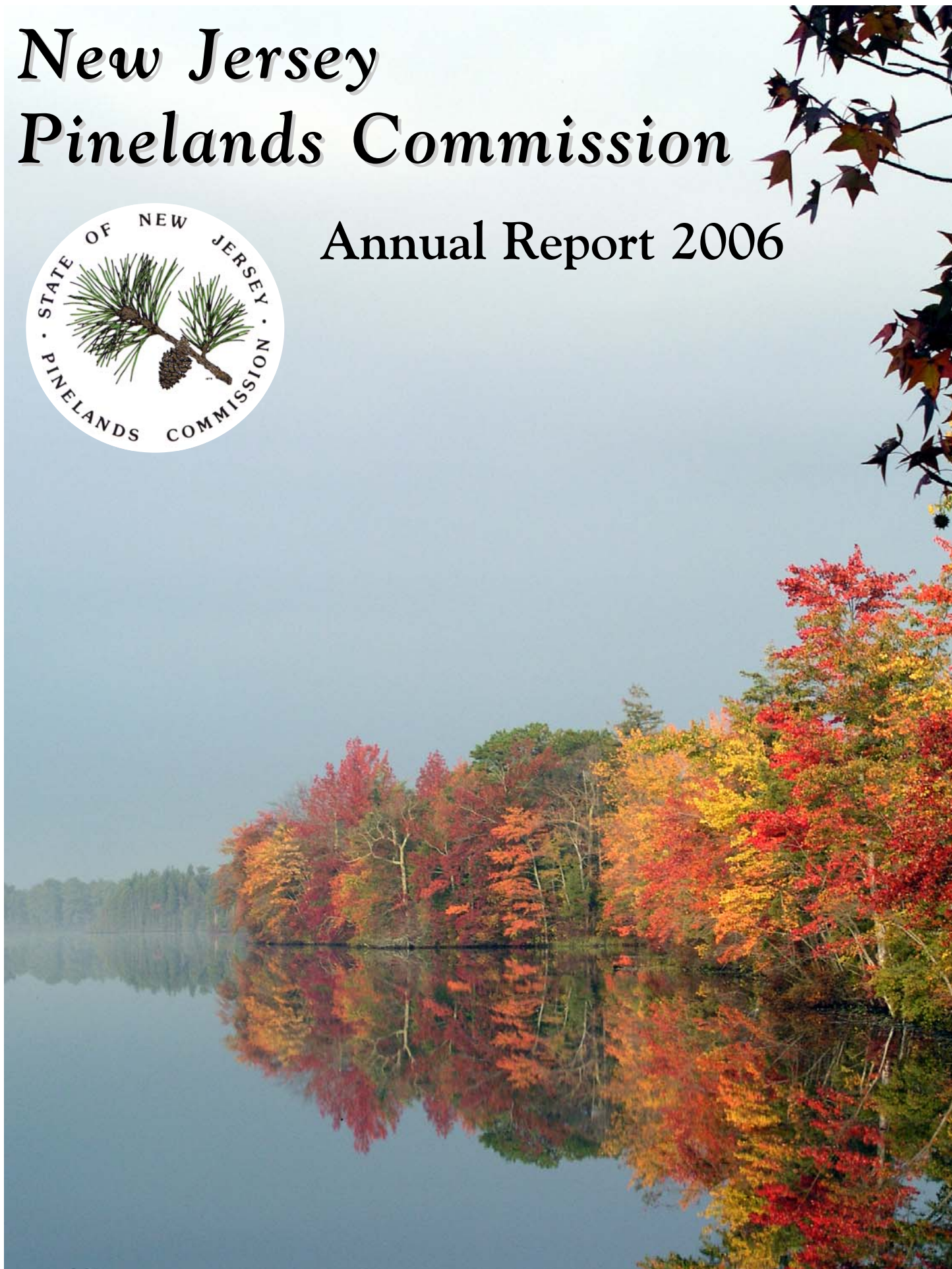


# New Jersey Pinelands Commission

Annual Report 2006



Mission Statement  
*of the*  
New Jersey Pinelands Commission

The mission of the New Jersey Pinelands Commission 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.

**Cover Photo:** Brilliant fall colors are reflected onto Atsion Lake in the Wharton State Forest in the Pinelands. Photo by Paul Leakan/New Jersey Pinelands Commission

# New Jersey Pinelands Commission

2006

## Gubernatorial Appointees

Betty Wilson, Chairperson

Candace M. Ashmun

Rev. Dr. Guy Campbell

Robert Hagaman

Stephen V. Lee III

Edward Lloyd

Vacancy

## U.S. Secretary of the Interior's Appointee

Robert W. McIntosh, Jr.

## County Appointees

### *Camden County*

Norman F. Tomasello, Vice Chairman

### *Atlantic County*

Edward A. Wuillermin, Jr.

### *Cape May County*

William J. Brown

### *Burlington County*

Patrick Slavin

### *Cumberland County*

Leslie M. Ficcaglia

### *Gloucester County*

Francis A. Witt

### *Ocean County*

John A. Haas

## Executive Director

John C. Stokes

New Jersey Pinelands Commission

P.O. Box 7

New Lisbon, NJ 08064

Phone: (609) 894-7300

Fax: (609) 894-7330

e-mail: [info@njpines.state.nj.us](mailto:info@njpines.state.nj.us)

website: [www.nj.gov/pinelands](http://www.nj.gov/pinelands)

# CHAIRPERSON'S MESSAGE

The year 2006 was certainly a special one in the history of the Pinelands protection program. The Pinelands Comprehensive Management Plan (CMP), a visionary document that guides the Pinelands Commission in its efforts to protect, preserve and enhance the significant and unique resources of the Pinelands, turned 25.

Hundreds of people gathered to celebrate the Plan's Silver Anniversary during a conference and banquet held in September. It was a source of great pride to see so many people who have been involved in protecting the Pinelands come together to reflect on all that has been accomplished during the past 25 years.

The Pinelands Commission continued to bolster the protection of this special region by advancing numerous initiatives in 2006. The Commission further strengthened the CMP by adopting eight amendments. It also released a "White Paper on Ambient Water Quality," a report that details how research projects completed by the Pinelands Commission Science Office have contributed to policy and planning decisions and point the way toward future such decisions.

Also in 2006, the Commission endorsed a Sub-Regional Natural Resources Protection Plan for an ecologically sensitive area of southern Medford and Evesham townships.

A special task force of public and private partners formulated a series of recommendations to meet future housing demand in the Pinelands Area. The Commission also continued an innovative community planning effort in Egg Harbor Township. Additionally, the Commission was successful in winning a \$200,000 federal grant on behalf of 16 municipalities traversed by the Southern Pinelands Natural Heritage Trail.

Commission scientists made significant progress in leading a major study of the Kirkwood-Cohansey Aquifer for the third year. They also continued a comprehensive review of landscape and watershed conditions throughout the Pinelands to ensure that important natural areas, including those that provide habitat for threatened and endangered plant and animal populations, are protected.

The Commission also advanced numerous educational and outreach initiatives. Motorists traveling on the Garden State Parkway and Atlantic City Expressway are now greeted by new Pinelands National Reserve road signs that were designed by Commission staff. Additionally, Commission staff posted a "courtesy copy" of the CMP on its Web site, making it available for the public to download at no cost for the first time. The 17th annual Pinelands Short Course featured 19 educational presentations about the Pinelands and attracted 375 people.

Looking back on all that was accomplished during the past year and the many projects that are underway or nearing completion, I have every reason to be optimistic about the Pinelands' future.



Sincerely,  
Betty Wilson

# **PINELANDS COMMISSION HIGHLIGHTS FOR 2006**

- Commission holds special seminar and banquet to celebrate the Pinelands Comprehensive Management Plan's 25th anniversary. Pages 1-2.
- Commission names new Vice-Chairman. Page 3.
- Commission adopts eight amendments to Pinelands Plan. Pages 3-5.
- Commission endorses a Sub-Regional Natural Resources Protection Plan for an ecologically sensitive area of southern Medford and Evesham townships. Pages 5-6.
- Commission issues "White Paper on Preserving Ambient Water Quality." Page 7.
- Pinelands Housing Task Force agrees to 13 recommendations to meet future housing demands. Pages 6-7.
- Commission approves agreement for environmentally-safe closure of landfills at the Stafford Business Park. Pages 8-9.
- Southern Pinelands Natural Heritage Trail awarded \$200,000 grant. Page 9-10.
- Pinelands economic monitoring report shows Pinelands municipalities outpacing the non-Pinelands area of southern New Jersey in several key economic indicators. Page 10-11.
- Science Office continues to lead major study of Kirkwood-Cohansey Aquifer. Page 15.
- Cranberry agriculture and wetlands study released. Page 17.
- The 17th annual Pinelands Short Course attracts 375 people. Page 21.
- New Pinelands National Reserve road signs installed on the Garden State Parkway and Atlantic City Expressway. Page 22.



# A SILVER ANNIVERSARY

Approximately 430 people gathered to celebrate the 25th Anniversary of the Pinelands Comprehensive Management Plan (CMP) during a special conference and banquet held on September 28 and 29, 2006 at the Hyatt Regency Hotel in New Brunswick.

The two-day conference, entitled “Regional Planning Comes of Age,” featured plenary addresses and seminars on regional land use planning aimed at preserving natural and historic resources while strengthening communities in the Mid-Atlantic and Northeast states. It also showcased the success of the CMP, which contains the rules that govern land-use, development and natural resource protection in the Pinelands Area. The CMP was approved by then-U.S. Secretary of the Interior Cecil D. Andrus in 1981.

Former U.S. Secretary of the Interior Bruce Babbitt, who served as the keynote speaker during the first day of the conference, lauded the “breadth and comprehensive quality” of the Pinelands protection program during his speech.

“The Pinelands is the best model of broad-scale regional land-use planning in America,” Babbitt said. “There are many lessons to be learned. It’s an enormous achievement.”

Babbitt served as Secretary of the Interior from 1993 to 2001, as Governor of Arizona from 1978 to 1987 and as Attorney General of Arizona from 1975 to 1978. He recently authored “Cities in the Wilderness,” in which he lays out a new vision of land use in America and touts the Pinelands Comprehensive Management Program as a successful land-use and natural resource protection model.



