Science and Program Highlights

Studying the impacts of prescribed fire on forest pollinator communities

To better understand how prescribed fire affects pollinators in southern pine forests, SRS-4552 entomologists Michael Ulyshen and Scott Horn are working with collaborators at Piedmont National Wildlife Refuge (central Georgia) and UGA (including entomology PhD student Conor Fair) to investigate how the abundance and richness of bees and butterflies change with distance into burned stands. Colored pan traps were established every 50 m along 500 m transects into burn blocks to determine whether pollinator numbers change with distance from unburned habitats. The second year of sampling was completed this year and Conor (see figure) presented some preliminary findings at the International Congress of Entomology for which he was awarded first place in the student competition. The findings from this study will provide important insights into how burn size may affect pollinator communities. For more information, please contact Michael Ulyshen (mulyshen@fs.fed.us).

Laurel wilt disease transmitted by non-native beetle found in Arkansas

Laurel wilt is a lethal disease of many plants including avocado, redbay, and sassafras. The disease is caused by a fungus carried by an exotic ambrosia beetle that was introduced into the U.S. by 2002. Laurel wilt has spread rapidly across the southeastern states causing extensive mortality, primarily in redbay. In December 2015, Rabiu Olatinwo and Stephen Fraedrich (SRS 4552) and cooperators Chandler Barton (Arkansas Forestry Commission), Wood Johnson and Jaesoon Hwang (FHP Region 8) identified and confirmed the first report of laurel wilt on sassafras in Arkansas, following mortality of several sassafras trees in Bradley County near Warren, Arkansas.
Laurel wilt disease (continued)

This discovery of laurel wilt in Arkansas, as recently published in the journal Plant Disease, further documents the northward spread of the disease in forest types with sassafras that are beyond the native range of redbay as observed in other states. Although laurel wilt was reported on sassafras in northern Louisiana about 134 km southwest of the site in Arkansas several months earlier, the new discovery in Arkansas represents another major “jump” in the distribution of the disease. Laurel wilt continues to spread in areas where redbay is absent.

For more information, please contact Rabiu Olatinwo at rolatinwo@fs.fed.us.

Federal noxious weed prevention survey now in its second season

Economic and environmental consequences of non-native invasive plants continues to rise, especially in the Southern region, which is home to a large number of seaports. In an effort to prevent the introduction of new species and additional propagules of already established invasive plants, SRS 4552 established a multi-agency project to quantify and estimate propagule pressure on incoming shipping containers associated with agricultural commodities entering the country. This project at the Port of Savannah includes cooperators at Arkansas State University (ASU) and Columbus State University (CSU) to identify and voucher collections, as well as develop DNA barcodes for these cryptic hitchhikers.

We recently welcomed two new cooperators to the project through ASU: **Dr. Chelsea Cunard** is our Post-doctoral Research Associate, developing mathematical probabilities based on the data generated thus far, and **Jarron Gravesande**, an enrolled University of Georgia undergraduate pursuing a B.S. in Biological Sciences, is assisting with quantification and germination trials. We anticipate completion of baseline field surveys in early 2017 along with the associated DNA barcodes. We continue to work closely with US Customs and Border Protection (DHS) and the Georgia Ports Authority, in efforts to develop effective preventative measures of Federal Noxious Weeds and to intercept other potential non-native invaders into Southern forestlands. For more information please contact Rima Lucardi (rlucardi@fs.fed.us).
Forest Service and Smokey Bear charm kids and adults at the International Congress of Entomology “Insect Expo”

