



MONMOUTH COUNTY PARK SYSTEM GREEN HERITAGE

The Newsletter of Monmouth County's Open Space, Parks & Recreation Agency

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A PURPOSEFUL BURN

This past winter, the NJ Forest Fire Service (NJFFS) undertook a series of prescribed burns on Park System property. Often done in late winter when conditions are safest, these fires are planned ahead of time and are carefully controlled, under exacting conditions by highly trained personnel. The primary goal is to eliminate the build-up of undergrowth—

fallen trees, branches, leaves, pine needles and other debris—to lower the risk of future wildfires and protect nearby structures. Low intensity, controlled burns also improve the health of forests and grasslands.



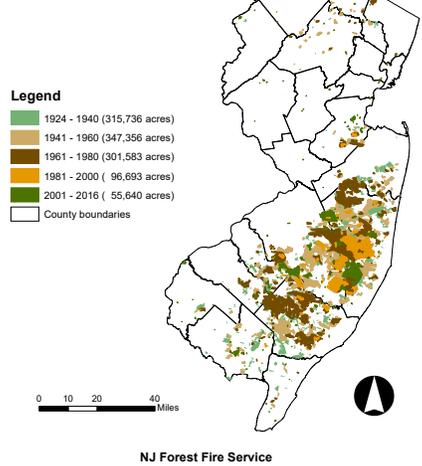
Prescribed burns to prevent future fires were conducted in the forests of Turkey Swamp Park (above) and the fields at Crosswicks Creek Park (right) last winter. The grasses at Crosswicks burned quickly once all the staff were in place, but the forest at Turkey Swamp Park, with all of its downed wood, burned more slowly and took longer.



During the field burn at Crosswicks Creek Park, the Fire Warden used a drip torch to start the fire (inset).



Major NJ Wildfires 1924 - 2016



Most NJ wildfires occur in the heavily forested Pinelands, which reach into the southern boundary of Monmouth County. The NJ Pinelands is a fire-adapted forest that depends on wildfire for reproduction and the control of fuel buildup. It is one of the most hazardous wildland fuel types in the nation—burning extremely hot and spreading rapidly.

A Brief History of Prescribed Burns in NJ¹

- The Native Americans introduced prescribed burns in NJ woodlands to facilitate travel, improve hunting, drive away insects, and increase the supplies of 'browse' (nuts and berries). Research suggests the Lenape Indians may have used this practice for over 1,000 years.
- Early settlers used fires to clear lands for town sites, homes and agriculture.
- During the Industrial Revolution, when large fires used for land clearing got out of control, attitudes began to change. As early as the 1750s, attempts were made to legally restrict the use of fire and to promote fire protection.
- Since the 1920s, cranberry and blueberry growers used prescribed fires to protect property by removing forest fuels from around fields and buildings.
- In 1928, the state began using prescribed burns to protect state forest, with roadside protection strips. The practice expanded to include large blocks of woodland in the 1930s.
- From the 1930s - 1960s, the U.S. Forest Service and other forest professionals researched the practice and effects of prescribed burns. It was introduced as a fire management tool in 1948.

From: NJFFS website at www.state.nj.us/dep/parksandforests/fire/whm-burning.htm

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PLANNING FOR A PRESCRIBED BURN

In New Jersey, only about 15 optimum burning days occur during the burning season.¹ Once a burning day was selected, Park System staff worked with NJFFS to survey our properties and identify target areas. Then we mapped out key features (roads, trails, clearings, etc.) at these sites that could be used as fire breaks. Fire breaks are clearings used to stop fire naturally, rather than dousing it with water—which can create a lot of smoke. Finding natural fire breaks also minimizes the number of fire control trenches the service has to dig (and that park staff would later have to repair and fill in.)

Once the areas were mapped, a formal burn plan was created including pre-burn procedures (to prepare the sites); a public safety plan with smoke management and air quality considerations, signs and postings; and management goal and objectives.



This road near the Deer Trail picnic area at Turkey Swamp Park forms an obvious natural fire break.



Park System staff posted signs around the parks so the public knew what to expect.