Former Commission Executive Director Terrence D. Moore, (left to right), former Commission Chairman Franklin Parker, current Chairperson Betty Wilson, former Chairman and Gov. Jim Florio, former Chairman Richard J. Sullivan and Current Executive Director John C. Stokes pose for a photo during the 25th anniversary banquet.

Photo/Janet Pierce



Former U.S. Secretary of the Interior Bruce Babbitt praised the Pinelands Plan during the “Regional Planning Comes of Age” conference.

Photo/Janet Pierce

The “Regional Planning Comes of Age” conference was sponsored by the Fund for New Jersey, the Geraldine R. Dodge Foundation, the National Park Service, the Pinelands Commission, the Pinelands Preservation Alliance, PSE&G and the William Penn Foundation. It featured an impressive array of seminars on topics such as transfer of development rights, growth management tools, protecting water resources through regional planning, the economic impact of regional planning, using regional planning to preserve historic and cultural resources, cooperative planning across political boundaries, and regional zoning and land use regulation.

Seminars also detailed regional planning efforts that are being undertaken in the New Jersey Pinelands, the New Jersey Meadowlands, the New Jersey Highlands, the Adirondack Park, the Long Island Pine

Barrens, Cape Cod, Lancaster County Pa., the Schuylkill River, Blackstone River Valley, and in the Chesapeake Bay watershed.

Five representatives from the Pinelands Commission joined other seminar speakers during the conference, including Commission Chairperson Betty Wilson, Executive Director John C. Stokes, Chief Scientist Dr. Robert A. Zampella, Land Use and Technology Programs Director Larry Liggett and Chief Planner Susan Grogan.

Notes were taken during each of the speeches and seminars, and they will be combined as part of an event proceedings that will be published.

Numerous current and former Commission members and staff attended the celebratory banquet.

Former Commission Chairman and Gov. James J. Florio charted the success of the Pinelands plan during the banquet, noting that more than half the Pinelands Area is permanently preserved and that the Commission is undertaking numerous initiatives to help it bolster protection of the region's resources while promoting orderly growth. As an example, he cited the Commission's ongoing study of the Kirkwood-Cohansey aquifer.

Following Florio's speech, the Pinelands Preservation Alliance honored former Commission Chairman Franklin Parker and Terrence D. Moore by entering them into the nonprofit organization's "Pine Barrens Hall of Fame." Parker was the first chairman of the Pinelands Commission, and Moore was the agency's first executive director. Parker was introduced by Michael Catania, the president of the Conservation Resource Inc. Moore was introduced by Robert C. Shinn Jr., a former Pinelands Commission member and Assemblyman who served as the Commissioner of the New Jersey Department of Environmental Protection from 1994-2002.



The Pinelands banquet drew approximately 300 people, including numerous current and former Commission members and staff.

Photo/Paul Leakan



ABOVE: The Sugar Sand Ramblers played traditional Pinelands music during the 25th anniversary banquet.



RIGHT: Former Pinelands Commission Chairman Franklin Parker, pictured left, holds a Pine Barrens tree frog statue after being introduced by Michael Catania, pictured right, during the banquet.

Photos by Janet Pierce



## Commission names new Vice Chairman

Norman Tomasello was unanimously chosen as the new Vice Chairman of the Pinelands Commission during the panel's regular meeting on July 14, 2006.

A resident of Winslow Township, Mr. Tomasello has served as Camden County representative on the Commission since 1996. After being chosen Vice Chairman, he was honored by the Commission for 10 years of dedicated service.

Mr. Tomasello retired after 50 years of operating a 110-acre fruit and vegetable farm in Winslow Township. He served as Mayor and Committeeman in Winslow for 15 years. There, he also served as Public Safety Director and on the township planning board. He is Chairman of the Camden County Agricultural Development Board, and is a member of the County Mosquito Control Commission.



**Norman  
Tomasello**

Mr. Tomasello also served as president of the Camden County Board of Agriculture for ten years and as Chairman of the Gloucester and Camden County Farmers Home Administration. Mr. Tomasello is a member of the New Jersey Farm Bureau, on which he served as a past Director. He also is a founding member of the Elm Volunteer Fire Company No. 1.

The Commission's Vice Chairman seat had been vacant since former longtime Commission member Alan Avery resigned from the panel in November 2005. The Pinelands Commission consists of 15 members. Seven are appointed by the Governor of New Jersey. One is appointed by each of the seven Pinelands counties and one is appointed by the U.S. Secretary of the Interior. Members of the Commission serve staggered three-year terms and are uncompensated for their service.



Commission Chairperson Betty Wilson, pictured right, reads from a framed certificate honoring Commission Vice Chairman Norman Tomasello for 10 years of service on the Commission.

*Photo/Paul Leakan*

## LAND USE & PLANNING ACTIVITIES

### *Pinelands Comprehensive Management Plan Amendments*

In 2006, the Pinelands Commission adopted eight amendments to the Pinelands Comprehensive Management Plan (CMP). The amendments are as follows:

■ **Stormwater management:** The CMP was amended to improve upon the New Jersey Department of Environmental Protection's (DEP) new Stormwater Management Rules, which require all municipalities to adopt municipal stormwater management plans and stormwater management ordinances, in the Pinelands. Although the Pinelands CMP has required that stormwater be recharged since 1980, the amendments strengthen the standards for stormwater recharge, require better management of runoff from high pollutant loading areas and encourage better and more efficient stormwater basin design.

■ **Municipal Reserves:** The CMP allows municipalities to designate municipal reserves in Pinelands-designated





The Pinelands Commission adopted eight amendments to the Pinelands Comprehensive Management Plan in 2006.

Photo/Paul Leakan

Regional Growth Areas (RGA) as a means to phase and plan for growth. The reserve areas are downzoned until other appropriately zoned districts that already have access to infrastructure are developed. The CMP was amended to encourage more municipalities to use the designation to better control the pace of residential development.

■ **Local communications facilities:** The CMP was amended to clarify that an applicant must site a new wireless communications facility, such as an antenna or a new tower, on an existing structure or a site that would have the least visual impact on important Pinelands resources. A second change in the CMP sets forth the type of sites where new local communications facilities may be located in the

Preservation Area District, Forest Area, Special Agricultural Production Area and Rural Development Area. A third amendment was approved to provide the wireless communications industry and the Pinelands Commission with the flexibility to propose or require innovative ways to reduce the overall visual impact of such facilities.

■ **Cumulative cost of waivers and lot size variances:** Amendments to the CMP cut in half the number of Pinelands Development Credits (PDCs) required for the development of undersized lots in Pinelands Villages, Pinelands Towns and Regional Growth Areas in cases where a municipal variance and a waiver of strict compliance, or deviation from Pinelands standards, are required. Prior to the amendment, the development of such lots required the purchase of one-half of a PDC, or two development rights. An amendment to the CMP changed the requirement to one-quarter of a PDC, which significantly reduces the costs for the limited number of applicants who require relief from CMP standards and municipal requirements in order to develop undersized lots in these development areas.

■ **Pilot program for alternate design wastewater treatment systems:** The Pinelands Commission implemented a pilot program for alternate design wastewater treatment systems in 2002 to strengthen the protection of high-quality water resources in the Pinelands by reducing pollution from residential septic systems. The advanced wastewater systems are required for new unsewered homes located on lots smaller than 3.2 acres. The CMP was amended to enable developers in the Pinelands Area to install more than 10 alternate design pilot program systems of the same technology on a single parcel, in certain limited cases.

■ **Garden State Parkway:** The CMP was amended to establish an overlay district along the entire length of the Garden State Parkway, which traverses the Pinelands. The Garden State Parkway, which forms the eastern boundary of the Pinelands Area in the north and the Pinelands National Reserve in the south, is a limited access highway that was constructed by the State prior to the adoption of the CMP. The Parkway traverses multiple Pinelands management areas, serving as a major tourism roadway, the only north-south evacuation route in the southern New Jersey region, a commuter roadway and an interstate travel roadway. In establishing the overlay district, the Commission noted that it is appropriate for the CMP to recognize this existing and important transportation corridor by developing a land use policy that may be applied consistently along the Parkway.

Under the changes to the CMP, permitted uses in the Garden State Parkway Overlay District are primarily limited to the roadways, bridges and accessory facilities associated with the operation and maintenance of the highway. Public service infrastructure, both underground and above-ground, are permitted, including communications and data transfer utilities. Local telecommunications towers also are permitted. Additionally, existing interchanges within the overlay district can be improved and expanded, provided that they don't stimulate development in inappropriate areas. However, new interchanges are not permitted.

■ **Fee Revisions:** In April 2004, the Pinelands Commission implemented the first application fees since the

enactment of the Pinelands protection program. The fees were established to partially underwrite the direct costs associated with reviewing development applications. Fees are required only for certain development activities. The majority of applications typically received by the Commission do not require application fees. For example, fees are not charged for applications for residential development consisting of only one dwelling unit, requests for Letters of Interpretation for the allocation of Pinelands Development Credits, development applications from public agencies and Waivers of Strict Compliance.

During the notice and comment period for the Commission's initial fee schedule in 2004, the Pinelands panel received comments suggesting various revisions. At that time, the Commission noted the need for additional data to assess the suggested revisions and chose to adopt the fee schedule as proposed. However, the Commission also committed to monitor its fee structure and to propose amendments in the future, if warranted. After more than 18 months of experience in implementing the fee schedule, the Commission felt it was appropriate to take a closer look at the provisions and institute several changes.

An amendment to the CMP establishes a \$50,000 cap on the amount of an application fee required at the time of the submission of a development application. If expenses for reviewing an application exceed that cap, the Commission can require the establishment of an escrow account to pay for additional staff time expended to review a particularly complex application. Under an amended fee schedule, the application fee for a qualified tax-exempt religious association or corporation or a qualified tax-exempt nonprofit organization is now capped at \$500. Additional amendments adjust the formula used to calculate commercial, institutional, industrial or other non-residential fees to make them more consistent with residential application fees.

■ **Expansion of the Cape May Landfill:** Amendments to the CMP allow landfill operations to occur on an additional 74 acres of disturbed land on the 486-acre property owned by the Cape May County Municipal Utilities Authority (CMCMUA) within the Pinelands Town management area in Upper Township and Woodbine Borough. Landfilling was previously authorized on 93 acres of the property. In exchange, the CMCMUA is required to deed-restrict the remaining portions of its land to protect it from future landfill activities while prohibiting any development on a roughly 90-acre portion of the property. The Pinelands Commission will also receive \$4.6 million, an amount equal to one-half of the host community payments received by Upper Township and Woodbine Borough. These funds will be placed within the Pinelands Conservation Fund and used to support Pinelands protection initiatives.

