

# P I N S I D E T H E PINELANDS

FEBRUARY/MARCH 2004

A Report by the Pinelands Preservation Alliance

VOLUME 11, NUMBER 3

## PINELANDS COMMISSION ADVOCATES WATER SUPPLY PLANNING



Former Governor Florio releasing hawk at Pinelands Month Celebration

by former Governor James J. Florio,  
Chairman, NJ Pinelands Commission

Do we have enough water?

This is likely the single most important question when planning for smart growth or sustainable development. Without water, we can't have livable communities or a healthy environment.

The question is simple, but the answer rarely is.

As a leader in the protection of water resources, the New Jersey Pinelands Commission is working to improve upon its successes in making sure water is available in the future while meeting the housing and economic needs of our designated development areas.

When the state and federal Pinelands laws were created nearly 25 years ago, they recognized that protection of the abundant, yet environmentally fragile,

water resources of the Pinelands were central to protecting the unique ecology of the region. In fact, a law passed in the early 1980's prohibits the export of pinelands water more than ten miles outside of the reserve.

Today, with increasing demand on the Pinelands water supply, it is now even more apparent that we need to gain greater understanding of the overall capacity of the Kirkwood-Cohansey aquifer in order to effectively address water supply needs and preserve the natural resources of the Pinelands.

Estimated at roughly 17 to 18 trillion gallons, the aquifer is the lifeblood of the Pinelands. This shallow, underground water source feeds a vast network of wetlands and waterways that define the Pinelands landscape and support the region's unique habitats for rare plant and animal species. It also sup-

ports the water supply needs of many of South Jersey's residents and communities, including the area's important agricultural industry.

Over time, the Pinelands Commission has developed a respected body of scientific research on the health of water resources to support and guide decision-making. It uses this research in conjunction with land-use planning and monitoring activities to gauge how well its regulatory decisions affect water resources.

For example, in the 1980's the Commission launched a multi-jurisdictional effort to protect water resources in the Upper Mullica River Watershed of Camden County. Working with three municipalities and the county utility authority, comprehensive water supply and sewer service plans were developed and zoning changes implemented to forecast and minimize unacceptable impacts on groundwater, streams, water quality and aquatic and wetland ecosystems. An intensive hydrologic and environmental monitoring program helps to measure results and ensure proper balance is maintained. Today, this project is a shining example of how planning, zoning, science and other key components can mesh as part of a comprehensive, successful growth plan.

In the mid-1980s, the Pinelands Commission began to call for funding to enable a comprehensive study to enhance understanding of the environmental impacts of withdrawals from the

*continued on page two*



Persuasive arguments and government reports are not action. But sometimes they spur action and back up those striving for reform. We hope that Governor Florio's arguments reprinted in this issue and DEP's new report on the *Status of the Water*

*Supply of Southeastern New Jersey* are among those that lead to real policy change.

Governor Florio's piece shows that smart land use decisions must be tied to good water supply plans, a seemingly obvious point that has been almost universally ignored in New Jersey, as elsewhere. The DEP report validates several key points that we at PPA have argued for some years must be acknowledged based on the scientific evidence already out there:

1. The Kirkwood-Cohansey and Atlantic City 800-Foot Sands aquifers are being depleted in many areas faster than they are being recharged. Current usage - much less future growth - is already excessive and unsustainable.
2. Pumping from the shallow Kirkwood-Cohansey system drains surface waters - streams, ponds and wetlands - because these surface waters get most of their flow from the shallow aquifer.
3. The whole southeastern part of New Jersey must be viewed as a whole in analyzing water supply, since the aquifer system

at issue, and the demand on that system, does not respect political boundaries but spread across this whole area. So we cannot narrow our focus to just the Pinelands, just Atlantic City or just Cape May County, but need to address the challenges holistically.

4. Land use decisions - specifically, the way government has encouraged rampant growth in this region - are the driving force that creates the water supply deficit.

5. The shallow Kirkwood-Cohansey aquifer system and the deeper Atlantic City 800-Foot Sands aquifer are not really separate, but actually merge with one another so that the deeper aquifer is recharged from the Kirkwood-Cohansey. This means that withdrawals from the Atlantic City 800-Foot Sands reduce the water available to the Kirkwood-Cohansey system, and excessive pumping from the Atlantic City 800-Foot Sands may over time harm surface ecosystems.

