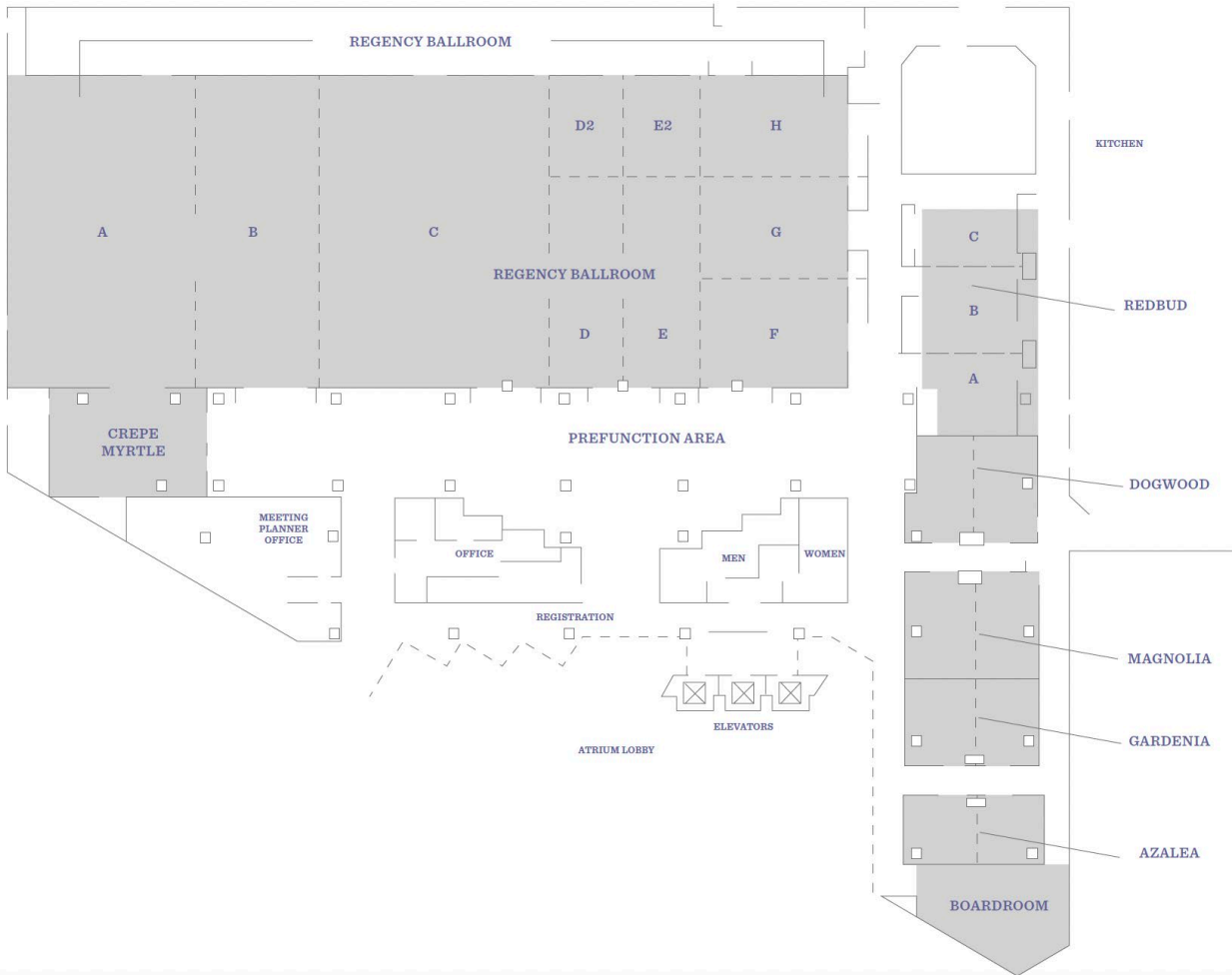


23rd Biennial Southern Silvicultural Research Conference
Conference Venue: Hyatt Regency Greenville
 220 North Main Street, Greenville, SC 29601