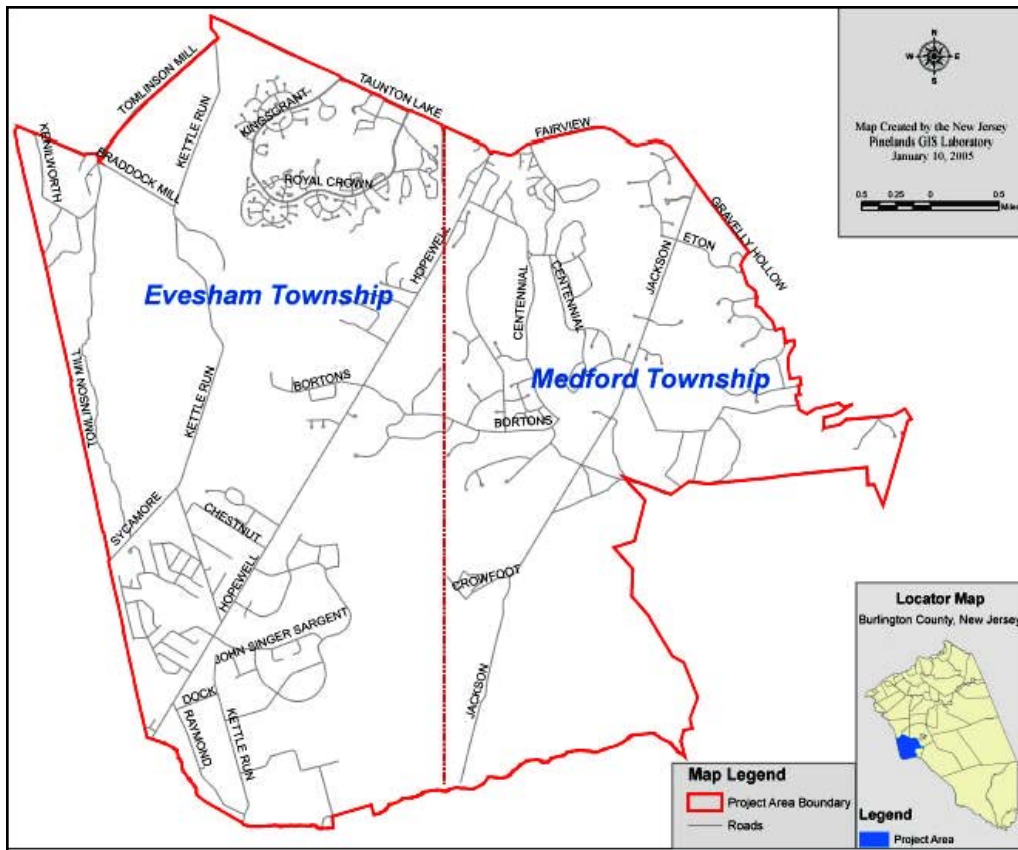
## *Southern Medford & Evesham Conservation Plan*

In July 2006, the Commission formally endorsed a Sub-Regional Natural Resources Protection Plan for an ecologically sensitive area of southern Medford and Evesham townships. The plan was a collaborative effort between the Commission, Evesham Township, Medford Township and the New Jersey Department of Environmental Protection.

The Plan's study area encompasses the 22-square-mile southern portion of Medford and Evesham Townships. Although primarily rural in character, almost 75% of this area is designated for modest amounts of residential development under local zoning. However, data compiled in recent years has shown that this area has significant natural resources, including undisturbed sub-watersheds, as well as rare plants and animals.

The Pinelands Commission received a \$73,000 grant from the William Penn Foundation in 2004 to fund efforts to develop the Plan. Shortly after receiving the grant, the Commission organized a Steering Committee composed of officials from the two townships as well as a representative from the New Jersey Department of Environmental Protection and the Commission. The Steering Committee appointed an 18-person Project Advisory Committee and a 17-person Technical Support Group to help guide the Steering Committee's decisions. The three committees met regularly throughout 2004 to discuss and formulate a series of recommended regulatory and non-regulatory protection strategies that are contained in the Sub-Regional Natural Resources Protection Plan.

The recommended regulatory strategies call for a number of zoning changes devised to reduce development and disturbance levels in high-quality natural resource areas. These strategies would reduce the project area's future



zone capacity by 53%. Additional zoning strategies call for creating incentives to transfer all development out of high-value natural resource areas to areas more capable of accommodating it. Development that does occur would be clustered, resulting in the conservation of more than 80% of the properties being developed. Also, a green belt consisting of public lands, preservation areas and low-density zoning districts would be created through the mid-section of the area, which would help to protect the area's water quality and maintain biodiversity.

The recommended non-regulatory strategies include: land acquisition; promoting land stewardship efforts through public education for homeowners,

**Map of the project area in Southern Evesham and Medford Townships.**

builders, planning and zoning boards; reducing water consumption through programs such as the beneficial re-use of wastewater for golf courses; and conducting surveys to identify the area's rare plants with the intent of helping public landowners, homeowner's associations and the municipalities to protect, manage and recover native plant populations.

The Plan concludes with a specific implementation strategy that identifies the various tasks that need to be undertaken and which parties or organizations are responsible for carrying out those tasks. By endorsing the plan, the Commission agrees to play a prominent role in helping the two municipalities and other involved organizations to accomplish the tasks and meet the objectives of the Plan.

## *Pinelands Housing Task Force*

The Pinelands Housing Task Force, which has been meeting since its creation in 2004, formulated a series of conclusions and recommendations during a very busy year in 2006.

The Pinelands Commission created the Pinelands Housing Task Force to review and update projections of housing demand within the Pinelands and to determine whether zoning capacities within and outside of the Pinelands Area are appropriate to serve demand. The 20-person Task Force is composed of governmental and non-governmental organizations, including state, county and municipal officials, as well as representatives from the Coalition for Housing and the Environment, the New Jersey Builders Association and the Pinelands Preservation Alliance. Beginning in 2004, the Task Force undertook a rigorous examination of the development demand for all of Southern New Jersey and development capacity in the Pinelands.

In October 2005, the group released a Preliminary Report showing that more than adequate capacity to meet future housing needs exists within and outside of the Pinelands to the year 2020. Following the release of the report, the Housing Task Force conducted a series of meetings to consider strategies to implement the Report policy recommendations.

In late 2006, the Task Force agreed upon 13 recommendations. They relate to the methodology for housing allo-



cation, constraints and opportunities for growth, adjustments for units built since 2000, future water demands, threatened and endangered plant and animals species, minimizing or avoiding adverse development impacts, capital investments, development limitations due to land tenure, water supply, affordable housing obligations, reserve capacity, efficient use of land and Pinelands Development Credits.

The Task Force will release its Final Report in early 2007.

## *White Paper on Preserving Ambient Water Quality*

In January 2006, the Pinelands Commission issued a “White Paper on Preserving Ambient Water Quality,” a report that details how research projects completed by the Pinelands Commission Science Office have contributed to policy and planning decisions. The report focuses on the preservation of ambient water quality in the Pinelands and gives examples of how the Commission has or may integrate regulatory and incentive measures to mitigate or reduce water quality impacts from development activities.

The paper begins with a review and summary of more than 15 relevant studies undertaken by the Commission’s Science Office. This summary is followed by a discussion of how such results have been used to date by the Commission for policy and planning purposes. Subsequently, possibilities for further consideration are presented, along with an analysis of the strengths and weaknesses of these possibilities. The paper concludes with recommendations for policy action.

The report concludes that studies undertaken by the Commission’s Science Office have directly and indirectly influenced policy and planning decisions to protect ambient water quality. Environmental monitoring data from different sub-basins have shown varying degrees of water quality impact and degradation associated with land-use activities. In fact, these environmental monitoring data from different sub-basins indicate a direct relationship between land use and degradation, and are closely aligned with the Pinelands land use management area strategies.

Review of data and findings prepared by the Science Office and their implications for the development of policies to protect ambient water quality leads to the conclusion that sub-regional land use controls like the Pinelands management areas are the best methods to protect ambient water quality in streams of reference quality. The report recommends that the Commission continue to review areas where changes to Pinelands Management Area boundaries could better protect Pinelands natural resources, including water quality.

Aside from the three sub-regional planning efforts that the Commission has undertaken, a region-wide ecological integrity assessment is underway that will focus on water quality and typical Pinelands aquatic communities, watershed disturbances and rare plant and animal habitat. These and other characteristics will be matched to management area designations and, where incompatible, lead to recommended management area changes. Until this assessment is completed, other sub-regional planning efforts should be limited to “hot spots” where significant conflicts between development potential and environmental objectives exist that could be addressed by sub-regional planning, according to the report.

The report also concludes that as a supplement to sub-regional land use controls, new Best Management Practices should be explored and implemented, at minimum, where the disturbance impact mapping and water quality data indicate they would be the most helpful.

## *Pinelands Excellence Program*

The Pinelands Excellence Program continued to forge ahead in 2006, with a substantial amount of work being completed on the preparation of a Livable Communities Plan in Egg Harbor Township, Atlantic County.

The Pinelands Excellence Program was created in 2002 after the Commission received a \$187,000 grant from the Geraldine R. Dodge Foundation. Its goal is to create “livable communities” in rapidly developing Regional Growth Areas. Through a competitive process, the Commission selected Hamilton Township in Atlantic County and Winslow Township in Camden County to participate in the first round of the program.

The Commission received a \$167,000 grant from the Dodge Foundation in 2005 to continue the program in Egg Harbor Township, a municipality that has experienced accelerated residential growth.

The planning process in Egg Harbor Township began in 2006 when the Township appointed 14 people to a Community Visioning Team. This team, representing a broad cross-section of community interests, has had the core responsibility of guiding the planning effort.

A professional community planning and design consultant was hired to work with the Visioning Team and the community to discuss the town's strengths, weaknesses, opportunities and threats. Through a series of meetings and interviews, the consultants identified four major topic areas that have served as the structure for the community analysis and the initial planning strategies: environment, open space and recreation; town/neighborhood centers and development patterns; traffic and pedestrian safety; and schools and community facilities.



