The Southern Pine Beetle

WAR IN THE WOODS!

Credit: Erich Vallery, US Forest Service

MINI MONSTER: The Southern Pine Beetle now threatens the Long Island Pine Barrens.

The invasion has begun. A threat bigger than the worst storm, the biggest fire and the most intrusive development, looms large over the Long Island Pine Barrens and other regional forests. It’s the introduction of the Southern Pine Beetle into Long Island’s premier ecosystem.

Forestry experts agree that the three millimeter-long insects (smaller than a grain of rice) cannot ever be eradicated and that only an unending war to control their spread will prevent the loss of the native Pitch Pines that dominate New York’s third State Forest Preserve. The primary strategy for controlling the insects is to cut down affected trees and, in some cases, those near them. Other tactics include prescribed fire and use of pheromones to contain and destroy the beetles.

Anecdotally reported for several years, the outbreak became a matter of concern last autumn when large swaths of pine forests across Long Island were killed by the tiny insect. Not considered an “invasive species,” because the beetle is native to the United States but has expanded its range due to global warming, the Southern Pine Beetle has destroyed more than 30,000 acres of the New Jersey Pinelands — a one million acre pine barrens forest.

Federal, state, county and town forestry experts are working to mount a defense against the tiny, but voracious insects, which can destroy a 50-foot tall pitch pine in as little as two months. A detailed description of the beetle and its capacity to kill appears in “The Thicket” on page two.

Experts agree that a management plan to try to control the infestation will cost millions of dollars and last indefinitely. Pine Barrens Society Executive Director, Richard Amper said, “This is a war without an end — containment is the only option.”

Twin Wins For Drinking Water Protection!

Court Decision and Ballot Proposition End Raids on Suffolk Fund

The Long Island Pine Barrens Society has scored twin wins in the battle to ensure funding under Suffolk County’s Drinking Water Protection Program. The Society won in both the court and in the court of public opinion.

On November 5, by a 2 to 1 margin, voters approved Proposal 5 – a measure that requires Suffolk County to halt all use of money earmarked by voters for land and water protection, requires repayment of funds borrowed for other purposes and establishes a timetable for the repayment of these funds. It also ensures that the program, begun in 1987, cannot be altered except by Mandatory Referendum.

The court said further that the law “…requires approval by a public referendum in order to amend or repeal the DWPP in the future.”

The Society is now filing papers to require the return of the $30 million, pilfered from the water protection fund. The court decision and ballot proposition are huge victories for both our environment and good government.”
Southern Pine Beetle Invades Long Island Pine Barrens

by Robert Marsh
Natural Resource Supervisor, New York State Department of Environmental Conservation

Southern Pine Beetle (SPB), Dendroctonus frontalis Zimmermann, is native to the southern United States and is the most destructive insect pest of pine trees in that part of the country, causing tens of millions of dollars in damage annually. The beetle, which is smaller than a grain of rice, feeds on the living tissue under the tree’s bark called the phloem. The adult beetles and the larvae create winding S-shaped galleries through the phloem which girdles the tree and typically kills it. The beetles also carry two different species of fungi, which deplete a tree’s resin and its defenses. The female beetles release an aggregation pheromone (frontalin) which leaves a trail for other beetles to follow and attack the same tree.

While it is native to the southern United States, SPB has recently been expanding its range northeast due, in part, to climate change. In 2001 a SPB outbreak was detected in the New Jersey Pine Barrens and by 2014, over 30,000 acres of pine trees had been lost. In 2010 alone, New Jersey lost 14,000 acres to SPB. The large increase in SPB beetle numbers in 2010 was caused by a combination of a warm winter, resulting in low beetle mortality, followed by a drought during the growing season. Trees are more vulnerable to attack when stressed by drought, extreme temperatures, high density stands, or other parasites.

SPB was detected for the first time on Long Island in October, 2014. It has since been confirmed in multiple locations from East Hills in Nassau County to Napeague in East Hampton. The worst outbreaks include Connetquot State Park in Islip, Wertheim National Wildlife Refuge in Brookhaven, and Henry’s Hollow State Forest/Mumms Pond County Park in Southampton. SPB is known to attack all species of pine trees, spruce trees, and hemlock. Spruce trees, hemlocks, and white pines are somewhat resistant to the beetle but still suffer significant mortality. Pitch pine is a preferred host of SPB and has low resistance to attack. Long Island’s Pine Barrens, an area of over 100,000 acres, is co-dominated or dominated by pitch pine, putting it at a high risk of suffering significant outbreaks and tree mortality. The beetles prefer trees that are at least 5 in diameter, so it is unknown if rare ecosystems like the dwarf pine plains may also be at risk.

