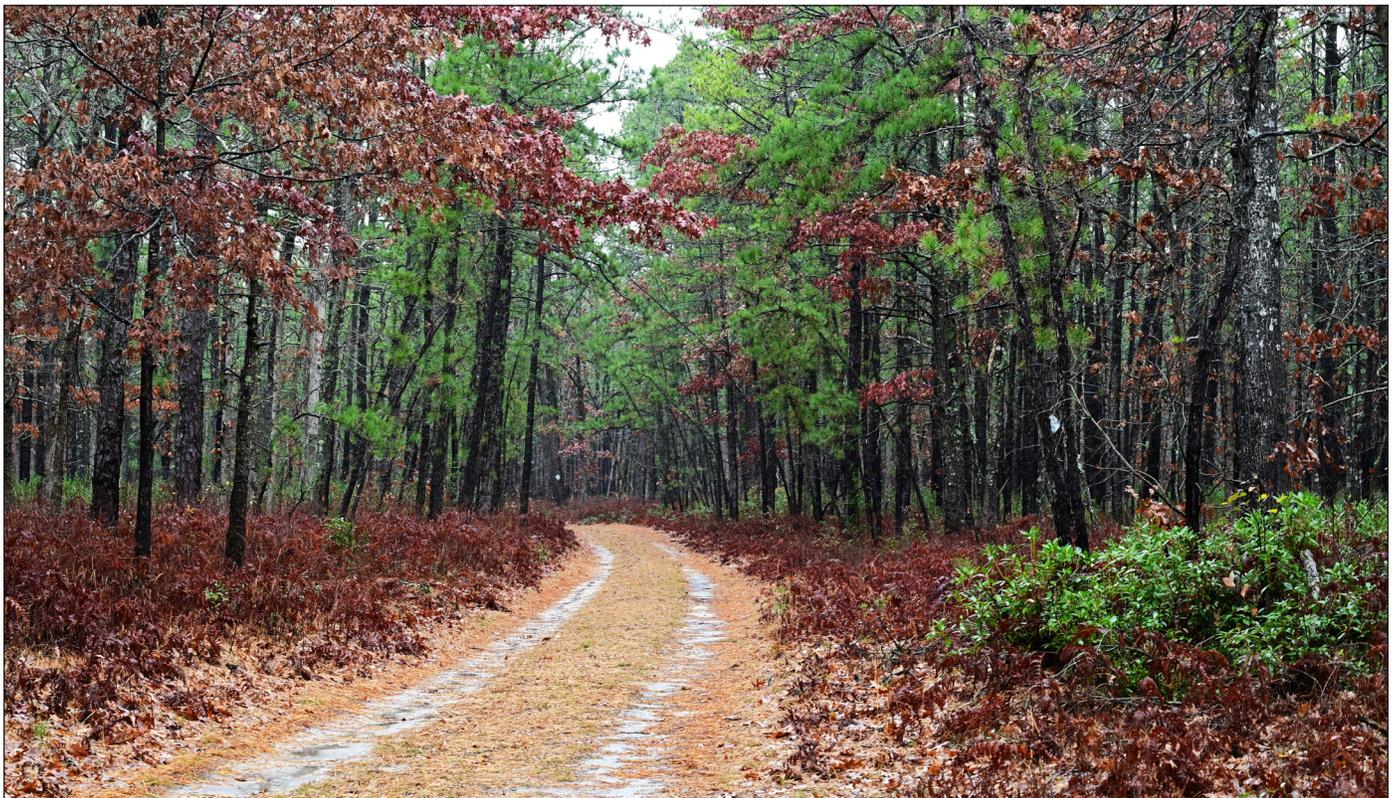
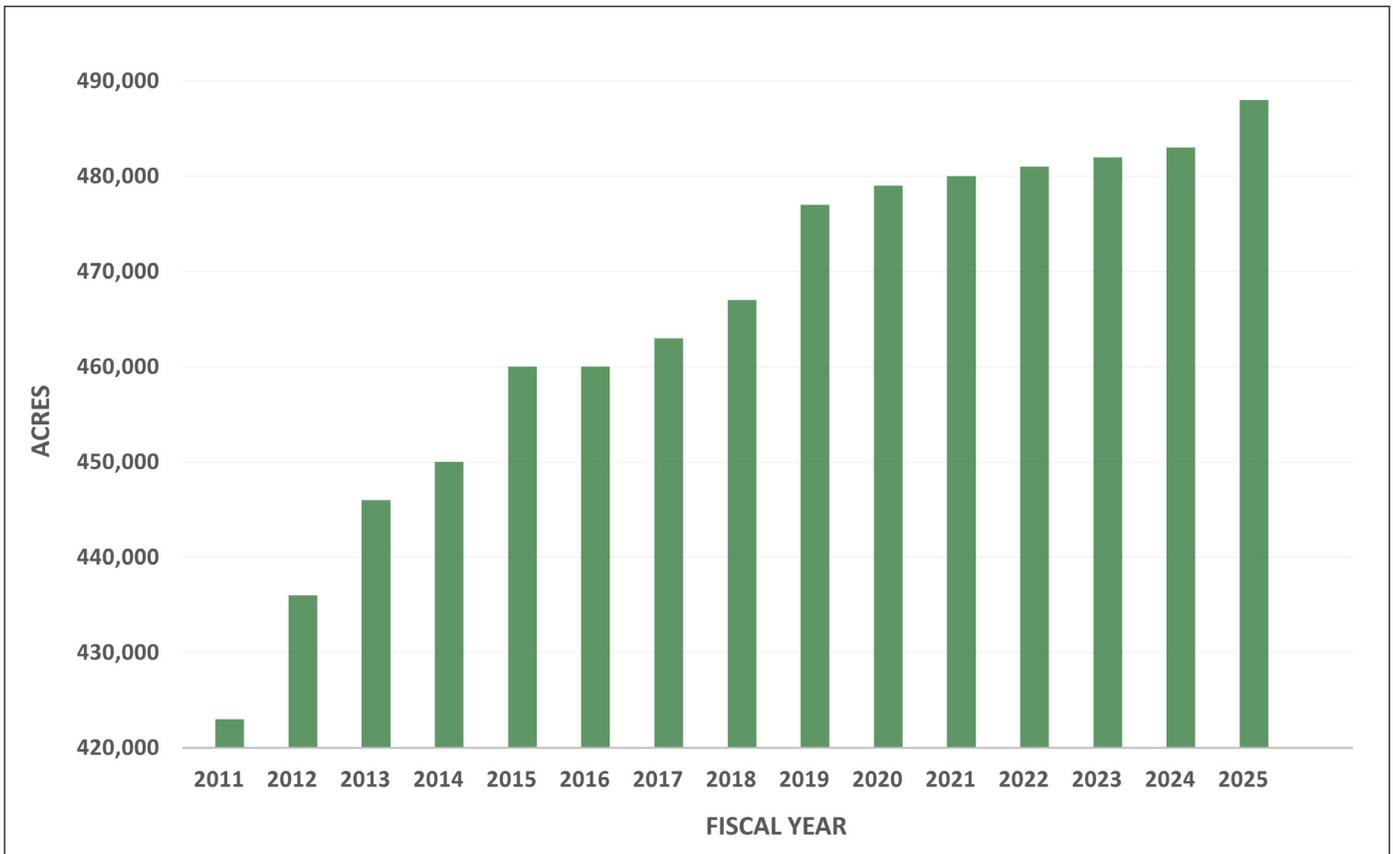
Permanent Land Protection Update

More than 488,000 acres have been permanently preserved in the state Pinelands Area of New Jersey, including 5,367 acres that were protected in Fiscal Year (FY) 2025, according to an annual update that was provided during the Pinelands Commission's meeting on October 10, 2025.

A total of 4,301 acres were preserved through the Pinelands Development Credit Program in FY2025, along with 366 acres from state acquisitions, 269 acres by non-governmental organizations, 159 acres in farmland preservation, 147 acres through Pinelands programs, and 126 acres in county open space.

As of June 30, 2025, 52 percent of the Pinelands Area has been permanently protected. Importantly, 94% of the protected land is located within the Preservation Area District, Special Agricultural Production Area, Forest Area and Agricultural Production Area, the conservation areas of the Pinelands that the Commission is charged with preserving and enhancing. The majority of preserved land was protected through federal, state and local land protection initiatives, with a relatively small percentage (3% or 13,111 acres) protected by non-profit conservation organizations. Programs administered or funded by the Pinelands Commission have protected approximately 100,220 acres through June 2025, accounting for approximately 21% of the total.

Acres Preserved in the Pinelands Area (Rounded to the nearest thousand)



Above: More than 52% of the state Pinelands Area has been permanently preserved, including this 700-acre property that was preserved through the Commission's Pinelands Conservation Fund in 2009.