A series of public meetings were held in 2006 to explore each of the four major topic areas in detail. At the conclusion of the meetings, the consultants began developing initial strategies to respond to issues that were identified by the community. The consulting team began preparing the Final Plan document for the project, with plans for its release in 2007. The plan will be comprised of a full description of the community design strategies and a detailed implementation program.

Members of the Egg Harbor Township visioning team discuss community design strategies during a meeting in March 2006.

Photo/Christine Graziano

## Stafford Landfills

In July 2006, the Pinelands Commission approved an agreement that will enable Stafford Township's government to proceed with a plan to redevelop its Business Park as a means to pay for the environmentally safe closure of landfills onsite.

Under the Memorandum of Agreement reached between Stafford Township, Ocean County and the Pinelands Commission, Walters Homes, Inc. will properly close the landfills at its expense in return for the opportunity to redevelop the Business Park as a mixed use, residential office and commercial development.

The Stafford Business Park is situated on a 363-acre site located just south of Route 72. It is located within a Pinelands-designated Regional Growth Area, a land use area in which intensive residential and business development is authorized by the Pinelands Comprehensive Management Plan. The Pinelands Commission approved the business park in 1990, with a plan for the development of 67 lots for commercial and industrial uses. Despite numerous marketing efforts, there are only 12 developed lots on the property, including a motor vehicle inspection station, an animal shelter, a recycling center and other buildings. The site also is home to a 55-acre licensed landfill and three unlicensed landfills that are polluting groundwater and the nearby Mill Creek Stream with a number of constituents such as ammonia, arsenic, benzene, cadmium and lead.

Remediating the unlicensed landfills and closing the licensed landfill with an impermeable cap will reduce the 41 million gallons of polluted leachate that the landfill produces each year. However, the work necessary to close the landfills and redevelop the business park will have an impact on habitat for rare plants and animals on the property and is not consistent with Pinelands regulations governing threatened and endangered plant and animal species and wetlands buffers.

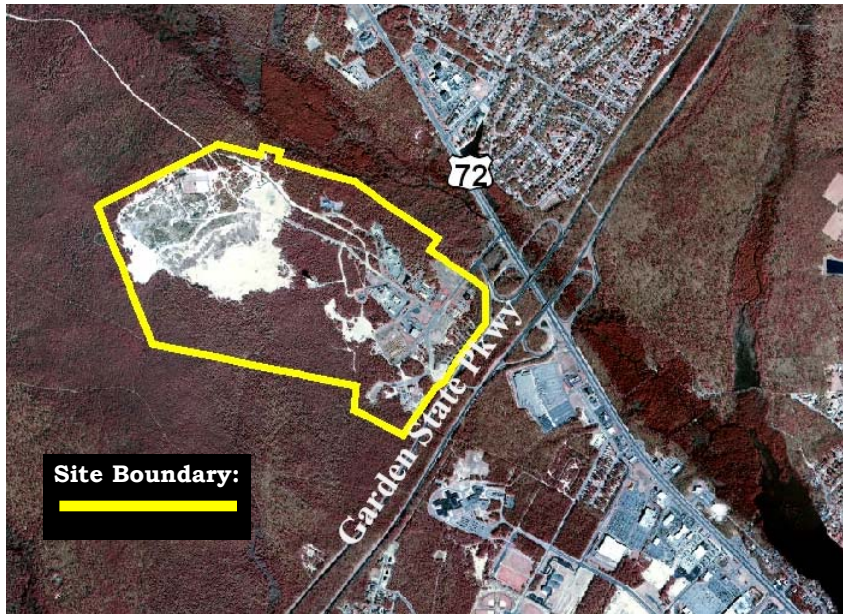
The Commission determined that the landfills could not be closed without impacting important habitat; however, the agreement requires measures that will, at a minimum, afford an equivalent level of protection of Pinelands resources than would be provided through the strict application of Pinelands standards.

Under the agreement, the Township will buy and deed restrict 570 acres of land for conservation purposes. A

portion of the land will be located within the Mill Creek drainage area to help protect water quality, and the remainder will constitute suitable habitat for Northern pine snakes. Stafford also agreed to the following measures:

- Requiring its designated redeveloper to reduce by at least 50% the amount of pollution that directly enters Mill Creek from Route 72, where the highway crosses the creek;

- Requiring its designated redeveloper to incorporate low impact and "green building" design measures in developing the property. These design measures are intended to promote pedestrian oriented designs, reduce energy and water uses, improve indoor air quality and reduce pollution from stormwater runoff. The measures also should reduce non-point source pollution by as much as 96%;



Aerial map of the Stafford Business Park

- Requiring its designated redeveloper, at its own expense and in consultation with the Department of Transportation and the Pinelands Commission, to investigate and implement improved stormwater management measures to reduce total suspended solids directly discharged to the Mill Creek where it crosses Route 72 during a NJDEP water-quality design storm by a minimum of 50%;

- Deed restricting the area of the capped landfill and other open space on the redeveloped business park site so that those areas remain undeveloped in perpetuity and;

- Requiring its designated redeveloper to implement a Species Management Plan to help mitigate impacts on threatened and endangered plant and animal species. The plan must be designed to achieve the following goals: protect the threatened and endangered plant and animal species from harm during the implementation of the landfill closure and redevelopment plans, reestablish the impacted plant species on the site and reestablish the impacted threatened or endangered animal species on or near the Business Park site, or at appropriate areas designated by the Pinelands Commission and the New Jersey Department of Environmental Protection.

In addition to those offsets, Ocean County has agreed to buy at least 75 acres of land containing suitable habitat for Northern pine snakes through its open space purchase program.

## *Southern Pinelands Natural Heritage Trail*

The Southern Pinelands Natural Heritage Trail, which was officially designated as a New Jersey State Scenic Byway in 2005, was awarded a \$200,000 federal grant in 2006.

The trail is among 309 projects in 45 states that were selected by the U.S. Secretary of Transportation to receive a total of \$25.5 million in discretionary National Scenic Byways Program grants in 2006. A scenic byway is a corridor that possesses historic, cultural, natural, scenic, recreational and archaeological qualities. It reflects a common theme that provides a story of the area to the traveling public.

The grant will be used to establish the framework for managing the trail, including the creation of a marketing plan, signage and strategies for preserving and protecting the tremendous and unique resources found along the



trail.

The Pinelands Commission applied for the grant on behalf of the 16 municipalities and five counties through which the Trail passes. Funds disbursed under the grant will be used to hire a consultant to prepare a Corridor Management Plan. The Plan will be developed with input from local communities, landowners, governmental agencies, and the traveling public. The Commission and the New Jersey Department of Transportation will contribute an additional \$25,000 each toward the preparation of the Corridor Management Plan. The Plan will outline the goals, strategies and responsibilities for preserving and promoting the trail while addressing issues such as tourism, historic and natural preservation and economic development. Creation of the plan is a necessary first step toward nominating the trail as a National Scenic Byway.

The 122-mile Southern Pinelands Natural Heritage Trail passes through Atlantic, Burlington, Cape May, Cumberland and Ocean counties, including portions of Bass River Township, Corbin City, Dennis Township, Egg Harbor City, Estell Manor City, Galloway Township, Hamilton Township, Little Egg Harbor Township, Maurice River Township, Mullica Township, Port Republic City, Tuckerton Borough, Upper Township, Washington Township, Weymouth Township and Woodbine Borough. Officials in all five counties and 16 municipalities officially endorsed the trail.

The trail travels along existing roadways in the southern region of the 1.1-million-acre Pinelands National Reserve. It has a northern loop that traverses the lower Mullica River basin of the eastern Pinelands, a southern loop that travels the Delaware Bayshore region of the Pinelands and a central segment that wends its way through Atlantic and Burlington counties.

The effort to create a Scenic Byway in the Pinelands is a major outgrowth of the Pinelands Commission's Rural Economic Development Program. Legislation passed in 1997 appropriated \$250,000 to the Pinelands Commission to help rural communities identify and plan economic development strategies to stimulate environmentally suitable growth. Expert consultants worked with seven municipalities in limited-growth areas in the Pinelands, and a number of potential planning initiatives and projects were identified, including the suggestion for a New Jersey and National Scenic Byway that would bring widespread awareness and appreciation of the natural and cultural assets of the Pinelands.

## ***Long-Term Economic Monitoring Program***

The Pinelands Commission released the 2006 Long-Term Economic Monitoring Program's Annual Report, which shows that municipalities in the Pinelands are outpacing the non-Pinelands area of southern New Jersey in several key economic indicators.

A cooperative project administered by the Pinelands Commission and funded by the National Park Service, the annual report is a product of the Pinelands Long-Term Economic Monitoring Program.

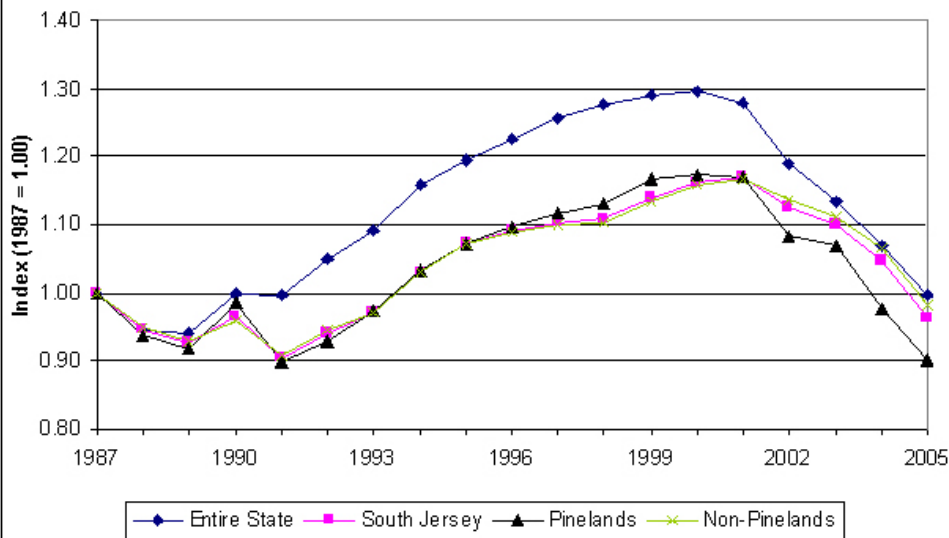
The program monitors, collects and analyzes data such as population demographics, property values, economic growth and municipal finances, with the fundamental goal of evaluating the economy of the Pinelands region in an objective and reliable way.