Monday, March 17, 2025

5:00 – 9:00 pm
5:00 – 9:00 pm

Registration — Meeting Planning Office
Poster set-up — Regency AB

23rd Biennial Southern Silvicultural Research Conference Program

Tuesday, March 18, 2025

7:00 – 8:00 am **Continental Breakfast – Outside Ballroom**

8:00 am – 8:00 pm **Poster Visitation – Regency AB**

Welcome Session

Regency C

8:00 – 9:30 am

Welcome and Plenary Session speakers:

Geoff Wang, Co-chair, 23rd Biennial Southern Silvicultural Research Conference

Bob Jones, Executive VP and Provost, Clemson University (CU)

Tom Patton, Deputy State Forester, SC Forestry Commission

Kyle Barrett, Interim Chair, Dept. Forestry and Environmental Conservation, CU

Brian Oswald, Co-chair, 23rd Biennial Southern Silvicultural Research Conference

9:30 – 10:00 am

Break – Outside Ballroom

Concurrent Session 1

Regency C

Management 1: Waqar Shafqat (moderator)

10:00 – 10:30 am* Status and ecological impacts of draft animal logging in the southeastern United States. L. Hales, J. Hart

10:30 – 11:00 am* Do successional dynamics of deadwood indicate a need for silvicultural intervention within National Parks of the National Capital Region? D. Maslyukova, T.A. Coates, W.M. Ford, V.R. Emrick

11:00 – 11:30 am* Building Climate-Sensitive Individual Tree Mortality Models for Softwoods/Hardwoods in Mississippi State Forests. S. Baskarla

11:30 – 1:30 pm **Lunch on your own**

Management 2: Waqar Shafqat (moderator)

1:30 – 2:00 pm Positive Biodiversity-Productivity Relationship in Populus at Southeastern USA. W. Shafqat, H. Renninger, C. Siegert, A. Himes, A. Drager

2:00 – 2:30 pm Log landings are for the bees: a case study in the coproduction of actionable science to benefit native pollinators. L.S. Pile Knapp (withdrawal)

2:30 – 3:00 pm Evaluation of biological invasion in forested coastal wetlands: High impact invaders as legacies of Hurricane Katrina. M. Bataineh, D. Saenz, C. Schalk, L.S. Pile Knapp, J. Fraser, M. Sieja (withdrawal)

3:00 – 3:30 pm

Break – Outside Ballroom

Concurrent Session 2

Regency DE

Longleaf Pine 1: Steve Jack (moderator)

- 10:00 – 10:30 am* Estimating the effect of silvicultural practices and environmental co-variables on plantation longleaf pine productivity in the southeastern United States. O. Reed, H. Tripp, B. Bullock, S. Kinane, B. DaSilva, D. Dickens, D. Clabo, S.-I. Yang, D. Zhao
- 10:30 – 11:00 am* Structure and Spatial Patterns of Longleaf Pine Woodlands in the Fall Line Hills. D. Phillips, L. Hales, J. Hart
- 11:00 – 11:30 am* Longleaf pine aboveground production after Hurricane Helene and pine straw raking treatments on the Lower Coastal Plain in south Georgia. N. Shephard, S. Kinane, D. Clabo, D. Markewitz

11:30 – 1:30 pm Lunch on your own

Longleaf Pine 2: Steve Jack (moderator)

- 1:30 – 2:00 pm* Site Index and Growth Efficiency of Longleaf Pine Planted on Marginal Agricultural Lands. J.T. Pegues, A.D. Polinko, J. Puhlick, K. Poudel
- 2:00 – 2:30 pm The Role of Genetic Variation in Early Height Growth of Longleaf Pine Seedlings. K.D. Shoemaker, D.P. Jackson, J.P. Adams
- 2:30 – 3:00 pm Modeling Regional Forest Site Productivity Accounting Spatial Structure in Climatic and Edaphic Variables. M.R. Subedi, A.A. Baeza-Castro, P. Dwivedi, B. Costanzo, J.A. Martin
- 3:00 – 3:30 pm **Break – Outside Ballroom**

Longleaf Pine 3: Rebecca Kidd (moderator)