Photo/Paul Leakan

Regulatory Activities

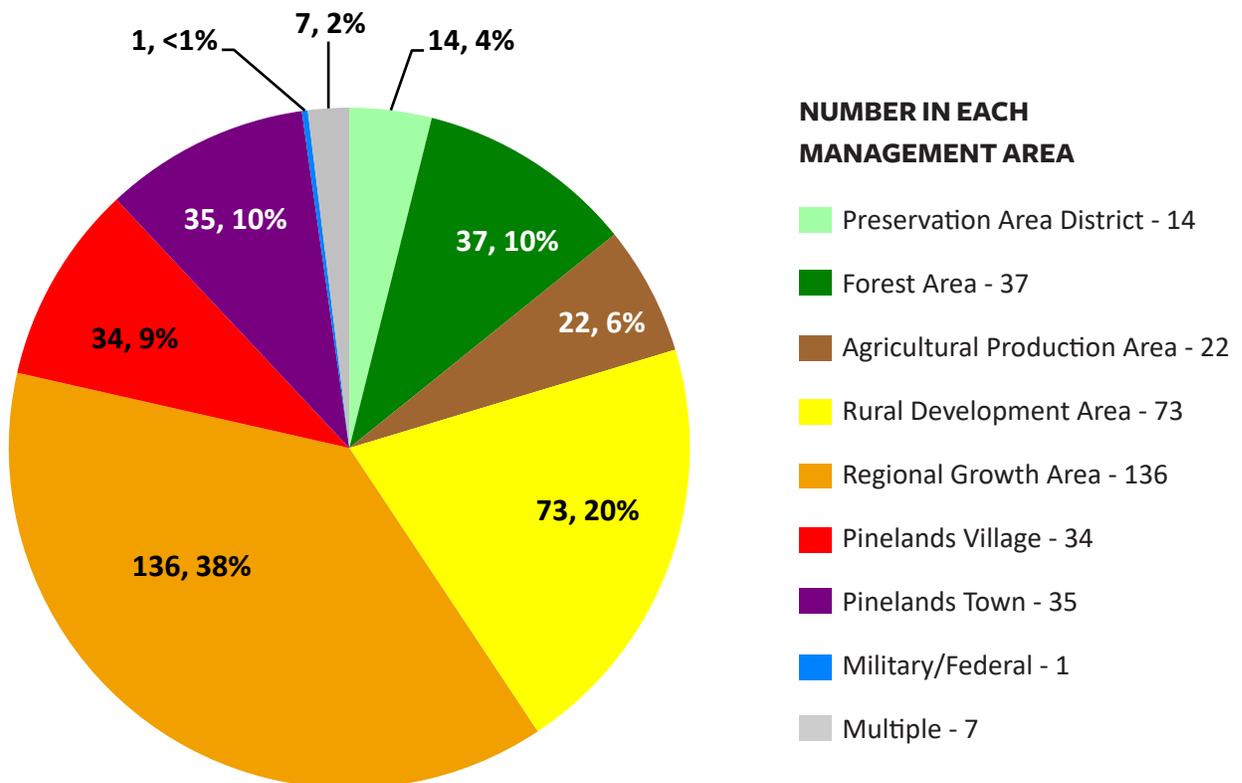
Applications

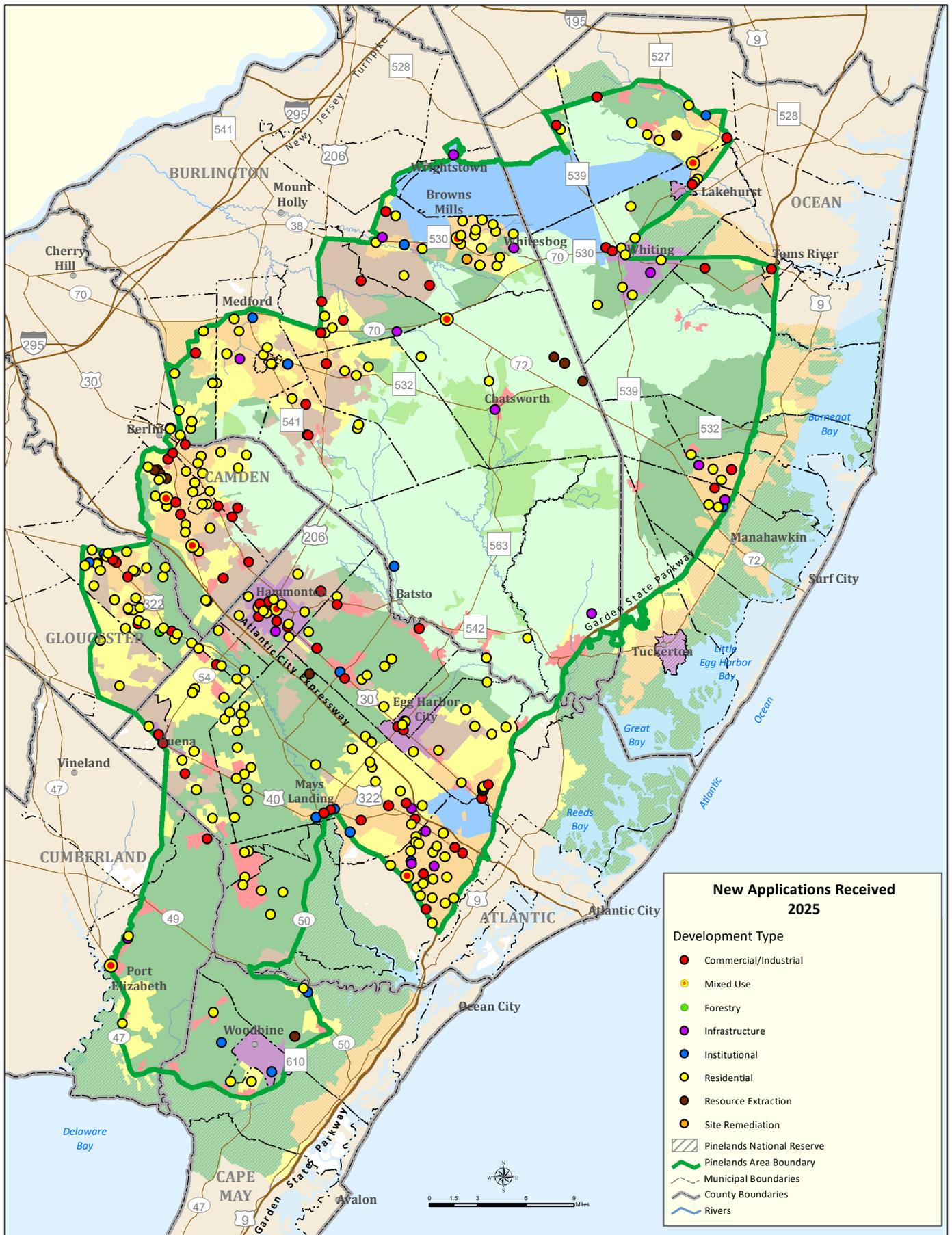
The Pinelands Commission reviews applications for development by evaluating proposals to ensure that they meet the regulations contained in the Pinelands Comprehensive Management Plan. Development proposals must meet a series of environmental standards, including those that protect water quality, wetlands, and threatened and endangered species.

The Commission’s development approval process varies, depending on whether the application is submitted by a public agency or a private landowner. The Commission’s staff reviews private development proposals, such as single-family dwellings, subdivisions, and commercial projects.

The Commission received a total of 359 new applications for development in 2025, with the highest percentage of the applications (38%) proposing new development in Pinelands Regional Growth Areas (or RGAs). There are 24 municipalities with RGAs in the 938,000-acre state Pinelands Area. RGAs make up 8% of the land in the Pinelands Area, and they are generally located on the fringes of the Pinelands boundary. The RGAs include areas of existing development and adjacent lands that have the infrastructure such as sewers, roads and other utilities needed to accommodate new development while protecting the essential character and environment of the Pinelands. The Pinelands CMP encourages future growth in the RGAs as a way to prevent scattered and piecemeal development in other more sensitive portions of the Pinelands Area. Applications for development in the other development-oriented Pinelands management areas (Pinelands Towns and Villages) account for an additional 19% of the total. The pie chart below illustrates the number and percentages of applications received by management area in 2025.

Development Applications Received in 2025 by Management Area





A full listing of applications received by development type in 2025 is shown to the right. A majority of the development applications received were for residential development (63%), followed by commercial/ industrial development (19%), infrastructure (7%), institutional uses (5%) and mixed use development (3%). Applications for resource extraction, forestry and site remediation made up the remaining 3% of new applications. Of the 226 residential applications received, 94% proposed four or fewer units, defined as “minor” development by the CMP. The remaining 13 residential applications proposed development ranging in size from 8 to 293 units. Applications received for commercial/industrial development proposed a multitude of uses, including new and expanded retail stores, offices, restaurants, storage yards and facilities, commercial animal adoption facilities, warehouses, and solar energy facilities. Notably, applications for commercial/industrial development in the Pinelands Agricultural Production Area primarily involved conversion of existing farm structures (barns, storage buildings) to seasonal agricultural employee housing and construction of agricultural processing facilities. Infrastructure applications involved roads, bridges, sanitary sewer mains and pump stations, sidewalks, parking lots, dams and wells. Applications for institutional uses included schools, churches, public parks, and government buildings. A small number of projects involving both residential and nonresidential components were also proposed and are categorized as mixed use development.

Development Applications Received in 2025 by Development Type

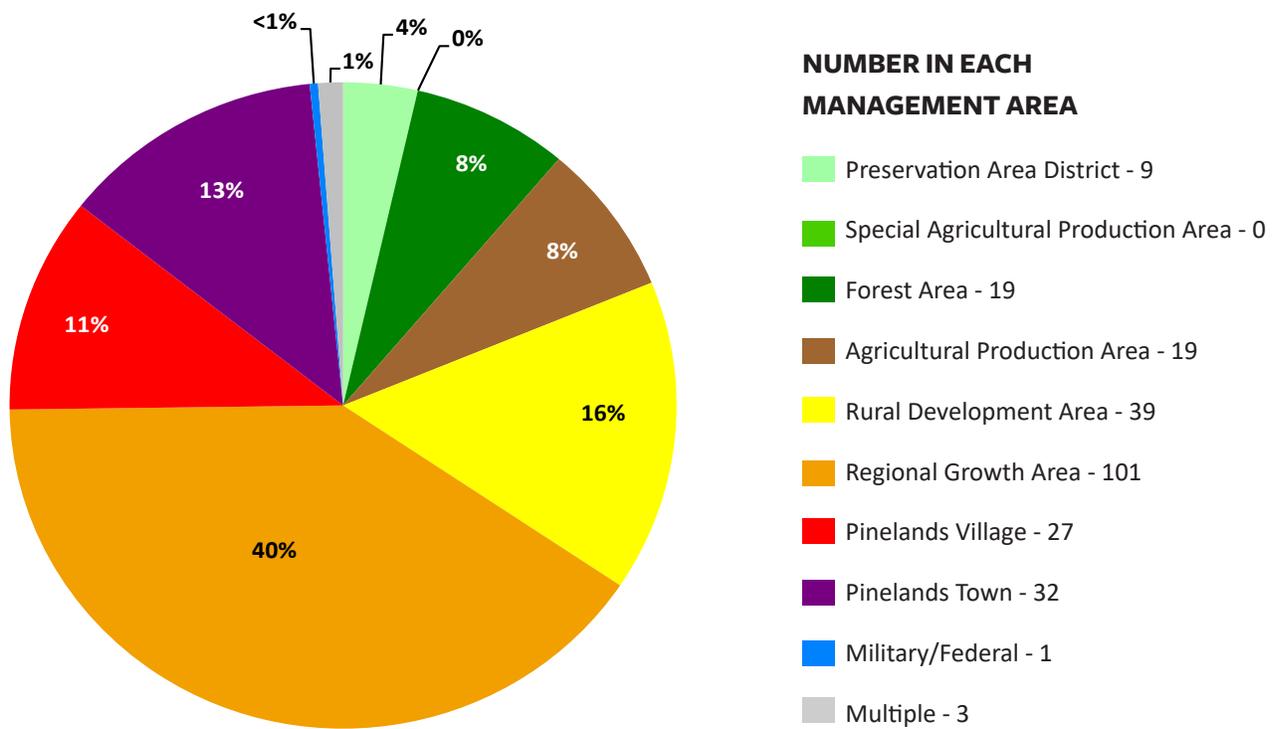
Development Type	Total
Residential	226
Commercial/Industrial	69
Institutional	18
Infrastructure	26
Forestry	1
Resource Extraction	8
Site Remediation	1
Mixed Use	10
Total	359