*A monument honoring the men who defended Chestnut Neck during an American Revolutionary War battle is one of many historic locations on the Southern Pinelands Natural Heritage Trail.*

*Photo/Paul Leakan*

## Index of Effective Tax Rates



Data collected in 2006 reveals some key findings about the economy in the Pinelands, including the following:

- The average inflation-adjusted residential property tax bill for municipalities in the Pinelands is \$597 lower than in municipalities in the non-Pinelands region of South Jersey and \$2,141 lower than the state as a whole.

- In 2005, the unemployment rate in the Pinelands was the second lowest it has been in the last 25 years. In the Pinelands, the unemployment rate dropped 0.4% in 2005, finishing the year at 4.4%. The unemployment rate for the year in the non-Pinelands municipalities was 4.9%.

Effective tax rates have declined by 23% in the Pinelands during the last 5 years. During the same time period, effective tax rates have fallen in the Non-Pinelands by 15%.  
Source: 2006 Long-Term Economic Monitoring Program annual report.

- The median sales price for a home in the Pinelands was \$239,900 in 2005, compared to a median price of \$229,900 for homes in the non-Pinelands South Jersey region.

- The average Pinelands municipality added 4.2% more commercial and industrial space than their non-Pinelands counterpart.

- In 2005, the Pinelands' municipalities average equalized valuation grew by 16% for the year versus a gain of 15.2% for the non-Pinelands region.

In the study, the "Pinelands" is defined as the entirety of the 47 municipalities in Southern New Jersey that have at least 10 percent of their land area within the state-designated Pinelands Area. "Non-Pinelands" is defined as the remaining 155 municipalities located within the eight southernmost counties of New Jersey, including Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Ocean and Salem.

## Review of Municipal Ordinances

All municipalities in the Pinelands Area are required to revise their master plans and land use ordinances in order to implement the objectives of the Pinelands Comprehensive Management Plans. To date, all seven counties and 52 of 53 municipalities with land in the state-designated Pinelands Area have had their master plans and land use ordinances certified by the Commission. Amendments to certified county and municipal master plans and land use ordinances must also be submitted to, and reviewed, by the Commission.

During 2006, the Commission received and reviewed 246 ordinance and master plan amendments from 41 different municipalities.

# PERMANENT LAND PROTECTION

## *Cape May County Municipal Utilities Authority Acquisition Fund*

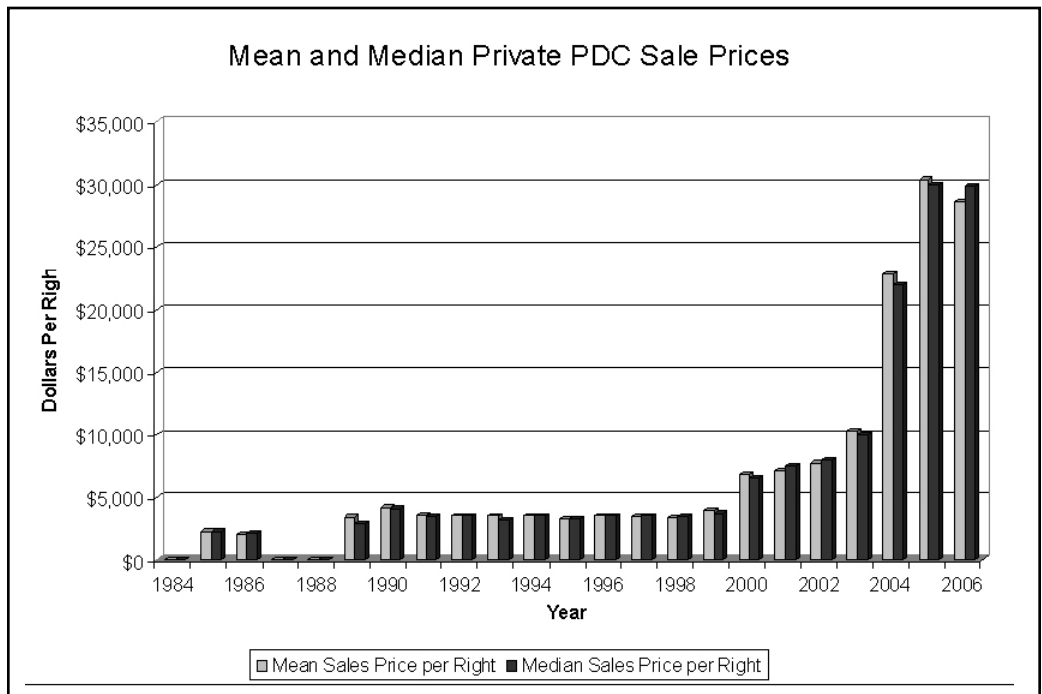
The Cape May County Municipal Utilities Authority (CMCMUA) fund was established under an agreement between the Pinelands Commission and the CMCMUA whereby the CMCMUA pledged \$2.25 million a year to fund land acquisitions in the Pinelands National Reserve.

During 2006, the Commission spent a total of \$322,703.10 from the fund on two projects. These two projects protected a total of approximately 443 acres in Cumberland County and Cape May County. The first project, situated in Maurice Township, is 425 acres and is within the Eldora Nature Reserve. The second project, located in Upper Township, is 18 acres and is within the Great Cedar Swamp Acquisition Target Area.

## *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 to landowners in Pinelands-designated Preservation, Agricultural and Special Agricultural Production Areas, which are the sending areas. These credits can be purchased by property owners and developers who are interested in developing land in Pinelands-designated Regional Growth Areas, which serve as the receiving areas, and can be used to increase the densities at which they build. Once those credits are “severed” from a sending area property, the property is permanently protected by a conservation deed restriction and the credits on the property can be sold. Credits are bought and sold in one-quarter credit units called “rights.”

During 2006, 663 rights were severed, protecting 7,180 acres of land. A total of 6,542 rights have been severed from 1982 to 2006, protecting 54,831 acres. In 2006, the mean sales price of PDCs was \$28,570 per right, while the median sales price was \$29,871 per right.



**Note:** No private sales occurred in years 1984, 1987 and 1988. In order to reflect the influence of the re-sale market, includes secondary as well as first-time sales, resulting in some multiple counting of rights. Does not include sales/transfers involving special circumstances such as gifts within families or sales including land. Source: 1991 Plan Review document (for data through mid-1991) and the PDC Bank.

## *Farmland Preservation*

The State Agricultural Development Committee (SADC), working in cooperation with the Pinelands Commission, administers a special Pinelands Direct Easement Purchase Program that permanently protects farm-



land within those Pinelands Management Areas that serve as sending areas for Pinelands Development Credits. During 2006, development easements were acquired on three farms totaling 2,183 acres. Through 2006, 41 farms totaling 5,506 acres have been preserved under the Pinelands Direct Easement Purchase Program.

## *Pinelands Limited Practical Use Program*

The Pinelands Limited Practical use (LPU) Program offers the owners of properties less than 50 acres in size and whose application for a waiver of strict compliance (a variance from normal Pinelands zoning or environmental standards) has been denied by the Commission, the opportunity to sell their land to the State of New Jersey. In 2006, seven parcels were declared eligible, totaling 10.28 acres. To date, more than \$1.5 million has been spent to buy and permanently protect more than 1,072 acres.

## *Pinelands License Plates*

Since 1998, Pinelands specialty license plates have been available to New Jersey motorists who want to show their support for the Pinelands while helping to protect the region's open space. After reimbursing the Motor Vehicle Commission for expenses associated with the plates, proceeds from application and renewal fees are deposited in the Pinelands Preservation Fund. The Fund goes toward the acquisition of ecologically sensitive land in the Pinelands. It is managed by the New Jersey Department of the Treasury, with land acquisitions administered by the New Jersey Department of Environmental Protection.



During Fiscal Year 2006, which runs from July 1, 2005 to June 30, 2006, 482 new sets of Pinelands license plates were issued and 4,307 sets were renewed. Receipts for the year totaled \$67,202, and the total fund balance at the close of Fiscal Year 2006 stood at \$543,804.



*Fall foliage is reflected on the Rancocas Creek in Burlington County in the Pinelands.*

Photo/Paul Leakan



# Around the Pinelands in 2006



Commission member Dr. Rev. Guy Campbell delivered the invocation during the special banquet celebrating the 25th anniversary of the Pinelands Comprehensive Management Plan.



More than 375 people attended the 17th annual Pinelands Short Course at Burlington County College. The event was held at the college's Pemberton Township campus for the third straight year.



Commission member Candace Ashmun, Commission Executive Secretary Nadine Young and Michele S. Byers, Executive Director of the New Jersey Conservation Foundation, pose for a photo during the "Regional Planning Comes of Age" Conference.



Commission Chairperson Betty Wilson, pictured right, honored fellow Commission member Leslie M. Ficcaglia, left, for 10 years of dedicated service on the Pinelands Commission in 2006. Ficcaglia serves as the Cumberland County's representative on the Commission.

**Photos by Paul Leakan and Janet Pierce/  
New Jersey Pinelands Commission**

# SCIENCE & RESEARCH ACTIVITIES

## *Kirkwood-Cohansey Study*

The Pinelands Commission continues to lead a major study aimed at gaining a better understanding of the relationship between the Kirkwood-Cohansey Aquifer and the unique Pinelands environment that it supports.

Legislation passed in 2001 appropriated \$5.5 million from the State Water Supply Fund to the Commission to determine how the current and future water-supply needs within the Pinelands Area can be met while protecting the Kirkwood-Cohansey system and avoiding adverse impacts to Pinelands ecology. The study, launched in 2004, is being implemented in cooperation with the New Jersey Department of Environmental Protection, Rutgers University, the United States Fish and Wildlife Service and the United States Geological Survey.

Scientists from those agencies are in the third year of conducting a series of studies to characterize relationships between key hydrologic and ecological attributes. The scientists are studying stream flows, wetland water levels, wetland forest communities, soils, evapotranspiration, intermittent pond vegetation, fish, frogs, macro invertebrates, and swamp pink, a federally endangered plant species.

The study addresses two major research questions: First, what are the probable hydrologic effects of groundwater diversions from the Kirkwood-Cohansey Aquifer on stream flows and wetland water levels? Second, what are the probable ecological effects of these changes on aquatic and wetland communities?

