



Southern Pine Beetle in the Northeast: Research and Management Forum

Brookhaven National Laboratory, Berkner Hall - Upton, NY

March 8, 2017

- 8:00 a.m. **Registration & Coffee**
- 8:30 a.m. **Welcome**
- 8:45 a.m. **The Distribution and Biology of Southern Pine Beetle (SPB) in the Northeastern U.S.** Kevin J. Dodds, PhD, Entomologist, U.S. Forest Service, Northeastern Area State and Private Forestry - Durham, NH (30 min)
- 9:15 a.m. **Fascinating Rhythm: Exploring the Rise and Fall of SPB Populations.** Fred M. Stephen, PhD, University Professor of Forest Entomology, University of Arkansas, Department of Entomology - Fayetteville, AR (45 Min)
- 10:00 a.m. **Break and Refreshments**
- 10:15 a.m. ***Now Cut That Out*: SPB Suppression Methods and Considerations.** Stephen R. Clarke, PhD, Forest Entomologist, U.S. Forest Service, Forest Health Protection, Region 8 State and Private Forestry, Lufkin, TX (45 min)
- 11:00 p.m. **Southern Pine Beetle Prevention Practices.** John T. Nowak, PhD, Entomologist and Southern Pine Beetle Prevention and Restoration Coordinator, U.S. Forest Service, Forest Health Protection, Region 8 State and Private Forestry- Asheville, NC (45 min)
- 11: 45 p.m. **Lunch** (*on your own - cafeteria on-site*)
- 12: 45 p.m. **Range Expansion of Southern Pine Beetle in the Northeast.** Carissa Aoki, PhD, Postdoctoral Associate, Dartmouth College - Hanover, NH (30 Min)

- 1:15 p.m. **A Working Forester's Experience with SPB in Southern New Jersey: Detection, Prevention, and Suppression on Private Forest Lands within the Pinelands National Reserve.** Bob Williams, Certified Forester and President, Pine Creek Forestry, LLC. - Laurel Springs, NJ (30 min)
- 1:45 p.m. **New York State Department of Environmental Conservation Southern Pine Beetle Response, Management, and Research.** Robert Cole, Forester and SPB Response Incident Commander, New York State Department of Environmental Conservation, Division of Lands and Forests - Forest Health - Albany, NY (45 min)
- 2:30 p.m. **Evaluating the Impacts of Southern Pine Beetle on Pitch Pine Forest Dynamics in a Newly Invaded Region.** Molly Heuss, M.S. Candidate, Rubenstein School of Environment and Natural Resources, The University of Vermont - Burlington, VT(30 Min)
- 3:00 p.m. **Break and Refreshments**
- 3:15 p.m. **U.S. Forest Service Research on Southern Pine Beetle: *Seeking Long-Term Solutions.*** Brian T. Sullivan, PhD, Research Entomologist, U.S. Forest Service, Southern Research Station - Pineville, LA (45 min)
- 4:00 p.m. **A Panel Discussion: Implementing Southern SPB Research Findings and Management Strategies in the Northeast: *The Opportunities, Challenges and Research Needs.*** Moderator: Michael Bohne, Forest Health Group Leader, U.S. Forest Service, Northeastern Area State and Private Forestry - Durham, NH (60 min)
- 5:00 p.m. **Wrap - Up**



Southern Pine Beetle Behavior, Research and Management Field Session:
March 9, 2017

The field session will highlight the impact of the SPB as well as the varied monitoring and management activities being conducted in response to the SPB outbreak within the Central Pine Barrens region.

(Please note: Limited Seats Available - Reservation is required and occurs on a first come, first served basis).

- 9:00 a.m. **Meet and Board Bus.** Southaven County Park, Victory Ave. - Brookhaven, NY (30 min.)
- 9:45 a.m. **Signs and Symptoms of Active SPB Infestation, Monitoring, Research, and Suppression.** Hubbard and Sears Bellows County Parks - Hampton Bays, NY (Tour 1.75 hr)
 New York State Department of Environmental Conservation Forest Health Program Staff
- 11:30 a.m. **Lunch on Bus** (30 min.)
 (Please bring your own lunch. Coolers and refreshments will be provided)
- 12:00 p.m. **Suppression, Forest Health Thinning and Restoration.** Wertheim National Wildlife Refuge - Shirley, NY. Monica Williams, Biologist, U.S. Fish and Wildlife Service; Jordan Raphael, Park Biologist, National Park Service; Kevin Dodds, Entomologist, U.S. Forest Service (Tours 1.75 hr./ 15 min travel time)
- 2:00 p.m. **Thinning and Prescribed Fire for Improved Forest Health and SPB Resilience: A Demonstration Study.** Rocky Point Pine Barrens State Forest, 560 Whiskey Road - Ridge, NY.
 John Wernet, Region 1 Forester, New York State Department of Environmental Conservation;
 Kevin Dodds, Entomologist, U.S. Forest Service (1.25 hr tour)
- 3:30 p.m. **Return to Southaven County Park, Victory Ave.** - Brookhaven, NY (15 min travel time)