Developing and implementing a landscape level SPB management plan is critical to dealing with this challenging forest health issue that occurs over a heterogeneous landscape that includes both forested and urban environments. As the SPB response involves a number of different landowners and government agencies, an Incident Command System (ICS) team has been put together that includes representatives from Federal, State, County, and Town agencies as well as NGOs and Universities. The ICS structure allows multiple agencies to respond to an incident using a common hierarchy and coordinated effort.

The SPB management plan is comprised of several key components. First, there is an intensive monitoring effort including: aerial surveillance, ground trapping of potential infestations, pheromone trapping, weather data, and forest inventories, all of which help document the location of current infestations and vulnerability of uninfested stands. Second, sites are prioritized based on the level of infestation, ecological value, proximity to uninfested forest, and recreational value. A third, a treatment methodology is determined for select sites which may include suppression (cutting of infested trees) or stand level prevention through silvicultural thinning (which reduces stress on remaining trees helping them fend off beetle attacks). It is important to note that the focus of suppression efforts are on infested trees which have a near 100% mortality rate (in pitch pine) once successfully colonized.

Unfortunately, once SPB has become established in a region, it has proved impossible to completely eradicate it through man-made means. A 1939 outbreak in New Jersey died out due to extremely cold winter temperatures. Recent surveys of infested trees here on Long Island showed that this winter’s low temperatures caused significant SPB mortality, but did not completely eliminate the pest. The hope is that this winter’s die-off will at least help agencies get ahead of some of the outbreaks. SPB is likely here to stay in the Long Island Pine Barrens and will be a major forestry management issue for years to come.

$5 Million for Water Quality

Albany lawmakers approved $5 million in the 2015 state budget to begin efforts to improve water quality by reducing nitrogen and other contaminants in Long Island’s drinking and surface water. The initiative, led by New York State Senator Ken LaValle, and State Assemblies Steve Englebright and Fred Thiele, was backed by Long Island’s Senate and Assembly delegations. The budget item will provide funds through the Long Island Regional Planning Council and the New York State Department of Environmental Conservation aimed at accelerating development of an Island-wide nitrogen management and mitigation plan. Nitrogen from sewage and fertilizers, as well as pesticides and other contaminants are contaminating Long Island’s underground water supplies, threatening public health, the environment and the economy of Long Island.

Water We Going To Do?

The Long Island Clean Water Partnership, co-founded by the Pine Barrens Society, held its fourth annual water quality improvement conference at the UPSKY Long Island Hotel in Hauppauge, May 14. Nearly 150 Long Island leaders attended to assess the state of efforts to reverse declining ground-water quality.

In addition to sum-marizing the past year’s accomplishments, the meeting presented a 12-point "Action Plan" aimed at controlling wastewater at centralized sewage treat-ment facilities and creating mechanisms and funding to help individual residents and septic systems while controlling pesticides and provid-ing for safe disposal of unused pharmaceutical drugs.

Attendees learned about recent progress on wastewater management on Cape Cod, which like Long Island, has a federally-designated Source-Selective Acquifer. Another topic was the Partnership’s efforts to create a "208 Update," named after a federally-funded but locally-created water quality protection study dating to 1975. Pine Barrens Society President Alan Singer, said, "The original 208 Study identified Long Island’s water quality challenge. Now, it’s time to apply those lessons to today’s groundwater quality crisis." An article on the “208 Update” appears on page three.
208 Update
Iconic Water Study Can Lead to Improved Water Quality
by Alan Singer

By now, most Long Islanders know that the quality of Long Island’s drinking water and surface water is in perilous decline. We know that this is because of increasing nitrogen from wastewater entering our groundwater and from fertilizers, pesticides and toxic chemicals. The result: water purveyors are finding it more difficult to locate pure water sources and filtration to assure clean drinking water is getting more and more expensive. Add to this, frequent algae blooms in coastal waters, threatening marine life and water quality.

Much of what we know about the nation’s first federally-designated Sole Source Aquifer is not new. In 1978, The United States Environmental Protection Agency funded the Long Island Comprehensive Waste Treatment Management Plan, pursuant to Section 208 of the Federal Water Pollution Control Act (the Clean Water Act). The “208 Study” was conducted by the Long Island Regional Planning Board under the direction of its Chairman, Dr. Lee Koppelman.