Among other tasks, study participants in 2006 completed a geodatabase of hydrogeologic data; finalized a draft hydrogeologic framework report; continued to collect data on water levels in three study basins, finished a report on available stream-gaging in study basins; completed updates to a plant species inventory; processed samples from 18 wetland forest plots for soil nutrient availability; completed additional late-season floristic surveys at 15 study ponds; collected monthly water-quality data from March to October; conducted monthly nighttime anuran-vocalization surveys from March through June at three study ponds; identified, measured, weighed and determined the development stage of spring peeper, southern leopard frog, Pine Barrens treefrog, carpenter frog, and green frog tadpoles and metamorphs on a weekly basis; and conducted research pertaining to hydrologic regimes associated with swamp pink. Additionally, study participants gathered data, completed research and created assumptions to estimate current water use for residential, commercial and agricultural components; calculated the amount of development that is served by public water and sewer; and estimated how much water is withdrawn from, and returned to, the Kirkwood-Cohansey Aquifer.

The study is expected to be completed by 2009.

## *Ecological Integrity Assessment*

In 2005, the Commission initiated a comprehensive review of landscape and watershed conditions throughout the Pinelands to better ensure that important natural areas, including those that provide habitat for threatened and endangered plant and animal populations, are protected. This landmark project, which is scheduled for completion in 2007, relies heavily on data collected through the Commission's long-term environmental monitoring program and is coordinated with monitoring program activities.

Commission staff scientists have developed preliminary methods to evaluate landscape, aquatic, and wetland integrity based on land-use/land-cover spatial data. The landscape integrity assessment will rank over 32 million landscape units (each unit is 100 square-meters), and over 7,000 drainage-basin units will be examined in the aquatic and wetlands assessments. The three integrity ranks will be used to develop a composite ecological integrity score for each landscape unit and prepare an ecological integrity map of the Pinelands. The map will be used to identify consistencies and conflicts between ecological integrity, Pinelands Management Area designations, and future development estimates. Ultimately, the assessment will be used to review and revise the Pinelands Comprehensive Management Plan.

## *Barnegat Bay Watershed Study*

A comprehensive report describing the results of the Commission's landscape, water resources, and wetland-community monitoring program in Mullica River Basin was released in December 2001 (Zampella et al. 2001). Two other reports describing the ecological status of surface waters in the Rancocas Creek basin (Zampella et al. 2003) and Great Egg Harbor River Watershed Management Area (Zampella et al. 2005) were released in subsequent years. A fourth report describing conditions in the Barnegat Bay Watershed (Zampella et al. 2006) was completed in 2006 and will be distributed in early 2007.

The study concluded that, as in the other major Pinelands watersheds, surface water pH, specific conductance, and nitrate-nitrogen concentrations increased with the extent of upstream altered land (developed land and upland agriculture). The presence of nonnative frogs was associated with altered land and elevated pH, and the presence of nonnative species in stream-fish, impoundment-fish, and stream-vegetation communities was associated with both elevated pH and specific conductance and a greater proportion of altered land in upstream drainage areas. Streams in the Cedar Creek and Westecunk Creek basins displayed the highest ecological integrity of all Barnegat Bay stream systems. The complete report is available on-line at: [www.nj.gov/pinelands/infor/online](http://www.nj.gov/pinelands/infor/online).

## *Comprehensive Water Quality and Biological Community Data Set*

A comprehensive water-quality and biological-community data set was prepared in 2006. This Pinelands-wide data set includes information on all water-quality (pH and specific conductance), stream-vegetation, fish and anuran data collected during the four major watershed studies. To calibrate the pH and specific conductance measurements completed in different years, a network of 47 benchmark stations was established in 2005. For each of the four major basins, a series of regression models were developed that relate median pH and specific conductance measured at the benchmark stations in 2005 and 2006 to median values from earlier surveys. These models were used to estimate 2005-2006 pH and specific conductance values for all sites surveyed during the four watershed studies.

## *Electric Transmission Right-of-way Maintenance Plan*

Pinelands Commission and Rutgers University scientists are developing an ecologically based right-of-way maintenance plan in cooperation with representatives of the Board of Public Utilities, Public Service Electric and Gas (PSE&G), Jersey Central Power and Light (JCP&L), Atlantic City Electric (formerly Conectiv), and the New Jersey Endangered and Nongame Species Program (ENSP). The goal of the project is to prepare right-of-way maintenance plans that create and maintain relatively stable and sustainable, early successional habitats that reflect characteristic Pinelands habitats, require minimal management, ensure transmission reliability and safety, and minimize the need for individual Pinelands permit reviews. In 2006, Rutgers University scientists updated Commission staff and cooperators on the progress of the study, which is scheduled to be completed in 2007.

## *Littoral Communities*

In 2001, the Commission received a Wetlands Development Grant from the U.S. Environmental Protection Agency (USEPA) titled, "Monitoring the ecological integrity of Pinelands wetlands: the effect of watershed disturbance on the littoral communities of stream impoundments." Thirty stream impoundments were selected that represent a range of watershed conditions characterized by the percentage of upstream developed land and upland agriculture (altered land). The purpose of the study is to describe land-use thresholds associated with significant changes in water quality and the composition of diatoms, plants, fish, and anurans found in stream impoundments. Each impoundment was placed in one of five groups based on the percentage of altered land in the asso-



ciated drainage basin.

A preliminary analysis of the environmental and biological data has been completed. The analysis includes an assessment of differences in habitat and water-quality variables and the composition of diatoms, plants, fish, and anurans between land-use groups. The final report will be completed in 2007.

## *Cranberry Agriculture and Wetlands*

Cranberry agriculture, which involves clearing land to construct bogs, damming streams to establish reservoirs, channelizing stream segments, and creating extensive ditch networks, is a major land use in parts of the New Jersey Pinelands. The native cranberry was first cultivated in New Jersey in the mid-19th century. Since that time, the industry has been an important landscape-shaping factor. Harvested cranberry acreage, estimated to be about 3,100 acres in 2002, represents less than one-third of the 11,200 acres that existed at the peak of bog cultivation in 1919. Abandoned-cranberry bogs are now a common feature of the Pinelands landscape.

In 1999, the Pinelands Commission received a Wetlands Development Grant from the United States Environmental Protection Agency (USEPA) to conduct a study of the potential effect of past and present cranberry agriculture on selected landscape features, stream flow, and aquatic communities in the Mullica River and Rancocas Creek basins. The Pinelands Commission and the National Park Service provided additional funding. The study was completed in 2006.

The Study topics included stream-drainage patterns and wetland-patch structure, streamflow regimes, diatoms (or unicellular organisms), stream vegetation, macroinvertebrates, and fish. For each study topic, variations in the landscape, stream, or biological-community characteristic of interest were compared between streams that represented three land uses. Land uses included forest, active cranberry bogs (cranberry), and abandoned-cranberry bogs (abandoned bogs). The diatom study also included streams with developed/agricultural land.

The study concluded that the effect of past and present cranberry agriculture on stream-drainage patterns was limited primarily to the occurrence of ditches. Discharge and the frequency of overbank flooding were highest and streamflow variability was lowest for cranberry streams compared to the other two stream types. Although diatom-species composition varied between forest, abandoned-bog, and cranberry sites, all three stream types were dominated by diatoms associated with acid waters. Difference in channel-vegetation and bank-vegetation composition between stream types appeared to be most closely related to the type of canopy cover at a site. Variations in macroinvertebrate composition between stream types appeared to be related to a complex environmental gradient involving dissolved oxygen, temperature, specific conductance, stream width, and woody debris. There was no difference in fish-species richness between forest, abandoned-bog, and cranberry stream types, although variations in species richness were related to several measures of stream size, including basin area, channel width, channel depth, and discharge.

The full study is available on the Commission's Web site at [www.nj.gov/pinelands/science/pub/index.html](http://www.nj.gov/pinelands/science/pub/index.html).

## *Water level Monitoring: Forested Wetlands and Coastal Plain Ponds*

Monitoring of water levels at five pitch pine lowland reference sites continued for the 19th year. With the exception of one year, these sites have been monitored continuously since 1987. Water levels were monitored at 14 coastal plain ponds for the 11th consecutive year (1996-2006). The wetland and pond water-level monitoring network provides a long-term hydrologic record that has been used in several Commission studies addressing the relationship between hydrology and wetland and aquatic communities. The data collected through this network are also being used in the Kirkwood-Cohansey study.

# *Abandoned Cranberry Bog Succession in Relation to Variations in Water Level*

The purpose of this study, which is being conducted at the New Jersey Conservation Foundation's Franklin Parker Preserve, is to describe the effects of variable hydrology on wetland succession in an abandoned-cranberry bog. In 2006, Science Office staff established 30 plots along six separate transects covering a range of water-table levels in a single bog. Each plot has been divided into four parts to allow the application of different treatments involving the manipulation of vegetation. Quantitative measurements of plant cover in all 30 plots were completed and water-level monitoring wells were installed in the center of each plot. Staff began measuring water levels in November. For the duration of the study, water levels will be monitored monthly, soil moisture and pH will be measured quarterly, and quantitative measurements of vegetation, soil nutrients, and soil organic matter will be completed annually.

The cranberry succession study provides an opportunity to investigate the effect of variable hydrology on plant-community composition, which is an important aspect of the ongoing Kirkwood-Cohansey study.

## *Preparation of a New Five-year Long-term Environmental Monitoring Program Plan*

In 2006, Science staff prepared a new five-year long-term environmental-monitoring program plan to be initiated in 2007. Elements of the plan include a second round of watershed surveys, monitoring pH and specific conductance at the network of 47 benchmark stations, expansion of the water-table and water-level monitoring program to include selected forest plots and ponds established as part of the Kirkwood-Cohansey Project, the cranberry-bog-succession study, and analysis of stream flow data relative to stream-discharge monitoring programs in portions of the Mullica River Basin and Upper Great Egg Harbor River.

The second round of watershed surveys will be conducted over a period of four years, with each year dedicated to one of the four major watersheds. A final report will be prepared in the fifth year. During each survey, water quality (pH and specific conductance), stream vegetation, impoundment vegetation, and stream-fish, impoundment-fish, and anuran (frogs and toads) assemblages will be monitored. Specific conductance and pH will be measured monthly under baseflow or near-baseflow conditions for a period of at least four months during the growing season.