- 3:30 – 4:00 pm Restoring longleaf pine woodlands on tallow invaded Flatwoods: Mastication, prescribed burning, and herbicide effects on ground vegetation. M. Bataineh, V. McDaniel, E. Baka, V. Manrique, J. Vogt

Shortleaf Pine: Rebecca Kidd (moderator)

- 4:00 – 4:30 pm Shortleaf pine-hardwood mixture development through ten years in the eastern Highland Rim of Tennessee. D. Clabo, P. Khanal, K. Hoyt, M. Schubert, H. Garner, S. Peairs
- 4:30 – 5:00 pm *Pinus echinata* resprouting and growth dynamics in a frequent fire regime: a preliminary analysis. E.M. Wachter, M. Varner, T. Shearman
- 5:00 – 5:30 pm Survival and sprouting of shortleaf pine seedlings growing individually or in clusters following prescribed burning in Southern MO. H. Fillingim, B. Knapp

Concurrent Session 3

Crepe Myrtle

Hardwood 1: Rabia Amen (moderator)

- 10:00 – 10:30 am* Promoting resilient regeneration in coastal forests: herbivore impacts and growth potential of planted oak and pine seedlings. R. Bohannon, L.S. Pile Knapp, G.G. Wang
- 10:30 – 11:00 am* Effects of Crop Tree Release on Understory Vegetation and Selected Trees in Virginia's Appalachian Mountains. A.W. Holloway, J. Seiler, D. Carter, W.M. Ford, J. Gagnon, J. Peterson
- 11:00 – 11:30 am* The Relationship between Soil Properties and Oak Regeneration in Eastern Kentucky. K.L. Shrout, L.A. Vickers, C.A. Cotton, J.M Lhotka

11:30 – 1:30 pm Lunch on your own

Hardwood 2: Rebecca Kidd (moderator)

- 1:30 – 2:00 pm Single-cohort Mixed Species Deciduous Stands Exhibiting Multi-cohort Attributes in Mature Forests. W.K. Clatterbuck
- 2:00 – 2:30 pm Understory plant community response to midstory hardwood removal vs. retention in longleaf pine sandhills. K. Quigley, D. Schnake, J. Forrester
- 2:30 – 3:00 pm Harnessing hardwood sprouts to establish pine-hardwood mixtures. A. Polinko, J. Willis, M. Blazier, A. DeStefano
- 3:00 – 3:30 pm **Break – Outside Ballroom**

Hardwood 3: Rabia Amen (moderator)

- 3:30 – 4:00 pm Survival and Growth of Planted Shade-Intolerant Seedlings in Silvicultural Canopy Gaps. D.J. Twedt
- 4:00 – 4:30 pm Seedling survival and growth of four forest tree species: the role of resource gradients in bottomland hardwood forests. Z. Cheng, O.O. Ajala, J. Stovall, K.R. Kidd, B.P. Oswald, Y. Weng
- 4:30 – 5:00 pm Potential Oak Regeneration in Oak Woodlands on the Daniel Boone National Forest, KY. C.J. Schweitzer, J. Royse (withdrawal)
- 5:00 – 5:30 pm Effects of visual grading on northern red oak (*Quercus rubra*) 17 years after planting in a shelterwood stand in the Cumberland Mountains of Tennessee. S.L. Clark, S. Schlarbaum (withdrawal)
- 5:30 – 6:00 pm Response of Planted Hardwoods to Mulch Treatments: Mimicking Soil Moisture and Fertility Gradients. B.M. Rau, H.K. Davis, J. Garabedian (withdrawal)

Concurrent Session 4

Regency FG

Biomass/Physiology: Brian Oswald (moderator)

- 10:00 – 10:30 am* Interspecific competition affects biomass partitioning in young longleaf pine. B.D. Doughty, A. Polinko, C. Siegert, H. Renninger
- 10:30 – 11:00 am* Salinity tolerance of the three primary pines of the southeastern United States. J. Leopard, A. Sharma
- 11:00 – 11:30 am* Predicting Above-Ground Biomass of Forest in South Carolina: Integrating Remote Sensing, Machine Learning, and Interpolation Techniques. S. Sharma, P. Khanal, N. Timilsina
- 11:30 – 1:00 pm Lunch on your own**