The “208 Study” identified eight “Special Groundwater Protection Areas” – the land that sits above the area where rainwater recharges the Island’s underground aquifers with the purest water. The plan recommended limiting human activity, including real estate development above the “deep flow” recharge areas and led to the enactment of the Sole Source Aquifer Protection Act, state legislation known as Environmental Conservation Law 55. Alas, the legislation was mostly advisory. Nevertheless, the plan was created with the input of federal, state and regional technical experts along with a citizen advisory committee – people who were dedicated and motivated to address water quality.

The effort received significant public support and led to innovative regulations and practices including the closing of landfills, efforts to control stormwater run-off and regulation of hazardous material storage and disposal.

In 1993, the increased awareness of the need to protect groundwater resulted in the passage of the Pine Barrens Protection Act, which barred development on some 50,000 acres of Pine Barrens, above the source of the cleanest water in New York State. Limited development was permitted on another 50,000 acres. Long Island voters have authorized at referenda the expenditure of more than two billion dollars to preserve open space above the Island’s purest groundwater supplies, more money than the residents of 45 of the 50 states. Long Island voters have authorized at referenda the expenditure of more than two billion dollars to preserve open space above the Island’s purest groundwater supplies, more money than the residents of 45 of the 50 states.

In the face of increased awareness of the decline in Long Island’s water quality, Long Islanders are supporting the efforts of the Long Island Clean Water Partnership, led by the Pine Barrens Society, along with Citizens Campaign for the Environment, Group for the East End and The Nature Conservancy. The Partnership is calling for an update of the 208 plan, backed by the development of criteria for managing wastewater, developing improved technologies and making the capital investment necessary to reduce the amount of nitrogen and other contaminants entering our groundwater.

When the Society was developing the Pine Barrens Act, we consulted with the Cape Cod Commission, because Cape Cod is hydrogeologically similar to Long Island. Today, the Cape Cod Commission is updating its 208 Plan, involving active stakeholder participation in a process to establish wastewater discharge criteria on a sub-watershed basis.

We need to do the same. Until we halt the process of thoughtlessly discharging our wastewater into our groundwater on which both drinking and surface water depend, we will continue contamination of the water on which we all depend.

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WATER PROTECTION LEADERS HONORED
37th Awards Gala Celebrates “The Wonder of Water”

HONORED: Nassau County Executive Ed Mangano and Suffolk County Executive Steve Bellone

OUTSTANDING VENUE: Oheka Castle was built in 1919 by financier and patron of the arts Otto Hermann Kahn who commissioned celebrated architects Delano and Aldrich to design a home and venue for hosting lavish dinner parties.

Long Island’s two county executives and a leading scientist in efforts to restore water quality on Long Island were honored at Oheka Castle in Huntington. Suffolk County Executive Steve Bellone and Nassau County Executive Ed Mangano were praised for prioritizing water quality improvement among their administrations’ top objectives. And Stony Brook University Professor, Dr. Christopher Gobler was honored for his scientific work documenting and seeking solutions for declining groundwater quality.

Event chairs included Ross Ain of Caithness Long Island, Dr. Nancy Douzinas of the Rauch Foundation, Gary Melius of Oheka Castle and Michael Pascucci of Sebonack Holding Corporation. Honorary Chairman was actor and Long Island environmentalist, Alec Baldwin.

The Society’s 38th Anniversary Environmental Awards Gala is set for October 21 at Oheka.
WE WIN – HE LOSES:
The Pine Barrens Society has won its lawsuit against discredited former Suffolk County Executive Steve Levy’s raid on the Drinking Water Protection Program. (Story on page one). Here, PBS Executive Director Richard Amper spars with Levy on News 12 Long Island. We’re good — he’s bad.

The Pine Barrens Society’s television program airs on Cablevision Channel 20 in the following areas. If your region is not listed here, please call our office at 631-369-3300 to find out how you can help us get it aired on your local Cablevision network. The program can also be viewed on the Society’s web site, www.pinebarrens.org by selecting TV Show on the home page. The air times below are effective from October 1, 2014 through September 30, 2015:

**Town of East Hampton**
- Wednesday 6:30 pm
- Thursday 9:30 pm
- Friday 3:30 pm

**Towns of Brookhaven, Smithtown, and portions of Islip**
- Tuesday 6:30 pm
- Thursday 7:30 am
- Saturday 11:00 am

**Towns of Riverhead, Southold and Southampton**
- Monday 6:00 pm
- Monday 7:00 pm
- Wednesday 8:00 pm

**Towns of Babylon, Huntington, portions of Islip, and all of Nassau County**
- Monday 8:00 pm (Channel 115)
- Monday 9:00 pm
- Tuesday 7:00 pm (Channel 115)

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