We endorse the Pinelands Commission's call for good, integrated land use and water supply planning, and we applaud DEP Commissioner Brad Campbell and his staff for issuing their report. The critical next step is to convene a process that involves all levels of government and private parties to solve the water supply challenge by controlling growth and making more efficient use of the water we have.

## WATER SUPPLY PLANNING

continued from cover page

Kirkwood-Cohansey throughout the Pinelands. As a result of a \$5.5 million Water Supply Bond Act appropriation, the Commission has recently approved a research plan for an unprecedented assessment of the aquifer.

The Pinelands Commission is partnering with four organizations in this project: the US Geological Survey, US Fish and Wildlife Service, the state Department of Environmental Protection (DEP) and Rutgers University. This study will evaluate the hydrologic effects of groundwater withdrawals on streamflows and wetland levels and the impact on the ecosystem. With that information, we can develop models to predict ecological effects of different water diversion scenarios. These models will help determine how much water can be taken out of the ground at a given location without harming the ecology of the surrounding area.

Throughout New Jersey and much of the nation, communities are trying to grapple with suburban sprawl and unchecked growth without taking water resources into account. It won't work. At the Pinelands Commission, we feel that we are showing the way to make sure that water is considered. Strict land-use and development standards - backed by sound sci-

ence - have been crucial in helping to achieve sustainable growth in much of this important and fragile corner of New Jersey. This has taught us valuable lessons we hope others will learn as well.

Over the past quarter century, the Pinelands Commission has made great strides to protect valuable resources from sprawl, over-exploitation and degradation. Now, we look forward to working with the State Planning Commission and the DEP as they promote smart growth and natural resource protection initiatives for all of New Jersey to follow. Looking ahead, the ongoing scientific work of the Pinelands Commission and our research partners will further enhance our understanding of water and its capacity to support a sustainable environment and livable communities.

### ATTN: MIDDLE SCHOOL & HIGH SCHOOL SCIENCE AND SOCIAL STUDIES TEACHERS

Pinelands Summer Teacher Institute

July 12-16, 2004

Call 609 894-8000 for details.



In a major step towards achieving sustainable exploitation of our aquifers, the New Jersey Department of Environmental Protection (DEP) has released a new report analyzing the very serious water supply challenges facing the Atlantic County area. The draft report, titled *Status of Water Supply of Southeastern New Jersey*, is available on DEP's web site at [www.nj.gov/dep/watershedmgt/hot-topics.htm](http://www.nj.gov/dep/watershedmgt/hot-topics.htm). This report was prompted by the Governor's 2002 drought Order that placed water restrictions on Egg Harbor, Galloway and Hamilton Townships. DEP has concluded that the region will experience both "immediate and long-term problems associated with its water supply."

Among the most immediate problems is the depletion of stream flows that results from wells pumping groundwater from the shallow Kirkwood-Cohansey aquifer, which provides over 90-percent of the water in Pinelands streams. The report acknowledges that stream flow, wetlands, and groundwater are intimately connected in the Pinelands. To begin to come to grips with this problem, the report recommends the state give no new water allocation permits from the Kirkwood-Cohansey aquifer system for non-potable uses (such as irrigating golf courses) while increasing conservation efforts for drinking water sources. The report calls for the creation of a planning process to develop a comprehensive plan to regain and keep the balance between supply and demand that has been lost in Atlantic County.

The report also focuses on the long-term problem of "saltwater intrusion" - the migration of saltwater into the deeper aquifer systems as the aquifers lose fresh water to pumping. The fundamental problem for both the shallow and deep aquifers is that most of the water withdrawn from these sources is lost from the

system because sewage effluent is discharged out to sea. Approximately 53 million gallons of wastewater per day is discharged into the Atlantic Ocean by Cape May, Atlantic and Southern Ocean Counties. This water is never returned to the aquifers. In simple terms, the groundwater that is removed from the aquifers is being replaced by saltwater from the ocean.