The 25th International Congress of Entomology (ICE) was recently held in Orlando, Florida, with over 6,000 participants from around the world. As part of the convention, various organizations gathered together to present an Insect Expo to over 2,000 area children in Orlando. SRS 4552 hosted an interactive “Forest’s Most Wanted” booth which incorporated popular live insects, such as Madagascar hissing cockroaches and bess beetles, and photos and pinned insects of the emerald ash borer, redbay ambrosia beetle, southern pine beetle, Asian longhorned beetle, and many more forest pests. Insect and leaf stencils provided a fun hands-on activity for the participants. Smokey Bear high-fived and fist-bumped his way through the crowds, meeting many international scientists and local elementary students. Many thanks to the volunteers who assisted with the Forest Service station: Stacy Blomquist (SRS/Kisatchie National Forest), Bobbe Fitzgibbon (retired FHP), Richard Reardon (FHP), Vanessa Lopez (FHP), and several graduate student volunteers.

Some of the the “Insect Expo” Forest Service Team at ICE, from left to right: Angie Beltran (University of Florida), Matthew Thorn (Mississippi State University), Bobbe Fitzgibbon (FHP), Richard Reardon (FHP), Matan Shelomi (Max Planck Institute, Germany), and Riley Lovejoy (University of Alabama).

Bobbe Fitzgibbon shares information with participants at the ICE Insect Expo.
Symposium on “Arthropods and Decomposition” at ICE 2016

Together with Dr. Jen Pechal at Michigan State University, Michael Ulyshen (SRS-4552) co-organized a symposium on “Arthropods and Decomposition” at the International Congress of Entomology in September. Fifteen speakers from six countries participated and discussed the role of arthropods in the decomposition of a wide range of substrates (including plant and animal remains) in both terrestrial and aquatic systems. For his presentation, Ulyshen summarized his work on “Patterns and implications of insect-accelerated wood loss in southeastern U.S. forests”. For more information, please contact Michael Ulyshen (mulyshen@fs.fed.us)

In The News

Goodbye to Sue Moore and DeColar Terrell

SRS-4552 extends our warm goodbye to Sue Moore and DeColar Terrell, who have been working for the unit on administrative contracts since 2011. They will be dearly missed!

Sue Moore started her career in December 1978 as the receptionist with Kisatchie NF, working also in the “typing pool” (can’t you just hear the young folks saying, “where..?”). She left the FS briefly in 1981 to attend Delta Junior College Diesel Academy in Greenville, MS and worked as cross-country truck driver until returning to the Kisatchie in late 1982. She worked for Southern Research Station 1984 – 1997 and as Forest Supervisor’s Secretary 1997 – 2007. She then got a promotion to Recreation taking inventory at recreation sites and inputting INFRA data. The Forest Service offered an early-out retirement in 2011 and she took the offer with 32 years of service. In September 2012, Sue was hired on a contract as a part-time administrative assistant and she felt like she was home again, having worked many years ago in the unit as secretary. The timing now is perfect for her departure since full retirement took effect this past July. Sue says many thanks to everyone for making her work in 4552 so enjoyable!

DeColar Terrell began her career with the USDA Forest Service on September 1, 1974. She remained in the same unit, SRS 4552 Insects, Diseases and Invasive Plants until her retirement January 5, 2013. During this tenure, there were eight Project Leaders – Harry Powers, George Kuhlman, Paula Spaine, Kerry Britton, James Hanula, Kier Klepzig, Doug Street and Bud Mayfield. DeColar returned to the Unit part-time under contract in April 2013 and plans to end this tenure December 9, 2016. She says it has been a great success and a wonderful journey.
Technology Transfer

Publications (in print/press):


Submitted Publications (in review):

Presentations and Lectures:


16. Salom, Scott, Kenton L. Sumper, Ariel Heminger, Molly N. Darr, Albert E. Mayfield, Jerome F. Grant, Joseph S. Elkinton, Thomas McAvoy, Andy Roberts. What do want to hear first: the good news or the bad news about


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USDA Forest Service

Forest Health Protection, Southern Region:
http://www.fs.usda.gov/main/r8/forest-grasslandhealth

Southern Research Station

RWU 4552: Insects, Diseases and Invasive Plants of Southern Forests: