

New Jersey Pinelands Commission

A Year in Review

Fiscal Year 2011



Featuring a vast mosaic of dense forests, tranquil rivers, pastoral farms and scenic towns, the million-acre Pinelands Area of southern New Jersey stands as a national treasure worthy of special protection.

For more than 30 years, the New Jersey Pinelands Commission has successfully executed a comprehensive, regional plan that safeguards the Pinelands' sensitive and unique resources while encouraging compatible economic development.

Fiscal Year 2011 presented a profusion of challenges for the Commission, as financial constraints prompted a reduction in force, and staffing dropped 35 percent below authorized levels. Despite fewer staff and multiple vacancies on the agency's 15-member board, the Commission continued to advance its mission.

The Commission is proud to highlight many, but by no means all, of these accomplishments in this year-end review. During Fiscal Year 2011, which runs from July 1, 2010 to June 30, 2011, the Commission:

■ **Appointed Nancy Wittenberg as its new Executive Director.** A former Assistant Commissioner with the New Jersey Department of Environmental Protection, Wittenberg brings a wealth of experience to the post. In her previous position, she oversaw statewide programs covering air quality permitting and planning, climate change, energy, solid and hazardous waste planning and regulation, pollution prevention, radiation protection, nuclear safety and release prevention. The Executive Director is responsible for the daily operations of the Commission and its staff of planners, scientists, environmental reviewers, educators and

others. Wittenberg replaced John C. Stokes, who retired on January 1, 2011, ending more than 30 years of service on the Commission;

■ **Dedicated more than \$4.3 million to preserve 4,330 acres in Atlantic, Burlington, Cape May and Ocean counties.** To date, the Commission has paid out a total of \$4.1 million from the Pinelands Conservation Fund toward the permanent preservation of approximately 3,320 acres of land. In many cases, these properties provide critical habitat for rare plants and animals, and they connect adjacent lands that are already preserved, creating a large, contiguous area of undisturbed forest;



■ **Finalized plans to implement new procedures that provide more opportunities for public comment on public development applications.** Beginning in July 2011, the public will be able to speak directly to Commissioners about public development applications before any decisions are made. Existing regulatory provisions restrict the opportunity to comment on public development applications during Commission meetings.

The Commission also took major steps to better inform and notify the public about public development applications, launching a new web page that provides detailed information about the status of these applications. The Commission's staff devoted 200 hours of programming to create the web page, which can be found under the "Permitting and Applicant Services" section of the Commission's web site (www.nj.gov/pinelands);

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■ **Proposed several changes to ensure the environmentally-appropriate siting of solar energy facilities in the Pinelands.** Solar energy facilities are currently universally-permitted as an accessory use (e.g., solar panels on rooftops) throughout the Pinelands.

The Commission has proposed a series of amendments to the Pinelands Comprehensive Management Plan (CMP), the rules that govern land-use, development and natural resource protection in the Pinelands, that spell out where and under what circumstances solar energy facilities may be permitted as a principal use.

In general, solar energy systems that are accessory uses supply electricity to the primary use on the property, such as a home or a business. These types of facilities are already permitted throughout the Pinelands. Solar energy facilities that are the principal use on a property are generally larger in scale and supply electricity for regional use.

The rules would allow the installation of solar energy facilities as a principal use in the Preservation Area District, Special Agricultural Production Area and the Forest Area, but only under limited circumstances. For example, solar facilities may be authorized on an existing landfill that has been, or will be, closed.

The rules would not permit clearing and installation of solar facilities on undisturbed land in the Preservation or Forest areas. Additionally, they would require that public service infrastructure (eg. electric distribution lines) needed to support these facilities be available without any off-site development in Preservation or Forest areas.