Increased groundwater withdrawals associated with new housing development, coupled with the severe drought of 2001-2002, have resulted in record low streamflow throughout the Atlantic County area. In many cases, streamflow was less than that of the worst drought of record (the drought of 1961-1965). This is not surprising since Egg Harbor, Galloway and Hamilton Townships withdraw more than 90 percent of their water from the shallow Kirkwood-Cohansey aquifer. Since the majority of water used by these three towns is for potable water supply, and most of the homes and businesses in these towns are also served by public sewers, this water use is depletive - that is, the water is not returned to the aquifer and streams. These three towns are responsible for nearly half of the depletive uses within the Great Egg Harbor River watershed.

Increases in withdrawals from the deep Atlantic City 800-Foot Sands aquifer are resulting in a "mining" effect on the water resource. The DEP report finds that, as a result, the dependable or "sustainable" yield of this aquifer is already being exceeded. This is a big concern because this aquifer is used extensively in Atlantic County. As a result, groundwater is being "pirated" from the overlying Kirkwood-Cohansey aquifer. That means loss of water from streams, ponds and wetlands. Groundwater pressure levels in the Atlantic City 800-Foot Sands have continuously declined one to two feet annually as a result of over pumping during the last few decades.

The most recent data show wells that once flowed naturally at the ground surface now have water levels that have declined to more than 100 feet below sea level in the Pleasantville - Atlantic City area. This has resulted in a reversal in the direction of groundwater flow. Pumping from this area has lowered the water level in this aquifer as far north as Barnegat Light in Ocean County, and to the southern tip of Cape May County.

Excessive housing development in the coastal Atlantic County area is the main reason for the increase in water demand.

The water supply challenges facing Atlantic County are not just a county issue. They are a Pinelands issue, since the Kirkwood-Cohansey aquifer system underlies and sustains the entire Pinelands region. In addition, the state's Water Supply Management Act allows water to be exported from the Pinelands as far as 10 miles beyond the Pinelands boundary. We have already heard calls to pump water from within the Pinelands to thirsty developments outside, and we can expect these calls only to grow as uncontrolled development depletes the deeper aquifers even further.

The DEP report rigorously demonstrates the current and growing gap between our water supply and the pace of development in Atlantic County, and calls for a planning process to bring supply and demand into balance in a sustainable way. In doing so, the DEP report represents an important milestone in controlling excessive development and protecting Pinelands ecosystems.

### PINELANDS COMMISSION MEETINGS

Friday, February 13, 9:30am

Friday, March 12, 9:30am

**OPEN TO THE PUBLIC**

**CALL (609) 894-7300 FOR INFORMATION**



So much to do, so little Pinelands wintertime. Just a few months back, growing weary of crawling ticks and swarming chiggers, stinging mosquitoes, biting flies, clouds of gnats and skin-searing sun, we "begged cold comfort." Now, racing back again toward the dreaded furnace of summer, can we possibly properly budget our frigid time?

It seems the best we can do is squeeze in a little un-bugged bushwhacking while the "hoary-headed frosts" still fall. Keep the skis beside the door, in case the prophetic voice of AccuWeather issues glad tidings. Watch Juncos, Tundra Swans, Brown Creepers, and maybe Pine Siskins before they abandon us.

Remember what happened last year? Eventually, "Bare Winter suddenly was changed to Spring." Opportunity quit knocking.



Breaking trail in the snow

Those who "love snow, and all the forms of the radiant frost" know that the white stuff offers unparalleled, but brief, opportunities. How often can we track a deer to its bed or a coyote to its den? And what better seasonal war to wage than one with fluffy, frozen ammunition? What better population boom to support than that ephemeral

one with folk made of fat white balls? Meanwhile, we also have to squeeze in some refined activities. This is the time to go and see our buds. Our tough woody friends that stand so stoically through the freezing blasts hold delicate little miracles at their fingertips. Each bud is designed to weather winter's deadly dealing, and yet unfurl tender leaves or flowers in the spring—an amazing thing in itself to investigate and ponder.

Equally interesting, though, is the fact that our woody species have twigs and buds so distinctively configured, we can tell them apart in midwinter by looking at these details. While there's yet time, we can take Symond's *The Tree Identification Book* or Harlow's *Fruit Key & Twig Key* into the field and work on a few of these puzzles.