THE DAY OF THE FIRE

A five or six person crew from the NJFFS can burn 600-1,000 acres in a day.¹ At Turkey Swamp Park, 37 acres were burned on February 21st (an accidental fire just two weeks later burned an additional 15 acres), and 130 acres were burned at Crosswicks Creek Park, a week later.



NJFFS and Park System staff meet up for a pre-burn meeting at Turkey Swamp Park to go over plans, then head out to the site.



Fire Wardens make sure that fire will not escape the area by constructing a “control line” around the perimeter. This may be done with hand tools to dig down to the dirt, with a bulldozer or tractor-plow to dig trenches, or by extinguishing the fire with water (shown above). The fire is not declared out until 24 hours after the last smoke is extinguished.¹ Depending on wind direction, a fire may also be put out with a back-burn (when a second fire is set to meet the lead fire, the two come together, use up available fuel, and burn out).



Park System staff provided back-up—scouting for residual areas of smoldering fire, such as thick tree stumps and even fence posts.

THE PINELANDS & FOREST FIRES¹

The climate, precipitation and potential seed sources of the Pinelands do not differ so much from other areas of the state or Mid-Atlantic region, but the general character of the soils do, especially along the Outer Coastal Plain. **These soils tend to be sandier, more drought-prone and lower in many plant nutrients. This soil attracts certain plant species,** many of which burn easily and have adapted to fire. Some plants are even dependent on fire for reproduction: to foster new sprouts from fire destroyed branch buds; help release seeds from the heat (and readily germinate on the newly bare, sunny landscape); or to clear their way for growth by killing off competing plants.

ENVIRONMENTAL BENEFITS OF PRESCRIBED BURNS

Fire plays an important role in the natural lifecycle of plant communities and forests. Yet, we've become so good at suppressing fires, the absence of periodic, low intensity natural fires has disrupted some of these cycles and allowed the proliferation of insects and diseases.



Pitch pine forest at Turkey Swamp Park.

“Prescribed burning is an important tool in keeping our forests and other wildlands safe and healthy.”
—Bill Edwards, Chief of the New Jersey Forest Fire Service



This prescribed burn is low intensity and close to the ground with a clear edge (shown during and after the fire).



In contrast, this accidental fire burned hotter and reached higher up the tree trunks with a more irregular edge.

While the primary goal of low intensity prescribed burning is to remove debris and reduce the risk of future fires, there are many secondary benefits:

- Grassland management (clear fields without chemicals/mowing)
- Limit the intensity of future fires; minimize damaging crown fires
- Recycle nutrients in the soil
- Improve wildlife diversity (fires open up habitats and stimulate new herbaceous growth—changes that can attract different species and improve diversity)
- Manage competing vegetation, including control of invasive species
- Removing damaging insects and diseased plants

Reference:

1. Prescribed Burning; Wildfire Hazard Mitigation subsection of the NJ Forest Fire Service website. Available at: <http://www.state.nj.us/dep/parksandforests/fire/whm-burning.htm> Accessed April 17, 2017.

HOW THE SKATEPARK AT SEVEN PRESIDENTS CAME TO BE

In the late 1990s when the County was acquiring another 4 acres of property at the “North End” of Seven Presidents Oceanfront Park, park planners knew the site needed additional parking and a restroom for the northern beaches, but we also wanted to provide a park area that remained free year-round (although there is a parking fee during the summer months from 8 a.m.-4 p.m.). Right around the same time, skateboarding experienced a surge in popularity.



The original Skateplex had an inline skating rink with bleacher seating, restroom building and a pavilion. The surrounding walkways led to the fenced skatepark, with bench seating and water fountains.



Aerial view of the park's north end in 2007, showing the original SkatePlex (light blue oval is the hockey rink; skatepark is in back).

Back to the Beginning

Skateboards (originally roller skates attached to a board) first became popular in beach communities of southern California during the late 1950s - early 60s, as “a way to surf when there were no waves—‘sidewalk surfing.’”¹ When the old-style metal or clay wheels were replaced by urethane in the 1970s, the sport changed radically. Improved traction opened access to new locations (the wheels could now grip concrete). Drained swimming pools in California for example, caused by drought, became a hot skating spot and inspired a range of new maneuvers.