The development of solar facilities will yield significant benefits to the Pinelands' environment because they will offset the need for new fossil-fuel dependent power plants, thereby reducing atmospheric emissions such as carbon

dioxide, sulfur dioxide, mercury and particulates. Removing these emissions will have a positive impact on public health, crop production, forest health, fish populations and water quality;

■ **Reviewed 1,602 active development applications to ensure compliance with regulations that protect Pinelands resources,** such as water, wetlands and habitat for rare plants and animals. Of those applications, 1,353 were for private development, and 249 were public projects. **Commission staff resolved 30 violations and investigated 17 new violations;**

■ **Worked with the New Jersey Department of Environmental Protection (DEP) to analyze and expedite measures to combat Southern Pine Beetles,** which are killing pine trees in the Pinelands. Approximately 389 potential infestations totaling 14,100 acres were recorded in the Pinelands region in 2010, according to the DEP. Commission staff are reporting potential pine beetle infestations to the DEP. Additionally, the Commission is working with DEP to provide expedited review and permitting processes for pine beetle suppression activities;

■ **Partnered with the DEP to conduct water-quality sampling in Barnegat Bay streams as part of Governor Chris Christie's Comprehensive Plan to address the ecological health of the Bay;**

■ **Adopted amendments to the Pinelands Comprehensive Management Plan regarding the Alternate Design Wastewater Treatment Systems Pilot Program. In May 2011, the Commission announced that it was accepting applications from new technologies to participate in the pilot program.** These advanced treatment systems can remove more than 65 percent of the pollution that is typically generated by standard septic systems;

■ **Worked with Monroe Township, Gloucester County, to rezone nearly 3,000 acres of land to ensure the appropriate level of protection.**

The Commission redesignated 2,785 acres in Monroe from a Rural Development Area to a more environmentally-protective Forest Area, and it redesignated 128 acres in the Rural Development Area to a more development-intensive Regional Growth Area. The new Forest Area consists of mostly forested land, the vast majority of which features exceptional Pinelands habitat. The new Regional Growth Area is established on largely disturbed land, which is not considered Pinelands habitat.

The affected areas are appropriate for their new management area designations, and the significant increase in the



John Bunnell, the Commission's Chief Scientist, samples fish as part of the agency's long-term, environmental monitoring program.

Photo/Robert Zampella

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size of the Forest Area more than offsets the relatively small expansion of the Regional Growth Area;

■ **Approved the Richard Stockton College of New Jersey's new Master Plan.** The Plan sets forth a comprehensive blueprint for the future development and expansion of the College's campus in recognition of increased enrollment and projections of future growth. The Plan permanently protects 1,257 acres of land on and near the college's campus, including 170 previously developable acres. It also increases the size of the College's development area by approximately 450 acres and the amount of developable land by 151 acres.

The College also agreed to use low-impact design and construction principles by minimizing disturbance of forested areas, clustering development away from wetlands and deed restricted areas, and minimizing turf;

■ **Continued to manage a \$5.5 million, multi-agency study of the Kirkwood-Cohansey aquifer,** which consists of layers of sand and gravel that lie beneath the Pinelands and hold an estimated 17 trillion gallons of pure water. The study, launched in October 2003, is being implemented by the Commission 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 (USGS).

Scientists from these agencies are seeking to address two major research questions: First, what are the probable hydrologic effects of groundwater diversions from the aquifer on stream flows and wetland water levels? Second, what are the probable ecological effects of these changes on aquatic and wetland communities?

In FY 2011, Commission scientists published reports on the potential impact of groundwater withdrawals on forested wetlands, swamp pink, stream habitat, pond vegetation, and frog development. The studies suggest that reductions in wetland water levels and stream flow due to groundwater withdrawals will result in losses in area occupied by wetland-forest communities, exposure of swamp pink colonies to uncharacteristically dry hydrologic conditions, loss of stream aquatic habitat, shifts in stream macroinvertebrate and fish communities, loss of aquatic and wetland herbaceous plant communities in intermittent ponds, and shortened pond hydroperiods, which may impact the larval development and metamorphosis of native Pinelands frog species.

All five reports have been submitted to journals for publication and all have been published except for the pond vegetation report, which is still in review. Commission, Rutgers, and USGS scientists presented the results of some of the Kirkwood-Cohansey Project studies at the National



Ed Wengrowski, the Commission's Environmental Technologies Coordinator, (right) used a model to demonstrate how the Kirkwood-Cohansey aquifer system works during the Pinelands-themed World Water Monitoring Day in October 2010.

Photo/Paul Leakan

American Water Resources Association conference in Philadelphia.