Constrained as we are by winter's short duration, we're even further limited by those occasional "frightful" spells. Driven indoors by ice and wind, we face another challenge. What to pick off the shelf? It seems, indeed, that "of the making of books there is no end." Will we have time to read, say, the *Odyssey*? (Not Homer's, but Boyd's.)

By the way, not for naught did Boyd begin his seasonal tour in mid-winter. In *A Pine Barrens Odyssey*, we're ushered into the winter aspect of the Pine Barrens to find a wonderful and surprisingly busy world. Birds are foraging. Blueberry and cranberry farmers are preparing for the coming growing season. Even some insects are out there performing mind-boggling gymnastics in the snow!

Surely, we must also read New Jersey's "One Book" for 2004, McPhee's *The Pine Barrens*. But then there's also *A Place That's Known*, with Pearson's very fitting twenty-five year review of the places McPhee immortalized.

Perhaps we should also take a little tour through Stokes' *A Guide to Nature in Winter*, so we'll be a little better equipped to interpret the world when the storm subsides.

We could easily spend all our "bad weather" time reading. But let's be realistic. If we don't take advantage of these sparse moments to mount the plant specimens we collected last season, when will we ever do it? It's going to take some time. We're bound to linger at least a bit over each pressed plant or flower, recalling the day, the site, and the folks who shared the field trip with us. And are we sure about that ID? Hmm.... How did Fernald describe that plant? What did Stone say about it?

When the ugliest storm of the season finally dies, it's bound leave us a dazzling inheritance. Can we capture that postcard-perfect "winter wonderland" on film? Did the lake freeze solid enough for skating? Can we make it out to Apple Pie Hill for some sledding? There won't be enough hours in the day.

Well, winter in the Pinelands is a "brief candle." We have to try to take advantage of what little we get. Skunk Cabbage is probably already blossoming. A little bit of thawing and the solitary bees will be venturing out of their tunnels — advance forces of the hordes of their relatives to come. "Gather ye snowballs while ye may." Spring is creeping up on us.

**5TH ANNUAL PINELANDS  
SHORT COURSE**

**Saturday, March 6, 9am - 5pm**

Topics will include fire ecology, frogs and toads, ghost towns and legends, Pinelands rural-industrial era and the essential Pinelands Overview.

Contact 609 894-7300 to register.



### Cape May County MUA Update

The Cape May County Municipal Utilities Authority (CMCMUA) has submitted a proposal to the Pinelands Commission asking that their 1995 agreement, which allowed the CMC-MUA to continue operating its sanitary landfill, be modified to increase the existing approved landfill footprint. The additional area is thirty-one acres, which is contiguous to land already owned by the Authority and is located within the Pinelands Town Area.

In 1995 an agreement was executed between the Pinelands Commission, the Department of Environmental Protection and CMCMUA to resolve a long legal battle to close the only operating landfill in the Pinelands.

The 1995 settlement agreement allowed the MUA to continue to dump trash in its existing landfill cell as well as an additional 42 acres, increase the height of the facility and mine existing cells to create more space in the permitted dumping area. In exchange the MUA would pay the Pinelands Commission a total of \$2.25 million for land conservation in the Pinelands National Reserve.

In the new proposed amendment the CMCMUA has indicated it intends to remove and mine all of the material previously landfilled in Cell 1B, which was a double lined landfill cell constructed in early 1984, remove the original base liner and replace it with a new enhanced liner system consistent with the current regulatory requirements. In return it will resume its mitigation payments to a total of \$500,000 for the expanded use of its site.

The 1995 agreement stated that land-filling would be prohibited on any other portions of the existing CMC-MUA Landfill site by a deed restriction enforceable by the Pinelands Commission. The Pinelands Commission through an amendment to the Pinelands Comprehensive Management Plan (CMP) could make modifications to the area. Cape May County MUA is now requesting an amendment.



Berlin Well

### Berlin Well Update

It is now 23 months since the NJDEP held its February 2002 public hearing to rescind Berlin Borough's water allocation permit for Well No.12. There is still no determination by the NJDEP if the well will be shut down permanently. This is the municipal supply well responsible for almost drying up the stream that flows into Marlton Lakes, Evesham when it is turned on. The New Jersey Geological Survey has been monitoring the stream since January 2001. They estimate that the well will result in a loss of 5.8 million gallons per month of stream flow. They also predict that during summer months the stream will cease to flow as a result of the well. The NJDEP has indicated that a final decision on the fate of the well will be forthcoming shortly.