Above: Branwen Ellis, a Pinelands Commission Environmental Specialist, conducting soil borings in the field as part of the agency’s review of a development application in the Pinelands. Photo/Paul Leakan

After applicants provide all of the necessary information, the Commission issues a Certificate of Filing (or CF), signifying completion of an application and allowing an applicant to seek all municipal and county approvals for the proposed development. Other completeness documents include Preliminary Zoning Permits (PZPs) and Notices of Filing, which are issued under alternative permitting programs in accordance with the CMP. These completeness documents also include Notices of Enrollment issued by Regional Foresters in accordance with a streamlined forestry review procedure established by a 1997 Memorandum of Agreement with the New Jersey Department of Environmental Protection (NJDEP). All three of these documents certify completeness of development applications and are equivalent to CFs. A total of 250 Completeness Documents were issued in 2025. Most (101 or 40%) were for proposed development in RGAs, with another 24% in Pinelands Towns and Villages (as shown in the chart below).

Completeness Documents Issued in 2025 by Management Area

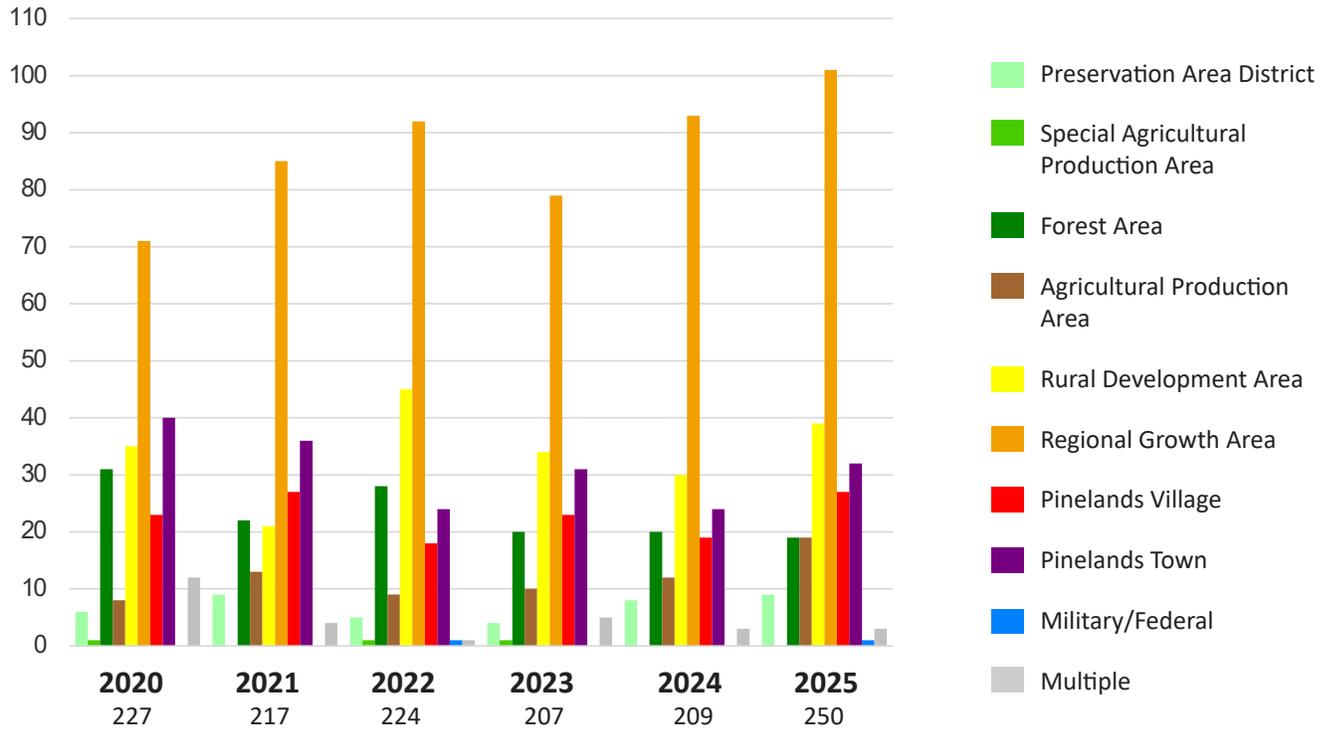


Of the 250 Completeness Documents that were issued in 2025, most involved proposals for residential development (158 or 63%). The majority of these residential projects were for development of only one single-family detached home; however, Completeness Documents were issued for 14 larger residential projects ranging in size from 6 to 198 units. These larger subdivisions, all located in RGAs, Towns or Villages, proposed a variety of housing types, including single family detached homes, townhomes, and apartments.

Applications for commercial or industrial development account for the next highest percentage of Completeness Documents issued in 2025 at 22% of the total. These 55 applications involve a wide variety of uses, including restaurants, offices, retail stores, parking lots, storage yards, warehouses, self-storage facilities, seasonal agricultural employee housing, agricultural processing facilities, cell towers, and solar energy facilities. Nearly 73% of the Completeness Documents were issued for projects in development-oriented management areas (RGAs, Towns and Villages).

As indicated on the bar graph on below, the number of Completeness Documents issued by the Commission was significantly higher in 2025 than in the previous five calendar years. On average, between 2020-2025, 222 Completeness Documents were issued each year, with the majority of application activity located in the RGA each year.

Completeness Documents Issued by Management Area (2020 - 2025)



Completeness Documents Issued in 2025 by Management Area and Type of Development

Management Areas	Commercial	Forestry	Infrastructure	Institutional	Residential	Resource Extraction	Mixed Use	Total
Preservation Area District	3	0	0	0	3	3	0	9
Special Agricultural Production Area	0	0	0	0	0	0	0	0
Forest Area	1	4	0	0	13	1	0	19
Agricultural Production Area	4	2	0	0	13	0	0	19
Rural Development Area	7	1	1	0	28	2	0	39
Regional Growth Area	25	0	1	3	68	0	4	101
Pinelands Village	5	0	2	1	18	0	1	27
Pinelands Town	10	0	2	1	15	0	4	32
Military/Federal Installation	0	0	1	0	0	0	0	1
Multiple	0	0	2	1	0	0	0	3
Totals	55	7	9	6	158	6	9	250

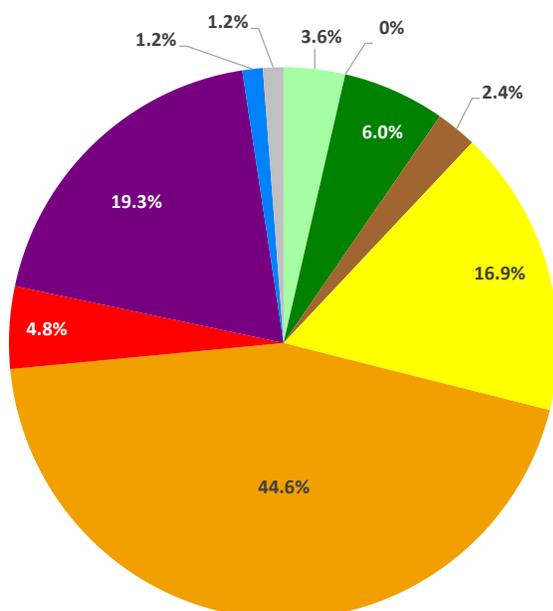
After an applicant receives any required municipal or county approvals for private development in the Pinelands Area, copies of those approvals must be sent to the Commission. The Commission staff then reviews the approved development and determines whether it meets all Pinelands standards. If it does, the Commission staff will send the applicant a letter confirming that the agency’s review is complete and the permit or approval can take effect.

The Commission staff issued such determinations for 83 development projects in 2025, allowing the associated final municipal site plan and subdivision approvals to take effect. Thirty-seven of these applications (or nearly 45%) were for residential development. In total, 266 residential units were approved, in projects ranging in size from 1 to 201 units. Most approved residential projects were for single-family detached dwellings; however, one large residential subdivision included a mixture of single-family detached dwellings and townhouses. The Commission staff reviewed and allowed final subdivision or site plan approvals to take effect for 38 commercial or industrial projects. These applications included retail commercial buildings, offices, restaurants, childcare facilities, hotels, cannabis retail and processing facilities, auto repair and storage facilities, car washes, gas stations, warehouses, storage yards, self-storage facilities, multi-building industrial parks and solar energy facilities. The final eight approved projects were for institutional uses (schools and churches) and mixed use development involving demolition of commercial buildings, subdivisions and conversion of an existing dwelling to a dwelling and a restaurant. The 83 approved applications are located in 24 Pinelands municipalities, as shown in the table to the right. The pie chart below shows the Pinelands Management Area in which the approved development will be located.

