

Upland Hardwood Silviculture & Habitat Workshop

Bent Creek Experimental Forest
June 23-25, 2015

Agenda & Topic Objectives

We have a great selection of topics and speakers. Each speaker is noted for their expertise of the subject matter. Please see "About the Speakers" in the back of this agenda for more information on each speaker. Below is the agenda for the week with a short description of each session. A laptop is required for the modeling exercise on Thursday. Field trips are planned for Tuesday and Wednesday. Please be prepared for field work (rain or shine) each day. Hotel and meals are on your own each day. 18.5 SAF CFE CAT-1 CF awarded for this workshop.

Tuesday, June 23

7:30 Doors open

8:00-8:10 Welcome, Logistic, Safety Briefing

8:10-9:00 Environmental Gradients, Forest Composition, and Forest Site Classification
Henry McNab, Research Forester
USDA Forest Service, Bent Creek Experimental Forest

Mr. McNab will give an overview of characteristic tree and shrub vegetative communities that are associated with elevation, topography and soil in the Southern Appalachian Mountains and the effects of disturbance on changes in species composition.

9:00-9:30 Site Classification Exercise
Henry McNab, Research Forester
USDA Forest Service, Bent Creek Experimental Forest

Course participants will understand the importance of site classification in forest management and walk to a range of sites that demonstrate basic underlying properties that affect site quality and species composition.

9:30-9:45 Break

9:45-10:30 Natural Disturbance and Early Successional Habitats
Dr. Cathryn Greenberg, Research Ecologist
USDA Forest Service, Bent Creek Experimental Forest



Caring for the Land and Serving People

Dr. Greenberg will give an overview of the various causes of stand disturbances in the Southern Appalachians. Course participants will learn how both natural and human-caused disturbances have shaped landscape composition over the past 300 years and create early successional habitats.

10:30-12:00 Elements of Wildlife Habitat

*Dean Simon, Mountain Region Wildlife Biologist/Forester
NC Wildlife Resources Commission*

Course participants will learn how to use silviculture to create wildlife habitat. Habitat issues will be addressed.

12:00-1:00 *Lunch on your own*

1:00-2:00 Fire Ecology

*Dr. Tom Waldrop, Research Forester
USDA Forest Service, Southern Research Station, Clemson, SC*

Dr. Waldrop will discuss a long-term study of prescribed fire and mechanical fuel reduction in the Southern Appalachian Mountains and relate its results to sustainability and reaching restoration goals.

2:00-2:15 Break

Load vehicles for field tour/safety JHA

2:15-5:00 Field Trip on Bent Creek Experimental Forest Service

This field trip will take participants outside to view and discuss topic that will reinforce the morning lectures. The trip will show current research findings on the following topics: early successional forests created by disturbances; wildlife habitat, fire on the landscape, and nonnative invasive plants. **Dr. Bud Mayfield** will join the field trip to discuss forest insects and diseases.

5:30 Return to training center & Adjourn

Wednesday, June 24

8:00-9:00 Regeneration Ecology

*Dr. Tara Keyser, Research Forester
USDA Forest Service, Bent Creek Experimental Forest*

Dr. Keyser will discuss ecological concepts that can provide an understanding of the process of hardwood regeneration in the Southern Appalachians. Concepts will include Initial Floristics and Vital Attributes of Species as bases for understanding the regeneration process, using familiar species to illustrate important differences in the regeneration strategies of the many species that occur in our upland hardwood forests.

9:00-9:15 Break

9:15-11:00 Managing Low Quality Stands

*Dr. Jeff Stringer, Research Silviculturist/Extension Professor
University of Kentucky, Lexington, KY*

Dr. Stringer will discuss the management of stands which have been cut over, or high-graded, to the extent that they no longer meet management objectives. He will present real-life examples in which intermediate stand treatments and regeneration harvests were used to manage the depleted stand.



11:00-11:15 Break

11:15-12:15 Artificial Regeneration & Restoration of American chestnut

*Stacy Clark, PhD, Research Forester,
USDA Forest Service, Southern Research Station, Knoxville, TN*

Dr. Clark will discuss the state of the art in artificial regeneration methods for oak and chestnut species. The talk will focus on methods to obtain high-quality seedlings for planting. She will discuss response of seedlings to different silvicultural treatments, drought, and deer browse. Course participants will learn about the latest research in the genetics, nursery stock and applied silviculture aimed at American chestnut restoration.

12:15-1:15 Lunch on your own

1:30-5:00 Field Trip on Bent Creek Experimental Forest

- **Low Quality Stand Management**
- **Silviculture Treatments**
- **American Chestnut**

Dr. Stringer will lead a field exercise in which course participants will develop a silvicultural prescription for a low quality stand. Students will evaluate whether an intermediate stand treatment is suitable or a regeneration harvest is needed to meet management objectives.