### NEW EGYPT SCHOOL TEACHERS WIN PSE&G GRANT

Three teachers at New Egypt High School and Middle School have won an environmental education grant from Public Service Electric and Gas Company (PSE&G) and the NJ Business/Industry/Science/Education Consortium (NJ BISEC). PPA's Carleton Montgomery helped PSE&G Public Affairs manager Joe Barton deliver the news to Kathleen Chesmel, Dayna Mennen and Patricia Garces, who had applied for funds to support an innovative project titled *The Health of Our Lake: an Environmental Case Study*. We already knew Dayna Mennen from PPA's Summer Institute for Teachers, which she attended last summer.

The project involves teaching 8th and 9th grade students the methods to study and evaluate the health of a local aquatic ecosystem - in this case, a lake in the center of town. The students will present a report of their findings to the local township government in order to help officials to protect the quality of this ecosystem.

The grant program this year awarded \$16,000 to teachers and schools throughout the state for innovative environmental projects. It's a great program to which we hope more South Jersey teachers will apply. For more information, download an application at [www.PSEG.com/eeegrants](http://www.PSEG.com/eeegrants).



New Egypt School teachers accepting PSE&G environmental education grant



One Book New Jersey has selected John McPhee's venerable classic as their Book of the Year. This means that *The Pine Barrens* will be featured in public libraries throughout the state, the focus of many reading groups, and the source of many educational forums within the schools of New Jersey throughout the upcoming year.

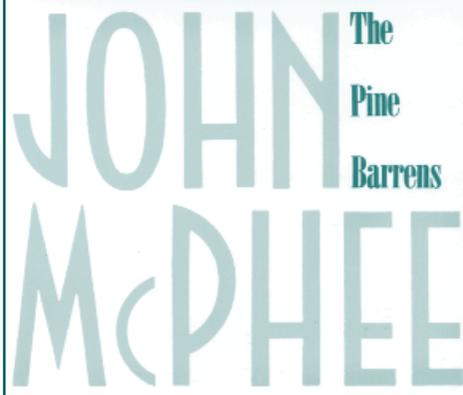
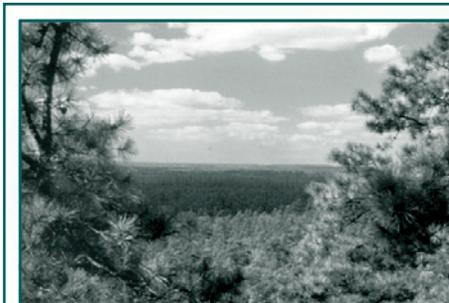
Over the course of the year, *Inside the Pinelands* will be looking at some aspects of McPhee's book that have changed in the 36 years since it was written, as well as highlighting some things that, thanks to the efforts of various organizations and individuals, have remained pretty much the same. Topics will include water, land use, culture, and flora and fauna, among others.

PPA staff members will be making presentations at public libraries across the state in 2004, joining with One Book NJ to foster a statewide discussion of *The Pine Barrens*. We hope to see lots of our members at these events, and encourage them to tell their friends and neighbors to attend.

*Presentations have been scheduled at the following public libraries (check our website for an updated presentation schedule):*

- March 2, West Windsor (Mercer), 7pm
- March 17, Shrewsbury (Monmouth), 7pm
- April 13, Scotch Plains (Union), 7pm
- April 14, Jackson (Ocean), 7pm
- April 21, Point Pleasant Boro (Ocean), 7pm
- April 29, Paramus (Bergen), 7pm
- May 6, Bridgewater (Somerset), 11 am & 7pm
- May 8, Brick (Ocean), 2pm
- May 13, Lawrence (Mercer), 7pm
- May 20, Westampton (Burlington), 7pm

We encourage you to re-read this classic text, or discover it for the first time. You may even decide to form a book discussion group, or you may even decide to get the book for friends or family member as a primer on the Pinelands. Contact PPA for more information on discussion guides and other materials, or to purchase copies of the book. Please call 609 894-8000 or visit our web site for more details.