The first public skateparks opened in the mid 1970s in California and Florida, but low attendance and high insurance rates eventually dampened interest...until the 1980s, when skaters began opening their own facilities.¹ Then, ESPN's X-Games aired in 1995 and drew a huge response. Skateboarding took off as a spectator sport everywhere² and soon penetrated popular culture, appearing in commercials and movies and influencing fashion and social trends.



Skaters have always had their own style.

There was a growing need for a skatepark nearby, especially as street skating became more popular and local skaters took to public places like community plazas, schools and businesses, doing their tricks on outdoor stairwells, curbs, benches, ledges and railings, sometimes damaging property in the process.* Other skaters built neighborhood ramps and half-pipes. Combining this need with a prime location near the beach, the idea of a skatepark at Seven Presidents came together.

*The metal leaf appliques on the bench edges at Mount Mitchill Scenic Overlook are a skateboard deterrent.

**A playground was originally included in the design, but was removed to reduce costs and because there were concerns that visitors attracted by the skatepark might be a little too hard on a regular playground. The universal access playground, Tony's Place, was later added in the main park.



SkatePlex Fits “North End” Design

Park planners did a lot of research to investigate how other successful skateparks worked, and decided on a fenced-in design to be closed at night and during inclement weather. They developed this overall concept for the site:

- skatepark + hockey rink=skateplex
- restroom building and attached shelter
- parking lot (with overflow—this is NJ, after all)
- new “North” entrance for the beach
- play structures for North beach**

Aaron Spohn, a California skateboarder who consulted for the first X-Games and later started his own company, was brought on to design the skatepark. He believes that skate parks can be “more than just a solution to a problem, but a way to create a vibrant and architecturally-intriguing community space.” His company, *Spohn Ranch*, designed our first skatepark with a series of modular half pipes, fun boxes, ledges, ramps and so on. The concrete bowl was specially built by *California Skate Parks*.



Drained swimming pools inspired this skatepark feature. The bowl is shown under construction in 2004—the hole is dug out, lined with strong metal mesh then sprayed with concrete. A 2016 skatepark redesign retained this feature.



The bowl then (2006), and now.

The entire “North End” project began in July 2003 and was completed in August 2004 at a cost of \$1.7 million. The end result, particularly the skatepark, was a huge success and skaters came from across the region and neighboring states to check it out.

Re-design Needed Post-Sandy

With heavy use, the original modular equipment took a pounding and the Park System soon began replacing pieces at a cost of \$10-15,000 a year. But it wasn't until Superstorm Sandy in 2012—which wiped out the rink, damaged the property, and made us consider how to fortify our shoreline structures—that park staff decided to construct a resilient new concrete skatepark.



The street-style design of the new skatepark—a concrete plaza with plenty of railings, ledges and stairs fits the urban location of this busy beachfront park.

When Jason Baldesarri, the Director of Skatepark Development for *Spohn Ranch*, learned of these plans he offered his design services for free. Jason was a local skater from Long Branch, now living in California, who had honed his own skills at the Seven Presidents skatepark. He formed a core design team with then Seven Presidents Senior Park Manager Matt Coleman (also a skater) and Supervising Planner Joe Sardonia. Together they helped design a new, concrete street course.



This new wave feature clearly speaks to the oceanfront location.

Construction began in August 2015 and the new skatepark reopened in December 2015 at a cost of \$420,000. Here's an interesting note: some of the local skaters did not want the skatepark rebuilt, fearing it would attract even more people. A poster we put up announcing the improvements was ripped down. But they were right! The rebuilt skatepark is incredibly popular—skaters are there every day that it is possible to skate, and the park is all over social media. Before opening, a professional skate team from *Lockdown Skateboards* held a photo session while they tested the park, participated in our annual SK8 Jam event and attended the official grand opening.