Final Municipal Site Plan/ Subdivision Approvals Allowed To Take Effect in 2025

Municipality	Number of Applications
Barneget Township	7
Berkeley Township	1
Buena Vista Township	4
Chesilhurst Borough	2
Egg Harbor City	1
Egg Harbor Township	6
Estell Manor City	1
Franklin Township	2
Galloway Township	5
Hammonton Town	7
Hamilton Township	1
Jackson Township	1
Lakehurst Borough	3
Medford Township	1
Monroe Township	6
Mullica Township	2
Pemberton Township	2
Stafford Township	1
Tabernacle Township	2
Upper Township	1
Waterford Township	5
Winslow Township	17
Woodbine Borough	4
Woodland Township	1
Total Applications	83

Final Municipal Site Plan/Subdivision Approvals Allowed to Take Effect in 2025 by Management Area



NUMBER IN EACH MANAGEMENT AREA

- Preservation Area District - 3
- Special Agricultural Production Area - 0
- Forest Area - 5
- Agricultural Production Area - 2
- Rural Development Area - 14
- Regional Growth Area - 37
- Pinelands Village - 4
- Pinelands Town - 16
- Military/Federal - 1
- Multiple - 1

The Commission staff reviewed other types of approvals for significantly more private development applications than the 83 discussed above during 2025. For example, 4 municipal permits for resource extraction (mining) and 41 municipal demolition permits, most involving demolition of existing homes at least 50 years old, were reviewed and allowed to take effect. Many county and municipal preliminary site plan and subdivision approvals were similarly reviewed and allowed to take effect, along with numerous municipal building permits, municipal zoning permits, municipal variances, county septic permits, and other types of approvals. Still other municipal and county approvals were reviewed but determined to be inconsistent with Pinelands standards. Such approvals cannot take effect until the inconsistencies have been addressed.

The Pinelands Commission is also responsible for reviewing and approving development applications that are submitted by public entities, such as a municipality, county or a State agency. The full, 15-member Commission votes on whether to approve these applications during its monthly meetings. A total of 31 applications for public development were approved in 2025, including: pedestrian walkways; road improvements; parking lots; sanitary sewer pump stations; maintenance, restroom and public works buildings; recreational improvements; a local communications (cellular) tower, a vehicle storage area; elevated potable water storage tanks; and athletic fields. Of note were the Commission's approval of two public development applications proposing closure of municipal landfills through the installation of permeable soil caps. Finally, the Commission approved Ocean County's plan for forestry and the creation of forest fuel/firebreaks on 2,200 acres in the Forked River Mountains Wilderness Area in Lacey and Ocean townships.

Streamlined Coordination with Public Agencies

The CMP allows the Commission to enter into Memoranda of Agreement (MOAs) with Federal, State, county or municipal public agencies to establish streamlined application review procedures to carry out specific development, eliminating the need to complete individual development applications with the Commission. The Commission has entered into a variety of these streamlining MOAs with public agencies. Typically, the MOAs either establish streamlined permitting procedures where Commission and other public agency regulations overlap or, they establish simplified application review procedures for specified minor development proposed by public agencies. Any development subject of these MOAs must be consistent with the standards of the CMP. Examples of these streamlining agreements include an MOA with NJDEP, Bureau of Pesticide Control, for the review of aquatic herbiciding applications in the Pinelands Area, and an MOA with Ocean County for the review of specified County projects, such as bridge replacements, traffic safety improvements (guardrails, traffic lights, equipment boxes) and road intersection realignments and minor improvements.

Each MOA establishes a procedure and timeframe for Commission staff review of development proposals. Upon completion of its review, the staff issues a document indicating whether the proposed development is consistent with the CMP, and if applicable, any other requirements specified in the MOA. In 2025, the Commission issued 26 such documents. The majority (92%) were issued in accordance with the above referenced streamlining MOA with NJDEP, Bureau of Pesticide Control, for NJDEP aquatic pesticide permit applications in the Pinelands Area.

Recreation Permits

In 2025, the Commission issued 10 Recreation Permits for organized, off-road vehicle events in the Pinelands Area. In order to receive a Recreation Permit, groups must submit a completed "Off-Road Vehicle Event Application" for each proposed event. In addition to the application form, the group must submit the course route in electronic format, an application review fee, proof of insurance, property owner permission and proof that the township and New Jersey State Police have been notified. Commission staff reviews the course route to determine if there are any issues with wetlands, threatened and endangered species, deed-restricted land and private and public ownership. Any portions of the route that have potential issues are site inspected by a

member of the Commission’s staff. If any route changes are necessary, a revised route is required and must again be submitted for review.

Letters of Interpretation

Applicants may request the Commission’s interpretation of any standard in the Pinelands Comprehensive Management Plan through issuance of a formal Letter of Interpretation (LOI). LOIs are most commonly issued in response to an applicant’s request for an allocation of PDCs or a determination involving wetlands on a particular parcel. Wetlands LOIs include applications submitted for wetlands presence/absence determinations and verification of wetlands boundaries and required wetland transition areas (buffers). Once issued, LOIs are valid for five years.

In 2025, 22 new applications for LOIs were submitted to the Commission. The majority of these applications (20 or 91%) were for PDC allocations. The two remaining applications were for determinations involving the extent of wetlands and/or required wetlands buffers. The Commission issued a total of 18 LOIs in 2025, 16 allocating PDCs, one verifying the extent of wetlands and one verifying both the extent of wetlands and the required wetlands transition areas.

Waivers

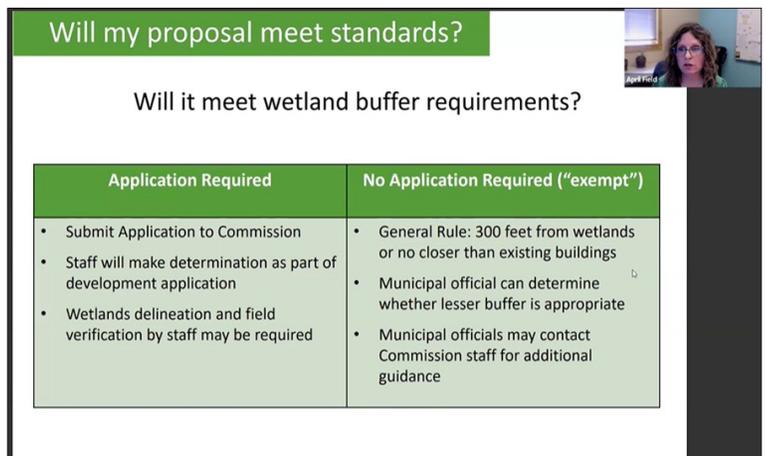
Some applications may not be able to meet all of the Commission’s land use or environmental standards. In these instances, applicants may elect to apply for a “Waiver of Strict Compliance” based on a demonstration of extraordinary hardship. If granted, a waiver typically allows for development of one single-family home. Four such waivers were approved by the Commission in 2025, two in Monroe Township and one each in Shamong and Hamilton townships.

Online Enhancements to Further Assist Applicants

In 2023, the Commission launched a portal that enables applicants to pay application fees online. Previously, applicants could only submit their application fees by paying via check or money order. Of the total 446 application fee payments that the Commission received in 2025, approximately 61.50% were paid online.

Training Session for Municipal Officials

More than 60 municipal officials attended an in-depth training session that was led by Commission staff on June 11, 2025. During the session, Commission staff showed how to use the agency’s Interactive Pinelands Property Map to answer frequently asked questions about the land development process in the Pinelands. The session was conducted virtually, and each attendee received a certificate that enables them to receive three technical hours toward the renewal of their Planning/Zoning Board Secretary, Zoning Official, and Land Use Administrator certificate(s) from Rutgers University.



The screenshot shows a virtual training session slide. At the top, a green header reads "Will my proposal meet standards?". Below this, the main question is "Will it meet wetland buffer requirements?". A small video feed of a woman is visible in the top right corner. The slide contains a table with two columns: "Application Required" and "No Application Required ('exempt')".

Application Required	No Application Required ("exempt")
<ul style="list-style-type: none">• Submit Application to Commission• Staff will make determination as part of development application• Wetlands delineation and field verification by staff may be required	<ul style="list-style-type: none">• General Rule: 300 feet from wetlands or no closer than existing buildings• Municipal official can determine whether lesser buffer is appropriate• Municipal officials may contact Commission staff for additional guidance

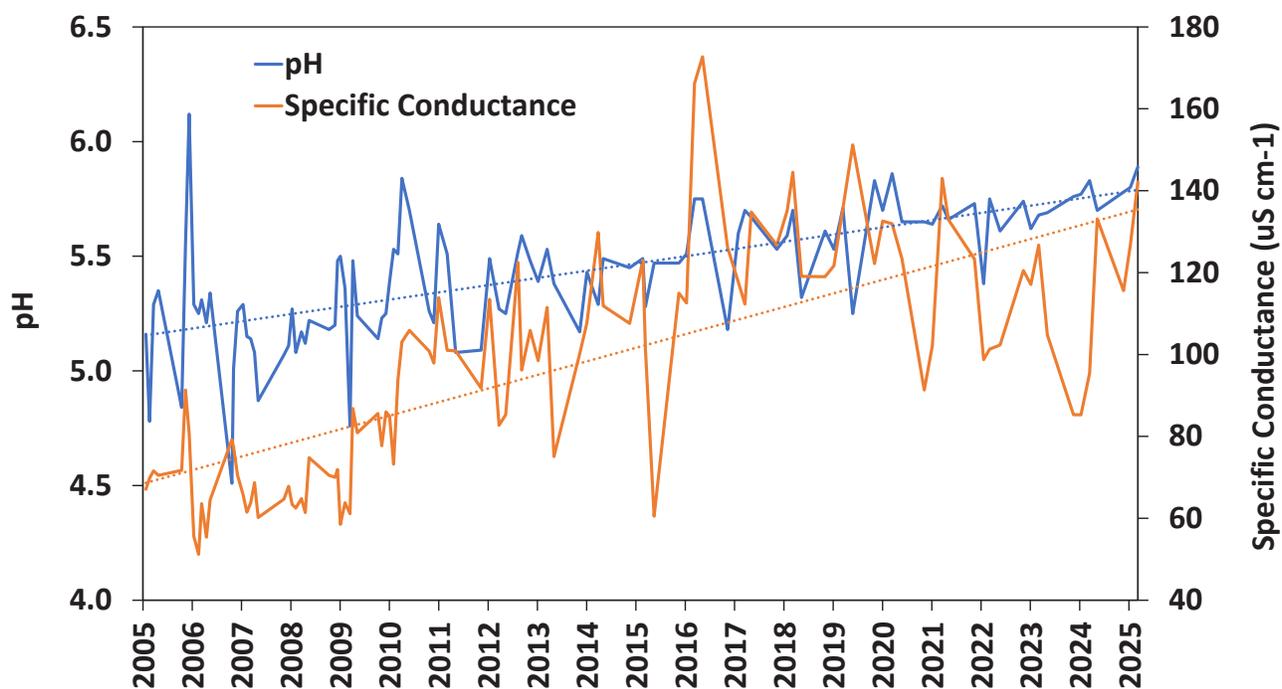
Above: More than 60 people attended a virtual, in-depth training session that was led by Pinelands Commission staff on June 11, 2025.