To order a copy of *The Pine Barrens* by John McPhee, please check out the PPA web site at [www.pinelandsalliance.org](http://www.pinelandsalliance.org) or call 609 894-8000 for further information.

### STAFF NOTES

Pinelands Preservation Alliance is pleased to welcome **Traci Connaughton** on board as our new Director of Development. She brings experience in fundraising and donor development to PPA, and is excited about her new role in helping to protect the Pinelands. She is also looking forward to canoing her first Pinelands river this Spring!

### PINELANDS WATCH: CITIZENS IN ACTION

A growing network of citizens is helping to ensure that development proposals get the kind of scrutiny they ought to get while they are still in the proposal stage. Vigilant, concerned citizens have the opportunity to shape the future of their towns, if they get an early start. We can help. If you monitor development proposals in a Pinelands township, join the **Pinelands Watch** network.

### EARTH DAY CLEANUP

#### Forked River Mountains

April 18, 8:30am

Sponsored by the Forked River Mountain Coalition.

Contact 609 971-1635 to register.

### INSIDE THE PINELANDS

*Published six times a year by the PINELANDS PRESERVATION ALLIANCE*

#### Executive Editor:

Carleton Montgomery

#### Editor:

Mike Hunninghake

#### PPA Staff:

Richard Bizub, Diana Byrd, Debbie Casperson, Traci Connaughton, Russ Juelg, and Theresa Lettman

#### Addressing & Mailing:

PPA Volunteers

#### Distributed to:

PPA members and volunteers, state legislators, Pinelands municipalities, elected officials, planning boards, and selected officials.

Our newsletter is available online at:

**[www.pinelandsalliance.org](http://www.pinelandsalliance.org)**

*Printed on recycled paper (30% post-consumer waste)*

## BOARD OF TRUSTEES

**Hon. Brendan Byrne**  
*Honorary Chair  
Former Governor,  
State of New Jersey*

**Howard P. Boyd**  
*Trustee Emeritus  
Pinelands Author*

**Beryl Robichaud Collins, Ph.D.**  
*Trustee Emeritus  
Pinelands Author*

**David F. Moore**  
*Chair*

**Leon M. Rosenson, Ph.D.**  
*Vice Chair  
Retired, Liposome Company*

**Thomas B. Harvey**  
*Treasurer  
Attorney*

**Timothy J. Byrne**  
*Secretary  
Attorney*

**Robert E. Bruneau**  
*Outdoor Club of South Jersey*

**Charles M. Chapin**  
*Upper Raritan Watershed Association*

**Sara deCelis Little**  
*Attorney*

**Emile DeVito, Ph.D.**  
*New Jersey Conservation Foundation*

**John Dighton, Ph.D.**  
*Director, Rutgers Pinelands Field Station*

**Michael Gallaway**  
*Sierra Club*

**Michael W. Huber**  
*Monmouth Conservation Foundation*

**Janet N. Larson**  
*League of Women Voters of NJ*

**Jennifer R. Lookabaugh**  
*Former Freeholder Director of Cumberland County*

**Kevin Mattingly, Ph.D.**  
*Lawrenceville School*

**Franklin E. Parker**  
*Advisor, Trust for Public Land*

**Richard J. Sullivan**  
*Proprietor, NJ First, Inc.*

**James T. B. Tripp, Esq.**  
*General Counsel,  
Environmental Defense Fund*

**Robert K. Tucker, Ph.D.**  
*Stony Brook-Millstone Watershed Association*

**Gerard Vriens, Ph.D.**  
*Retired Chemical Engineer*

**Nan Hunter Walnut**  
*Pine Barrens Coalition*

**Annette Zimmermann**  
*Pinelands Resident*

**Carleton K. Montgomery**  
*Executive Director, Pinelands Preservation Alliance*

## PINELANDS CALENDAR OF EVENTS

### February & March 2004

**NOTE:** Names, addresses, and phone numbers are provided here for frequently mentioned event sponsors. Please contact the sponsor of the event for full information and details of the event.