1. The History of Skateboarding. Scholastic Teacher Activity Guide. Available at: <http://teacher.scholastic.com/scholasticnews/indepth/Skateboarding/articles/index.asp?article=history&topic=0>. Accessed April 10, 2017. <https://en.wikipedia.org/wiki/Skateboarding> 2. <http://www.skateboarding-magazine.com/the-evolution-of-skateboarding-a-history-from-sidewalk-surfing-to-superstardom/>

Deep Cut Gardens

Home Gardener

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ALL ABOUT THE ALL-AMERICA GARDEN

Deep Cut Gardens Staff

With the endless variety of flowers and vegetables on the market, and new ones being developed each year, how does a gardener ever choose the ideal plants? You can start with a visit to the All-America Selections (AAS) Display Garden at Deep Cut Gardens. There are nearly 200 AAS Display Gardens throughout North America, but only two such gardens in NJ.

Each year Deep Cut receives—for free—an expert selection of flower, vegetable and herb seeds that have been field tested, evaluated, and approved by garden professionals across the U.S. through the AAS program. “These plants are the best of the best,” says Donna Baginski, a horticulturalist with Deep Cut Gardens for over 20 years.

The seeds arrive in February, and staffers plant them in the greenhouse to propagate. Depending on the species, they are transplanted into the official AAS Display Garden (the fenced area next to the Horticultural Center) sometime in May after the last frost. By summer, these award-winning plants are available for viewing, touching and smelling.

The All America Garden features raised beds and enclosed mesh fencing to deter ground-hogs and rabbits.



AAS Garden Guardians, Horticulturalists Donna Baginsky and Beverly DeFelice (top left) with friends through the years.

What Does it Take to Become an All-America Selection?

Since 1932, the AAS has been identifying new award-winning plants at trial sites within the U.S. and Canada. Today, professional horticulturalists at over 80 sites judge plants for significantly improved qualities such as:

- earliness to bloom or harvest
- disease or pest tolerance
- novel colors or flavors
- novel flower forms
- total yield
- length of flowering or harvest
- overall performance

Over the last ten years, an entry needs to have at least two significantly improved qualities to be considered for an AAS Award.



AAS Garden “Novelties:” Check out these unusually colored peppers in purple and black.

The Origins of AAS

Back in the 1920s and 30s, the “Garden Club” movement was in its infancy and was hungry for material according to the AAS. Yet consumer magazine editors knew little about new garden varieties and had few resources to obtain reliable information. As a result, W. Ray Hastings, president of the Southern Seedsmen’s Association of Atlanta, GA, proposed the idea of the AAS as a way for home gardeners to learn which new varieties are truly improved. To do so, Hastings recommended a national network of trial grounds throughout North American climates where flower and vegetable varieties would be grown and assessed by skilled, impartial judges. The trials would accept only new, previously unsold varieties.

Deep Cut's involvement with the AAS began back in 1990. "When I first started working at Deep Cut we were participating in AAS, but it was nothing fancy," says Baginski. "In the old days, we had to use bird netting to keep the deer out, but today we have the deer fence." As Deep Cut's octagonal shaped raised beds were built, the garden became more of an aesthetic endeavor. "It was a lot of fun, laying it out and building it," she said.



All America varieties waiting to be planted.

The staff may also order additional seeds from AAS besides what is given for free to round out the garden. Then, with lists in hand, they decide exactly where to place each plant. "But it's free flowing, and we're flexible," says Baginski "especially with the new varieties where we don't know the exact color that will develop. Sometimes our mistakes turn out to be the most beautiful—we'll look at it later and say, 'What a good job we did!'"



The early years of the Deep Cut AAS Garden.



Zinnia Zowie



Zinnia Profusion



Geranium Brocade 'Cherry Night'



Juliet Tomatoes



Sandy Lettuce



Pretty-N-Sweet Peppers

Top Plant Picks from Previous Years

With nearly three decades of AAS participation, Deep Cut has worked with a staggering variety of AAS plants. While not necessarily native, the selections are non-GMO. Here are a few standouts from staffers:

Flowers

- **Zinnia Zowie:** Loved it. A great flower for butterflies, they were all over. It's taller. Unique bi-color of orange and yellow.
- **Zinnia Profusion Cherry:** A beautiful dark pink color. It doesn't get mildew and it blooms and blooms with no deadheading.
- **Geranium Brocade 'Cherry Night':** Beautiful. Bronze leaves with green borders.