Stream-vegetation will be sampled in a 20-m length of stream near bridge or road crossings. The sampling area at each site will include the channel and a two-meter wide belt transect along each bank. Both channel and bank plants will be surveyed in both early and late summer. Shoreline and near-shore vegetation will be surveyed in impoundments during the same time periods.

As with the stream-vegetation surveys, stream-fish sampling sites will consist of a 20-m length of stream near bridge or road crossings. At each stream site, all habitats within the 20-m stream reach will be sampled for 15 minutes on one occasion between June and October using both seining and electro-shocking methods. During the same period and using similar methods, near-shore habitats in impoundments will be sampled on a single occasion for 30 minutes.

Anuran surveys will be conducted during the calling season of carpenter frogs and bullfrogs. Both species prefer permanent-water habitats and share a similar breeding period. However, the bullfrog is associated with degraded waters with elevated pH, whereas the carpenter frog is usually found in Pinelands habitats that are more acidic. Nighttime anuran vocalization surveys will be conducted in June and July. Each site will be visited on at least one occasion. The number of calling individuals heard during a five-minute period will be estimated using a ranking system where 0 = none, 1 = 1 calling, 2 = 2-5 calling, 3 = 6-10 calling, and 4 =>10 calling individuals. This ranking system is the same as that used in earlier Commission studies.

# REGULATORY ACTIVITIES

## *Permitting*

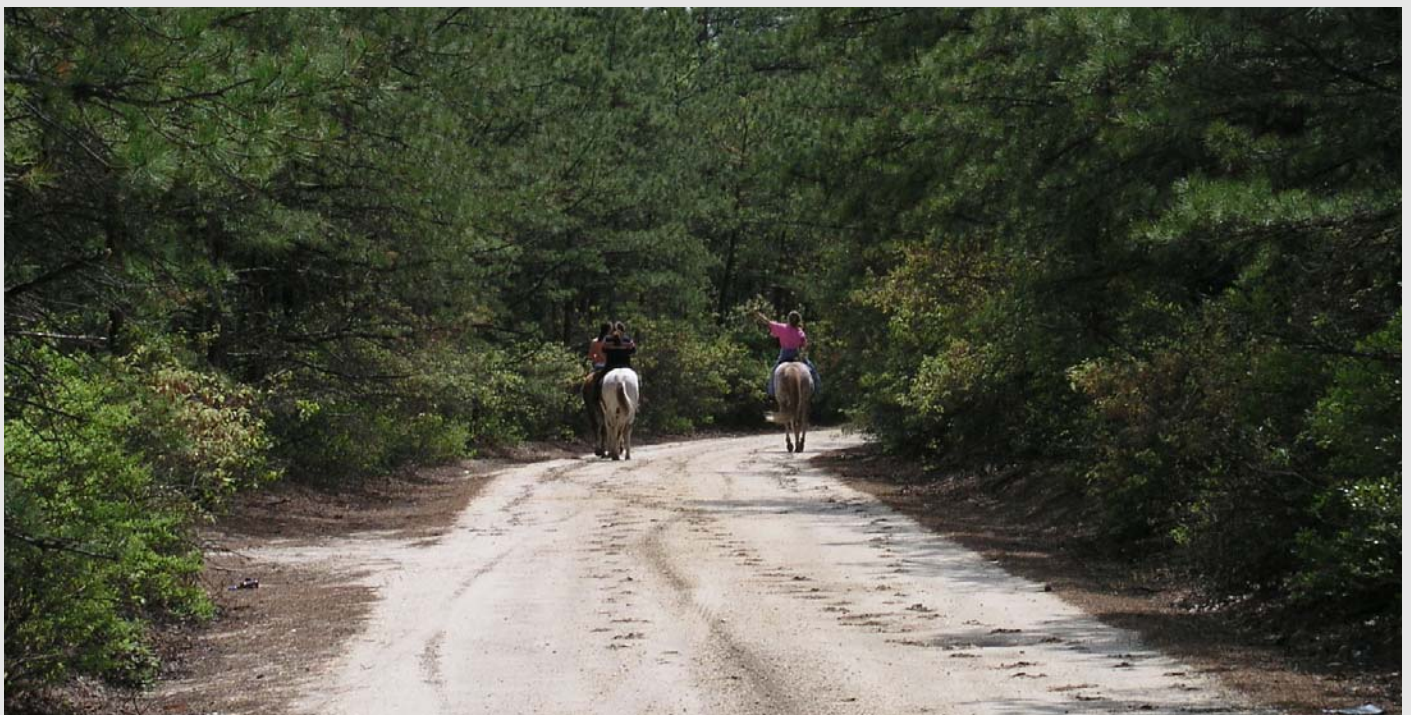
The Commission's staff reviews municipal and county permitting decisions and development approvals to determine potential impacts on Pinelands natural resources. In cases where the local approval may be inconsistent with Pinelands regulations, the Commission's Executive Director has the authority to refer the approval to the Pinelands Commission, which can modify or overturn it. In 2005, the Commission's Project Review Office received 1,005 new applications. This compares with 1,135 new applications in 2005 and 1,372 new applications in 2004. During the year, actions were taken on 3,057 applications. A total of 92 actions were taken on applications through the Local Review Officer Program, which expedites the approval process by having municipal officers review certain applications, without the need for Pinelands review first.

## *Wetlands Permits*

The Commission also has the authority to issue Freshwater Wetlands General Permits in the Pinelands Area on behalf of the New Jersey Department of Environmental Protection. The Commission issued six such permits in 2006.

## *Violations*

The Pinelands Commission continues its efforts to provide assistance to municipalities in pursuing and resolving violations of the local land use ordinances and Pinelands regulations. A total of 86 violations were reported to the Commission in 2006. The Commission received 27 plans for site restorations during the year.



Horseback riders travel a sand road in the Bass River State Forest in the Pinelands.

Photo/Paul Leakan



# The Pinelands in Season



**WINTER:** A light coating of snow clings to a winding trail that meanders through the Franklin Parker Preserve in the Pinelands in Woodland Township, Burlington County.



**SPRING:** Bright yellow flowers of golden heather (*Hudsonia ericoides*) bloom off the beaten path in the Bass River State Forest in the Pinelands.



**FALL:** The crimson leaves of wild blueberries flank a trail through the Batsto Village in the Pinelands in Wharton State Forest.



**SUMMER:** Vegetation lines the tea-colored water of the Cedar Creek, which flows through the historic Double Trouble State Park in the Pinelands.

PHOTOS BY PAUL LEAKAN



# PUBLIC INFORMATION, PARTICIPATION & EDUCATION

## *Outreach and Education*

The Commission's Communications and Public Programs Office staff continue to provide information and respond to inquiries from the media and the public. In 2006, staff handled 170 press inquiries and responded to 914 public inquiries. They issued 10 press releases regarding the Commission and wrote, designed, edited and distributed two editions of the *Pinelander*, the Commission's official newsletter, both of which were mailed to 2,300 people. Commission staff also played a key role in working with numerous groups to organize and carry out the "Regional Planning Comes of Age" conference and the banquet celebrating the 25th anniversary of the Pinelands Comprehensive Management Plan. In addition, the staff designed a new Pinelands Commission-themed tabletop outreach display (see photo on right), wrote a series of columns about the success of the Pinelands Protection Program, arranged for a two-segment interview of Commission Executive director John C. Stokes on Comcast Newsmakers, provided an overview of the Pinelands Protection Program for a group from Argentina, and participated in numerous festivals.

The Communications and Public Programs Office also worked with the Pinelands Educational Advisory Council. Consisting of educational professionals, the Council advises the Commission on ways to improve, expand, and better coordinate Pinelands educational and interpretive programs. The Council met three times in 2006, assisting the Commission with the annual Pinelands Short Course and helping to reevaluate the Commission's online Curriculum Guides. The Council also reviewed the public outreach and interpretation plan for the Richard J. Sullivan Center for Environmental Policy and Education and assisted with several other Communications Office Projects.

## *Pinelands Short Course*

The 17th annual Pinelands Short Course was held on March 4, 2006, drawing more than 375 people. The event featured 27 knowledgeable presenters and 19 topics. The Pinelands Commission continued its partnership with the Burlington County Community College in holding the event at the college's Pemberton Township campus for the third straight year.

The Short Course offered participants nine new presentations covering the following topics: a tribute to the work of Pinelands folklorist Herbert Halpert, environmentally-conscious art education, an indoor Pinelands field trip, threatened and endangered wildlife, the forgotten town of Cedar Bridge, wildlife photography and programs on black bears, butterflies and fish in the Pinelands. In addition to those topics, the event offered popular programs from the past, including a Pinelands overview, traditional uses of native Pinelands plants, Pine Barrens photography, traditional Pinelands music by the Sugar Sand Ramblers, long-distance migratory songbirds of the Pinelands, a history of the Pinelands, turtles of the Pinelands, the Kirkwood-Cohansey aquifer and its effect on the Pinelands environment, Pinelands fire safety, and an educational walking tour of historic Whitebog Village.



*Debi Klemas, Geographic Information Specialist, and Joel Mott, Public Programs Specialist, stand in front of the Commission's new tabletop outreach display during the "Regional Planning Comes of Age" conference in 2006.*

*Photo/Paul Leakan*

## Pinelands Interpretation & Tourism



Participants conducted experiments on Pinelands vegetation, soil and water during Maria Peter's course "The Pine Barrens - An Indoor Field Trip" at the 17th annual Pinelands Short Course on March 4, 2006.

Photo/Paul Leakan

The Commission worked with the National Park Service to advance several Pinelands interpretive projects in 2006, including the installation of new Pinelands National Reserve road signs. The signs were installed along the Garden State Parkway and Atlantic City Expressway in November and December, respectively. The signs feature the new Pinelands National Reserve logo. Funded by a federal grant, the signs were produced by the New Jersey Department of Corrections. They were designed by Commission staff, in consultation with the National Park Service. The 6-foot-wide, 9-foot-tall signs are brown with a white border and lettering. They replaced smaller, less reflective signs that previously welcomed motorists on the Parkway and Expressway as they entered the Pinelands regions. The new signs also let motorists know when they are leaving

the Pinelands, while thanking them for their visit. In 2007, Pinelands Commission staff will work on the second phase of the project, which calls for installing smaller Pinelands National Reserve road signs along other roadways in the Pinelands.