■ **Continued to carry out scientific surveys of Pinelands watersheds as part of a comprehensive, nationally-recognized, long-term environmental monitoring program.**

Since the 1990s, the Commission has conducted surveys at hundreds of sites in the Pinelands in an effort to characterize the effect of existing land-use patterns on aquatic and wetland resources and to monitor long-term changes in these resources. Commission scientists monitor water quality, vegetation and fish in streams and impoundments, and frogs and toads in impoundments in the Mullica River, Rancocas Creek, Great Egg Harbor River, and Barnegat Bay watersheds. Staff has completed two rounds of surveys in the Mullica, Rancocas Creek and Great Egg Harbor River watersheds. Scientists will complete the second round of surveys in the Barnegat Bay watershed this year.

Since 2005, Commission scientists have measured water quality at 47 sites on a monthly basis, with a few exceptions. Scientists record water levels at 34 ponds and 45 forest plots in the Pinelands each month. The Commission has monitored calling frogs and toads at 14 ponds since 1993.

■ **Educated more than 2,000 people about the Pinelands' natural treasures.** This includes presentations and special programs at colleges and universities, elementary and high schools and camps inside and outside of the Pinelands. This also includes organizing and carrying out the 22nd annual **Pinelands Short Course**, which featured 42 presentations and attracted 600 people; as well as a **Pinelands-themed World Water Monitoring Day**, which educated more

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than 160 students, the annual **Pinelands Orientation for Newly Elected Municipal Officials** and the annual **Pinelands Speaker Series**;

■ **Authorized agreements that provide for more efficient reviews of certain public development applications proposed by Pinelands counties.** The agreements enable the Commission's staff to review and approve small development projects proposed by counties, such as traffic signals, street lights and guide rails, in lieu of a lengthier process that ultimately requires the full 15-member Commission to approve these projects at their monthly meeting.

The proposed projects covered by the agreements still must meet all Pinelands zoning and environmental standards, such as the protection of ground and surface water resources, wetlands, threatened and endangered plants and animals, vegetation, and historic resources.

These agreements also call for the Commission and the counties to continue their work to implement specific management practices that will better protect and promote native vegetation, including rare plant species, along roadsides in the Pinelands. A series of best management practices have been prepared, and they provide specific guidance for managing road shoulders in a manner that protects and perpetuates native vegetation, while also ensuring traffic safety along Pinelands roads. The practices also reduce maintenance costs, hinder the spread of invasive, non-native vegetation, and help to curb the use of costly soil amendments and herbicides;

■ **Approved plans to develop solar energy generating facilities on a portion of a capped landfill at the Stafford**

Business Park.

The Stafford Business Park is located in a Pinelands Regional Growth Area, a land-use area in which intensive residential and business development is permitted.

A portion of 50-acre landfill located onsite was deed restricted as open space as part of a Memorandum of Agreement (MOA) that the Commission reached in June 2006. That agreement allowed Stafford Township's government to redevelop its Business Park as a means to fund costs to cap landfills that are located onsite and were contributing to the pollution of groundwater supplies. The agreement also resulted in the permanent preservation of 645 acres of off-site lands, the incorporation of "Green Building" measures at the Business Park, water quality improvements to Route 72, and the implementation of rare plant and animal management programs.

In November 2010, the Commission approved plans to develop solar panels on top of the closed landfill. The 6.5 megawatt solar facility is expected to generate up to 70 percent of the park's energy needs.

To mitigate for the loss of marginal open space on the landfill, Stafford Township will obligate its redeveloper to provide the Pinelands Commission with a monetary contribution of \$152,900. The Commission will use the contribution to fund a study of approximately 40 existing landfills in the Pinelands that remain unclosed despite Pinelands requirements. Under the study, Commission staff will collect existing data from the DEP, identify public health and environmental receptors, build a geographic database, identify critical leachate parameters and thresholds, and characterize landfills on the basis of health and environmental risks. The study will determine the continuing environmental impacts associated with these landfills, while identifying the appropriate means of landfill closure to ameliorate these impacts; and

■ **Achieved status as a State Certified Laboratory.** Certification of the Commission's Science Office laboratory enables other agencies such as the DEP to accept the Commission's water-quality data. The Commission has begun contributing the location of 295 monitoring sites and 11,880 data points to DEP's Water Quality Data Exchange database. The data were collected as part of the Commission's ongoing long-term environmental-monitoring program and span from 1999 through 2010. The data can be used by DEP in developing its list of impaired waterways.



The New Jersey Pinelands Commission had a challenging year in Fiscal Year 2011. The agency, however, was successful in advancing its mission to preserve, protect and enhance Pinelands resources.

Photo/Paul Leakan