Speaker Abstract and Biographies:

The Distribution and Biology of Southern Pine Beetle (SPB) in the Northeastern U.S.

Kevin J. Dodds, PhD, Entomologist, U.S. Forest Service, Northeastern Area State and Private Forestry - Durham, NH

Fascinating Rhythm: Exploring the Rise and Fall of SPB Populations. Fred M. Stephen, PhD, University Professor of Forest Entomology, University of Arkansas, Department of Entomology - Fayetteville, AR

Now Cut That Out: SPB Suppression Methods and Considerations.

Stephen R. Clarke, PhD, Forest Entomologist, U.S. Forest Service, Forest Health Protection, Region 8 State and Private Forestry, Lufkin, TX

Abstract: Quick and effective suppression of expanding southern pine beetle (SPB) infestations can greatly reduce tree mortality. Current suppression methods all involve tree-felling. Application techniques for cut-and-remove and cut-and-leave, the two most common suppression methods, will be described, as well as the pros and cons of both tactics. Cut-and-hand spray, pile-and-burn, and other suppression techniques will also be discussed. Seasonal and regional differences affect the choice and design of SPB suppression methods and must be considered prior to implementation.

Bio: Dr. Clarke holds a Master's degree in forest entomology from University of Arkansas and a Ph.D. in forest entomology from University of Georgia. Dr. Clarke has over 30 years of experience in forest entomology, including 26 years working with southern pine beetle as a forest entomologist extraordinaire with Forest Health Protection of the USDA Forest Service.

Southern Pine Beetle Prevention Practices. John T. Nowak, PhD, Entomologist and Southern Pine Beetle Prevention and Restoration Coordinator, U.S. Forest Service, Forest Health Protection, Region 8 State and Private Forestry- Asheville, NC

Since 2003, the Southern Pine Beetle Prevention Program (SPBPP) has encouraged and provided cost-share assistance for silvicultural treatments to reduce stand/forest susceptibility to the southern pine beetle (SPB) (*Dendroctonus frontalis* Zimmermann) in the southeastern U.S. Until now, stand and landscape-level tests of this program's efficacy were nonexistent. In 2012, SPB outbreaks occurred in the Homochitto and Bienville National Forests (NFs) in Mississippi. Parts of each NF were treated (thinned) using SPBPP management recommendations, while other areas were untreated (unthinned). In the Homochitto NF, 99.7% of SPB spots occurred in unthinned stands, while all SPB spots occurred in unthinned stands in the Bienville NF. Unthinned stands in both NFs had higher basal area, higher stocking, and lower growth rates over the last decade. Burning also resulted in a lower incidence of SPB infestation. Our retrospective study results validate the effectiveness of SPBPP treatments for reducing stand and landscape level susceptibility to SPB, which encourages proper silvicultural methods that increase tree spacing, growth and vitality, while effectively altering the in-stand atmosphere enough to interfere with SPB pheromone communication, thus reducing susceptibility to SPB spot initiation and spread.

Dr. Nowak received his Bachelor of Science degree in Forestry from the University of Florida in 1994 and continued on with his higher education receiving a M.S. and Ph.D. in Entomology from the University of Georgia

in 1997 and 2001, respectively. Since 2001, Dr. Nowak has worked for the USDA Forest Service, serving as the Program Manager for the Southern Pine Beetle Prevention and Restoration Program for the last 13 years.