Albert Music Hall, 131 Wells Mills Road, (Rt. 532), Waretown. 609-971-1593, www.alberthall.org

The Nature Conservancy (TNC). Pine Barrens Office, 120-34 Whitesbog Road, Browns Mills. 609-735-2200, www.nature.org

Ocean Nature and Conservation Society, Inc. (ONCS). 21 Winding River Drive. Ph: 732 286-1664.

Outdoor Club of South Jersey (OCSJ). For complete lists of backpacking, bicycling, canoeing and hiking activities, call 856-427-7777 or check the web site: www.ocsj.org

Pinelands Preservation Alliance (PPA). 114 Hanover Street, Pemberton. 609-894-8000. www.pinelandsalliance.org. Offers a 10% discount on Pinelands Adventures programs to PPA members.

South Jersey Canoe Club (SJCC). Web: www.geocities.com/southjersycanoeclub. E-mail: southjersycanoeclub@yahoo.com

Whitesbog. All events meet at the Whitesbog General Store. Historic Whitesbog is located at mile marker 13 on Rt. 530, southeast of Browns Mills in Pemberton Township. 609-893-4646, www.whitesbog.org.

Woodford Cedar Run Wildlife Refuge. 4 Sawmill Road, Medford, NJ 08055. 856 983-0326, www.cedarrun.org.

#### Friday, February 13

##### *Jersey Devil Hunt*

We start with an old-fashioned campfire (bring your hot dogs & marshmallows!) We calm our nerves with some good, old-time music. Then, with a little ghostly light from the moon, we search the woods, cautiously, for that most infamous denizen of the Pine Barrens. 7 - 10pm. \$10. PPA.

#### Saturday, February 14

##### *Tundra Swan Tours*

Take a guided tour and see the winter home of the Tundra Swan. 10am and 2pm. \$5. Whitesbog.

#### Wednesday, February 18

##### *Cranberry Ramble*

Meet at Byrne State Park office. Walk around bogs and down to Pakim Pond. 7 - 8 miles. Contact 609 877-7018 for reservations. OCSJ.

#### Saturday, February 21

##### *Basic Wilderness Survival*

In a single day, we'll cover the practical skills needed in a survival situation. The hands-on nature of the course makes it both fun and memorable. By the end of the day, you'll be

able to acquire shelter, water, fire, and food. You'll also have a grasp on land navigation with the compass and USGS topo map. 8am - 5pm. \$35. PPA.

##### *Canoe Egg Harbor River*

Weymouth Forge to Lake Lenape. Meet at Weymouth Forge (just off Rt. 322) at 9am. Call 856 692-5403 or 610 825-6897 to register. SJCC.

*Tundra Swan Tour* (see February 14)

#### Saturday, February 28

##### *Forked River Mountains by Leaps and Bounds*

1 - 4pm. Meet at Wells Mills County Park. To register call 732 286-1664. ONCS.

#### Friday, March 5

##### *Night Hike*

Explore the sand roads and trails of Byrne State Park. Meet at campsites. 6 - 8 miles. Moderate pace. 7pm. OCSJ.

#### Saturday, March 6

##### *5th Annual Pinelands Short Course*

New topics this year include woody plants, biological world of the Pinelands soils, health benefits of cranberries and blueberries, and neotropical songbirds of the Pinelands. Popular topics from years past will include fire ecology, frogs and toads, ghost towns and legends, Pinelands rural-industrial era and the essential Pinelands Overview. Also, Pinelands planning projects: one dealing with smart growth planning in developing areas and another on planning for conservation and land protection for wildlife corridors. Professional Development certificates will be available. Burlington County College (BCC), Pemberton Campus. Sponsored by the Pinelands Commission, BCC and the Pinelands Institute for Natural and Environmental Studies. Contact 609 894-7300 to register.

##### *Moonlight Walk (Crow Moon)*

7pm. An easy walk around the bogs. \$5. Whitesbog.

##### *Canoe Cedar Creek*

Dover Forge to Rt. 9. Meet near Whiting at intersection of Rts. 70 & 539 at 9am. Call 732 286-5116 or 609 259-3734 to register. SJCC.

#### Wednesday, March 17

##### *Paddle the Mullica on St. Patrick's Day*

Look for green signs of spring! From Atsion to Pleasant Mills. Meet at Atsion Ranger Station on Rt.206. 9am. Contact 609 259-3734 for reservations.