Science & Research Activities

Long-term Environmental Monitoring Program

Pinelands-wide Water-quality Monitoring: In 2005, a network of 47 benchmark stations was selected from the pool of known sites for monitoring long-term trends in pH and specific conductance throughout the Pinelands. Specific conductance and pH are inexpensive, reliable, and easily measured field parameters that are correlated with other more expensive and episodic water-quality variables. Values for pH (a measure of water acidity or alkalinity) and specific conductance (which reflects the concentration of dissolved substances in water) are relatively low in Pinelands streams that drain forested watersheds. Both parameters are elevated in streams that drain watersheds with significant development and upland agriculture. The 47 benchmark sites are distributed throughout the Pinelands, represent a range of pH and specific conductance values, and are sampled four times each year.

In 2025, the 47 stream sites were sampled again for pH and specific conductance in April, June, August, and October. Long-term data indicate that pH and specific conductance have been increasing at several stream sites sampled as part of the monitoring program. One example of this increasing trend, Four Mile Branch at Lighthouse Road, is shown here.

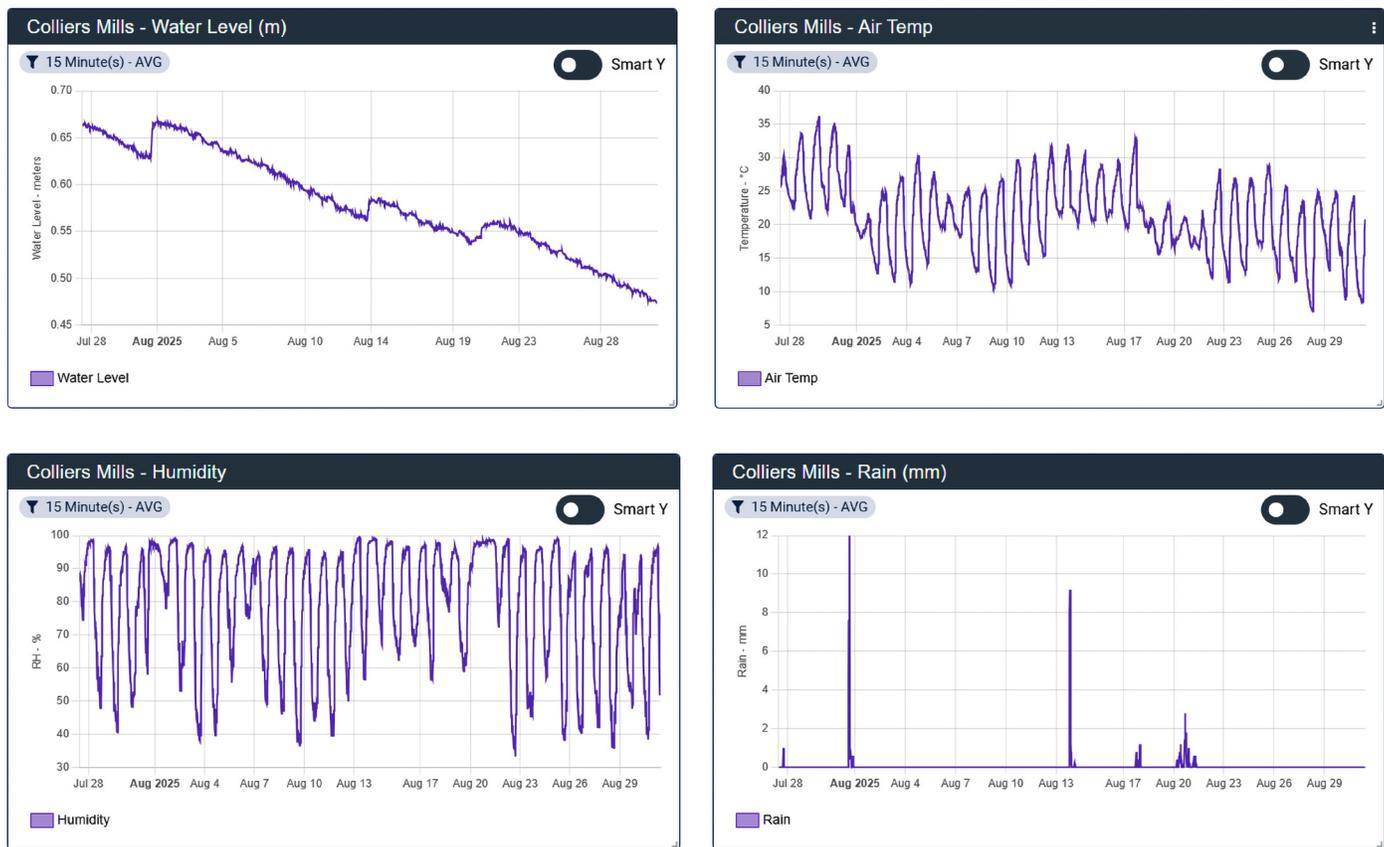


Above: Median pH and specific conductance values from 2005 - 2025 at Four Mile Branch at Lighthouse Road, one of 47 stream sites where water quality is monitored. Increasing trends for both parameters reflect the high percentage of developed land in the Four Mile Branch watershed.

Water-level Monitoring: Commission scientists measure water levels manually each month at 33 forest plots and 30 ponds and maintain continuous water-level recording devices installed in one forest plot and seven other ponds. Long-term pond and forest plot water-level data can be used to determine if groundwater levels in wetland forests or surface water levels in ponds are changing over time.

In 2025, Commission staff completed routine monthly water-level measurements in the 43 forest plots and 30

ponds and periodically downloaded the continuous water-level data from the single forest plot and seven other ponds. Commission staff also installed solar powered weather stations at three of the ponds with continuous recorders. The weather stations collect data on water level, water and air temperature, relative humidity, barometric pressure, and precipitation, and the data can be viewed remotely in real time. The Commission hopes to make these data available to the public on the Commission website in 2026.



Above: An example of variables measured from the weather station installed at Colliers Pond located in Colliers Mills Wildlife Management Area.

Rare Snake Monitoring: As part of ongoing snake studies that were initiated in late 2016, Commission scientists have been establishing a network of natural snake hibernacula, shed areas, and nest sites to monitor long-term changes in two species of rare snakes: corn snakes and northern pine snakes. Corn snakes are listed as endangered in New Jersey and pine snakes are listed as threatened in the state. Since 2018, corrals were built around most hibernacula to capture snakes as they emerge from hibernation in the spring.

Hibernacula that are unable to be corralled are monitored using artificial cover placed near the hibernacula to attract snakes. The corrals and artificial cover offer an effective non-invasive method to census corn snakes



Above: Corral fence installed with metal posts and zip ties that surrounds a snake hibernaculum. Photo/John Bunnell

and pine snakes, as well as other co-occurring snake species, each spring without physically disturbing the hibernacula or hibernating snakes.

From 2016 to 2025, a total of 2,668 snakes representing 14 species have been captured and processed. These include 1,344 corn snakes, 728 northern pine snakes, 202 eastern king snakes, 223 northern black racers, 95 eastern hognose snakes, and 76 snakes of several other species. All snakes were weighed, measured, and tagged with Passive Integrated Transponder tags (PIT tags). A PIT tag is a tiny, glass-coated microchip commonly used in wildlife research that allows for the permanent identification of an animal through the use of a special scanner that reads the unique tag number.



Above: Eastern king snake that emerged from its hibernaculum, was trapped inside a hibernaculum corral, and was captured for processing. Photo/John Bunnell

A total of 490 of these processed and tagged snakes were recaptured at least once. Captured snakes that are unaffiliated with a known hibernacula are typically outfitted with surgically implanted transmitters for radio tracking to find new hibernacula, as well as shed sites and nest sites. In 2025, scientists radio tracked 31 corn snakes, 35 pine snakes, and one milk snake. These transmitter-outfitted snakes led to the discovery of several new snake hibernacula late in the year.



Above left: Commission scientists measuring a female northern pine snake. Photo/Kim Laidig



Above right: Recaptured corn snake that was microchipped with a passive integrated transponder tag (PIT tag) for permanent identification. The scanner is waved over the snake to read the PIT tag number. Photo/John Bunnell

Snake Disease Monitoring:

Snake Fungal Disease: In 2018, Commission scientists began collaborating with Dr. Joanna Burger of Rutgers University and Robert Zappalorti of Herpetological Associates, Inc., to conduct research on snake fungal disease in the Pinelands. Snake fungal disease is an emerging disease found in populations of captive and wild snakes that is caused by the fungus *Ophidiomyces ophidiicola* and can be detrimental and even deadly to snake populations. Although snakes can show signs of fungal disease just after spring emergence from hibernation, it was previously unknown if *O. ophidiicola* was present inside the hibernacula.



Above: Northern pine snake with snake fungal disease. Photo/Chris Jeitner

Dr. Burger and Mr. Zappalorti have been excavating a group of northern pine snake hibernacula annually for almost 40 years. Their long-term study provides a unique opportunity to sample inside snake hibernacula to determine if the fungus is present in the soil or on the hibernating snakes. Initial sampling in 2018 indicated that *O. ophidiicola* was present on snakes and in the soil inside the hibernacula, therefore all hibernating snakes were swabbed for snake fungal disease annually beginning in 2019.

In 2025, all hibernating snakes were sampled again for fungal infections. Results assessing variations in *O. ophidiicola* by year, snake sex, and location on the snake were described in a paper published in 2025. This paper and other publications describing the fungal disease results obtained from the artificial hibernacula excavations are listed below.