Range Expansion of Southern Pine Beetle in the Northeast. Carissa Aoki, PhD, Postdoctoral Associate, Dartmouth College - Hanover, NH (30 Min)

Abstract:

“A Working Forester’s Experience with SPB in Southern New Jersey: Detection, Prevention, and Suppression on Private Forest Lands within The Pinelands National Reserve” Bob Williams, Certified Forester and President, Pine Creek Forestry LLC. - Laurel Springs, NJ

In 2001 southern pine beetle (SPB) was discovered for the first time by Bob Williams, certified forester, in southern New Jersey. By 2010, SPB had begun to kill massive areas of pineland pine overstory resulting in the loss of more than 40,000 acres of pine overstory by 2016. This presentation will depict one forester's effort to initiate forest management actions to help suppress, prevent and stop SPB infestation throughout southern New Jersey. This effort included coordination with state, federal programs to assist private land owners. Issues of poor timber markets as well as the ecological results of mature pine overstory loss in Pinelands forest types will be discussed.

Bio:

Mr. Williams is a professional forester and owner of Pine Creek Forestry, LLC,; a forestry consulting firm in southern New Jersey. Bob has forty years' experience in forest management and is responsible for over 135,000 acres of forest lands in southern New Jersey. In particular, Mr. Williams specializes in ecological management of pine and Atlantic white cedar including the use of fire.

New York State Department of Environmental Conservation Southern Pine Beetle Response, Management, and Research.

Robert Cole, Forester and SPB Program Incident Commander, New York State Department of Environmental Conservation, Division of Lands and Forests, Forest Health Program - Albany, NY

Evaluating the Impacts of Southern Pine Beetle on Pitch Pine Forest Dynamics in a Newly Invaded Region. Molly Heuss, M.S. Candidate, Rubenstein School of Environment and Natural Resources, The University of Vermont - Burlington, VT

Southern pine beetle (SPB), a native insect that has historically affected pine ecosystems in the southeastern U.S., has recently expanded northward causing extensive tree mortality in pitch pine and pitch pine-oak forests across much of eastern Long Island, NY. Given the historic lack of SPB within these ecosystems, little is known regarding its potential impacts on forest ecosystem structure and function. This study examined the immediate effects of SPB-induced tree mortality on the structure and composition of pitch pine and pitch pine-oak communities to inform management recommendations and projections of future forest conditions. Results to be discussed include: (1) impacts of mortality and SPB management activities on regeneration abundance and composition as well as levels of downed fuels, (2) the interactive effects of deer browse and SPB on regeneration response in these areas, and (3) projected forest development and fire hazard conditions assessed through integration of vegetation and fuels data with the USFS Forest Vegetation Simulator (FVS) and associated Fire and Fuels Extension (FFE-FVS).

Ms. Heuss received a B.S. in Wildlife Ecology and Management from the University of New Hampshire before

working for the state of New Hampshire as the Emerald Ash Borer Program Coordinator. She is currently a Masters student at the University of Vermont studying Forestry through the lense of a cooperative study with the US Forest Service seeking to understand the silvicultural impacts of southern pine beetle on Long Island.

Brian Sullivan, PhD., Research Entomologist, U.S. Forest Service, Southern Research Station - Pineville, LA

Michael Bohne, Forest Health Group Leader, U.S. Forest Service, Northeastern Area State and Private Forestry - Durham, NH

New York State Department of Environmental Conservation Forest Health Program Staff

Monica Williams, Biologist, U.S. Fish and Wildlife Service:

Jordan Raphael, Park Biologist, Natural Resource Management, National Park Service - Patchogue, NY
Jordan Raphael is the Park Biologist at Fire Island National Seashore and has been working for the National Park Service for over 10 years. Jordan has a B.S. and an M.S. in biology both with concentrations in plant ecology. Jordan is involved in many biological monitoring and management programs at the park spanning from deer to ticks but his true passion is plant ecology.

John Wernet, Region 1 Forester, New York Department of Environmental Conservation
John Wernet is the Regional Forester for the Long Island Region of the Department of Environmental Conservation, overseeing approximately 17,000 acres of state land with responsibility for the protection and management of state lands and forests.

After graduating, he spent a stint being a lumberjack for a traveling show and has performed all over the country and once in Bermuda. Realizing that lifestyle was not sustainable and missing the allure of the forest he became a contract forester for the United States Forest Service working all over the country, responsible for the adherence and implementation of government contracts including tree inventory and stand delineation, and the administration of timber sales through silvicultural processes. Prior to his current position, he worked for a lumber company upstate that worked with landowners to complete land management goals such as enhance wildlife habitat, and inheritance planning. He holds an A.A.S. in Forest Technology from the State University of New York College of Environmental Science and Forestry Ranger School campus, and a B.S. in Forest and Natural Resource Management from the State University of New York College of Environmental Science Main Campus. Mr. Wernet grew up in the Syracuse area and currently lives in Port Jefferson.

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