#### Friday, March 19

*Jersey Devil Hunt* (see February 19)

#### Saturday, March 20

##### *Navigating the Pinelands*

Practicing both orienteering and dead reckoning, we will traipse through some distinctive Pine Barrens habitats: upland pine/oak forests, intriguing lowlands, mysterious bogs, and magnificent old cedar

swamps. After completing this course, you'll be capable of navigating cross-country anywhere in the Pine Barrens. Nature lore along the way makes the event memorable. 8am-4pm. \$35. PPA.

##### *Songwriter's Show*

The songwriters will present some of their own original music in a live music stage concert of homegrown country, folk, and bluegrass music. Admission: \$5 adults, \$1 children under 12. Doors open 6:30pm, show 7:30 - 11:30pm. Call 609 971-1593. Albert Music Hall.

#### Tuesday, March 23

##### *Gardening with Native Plants*

A discussion about what makes native plants important and why. To register call 732 286-1664. ONCS.

#### Friday, March 26

*Jersey Devil Hunt* (see February 13)

#### Saturday, March 27

##### *Geology of the Pine Barrens*

Car-caravan to four sites in the Pine Barrens to check out the rocks and minerals of the region: bog iron, sands and gravels. Pre-registration required. 9:30am - 3:30pm. Contact 609 735-2200 or rfree@tnc.org. TNC.

#### Saturday, March 27 - Sunday, March 28

##### *Wilderness Survival Overnight*

An excellent test for new skills. Begins on Saturday at 8am, ends on Sunday at 4pm. Build your shelter, purify water, forage for food, make fire, and make a solo trip cross-country with a map and compass. A course for those who really want to gain confidence as survivalists. (Prerequisite: Basic Wilderness Survival) \$35.

#### Upcoming Events

##### Sunday, April 18

##### *Earth Day Clean Up*

The Forked River Mountain Coalition, in cooperation with the Ocean County parks Department and PPA, will conduct a spring cleanup of the area surrounding the Forked River Mountains for Earth Day. 8:30am. Contact 609 971-1635 to pre-register.

#### Fairs & Festivals

##### Saturday, February 7, 8am - 5pm

##### *Cumberland County Raptor Festival*

Mauricetown Firehall, Mauricetown. Stop by the PPA booth and check out our new merchandise.

If your organization is having an activity you would like to see listed contact *Inside the Pinelands*, 114 Hanover Street, Pemberton, NJ 08068; ph: 609-894-8000; e-mail mikedh@pinelandsalliance.org. Next deadline: March 5, 2004.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone (Day): \_\_\_\_\_ (Evening): \_\_\_\_\_

E-Mail: \_\_\_\_\_

Check enclosed payable to PPA

Mastercard

Visa

Discover

Card Number: \_\_\_\_\_ Exp. Date: \_\_\_\_\_

Signature of Card Holder: \_\_\_\_\_

**Membership Categories**

- Basic  \$35
- Friend  \$60
- Sponsor  \$100
- Patron  \$250
- Benefactor  \$500
- Chairman's Circle  \$1,000
- Other  \_\_\_\_\_

*All members receive:*  
A PPA membership card  
A year's subscription to *Inside the Pinelands*  
A PPA window sticker  
Discounts on PPA merchandise and events

**THE PINE BARRENS BY JOHN  
MCPHEE IS ONE BOOK NJ'S  
BOOK OF THE YEAR-SEE PAGE 6**

A Sponsor will receive an *Exploring the Pine Barrens of New Jersey* map  
A Patron will receive a copy of *Exploring the Pine Barrens of New Jersey* book  
A Benefactor will receive a Pinelands Botanical Print by Robin Jess  
A member of the Chairman's Circle will receive a personalized tour of the Pinelands



PINELANDS PRESERVATION ALLIANCE  
114 HANOVER STREET  
PEMBERTON, NJ 08068

ADDRESS SERVICE REQUESTED

Nonprofit Organization  
U.S. Postage  
PAID  
Permit #4  
Pemberton, NJ  
08068

**DO WE HAVE ENOUGH WATER? &  
WINTER IN THE PINELANDS**