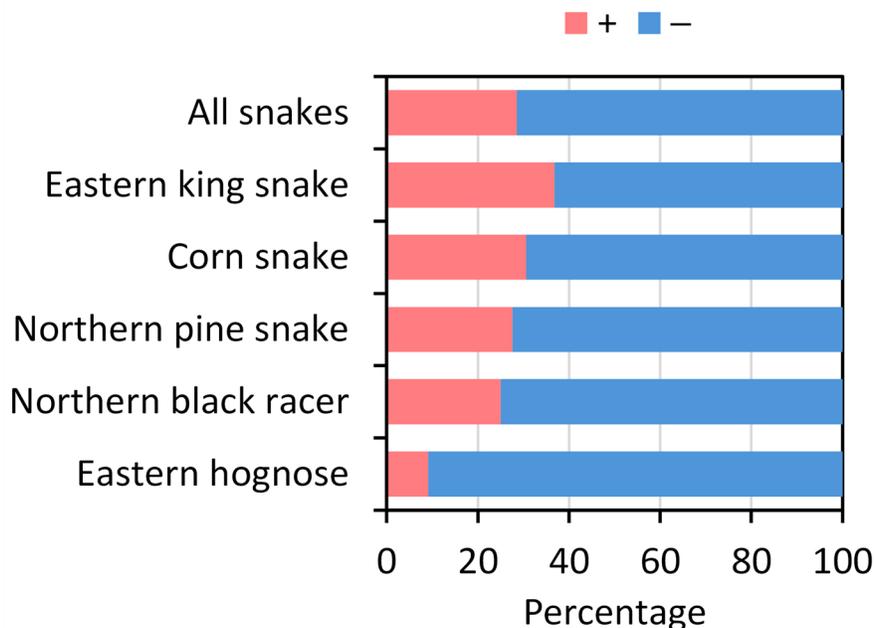
Campbell, L.J., J. Burger, R.T. Zappalorti, J.F. Bunnell, M.E. Winzeler, D.R. Taylor, J.M. Lorch. 2021. Soil reservoir dynamics of *Ophidiomyces ophidiicola*, the causative agent of snake fungal disease. *Journal of Fungi* 2021, 7, 461. <https://doi.org/10.3390/jof7060461>

Burger, J., M. Gochfeld, R. Zappalorti, J. Bunnell, C. Jeitner, D. Schneider, K. Ng, E. DeVito, and J.M. Lorch. 2023. Prevalence of *Ophidiomyces ophidiicola* and epizootiology of snake fungal disease in free-ranging Northern Pine Snakes (*Pituophis melanoleucus melanoleucus*) in New Jersey. *Environmental Monitoring and Assessment*, 2023, 195, 662. <https://doi.org/10.1007/s10661-023-11259-w>

Burger, J., C. Jeitner, R. Zappalorti, J. Bunnell, K. Ng, E. DeVito, D. Schneider, and M. Gochfeld. 2024. Snake fungal disease in free-ranging Northern Pine Snakes (*Pituophis melanoleucus melanoleucus*) in New Jersey: Lesions, severity of sores and investigator's perceptions. *Journal of Fungi* 2024, 10, 125. <https://doi.org/10.3390/jof10020125>

Burger, J., C. Jeitner, R.T. Zappalorti, J. Bunnell, K. Ng, E. DeVito, D. Schneider, M. Gochfeld. 2025. Snake fungal disease (Ophidiomycosis) in Northern Pine Snakes (*Pituophis melanoleucus melanoleucus*) in New Jersey: Variations by year, sex, and morphological sampling site. *Journal of Fungi* 2025, 11, 206. <https://doi.org/10.3390/jof11030206>

Building on the fungal disease results obtained from the artificial hibernacula excavations, in 2023, Commission scientists began collaborating with researchers at Virginia Tech to swab for *O. ophidiicola* from snakes that were collected from the natural hibernacula, nest sites, and shed sites included in the Rare Snake Monitoring component. Science staff swab the body of each snake and, if sores or lesions are present, they measure the size of the sores and swab the sores. In 2023 - 2024, swab samples from 483 snakes were sent to Virginia Tech for analysis. Results indicated that 29% of the 483 snakes tested positive for *O. ophidiicola*, the organism associated with snake fungal disease. For the five species that comprised 96% of the snakes sampled, the percentage of individuals that tested positive ranged from 9% for the eastern hognose to 37% for the eastern king snake.



Above: Percentage of all 12 species of snakes and the five most abundant snake species that tested positive and negative for *Ophidiomyces ophidiicola*, which is the organism that causes snake fungal disease.

In 2025, staff continued to collect samples for snake fungal disease analysis by swabbing 321 snakes representing nine species. In 2024, Commission scientists also began snake fungal disease sampling of egg clutches that were incubated in the lab. In 2025, swab samples were collected from eggs, hatchlings, and nesting materials associated with nine clutches of pine snake eggs, eight clutches of corn snake eggs and one clutch of king snake eggs.

Adenovirus Monitoring: As part of a collaboration with Dr. Anthony Geneva of Rutgers University, Commission scientists swabbed Pinelands snakes to test for the presence of adenovirus. Adenoviruses affect the gastrointestinal tract and liver of some reptile species, including snakes. In 2023 - 2024, swab samples from 492 snakes were sent to Rutgers University for analysis. An additional 310 snakes, representing ten species, were swabbed for adenovirus analysis in 2025.

Long-term environmental monitoring research is being funded by the National Park Service.

Eastern King Snake Study

The eastern kingsnake is listed as a species of special concern in New Jersey because it is vulnerable to multiple threats, is potentially declining, and its distribution and population status are not known. Commission scientists collaborated with Mr. Robert Zappalorti of Herpetological Associates, Inc., and Dr. Howard Reinert of The

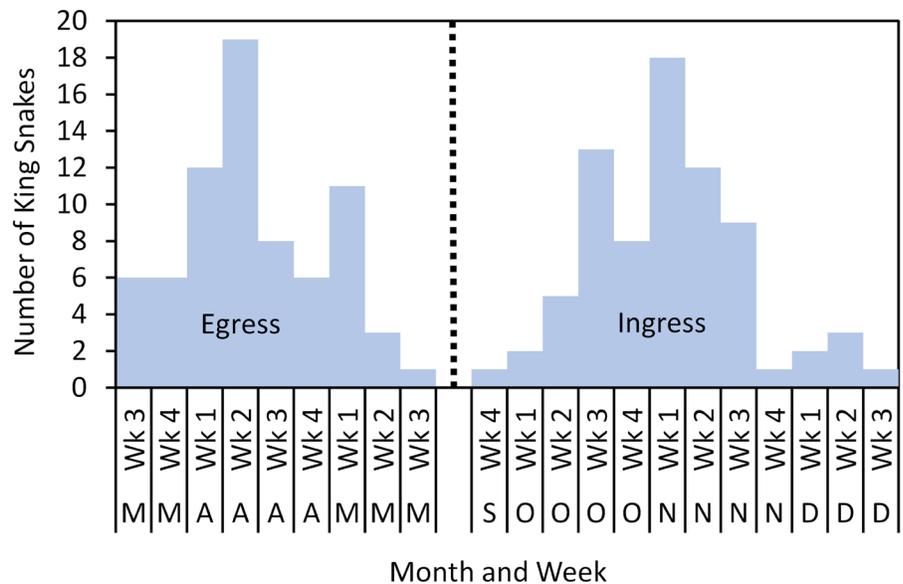
College of New Jersey and used radio telemetry to study the ecology of this snake species.

From 2019 to 2022, researchers radio-tracked 46 king snakes, including 24 males and 22 females. Male snakes were generally larger and weighed more than female snakes. Commission staff compared the number of days snakes were active, number of days snakes were overwintering in hibernacula, home-range size, total distance moved, mean distance moved per day, mean distance per move, and distance moved from spring hibernaculum between male and female king snakes. There were no differences in any of these variables between sexes.

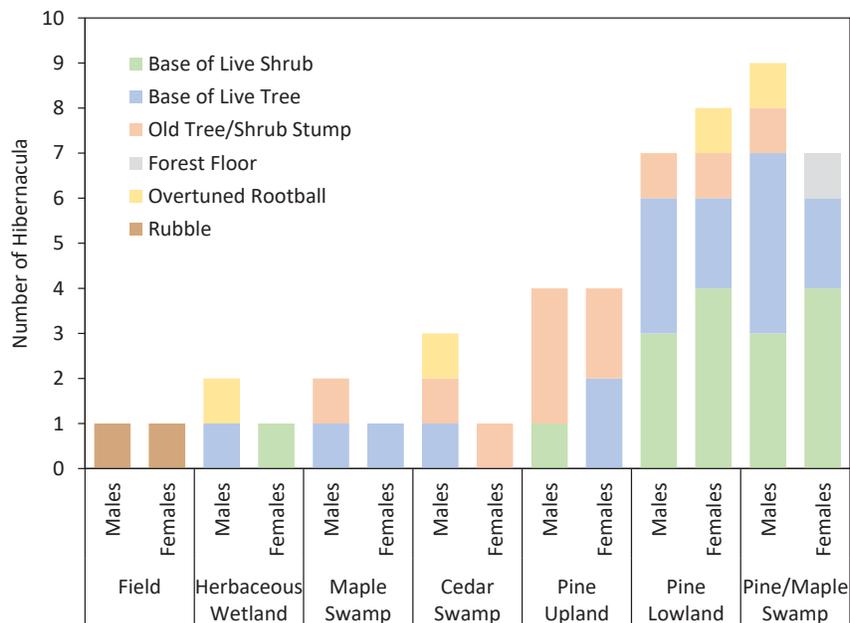
King snakes were generally secretive and hidden from view. During relocations in the active season, 19% of the time snakes were fully visible and 81% of the time snakes were partially concealed (15%) or totally concealed (66%). King snakes emerged from their overwintering hibernacula in the spring from mid-March through late May and entered their hibernacula to overwinter from late September through late December.

The Commission identified 51 different hibernacula that snakes used to overwinter. Of these, 47 hibernacula contained a single tracked king snake and four hibernacula contained more than one tracked snake. King snakes generally did not overwinter with other king snakes. Hibernacula were found in seven different habitat types with most hibernacula in pine/maple swamps, pine lowlands, and pine uplands. These habitat types are typically underlain by sandy mineral soils rather than organic muck soils. Most king snakes used live or dead shrub or tree stumps to access underground hibernacula.

At the end of the four-year study, 24 of the 46 radio tracked king snakes were captured, their radio transmitters were removed,



Above: Egress (exiting hibernacula) and ingress (entering hibernacula) timing for eastern king snakes. Months were divided into four roughly equal parts (= weeks).



Above: Habitat types with hibernacula and features that king snakes used to access hibernacula.

and they were released. For the remaining 22 snakes, 12 were likely killed by mammals, 4 were likely killed by raptors, 5 died of various other causes, and 1 went missing. Commission scientists are currently working on a final report to be submitted to the U.S. Environmental Protection Agency as a grant deliverable.