Vegetables

- **Juliet Tomatoes:** A cross between a grape tomato and a plum. Very prolific with really good pest resistance. And amazing taste.
- **Sandy Lettuce:** A soft, oak leaf type lettuce with sweet tasting frilly dark green leaves.
- **Pretty-N-Sweet Peppers:** It turns red and has a really nice taste. An ornamental that CAN be eaten and tastes great.

Of course, given personal preferences, not all selections become favorites at Deep Cut. "There was a tomato called

'Candyland Red' that had a million teeny-weenie tomatoes. We were not fans of that variety," says Baginski. Hansel (purple) and Gretel (white) eggplants, while bred for a less bitter flavor, had an unpleasant taste to some. On the other hand, sometimes plants that come from another place—not the AAS list—become top staff picks, like 'Dreadlock Amaranthus' and 'Picasso Petunia.'

What to Expect in the 2017 AAS Garden

In addition to favorites from past years, 2017 winners include: Okra Candle Fire, Fennel Antares, Pole Beans Seychelles and two new varieties each of tomatoes, watermelon and peppers; Celosia Asian Garden, Dianthus Supra Pink, Zinnia Profusion Red, Verbena Endurascape™ Pink Bicolor, two types of vinca, three types of geraniums, and two varieties of impatiens.



By late July, the garden is at its peak, an explosion of bright colors.

To learn more about AAS winners (including photos and key attributes), visit <http://all-americaelections.org/winners>.

IN CASE YOU MISSED THE 2017 PHOTO EXHIBIT

Here's a selection of entries from the themed exhibit, *A Different Perspective*. Photographers were asked to take a fresh look at the features of Deep Cut Gardens, and here's what they came up with:



Martin Bluhm—Mystery Path



Carol Corwin—Not What It Seems



Marguerite Portagallo—Bluebird in Flight



Rob Fischer—The Dutch Wave



Pamela Lowry—Shelter



Vince Matulewich—Milkweed



Laurie Neyhart—Autumn Splendor 2



Joseph Prusky—Residents of the All America's Garden



Barbara Withers—Curled Leaf_1



Laura Weberlist—Back to the Top



Donna Turner—Edgy



Judith Soden—Light and Shadow

Plan to enter our 2018 exhibition—next year's theme is **From the Ordinary to the Extraordinary**. Open to photographers age 18 and up. Entries will be accepted from October 1 to November 30, 2017 for exhibition in January 2018. Rules and entry form available on the Deep Cut Gardens page of our website www.MonmouthCountyParks.com

DEEP CUT SUMMER EVENTS

DAYLILY DAY AT DEEP CUT GARDENS

Saturday, June 24 from 10 a.m.-2 p.m.

The Garden State Daylily Growers will present Daylily Day at Deep Cut Gardens. There will be daylily displays, sales, lectures and experts on hand to answer your questions. Come enjoy the day!

Admission and parking are free.

BONSAI DAY

Sunday, September 10, 12-4 p.m.

The Deep Cut Bonsai Society and Deep Cut Gardens invite you to enjoy the bonsai experience. See demonstrations and exhibits, talk to the experts, visit our Jane Scott bonsai collection.

Free Admission/Free Parking.

IT'S TIME TO....

July ✓



- Relax and enjoy your garden.
- Join us for a twilight garden tour of Deep Cut Gardens: Wednesdays, June 28, July 19, and August 23 from 7-8:30 p.m. Pre-registration required.
- Check plants for signs of insect damage or infestation. Use Integrated Pest Management (IPM) methods for dealing with problems. Need help? Visit our Horticultural Library or ask our staff.
- Apply or replenish mulch to conserve water and suppress weeds.
- Deadhead through the summer to keep garden looking tidy and encourage repeat bloom; stop pinching chrysanthemums by mid-July.
- After bloom has finished, dig and divide irises, lily of the valley, Oriental poppies and bleeding hearts.
- Pick produce to keep vegetable gardens abundant, make sure plants have one inch of water weekly.
- Start perennials from seed now for planting in the nursery bed in the fall.
- Feed annuals but avoid applying fertilizer to any plants when the temperature is above 85° degrees.
- Make sure compost pile is moist like a wrung-out sponge. Add water when necessary.