Concurrent Session 4

Regency FG

Carbon/Climate/Soil: Courtney Siegert (moderator)

- 1:30 – 2:00 pm Enhancing Carbon Sequestration and Reforestation Foci at select U.S. Marine Corps installations in the Southeastern, U.S. N.R. Beane (withdrawal)
- 2:00 – 2:30 pm Species Level Differences in Decomposition Rates and Carbon Sequestration Potential of Trees in the Southeast U.S. R. Amen, C. Siegert, J. Granger, D. Williams, E. White
- 2:30 – 3:00 pm Climate and soil interact to affect pine root system architecture. M.A. Sayer, K. Wharton, W. Johnson, J. Hwang, R. Olatinwo (withdrawal)
- 3:00 – 3:30 pm Break – Outside Ballroom**

Intermediate Treatment & Competition Control: Stephen Kinane (moderator)

- 3:30 – 4:00 pm Evaluating Site Preparation Applications Using Vastlan, Vista XRT, Garlon XRT, Accord XRTII, Glufosinate Ammonium, and Chopper GEN2. A.B. Self, J.E. Ezell, A.W. Ezell
- 4:00 – 4:30 pm A Comparison of Glufosinate Products for Control of Natural Pines. J.E. Ezell, A.B. Self, A.W. Ezell
- 4:30 – 5:00 pm Impact of Herbicide Application Timing on the Growth and Survival of Sweetgum x Formosan Gum Hybrid. K. Furukawa, A. De Stefano, J.P. Adams, M. A. Blazier
- 5:00 – 5:30 pm Using Imazapyr, Glyphosate, and Glufosinate for Control of Understory Hardwoods in Pine Plantations. A.W. Ezell1, J.E. Ezell, A.B. Self

Poster Session and Reception

Regency AB

- 6:00 – 8:00 pm Poster Session and Reception: complementary hors d'oeuvres and cash bar**

23rd Biennial Southern Silvicultural Research Conference Program

Wednesday, March 19, 2025

7:00 – 8:00 am **Continental Breakfast – Outside Ballroom**

8:00 am – 4:00 pm **Poster Visitation – Regency AB**

Concurrent Session 5

Regency DE

Loblolly Pine 1: Jason Vogel (moderator)

8:00 – 8:30 am* Crown dynamics of loblolly pine under 12 years of simulated drought stress. L. Paulus, B. Bullock, S. Kinane, T. Queiroz

8:30 – 9:00 am* Impact of Thinning Regimes on Growth and Economic Returns of Improved Loblolly Pine Genotypes in the Coastal Plain of Southeast US. C.E. Ogbuka, P. Saud, S.G. Chhetri, M. Yanez, M. Blazier

9:00 – 9:30 am* Evaluating Financial Trade-offs in Silvicultural Treatments for Pine Tip Moth and Needle Diseases. D.E. Quintero, B.K. da Silva, S.M. Kinane, K. Gandhi, C. Villari, E. McCarty

9:30 – 10:00 am **Break – Outside Ballroom**

Loblolly Pine 2: Gordon Holley (moderator)

10:00 – 10:30 am* Impact of Planting Density and Management Intensity on Size-Class Distribution of Loblolly Pine in Southeast United State. S.M. Adedapo, B. Bullock, S.-I. Yang, S. Kinane

10:30 – 11:00 am Evaluating live crown length and its impact on growth in response to juvenile fertilization of loblolly pine. C.M. Beasley, T. Albaugh, D. Carter, R. Cook, O. Campoe, R. Rubilar

11:00 – 11:30 am* Evaluating Environmental Influences of Growth Responses to Thinning in Loblolly Pine Plantations: Implications for Forest Management in the Southern United States. M.M. Pinyan, S.M. Kinane

11:30 – 1:30 pm **Lunch on your own**

Loblolly Pine 3: Wayne Clatterbuck (moderator)