Eastern Box Turtle Study

The eastern box turtle is listed by the NJDEP as a species of special concern because it is vulnerable to multiple threats, its distribution and population status in the state are not well understood, and it is potentially declining throughout its range. In 2021, Commission scientists started to radio-track eastern box turtles to learn how they move about the landscape, determine when they are active and which habitats they use, identify their hibernacula, and better understand their relationship with fire. To track individual turtles, scientists glued radio transmitters to the back part of their shell.

From 2021 – 2025, a total of 143 eastern box turtles were captured, weighed, and measured. Using a NJDEP ENSP numbering protocol, the shell of each turtle was notched with a file for permanent identification. Of the 143 turtles, 19 were released after processing, 3 turtles were retired after tracking them for a year or two, 6 turtles lost their radio transmitters, 3 turtles died of unknown causes, 2 turtles were killed by vehicles, and 9 turtles went missing. The remaining 101 turtles were tracked in 2025.

In 2023, Commission scientists attached iButtons to the shells of the turtles. An iButton is a small electronic device that can be programmed to automatically collect temperature data. Scientists also installed iButtons at each turtle hibernacula so we could identify when the turtles emerged from overwintering by determining when

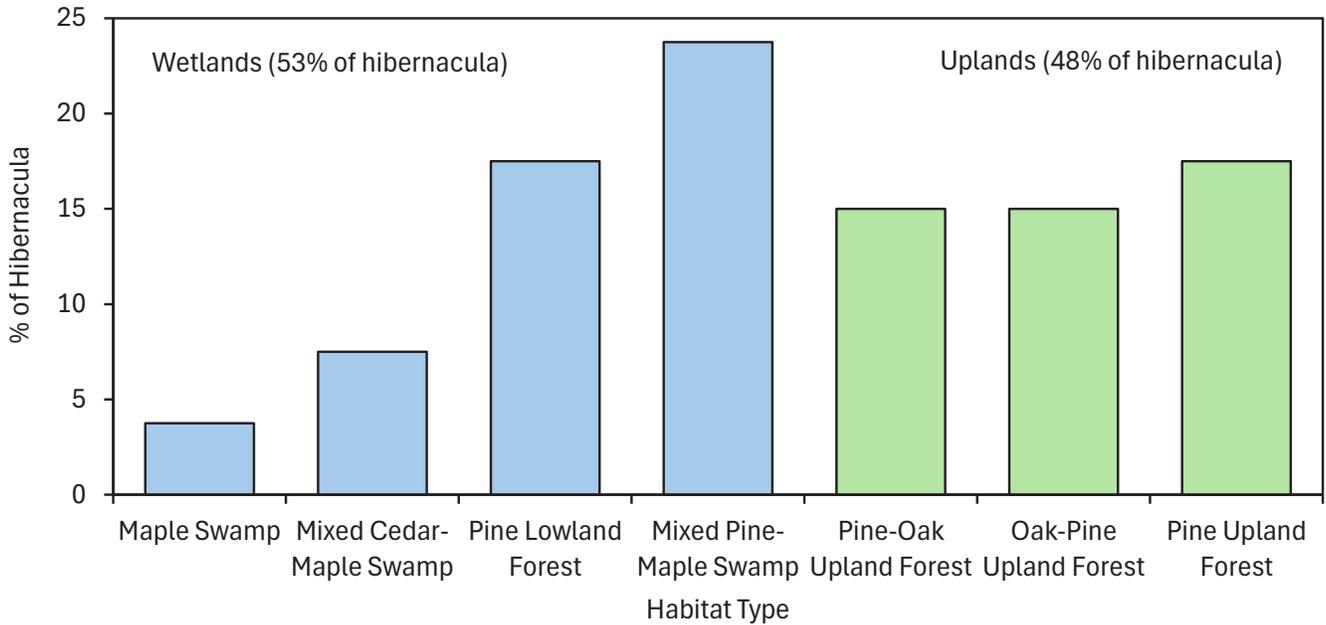


Above left: Box turtle with attached radio transmitter on the right and iButton to collect temperature data on the left. Photo/John Bunnell

Above right: A box turtle that received a replacement radio transmitter and iButton at the Commission’s Science lab in September 2025. Photo/Paul Leakan

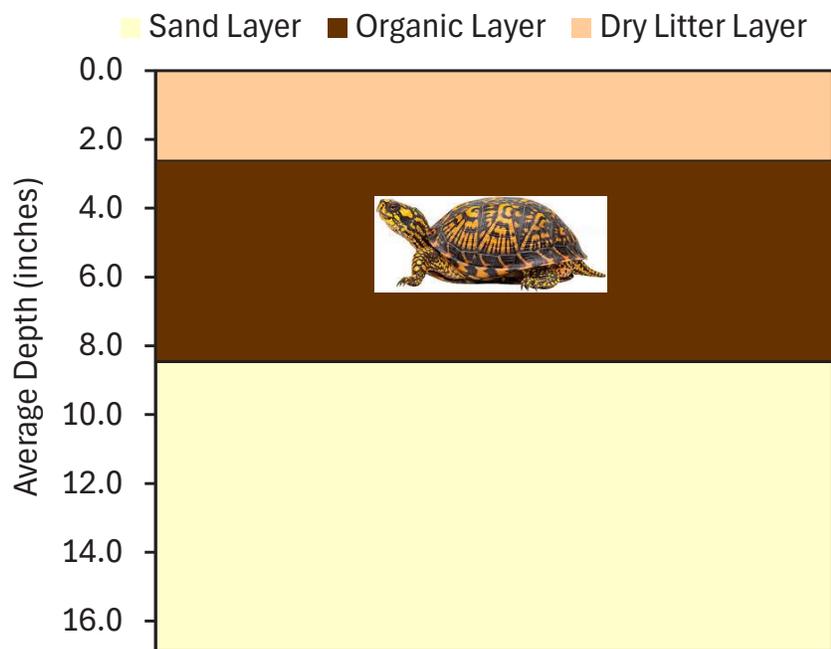
the shell temperature matched the air temperature. Emergence timing is important in relation to the window permitted for prescribed burning, vegetation management, and forestry activities.

Based on 80 of the radio tracked box turtles, hibernacula were located in seven different habitat types. Slightly more turtles overwintered in wetland habitats versus upland habitats.



Above: Percentage of 80 box turtle hibernacula in various wetland and upland habitat types.

In late winter of 2023, 2024, and 2025, Pinelands Commission scientists characterized the hibernacula of each turtle by measuring the thickness of the dry leaf litter and partially decomposed organic layer and the depth to the hibernating turtle and the underlying sand. Based on the data, the average depth of the top of a turtle shell was 3.9 inches below the surface of the leaf litter, demonstrating that box turtles in the Pinelands overwinter close to the surface.



Above: Schematic showing the average depth of dry leaf and needle litter, moist partially decomposed organic layer, underlying sand, and location of an overwintering eastern box turtle.

Public Information, Education & Outreach

Raising Awareness, Fostering Stewardship

The Commission continued to raise awareness and appreciation of the Pinelands in 2025, educating thousands about the region's resources.

The Commission co-sponsored and carried out the 36th annual Pinelands Short Course at Stockton University's main campus in Galloway Township on March 8, 2025. More than 430 people attended the event, which offered 37 educational presentations, including 24 new programs.

More than 110 people attended the 9th annual Pinelands Summer Short Course on July 18, 2025. The daylong, educational event was held at Stockton University's Kramer Hall in downtown Hammonton. The event featured 11 classroom sessions at Kramer Hall and four field trips. (Please see the photos on page 35.)



Above: The Commission's Instagram site has more than 5,500 followers.

Staff educated 150 students from Hammonton Middle School and Pinelands Regional Junior High School during the annual, Pinelands-themed World Water Monitoring Challenge at Batsto Lake on October 24, 202. Students wore waders and used nets to catch fish from Batsto Lake while learning about the Pinelands. The event was co-organized and staffed by the Commission, NJDEP, New Jersey Division of Parks & Forestry, and Americorps Ambassadors. (Please see the photo on page 35).

The Commission also organized and hosted three educational presentations at its headquarters in 2025. Forty-five people attended the first program on August 2025. It focused on the NJDEP's Connecting Habitat Across New Jersey project, which is an effort to make the state's fragmented landscape easier for wildlife to move through by protecting important habitats, restoring movement corridors, and making roads safer to cross. More than 40 people attended the second Speaker Series program, which focused on Lenape culture, in September.

By the Numbers:

In 2025, the Commission's staff:

- Responded to 749 public inquiries about recreation, general information about the Pinelands and the Commission, and other non-development application questions;
- Organized and carried out the 36th annual Pinelands Short Course, the 9th Pinelands Summer Short Course, the annual, Pinelands-themed World Water Monitoring Challenge, and three Pinelands Speaker Series presentations. The events educated a total of nearly 800 people;
- Educated more than 2,600 people while delivering 67 programs, including presentations at schools and other venues, field trips and guided hikes;
- Took and shared 2,848 photos and 68 videos on the agency's Instagram site, shared 1,102 posts on X (formerly known as Twitter) and 637 posts on the agency's newly created Bluesky site;
- Uploaded/archived 37 videos on the Commission's YouTube Channel. The videos garnered 22,169 views and 2,200 hours of watch time. The Commission also gained 158 new subscribers;
- Planted more than 50 native plants at the agency's headquarters, along with installing new interpretive signage; and
- Maintained and oversaw the Commission's online store, which netted \$2,986 in sales for the year. Please see pages 38-39 for more information about the project.

More than 10 artists participated in an outdoor paint along session during the final presentation in October.

Commission staff also educated hundreds of students during dozens of presentations in schools, libraries, and other venues in 2025.

Meanwhile, Commission staff sought to heighten appreciation of the Pinelands and the Commission's work by posting daily on its social media sites. Staff shared 68 videos, 2,848 photographs, links to meetings and the agency's monthly management reports, press releases, public notices, job postings, and interactive Pinelands trivia contests on its Instagram account, which now has nearly 5,600 followers. Staff also shared 1,102 posts on its X account and 637 posts on the agency's newly created Bluesky account. Staff also uploaded nearly 40 videos and moderated virtual meetings and public hearings on the agency's YouTube channel, which now has over 1,500 subscribers.