Kids camps run all summer.

August ✓

- Continue deadheading, unless you intend to collect the seed or leave some for wildlife.
- Fertilize late summer and fall flowers such as chrysanthemums.
- Sow late crops of lettuce, kale, spinach, Chinese cabbage, and turnips.
- Keep tomatoes well watered and fertilized during this heavy production period.



Talk about tomatoes with our garden staff.

September ✓

- Fertilize lawns late this month. Now is a good time to reseed or renovate (aerate and add top seed).
- Divide and transplant peonies after Labor Day.
- Continue to harvest eggplant, tomatoes, peppers and beans regularly for greater yield.
- Plant cool-weather crops such as radishes, spinach, lettuce, kale and cabbage. If started early, you may get in a crop of peas, too.
- Plant evergreen and hardy shrubs. Mulch and water well.
- Daffodils, crocus and iris can be planted this month.
- Tulips have to be planted later when soil temps are around 60°F or before the first frost.
- Deep Cut's Fall Perennial Plant Swap is September 23!
- Bring houseplants indoors. Thanksgiving and Christmas cactus may be left out until just before the first frost.
- Plant chrysanthemums and pansies for fall color.



Meet fellow gardeners at the Plant Swap.

JERSEY SHORE ROSE SOCIETY 45TH ANNUAL ROSE SHOW

Saturday, September 16

See the many varieties of our national flower. Watch as roses are prepared for exhibition (8-10 a.m.); entries will remain on exhibit for the public after judging is complete at 12:30 p.m. Don't forget to cast your vote for the arrangement you feel should receive the *People's Choice Award*. Free Admission/Free Parking/Free Garden Tours

THE GREAT FALL PERENNIAL PLANT SWAP

Saturday, September 23

Plant Intake: 8:30-10 a.m.; Exchange: 10 a.m.-12 p.m. It's the gardening event of the season! It's fun – free – easy! Bring your plants in 1-quart, 1-gallon or 2-gallon containers and trade them in for different plants of the same size. Houseplants may also be exchanged, but no annuals. Please label all plants. Call 732-671-6050 for more information.

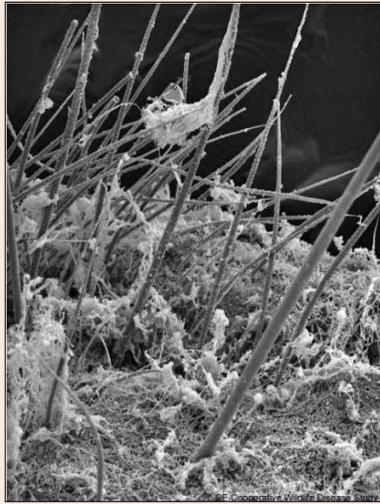
A DECADE OF WHITE-NOSE SYNDROME IN OUR BATS

Erika Bozza, Chief Park Naturalist

White-nose Syndrome (WNS) is a fungal disease responsible for killing millions of beneficial, insect-eating bats in the U.S. and Canada over the past decade. Some sites have reported a 90-100% mortality rate.

The causative agent for this disease is a previously unknown fungus, *Pseudogymnoascus destructans* (formerly *Geomyces destructans*), that grows on the skin tissue of hibernating bats.¹ Researchers named this devastating threat White-nose Syndrome because the white muzzles of those affected are easily spotted in hibernating bats (see image).

Bats infected with WNS don't always have conspicuous fungus; some have been observed displaying abnormal behavior such as flying outside during the day in winter or clustering near the entrance of winter roost sites. Researchers believe that growth of *P. destructans* disrupts hibernation, causing infected bats to deplete their winter fat reserves before the warmer temperatures of spring and their insect prey emerge.²



Now we know: Electron microscopy image of *P. destructans*, the fungus that causes WNS.