The Commission also began working with the National Park Service (NPS) and the New Jersey Department of Environmental Protection's Division of Parks and Forestry to create a new Pinelands National Reserve (PNR) brochure. The project is being funded through a cooperative agreement between the partners, including \$25,000 from the NPS Pinelands interpretive Office and a \$13,000 NPS Challenge Cost Share Program grant that the Pinelands Commission will match with in-kind services. The brochure will feature a detailed map of the PNR, including a descriptive listing of various Pinelands destinations, as well as information about the region's special qualities and how they are being protected. The brochure is slated for completion in 2008. When complete, approximately 100,000 copies will be printed and distributed throughout the Pinelands.

The Commission also sought to further advance eco-tourism opportunities in the Pinelands by serving on an advisory panel convened by the South Jersey Tourism Corporation. The group is working on a new Web site that will serve as a clearinghouse of information about the best areas to visit and experience the Pinelands.

### Pinelands Municipal Council

The Pinelands Municipal Council elected its Executive Committee for the year on March 9, 2006. Buena Vista Mayor Chuck Chiarello was officially sworn in as the Council's chairman. Chiarello served as vice-chairman from 2003 to 2005, and he previously served as the Council's chairman from 1996 to 2002. Woodbine Borough Mayor William Pikolycky, who served as the Council's Chairman from 2003 to 2005 was elected Vice Chairman; Berkeley Township Planning Board Chairman



The new Pinelands National Reserve road signs replaced smaller signs that were posted on the Garden State Parkway and the Atlantic City Expressway.

Photo/Joel Mott





(Left to Right), Anthony Mazzella, William Pikolycky, Chuck Chiarello, and Senator Nicholas Asselta, during the swearing in of the Pinelands Municipal Council's Executive Committee on March 9, 2006.

Photo/Paul Leakan

Anthony Mazzella was elected Secretary; Egg Harbor City Mayor Joseph A. Kuehner was elected as Treasurer; and former Mullica Township Mayor and Commission member Robert Hagaman was elected to his 7th term as member at large.

Each year, the Pinelands Commission and the Pinelands Municipal Council co-sponsor an orientation session for newly elected, appointed or any other municipal officials, with the goal of familiarizing or providing a refresher course on the Pinelands environment and regulations. The 2006 session was held March 30 at the Commission's headquarters. Forty municipal officials attended the event.

Created under the Pinelands Protection Act of 1979, the Pinelands Municipal Council is composed of mayors or their designees of the 53 municipalities in the Pinelands Area. The Council is empowered to review any changes the Pinelands Comprehensive Management Plan, while

also advising the Pinelands Commission on any matters of common concern to Pinelands municipalities.

## Web Site Enhancement

The Commission continued to enhance its Web site ([www.nj.gov](http://www.nj.gov)) in 2006 by adding several new features and making a "courtesy copy" of the Pinelands Comprehensive Management Plan (CMP) available for download for the first time. A new icon was added to the Home Page to direct visitors to various downloadable Pinelands maps, and a new link was created to better locate Pinelands-related educational resources, including the Commission's online curriculum guide.

The 254-page online version of the CMP was posted on the Web site on October 10, 2006, following months of reformatting, editing and proofreading by Commission staff. The online version of the CMP is a fully-bookmarked pdf file, which enables users to click on a link that will take them directly to any of the 10 subchapters contained in the document. Also, by conducting a "keyword" search, users can find the location of all references to a particular keyword in the CMP.

The Commission's Web site was fully redesigned in the spring of 2005, in cooperation with the New Jersey Office of Information Technology. The site is indexed into 10 topical sections, and it features numerous reports, studies, fact sheets and newsletters, as well as information about the Commission and its efforts to protect the Pinelands. On average, the Web site receives approximately 7,000 hits or views per month.

## NJ Open Public Records Act

The Commission continued to respond to requests for public records under the statutory requirements of the New Jersey Open Public Records Act (OPRA). During 2006, the Commission's Records Custodian received and processed 19 OPRA requests. Of the 19 requests, 17 were submitted by legal, environmental consulting, devel-



Pinelands Commission's Web site

opment, engineering or other professional service firms. The remaining two were submitted by a non-profit organization and a newspaper.

## FACILITIES & OPERATIONS

### *Building Renovations*

The Commission continued to upgrade and renovate office buildings at its headquarters in Pemberton Township, Burlington County. A new roof was installed on the historic barn, which houses the Commission's Science Office. A new American with Disabilities Act-compliant sidewalk was created to connect the barn to the handicapped parking lot at the Fenwick Manor farmhouse.

Major renovations of the historic buildings at the Commission's headquarters were completed in October 2005. Several of the buildings were seriously deteriorated prior to the renovations and needed to be upgraded to correct technical problems, meet historical accuracy, improve functional operations and to address code, safety and environmental issues.

The Commission plans to renovate the second floor of the barn to create additional space for its Science Office staff in late 2007.



Workers installed a new roof on the barn, which houses the Commission's Science Office staff, during 2006. The building is located on the grounds of the historic Fenwick Manor.

*Photo/Paul Leakan*

### *Fiscal & Budget*

The Pinelands Commission's operating budget for Fiscal Year 2007 is \$4,804,730. Of this, \$3,989,100, or 83 percent, is budgeted for personnel expenses. Budgeted revenue sources include \$381,810 in federal grants, a \$3.098 million State appropriation, \$342,000 in State grants and other State funding and \$578,500 in application fees.

In addition to the operating budget, \$700,000 is budgeted for the Commission's commitment to the special land acquisition program funded through the Cape May County Municipal Utilities Authority (see Page 12). The 2007 budget for the Kirkwood-Cohansey Study, funded through legislation passed in 2001, is \$1.2 million. The budget for the Pinelands Conservation Fund is \$2.58 million.

### *Pinelands Application Fees*

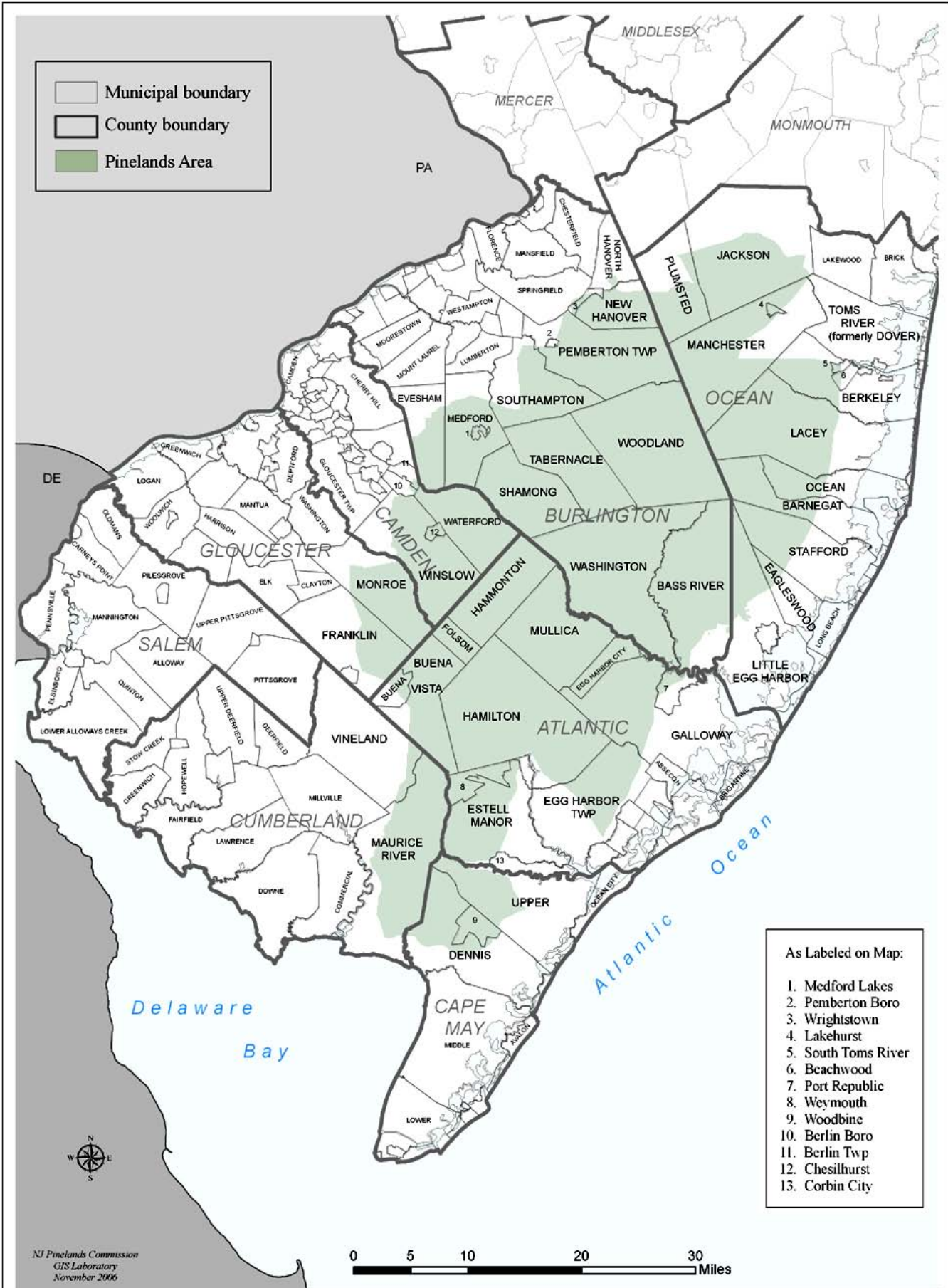
Beginning in April 2004, the Commission implemented the first application fees since the enactment of the Pinelands protection program. The fees were established to partially underwrite the direct costs associated with reviewing development applications (see Pages 4-5).

During Fiscal Year 2006, application fee revenues totaled \$820,840. \$578,500 is anticipated in Fiscal Year 2007.

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# Municipalities in the Pinelands



Municipal boundary  
 County boundary  
 Pinelands Area

- As Labeled on Map:
1. Medford Lakes
  2. Pemberton Boro
  3. Wrightstown
  4. Lakehurst
  5. South Toms River
  6. Beachwood
  7. Port Republic
  8. Weymouth
  9. Woodbine
  10. Berlin Boro
  11. Berlin Twp
  12. Chesilhurst
  13. Corbin City