1:30 – 2:00 pm Using leaf spectroscopy to assess whole-plant hydraulic conductance in loblolly pine. B.T. Wolfe, J. Kankam

2:00 – 2:30 pm Leaf area index changes in first- and second-thinned loblolly pine plantations. S.M. Kinane, B.P. Bullock, S.-I. Yang, T. Queiroz

2:30 – 3:00 pm Size heterogeneity and its impact on growth in managed loblolly pine plantations in east Texas. Y. Weng, J. Gorgan

3:00 - 3:30 pm **Break – Outside Ballroom**

3:30 – 4:00 pm Carryover effects and the sustainability of intensive loblolly pine (*Pinus taeda*) management through mid-rotation. J.G. Vogel, E.J. Jokela, T.A. Martin

4:00 – 4:30 pm Genotype and silvicultural intensity affect loblolly and slash pine maximum size-

Concurrent Session 5

Regency DE

- density relationships. A. Polinko, T. Martin, G.P., J. Vogel
- 4:30 – 5:00 pm Using UAV remote sensing to estimate loblolly field biomass and volume. J. Kim, S.C. Popescu, J. Grogan, D. Kulhavy, I.-K. Hung, Y. Zhang

Concurrent Session 6

Crepe Myrtle

Climate/Soil Carbon: Courtney Siegert (moderator)

- 8:00 – 8:30 am* A Meta-analysis of Afforestation Impacts on Soil Greenhouse Gas Emissions. J. Liang, C. Siegert, A. Himes
- 8:30 – 9:00 am* Characterizing aboveground forest carbon for mixed-species forests in the national parks and national forests in the southern Appalachian region. T. Skiba, S.-I. Yang, T.J. Brandeis
- 9:00 – 9:30 am* Geographic variations in stem taper of loblolly pine in the southern United States. N. Qadir, K.P. Poudel

9:30 – 10:00 am Break – Outside Ballroom

Growth & Yield 1: Tom Dean (moderator)

- 10:00 – 10:30 am* Enhanced Biomass Estimation at Smaller Domains: Conventional vs. Modern Small Area Estimation Techniques. P. Dhungana
- 10:30 – 11:00 am* Comparing the impacts of planting density and thinning on individual tree survival trajectories using survival analysis. D.M. Senevirathne, S.-I. Yang, D. Zhao, B. Bullock, S.M. Kinane
- 11:00 – 11:30 am* Examining a modeling strategy to select the optimal mixed model for characterizing height-diameter relationships. S. Wagle, S.-I. Yang, T. Brandeis, B. Bullock

11:30 – 1:30 pm Lunch on your own

Growth & Yield 2: Tom Dean (moderator)

- 1:30 – 2:00 pm* Assessing Spatial Variation in Forest Productivity Across the Southeastern USA Using a Climate-Based Productivity Index: Implications for Southern Silviculture. D. Ugaldes, M.M. Pinyan, S.M. Kinane
- 2:00 – 2:30 pm* Fuel structure and forest management affects deadwood volume estimation using terrestrial laser scanning in Appalachian Mountain forests. J.A. DeFeo, G. Coleman, A. Coates, D. Carter, M. Ford, T. Keyser
- 2:30 – 3:00 pm Invasive species may threaten forest ecosystem integrity with climate change. J. Wang, A. Coates, J.P. Schmit, A.J. Brolis, M. Ford

3:00 – 3:30 pm Break – Outside Ballroom

Growth & Yield 3: Jason Grogan (moderator)

- 3:30 – 4:00 pm Validating a Shortleaf Pine Plantation Growth and Yield Model System for the Western Half of the Southeastern United States. C. VanderSchaaf
- 4:00 – 4:30 pm Predicting Stand Basal Area Growth of Loblolly Pine Plantations. Q. Cao

Concurrent Session 7

Regency FG

Fire 1: Rebecca Kidd (moderator)

- 8:00 – 8:30 am* Stand composition affects soil chemistry in frequently-burned Coastal Plain pine