Lastly, the Commission continued to educate the public by promoting visitation of the Candace McKee



Above: One-hundred and fifty students learned about water quality and environmental protection at the Commission's annual World Water Monitoring Challenge at Batsto Lake on October 24, 2025. Photo/Paul Leakan

Ashmun Education Exhibits and the native gardens at its office in Pemberton Township. This includes planting more than 50 new plants and installing new 12-inch by 9-inch interpretive signs that were designed by the NJDEP, which gave the Commission permission to print and display the signs. The signs will raise awareness of native plants while helping to promote their use in the Pinelands.



On the left:

Scenes from the 9th annual Pinelands Summer Short Course in Hammonton.

Photos/Paul Leakan

Pinelands National Reserve Calendar

The Pinelands Commission issued its 10th edition of the Pinelands National Reserve wall calendar in early December 2025.

The calendar features a water theme, while highlighting the vital importance of abundant, clean water supplies in the Pinelands. The Commission worked with Rowan College at Burlington County to design and print the calendar. All of 38 photos were taken by members of the Commission's staff.

In addition to the photos of wetlands, lakes, rivers, flora and fauna, the calendar includes State holidays, dates of Pinelands Commission meetings, important dates in Pinelands history.

A total of 1,200 copies of the calendar were printed and distributed free of charge at Bass River State Forest, Batsto Village, Belleplain State Forest, Brendan T. Byrne State Forest, Cloverdale Farm County Park, Estell Manor Park, Jakes Branch



Above: The front cover of the 2026 Pinelands National Reserve wall calendar shows a photo of an Atlantic White Cedar swamp, which can provide habitat for rare species and sequester a significant amount of carbon. Photo/John Bunnell

County Park, the Richard J. Sullivan Center, Wells Mills County Park, and Whitesbog Village.

The project was funded by the National Park Service.

Touring the Pinelands Biosphere Reserve

The Pinelands Commission led a tour of the Pinelands for representatives from the United Nations Educational, Scientific and Cultural Organization (UNESCO) on January 10, 2025, including a delegation from Paris and New York and renowned Swiss chef and plant-based food advocate Daniel Humm.

UNESCO designated the 1.1-million-acre Pinelands as a Biosphere in the 1980s. The Pinelands Commission oversees the protection of resources in the Pinelands and manages the Pinelands biosphere.

The group went on a guided bus tour at Pine Barrens Native Fruits cranberry farm and at historic Whitesbog Village. They also toured the Pinelands Preservation Alliance's Rancocas Creek Farm, which grows chemical-free produce at its 72-acre site in Southampton, NJ. The group learned about and discussed the special qualities of the Pinelands biosphere and its environment, and how the region



Above: The Commission led a tour of the Pinelands for representatives from UNESCO in 2025. Shown from left to right are Commissioner Jerry Irick, Commission Chair Laura E. Matos, Chef Daniel Humm, Commission Executive Director Susan R. Grogan, and Meriem Bouamrane, Chief, Bureau of Strategic Planning UNESCO (Paris). Photo/Paul Leakan

supports and sustains agriculture, such as the production of blueberries and cranberries.

Finances & Facilities

Fiscal & Budget

The Commission's Operating Budget for Fiscal Year 2025 totaled \$7,127,603. Of this, \$6,276,408, or 88% percent, was budgeted for personnel expenses, including salary, wages, health insurance and other fringe benefits.

Budgeted revenue sources included \$390,500 in federal grants, a \$3,749,000 State appropriation, \$814,500 in State grants and other State funding, \$750,000 in application fees and \$1,423,603 from the Commission's fund balance and reserves. The budget for the Pinelands Conservation Fund was \$3,858,954.

During 2025, the State Auditor continued to work on the Commission's audit for Fiscal Year 2022.

Pinelands Application Fees

Since April 2004, the Pinelands Commission has received application fees to partially underwrite the direct costs associated with reviewing development applications in the Pinelands Area. During Fiscal Year 2025, unaudited application fee revenue actually collected totaled \$984,850.75, \$100,261.37 less than Fiscal Year 2024. In Fiscal Year 2025, application fee revenue covered 62.72% of the cost of staff review of development applications, including salaries and full fringe benefits.

Fenwick Manor Farmhouse Renovations

The Commission is in the process of rehabilitating one of its principal office buildings, Fenwick Manor. Constructed in the early 1820s, the building needs stabilization work around its two front chimneys and several brick pier foundations. Additionally, the exterior of the building requires updates, repairs and a fresh coat of paint. The Commission previously completed an architectural survey of the building and received a Preservation Plan report detailing the stabilization and repair efforts necessary to ensure the long-term preservation of the building. To complete the work described in the Preservation Plan, the Commission received a grant from the New Jersey Historic Trust's Preserve New Jersey Historic Preservation Fund. The grant provides 50 percent of the funding, and the other 50 percent is provided by the Commission's Historic Fenwick Manor Renovation Fund. This Fund includes a special state appropriation to the Commission in 2023 and additional state funding for capital improvements provided in 2025.



Above: In 2025, the Commission took significant strides toward rehabilitating one of its principal office buildings, Fenwick Manor.

Photo/Paul Leakan

In February 2025, the Commission issued a public request for proposals to hire a historic architectural firm to assist with the rehabilitation of Fenwick Manor. The Commission selected and hired Connolly and Hickey Historical Architects to complete the work. Connolly and Hickey has completed the design and architectural

plans and specifications for the rehabilitation and are awaiting final approval from the Historic Trust. As required by the Historic Trust Grant, the Commission has also completed a pre-qualification process for general contractors that will be eligible to bid on the construction aspects of the project. Since the work is being conducted on a significant historic architectural resource, the contractors were required to provide documentation of their qualifications to complete such work. A total of four contractors were pre-qualified through this process and will receive the bid documents as soon as they are approved by the Trust. The completion of an archaeological survey was also a requirement of the grant funding. The survey was conducted by Commission staff and was limited to the areas of potential disturbance around the building where a proposed underground roof drainage system is proposed. The drainage system will prevent water seepage into the building's basement and crawl spaces. There were no potentially significant archaeological resources discovered during the survey. A report is being prepared that will be submitted to the Historic Trust for their review and approval.

The construction work is expected to begin in the spring and continue through summer and into the fall. Several employees whose workspaces are in Fenwick Manor will be temporarily moved to other locations within the Commission's office complex while construction work is taking place.

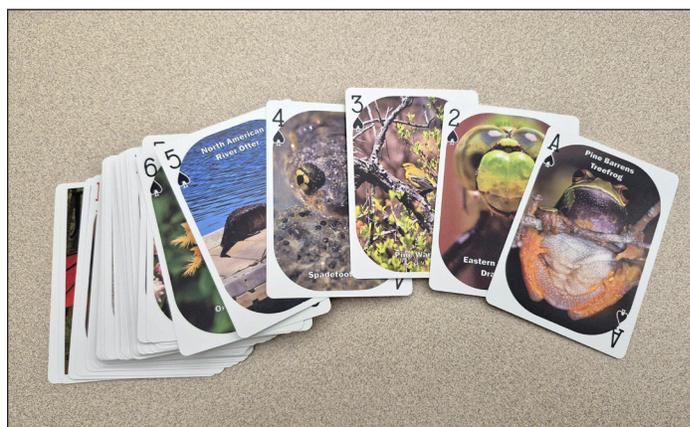
Pinelands Merchandise & Online Store

The Commission netted \$2,986.40 in sales of Pinelands merchandise in 2025, while processing a total of 80 transactions.

The agency started selling Pinelands merchandise after launching its online store in 2023, with all proceeds from sales benefiting a fund that supports native plantings and raises awareness of native vegetation. The [online store is accessible via the Commission's website](#).

In late 2025, the Commission designed and began selling Pinelands-themed playing cards and refrigerator magnets. The playing cards (shown to the top right) were professionally printed in the USA, and the faces of the cards include images of 52 different plants and animals in the Pinelands, along with the Jersey Devil. The magnets (shown to the bottom right) were also manufactured in the USA, and they boast images of the Jersey Devil, a native corn snake, native spatulate-leaved sundews, and native cranberries and blueberries. The Commission also sells Pinelands-themed mugs, Jersey Devil tote bags, and Pinelands note cards.

All proceeds from sales go to the Kathleen M. Lynch-van de Sande Fund. The fund was established in memory of Ms. Lynch-van de Sande, a NJ Pinelands Commission Environmental Specialist who died in a car accident in June 1989. Sales and donations will support the planting of



Above: In 2025, the Commission designed and started to sell Pinelands-themed playing cards to raise funds for native plants projects. Photo/Paul Leakan



Above: The Commission started selling Pinelands-themed refrigerator magnets to support a fund for native plants in 2025. Photo/Paul Leakan

native Pinelands plants and projects that raise awareness about native Pinelands plants.

Over the years, thousands of dollars have been dedicated to the fund's mission. To date, three arboretums were funded at area schools and over 35 scholarships were awarded to a senior majoring in the environmental field from each high school in the Pinelands. It also funded the creation of a rain garden that serves as a model for rain gardens in the Pinelands.

Proceeds from sales and donations to the fund will support future rounds of grant funding for projects that focus on native plants in the Pinelands.

Certification

As required by State Executive Order #37, all State authorities are required to certify that during the preceding year the authority has, to the best of its knowledge, followed all of the authority's standards, procedures, and internal controls. I hereby certify to the best of my knowledge that, during the 2025 calendar year, all of the Commission's standards, procedures, and internal controls were followed.



Susan R. Grogan
Executive Director

Scenes around the Pinelands in 2025



Above: This uncommon western cattle-egret dazzled bird enthusiasts and photographers alike in the Pinelands National Reserve in 2025. This species eats insects and a wide variety of animals.



Above: Cottony clouds reflected on a pond at the historic, 3,000-acre Whitesbog Village in the Pinelands when this photo was captured in November 2025.



Above: Spatulate-leaved sundews are native, insect-eating plants that grow in nutrient-poor, consistently moist soils in the Pinelands. This photo was taken in a pond in the Pinelands in September 2025.



Above: Amber Mallm, a Pinelands Commission Planning Specialist, led an outdoor paint along program as part of the Pinelands Speaker Series at the agency's headquarters on October 2, 2025.

**Photos by Paul Leakan
NJ Pinelands Commission**