WNS IN NORTH AMERICA & NJ

WNS was initially discovered in NY state, but quickly spread and is now infecting bats in 30 states and five Canadian provinces. Since its discovery in North America, 13 European bat species have also tested positive, but no mass casualties have been reported. Researchers believe *P. destructans* was accidentally transported here by humans on clothing or equipment previously worn or used in Eurasia. Currently, the primary mode of transmission in North America is from bat to bat and bat to cave.²

WNS has been diagnosed on seven insect-eating bat species, including these six species native to NJ:

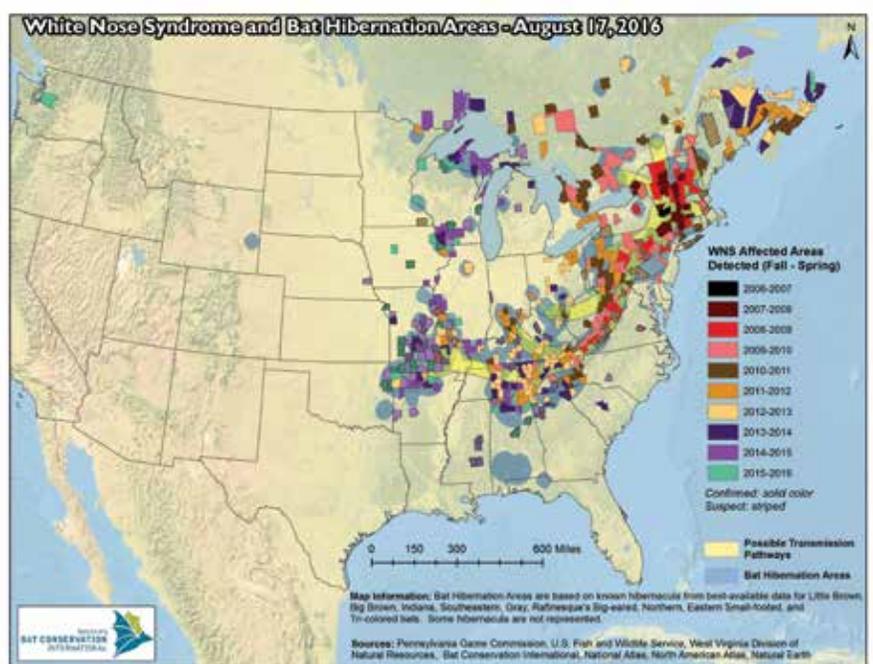
- Little brown bat (*Myotis lucifugus*)
- Big brown bat (*Eptesicus fuscus*)
- Northern long-eared bat (*Myotis septentrionalis*), ***threatened***
- Eastern small-footed myotis (*Myotis leibii*)
- Tri-colored bat (*Perimyotis subflavus*)
- Indiana bat (*Myotis sodalis*), ***endangered***



Little brown bat with fungus on muzzle. Photo by Al Hicks, NY Dept of Environ. Conservation.

Two additional NJ species, the Eastern red bat (*Lasiurus borealis*) and the Silver-haired bat (*Lasiurus noctivagans*) are carriers of the *P. destructans* fungus, but have had no diagnostic symptoms or casualties attributed to WNS. This leaves the Hoary bat (*Lasiurus cinereus*) as the sole native bat species not known to be a carrier or victim of the fungus that causes WNS.

In February 2006, a caver exploring Howe's Cave near Albany, NY photographed a bat with a strange white powder on its nose and observed several dead bats. The next winter, similar conditions were found in neighboring caves. By January 2009, WNS was discovered in NJ in our largest bat hibernacula, the Hibernia Mine in Rockaway Township. In 2016, genetic analysis of the fungus found on a dead bat in Washington state caused researchers to believe the disease was there too.²



There is currently no known cure for WNS and recent wild-life surveys are indicating 80% declines in bat populations of the northeastern U.S.³ The impact of WNS is unprecedented and the full ecological consequences are still unknown. The microscopic fungal spores of *P. destructans* thrive and can persist for years in the cooler temperatures and high humidity environments that are so attractive to bats when selecting their hibernacula.