Group will continue with a field trip on the forest where scientists will discuss key ecological concepts in the management of Southern Appalachian Hardwood Forests through past and ongoing research and demonstration areas on the Bent Creek Experimental Forest. Course participants will gain a full appreciation of the various regeneration harvest methods and associated reforestation issues.

5:00 Return to Bent Creek Training Center – Adjourn

Thursday, June 25

8:00-9:00 REGEN Model

*Tara Keyser, PhD, Research Forester,
USDA Forest Service, Southern Research Station, Bent Creek Experimental Forest*

Dr. Keyser will demonstrate how a multi-species regeneration model can be used to evaluate hardwood regeneration potential and how this model can be readily adapted to the local conditions found by course participants. **Participants will need to bring a laptop for this exercise and will have a short field exercise.**

9:00-9:15 Break

9:15-10:00 Bats: new federal regulations

*Dr. Susan Loeb, Research Ecologist
USDA Forest Service, Southern Research Station, Clemson, SC*

With the imminent federal listing of the northern long-eared bat, managers will need to be aware of the new regulations and how to manage habitat for bats, including the currently listed Indiana bat. Dr. Loeb will discuss the need for listing, bat habitat requirements, the impact of new regulations, and beneficial forest management practices for bats.

10:00-10:15 Break



10:15-11:15 Non-timber Forest Products

*Dr. Jim Chamberlain, Research Forest Products Technologist
USDA Forest Service, Southern Research Station, Blacksburg, VA*

Dr. Chamberlain will present the latest information on non-timber forest products in southern United States. He will discuss the various products found in the south and the markets that the products support. Jim will present the finding of the national assessment on NTFPs relative to the southern region. He will discuss methods to monitor, track and value NTFPs at the state and regional level, and by market segment. By the end of the hour, participants will have a better understanding of the products and their value to the people of southern United States, and the need to integrate NTFPs into forest management.

11:15-11:30 Break (heavy snacks)**11:30-12:30 Forest Estate Planning**

*Dr. John Greene, Research Forester (retired),
Dr. Greg Frey, Research Forester
USDA Forest Service, Southern Research Station, Raleigh, NC*

Dr. Greene will introduce forest estate planning options for landowners. Dr. Frey will assist Dr. Greene.

12:30-1:00 Evaluations/Certificates/Adjourn

About the Speakers

The course instructors are experts in his or her field. Below is a biography on each instructor listed in order of appearance.

Tara Keyser

Tara is a Research Forester with the USDA Forest Service, Southern Research Station, Bent Creek Experimental Forest. Tara holds a BS in forestry from the University of Wisconsin-Madison, and a MS and PhD from Colorado State University. She has worked for the USDA Forest Service since 2007. Her research focuses primarily on the (1) the regeneration ecology of upland hardwood forests in the southern Appalachians; (2) quantifying climate-growth relations for dominant hardwood tree species in the southeastern US; and (3) the effects of prescribed fire on forest structure and composition.

Henry McNab

Henry McNab has been a research forester with the Southern Research Station of the U.S. Forest Service for over 40 years. He has worked at research offices in Florida, Georgia, and South Carolina. Since 1983 he has been assigned to the Upland Hardwood Ecology & Management Unit located at the Bent Creek Experimental Forest, near Asheville. His current research assignment deals with forest site classification for timber production and ecological purposes.

Katie Greenberg

Cathryn (Katie) H. Greenberg is a Research Ecologist with the Upland Hardwood Ecology and Management Research Work Unit, Southern Research Station, U.S. Department of Agriculture (USDA) Forest Service. Katie received a BA degree in philosophy from George Washington University, a MS degree from the University of Tennessee, and a PhD from the University of Florida. Her research focus includes (1) effects of forest management practices (such as timber harvesting, fuel reduction practices, and prescribed fire) and natural disturbances (such as wind damage) on plant and animal communities, and (2) production of forest food resources, such as native fleshy fruit and hard mast, in relation to forest types and silvicultural disturbances.

Dean Simon

Dean Simon is a Certified Wildlife Biologist, Registered Forester, and a Certified Prescribed Burner and was recognized as Wildlife Biologist of the Year by the North Carolina Wildlife Resources Commission in 2007 and received the Management Excellence Award by the Southeastern Section of the Wildlife Society in 2008 for work with prescribed burning, fire management, and fire ecology research in the Southern Appalachian Mountains. Dean brings a wealth of knowledge on wildlife habitat working with the NC Wildlife Resources Commission for the past 30 years as a Regional Wildlife Biologist and Forester in the mountains of Western North Carolina. Dean received a Bachelor's Degree in Forestry from Louisiana State University and a Master's Degree studying fire ecology and wildlife at the University of Georgia.