“This is a time of extreme stress for bats. But we now know that even the hardest hit species are surviving in small fragments of the original populations and those populations, we hope, will be resistant to WNS.”⁴

**– Merlin Tuttle, Founder & President Emeritus
Bat Conservation International**

WNS IN MONMOUTH COUNTY

Due to steep population declines directly related to WNS, the Northern long-eared bat, a species native to Monmouth County, was listed in 2015 as threatened with extinction and placed under protections of the Endangered Species Act.⁵

Bats play a vital role in maintaining the health and balance of the eco-systems in which they live. Affected bat species are important consumers of night flying insects, many of which are agricultural and forest pests. Recent economic analysis indicates that bat foraging provides billions of dollars in services to U.S. agriculture per year.³

Unlike other small mammals, bats tend to live long lives (5-15 years on average) and reproduce very slowly; many produce only one offspring each year. As the only flying mammal, they have a unique niche in our environment. Bat fossils have been found dating back more than 50 million years (Eocene period), proving they can adapt to changes in their environment over time. So, while it is unlikely that they will recover quickly, if we can help protect the remaining population there is hope that our North American bats can recover.



Bat Fossil, *Icaronycteris index*, Green River Formation, Wyoming, Eocene. From the Royal Ontario Museum.



A wildlife pathologist from the National Wildlife Health Center performs a necropsy on a dead bat to determine the cause of death.

WHAT CAN YOU DO?

(1) Learn More & Spread the Word

- Stay current with updates from a trusted source. The U.S. Fish & Wildlife Service has partnered with other agencies to provide information at www.whitenosesyndrome.org.
- Bats are fascinating and play an important role in our environment. Help provide some positive press to this often maligned creature.
- Attend a Monmouth County Park System program or invite a Park Naturalist to come speak to your school, community or scout group.

(2) Protect Bat Habitat & Provide Shelter

Bats need a mature forest with both live and dead trees to raise their young in summer. You can help on your own property by allowing dead trees to remain standing that will not cause harm to people or property when they eventually fall, and by supporting state and local Open Space initiatives.



Provided with the right location, many bat species will raise their young in bat houses. Help your local bats by building or buying your own bat house. Free plans are available from Bat Conservation International at www.batcon.org/resources/getting-involved/bat-houses/build.

Eagle Scout candidate, Joe Pranci installed a bat house at Thompson Park, Lincroft with his troop last spring.



(3) Participate in the Summer Bat Count

New Jersey's Summer Bat Count Program was created in 2003 as a joint effort between the NJ Division of Fish & Wildlife's Endangered and Nongame Species Program (ENSP) and the non-profit Conserve Wildlife Foundation of New Jersey. Participating is easy and fun! If you know of an active bat roost, or would like to find out more information about how to get involved, please contact Wildlife Ecologist Stephanie Feigin at stephanie.feigin@conservewildlifenj.org or 609-984-6012 for more information. Then pick a nice evening (preferably four in total), pull up a camp chair, and relax as you watch the sun set and bats emerge from their daytime roost as they begin their nighttime forage for food.

References:

1. U.S. Fish & Wildlife Service. "White-Nose Syndrome: The devastating disease of hibernating bats in North America, May 2016." www.whitenosesyndrome.org/sites/default/files/resource/white-nose_fact_sheet_5-2016_2.pdf
2. Bat Conservation International. "A Deadly Disease." www.batcon.org/our-work/regions/contact-bci/usa-canada/white-nose-syndrome. Accessed 1 April 2017.
3. USGS National Wildlife Health Center. "White-Nose Syndrome (WNS)." www.nwhc.usgs.gov/disease_information/white-nose_syndrome. Accessed 1 April 2017.
4. "Battle For Bats: Surviving White Nose Syndrome." Vimeo, USDA Forest Service, uploaded by Ravenswood Media, 11 October 2013, vimeo.com/76705033.
5. Also, U.S. Fish & Wildlife Service, Environmental Conservation Online System. "Species Profile for Northern long-eared Bat (*Myotis septentrionalis*)." ecos.fws.gov/ecp0/profile/speciesProfile?spcode=A0JE. Accessed 1 April 2017.



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