Tom Waldrop

Tom Waldrop is Team Leader for Fire Science with the Southern Research Station's Center for Forest Disturbance Science. He has been located at Clemson, SC since 1987. Tom holds BS and MS degrees in Forest Management from Clemson University and a Ph.D. in Ecology from the University of Tennessee. His research focuses on many aspects of fire ecology in the Piedmont and Appalachian Region. He is the founder of the Consortium of Appalachian Fire Managers and Scientists which fosters communication and science delivery between fire managers and scientists from Pennsylvania to Alabama.

Albert "Bud" Mayfield

Dr. Mayfield, is a Research Entomologist with the USDA Forest Service, Southern Research Station located in Asheville, NC. Bud's main research focus is on the biology, ecology, and integrated pest management of invasive insects and insect-pathogen complexes of the southern U.S., including the hemlock woolly adelgid, walnut twig beetle/thousand cankers disease and redbay ambrosia beetle/laurel wilt disease.



He has a Ph.D. from the State University of New York, College of Environmental Science and Forestry (SUNY-ESF), in Environmental and Forest Biology. A Master of Forestry from West Virginia University and BA in Biology from Yale University.

Jeff Stringer

Jeff is an Extension Professor and Research Scientist with the University of Kentucky, Department of Forestry. His research includes applied aspects of oak silviculture and forestry operations. His silviculture work focuses on the enhancement of oak growth and regeneration including oak shelterwood, two-age system development, site preparation for natural regeneration, and crop-tree release. His research in forestry operations includes forestry Best Management Practices use and herbicide applications. He is a nationally recognized extension specialist in hardwood silviculture and timber harvesting. He excels at integrating practical, scientific information for production foresters. His energetic presentations and practical hands-on field exercises engage students.

Stacy Clark

Stacy has been a Research Forester with the Southern Research Station since 2005 and is stationed in Knoxville, Tennessee on the University of Tennessee campus. She studies artificial regeneration of hardwoods, primarily oak and American chestnut. She also has research projects on prescribed burning and fuel dynamics, and several tree-ring studies to examine forest history and stand dynamics. She obtained her PhD from Oklahoma State University in Plant Science, and her M.S. and B.S. in Forest Resource Management from the University of Tennessee.

Susan Loeb

Susan Loeb is a Research Ecologist with the Upland Hardwood Ecology and Management Research Work Unit, USFS, Southern Research Station. She holds a B.A. in Human Biology from Stanford University and a M.S. and Ph.D. in Ecology from University of California, Davis. Susan has been with the Southern Research Station since 1988 and is stationed in Clemson, SC. She studies the ecology and conservation of forest bats and her research focuses on three areas: 1) ecology and conservation of endangered and sensitive species, 2) the effects of forest management and other disturbances on bat habitat use and populations, and 3) methods to effectively monitor bat distributions and relative abundance.

Jim Chamberlain

Jim is a research scientist with the USDA Forest Service, Southern Research Station located in Blacksburg, VA. Jim is currently managing and building a regional program on rural development opportunities with non-timber forest resources and products. His particular interests are the social and economic market dynamics that affect how non-timber forest products are incorporated into forest management. He has active research on selected products including ramps, galax and black cohosh, as well as a project to define, describe and evaluate the non-timber forest products industry in the southeast. Jim has focused his professional attention for the last 28 years on forestry, forest management, forest products and natural resource issues. Much of his career has focused on rural development forestry; finding ways rural communities can better incorporate forest plants into their landscapes. Prior to pursuing his doctorate, Jim was President of an international non-governmental organization that promoted the use of multi-purpose trees for agroforestry in developing countries. His particular focus was South and Southeast Asia; he worked with farmers, researchers, and other stakeholders in Thailand, Philippines, Bangladesh, Laos, China, Indonesia, India and Nepal. Associate Degree (forest Management), Paul Smith's College, BA(Wood Products Engineering) SUNY; Master of Forestry, Yale; Master of Economics, Virginia Tech; PhD, Virginia Tech.

John Greene

Dr. John Greene is a Research Forester (retired) with the USDA Forest Service, Southern Research Station. Dr. Greene has spent his career helping landowners understand tax laws and incentives for promoting sustainability forestry.

Greg Frey

Dr. Gregory Frey is a Research Forester at the USDA Forest Service. His work involves evaluating the impacts of forest policy, regulation, and taxes. After serving in the US Peace Corps in Paraguay, Greg Frey returned to North Carolina to receive his PhD at NC State University (Raleigh) in forest economics, studying the feasibility and profitability of timber investments and agroforestry systems. Dr. Frey has worked the World Bank, helping countries fight deforestation, and at Virginia State University, teaching about resource management and sustainable income streams. He is married with a 5-year-old daughter.