- forests of Virginia. J.A. DeFeo, A. Coates, N. Flanders
- 8:30 – 9:00 am* Interaction of woodland fire management and the spread of the invasive Chinese silvergrass (*Miscanthus sinensis*). A. Weise, D. Hagan
- 9:00 – 9:30 am* Wildland fuel loading estimates along a gradient of forest cover types and landscape factors for two National Parks, Rock Creek Park and Harper’s Ferry National Park. S. Wolsiffer, A. Coates, M. Ford, V. Emrick
- 9:30 – 10:00 am Break – Outside Ballroom**
- Fire 2: Rebecca Kidd (moderator)**
- 10:00 – 10:30 am* An assessment of potential volume and value losses for commercial hardwood species up to six years following one or two prescribed fires on the Monongahela National Forest, WV. C. Coleman, A. Coates, C. Sharpe, D. Carter, M. Thomas-Van Gundy
- 10:30 – 11:00 am Exposure to shade stress modifies fire tolerance among southeastern U.S. tree species. J. Willis, A. Sharma, T. Shearman, M. Varner, J. McKeithen
- 11:00 – 11:30 am Fire-induced cladaptosis in southern pines: fire effects on surviving trees. T. Shearman, M. Varner, J. Willis, E. Wachter
- 11:30 – 1:30 pm Lunch on your own**
- Climate-smart Forestry 1: Ben Knapp (moderator)**
- 1:30 – 2:00 pm Climate-Smart Forestry: Sustainable Forest Management in the Era of Climate Change and AI. G. Wang
- 2:00 – 2:30 pm Approaches for adapting longleaf pine ecosystems to climate change. J. Puhlick.
- 2:30 – 3:00 pm Balancing Forest management objectives: effects of stand density on carbon dynamics. B. Knapp, S. Anderson, J. Kabrick
- 3:00 – 3:30 pm Break – Outside Ballroom**
- Climate-smart Forestry 2: Ben Knapp (moderator)**
- 3:30 – 4:00 pm Artificial Intelligence for Climate Smart Forestry: A Forward Looking Vision. F. Luo
- 4:00 – 4:30 pm Hurricane risk and ecology: Understanding climate resilience in longleaf pine woodlands. J. Cannon, N. Zampieri
- 4:30 – 5:00 pm A Guide for Advancing Climate-Smart Forestry in Longleaf Pine Ecosystems. L. Lord, T. O'Halloran, L. Clay, C. DeGarady
- 5:00 – 5:30 pm Applications of terrestrial LiDAR in forest inventory and management planning. J. Fraser, L. Pile Knapp, K. Floress, A. Thompson (withdrawal)

Wednesday Evening Social

Regency C

7:00 – 10:00 pm Dinner and Social

23rd Biennial Southern Silvicultural Research Conference Program

Field Tour Thursday, March 20, 2025

7:00 – 8:00 am **Continental Breakfast – Outside Ballroom**

8:30 am **Depart Hyatt Regency**

5:00 pm **Return to Hyatt Regency**

Field Tour Description:

We will tour DuPont State Recreational Forest managed by the NC Forest Service. We will visit sites showcasing active silviculture within a forest that receives more than 1 million visitors per year. Transportation and lunch will be provided.

Organizer: Helen Mohr (Forester; Director, Consortium of Appalachian Fire Managers and Scientists)

Tour Assistants: Trisha Markus, Ryan Bohannon, Armin Weise, Ruth Cumberland, Htet Naing (Graduate Students, Clemson University)

23rd BSSRC Poster Session and Reception

Tuesday, March 18, 2025

Poster #	Lead presenter	Poster Title
1	Kyungrok Hwang*	Influence of Structural, Species, and Functional Diversity on Post-Damaged Tree Growth in Forests in United States
2	Fernanda Leite Cunha*	Life Cycle Assessment of Paper Products from <i>Eucalyptus</i> and <i>Pinus</i> Forests in Brazil
3	Htet Lin Naing*	Probing fire adaptation through flammability characteristics during the younger phases of longleaf pine and loblolly pine along the Coastal Plain of South Carolina, U.S.A.
4	Ruth Cumberland*	Patterns of Overstory Mortality & Recruitment Eight Years After a Wildfire in the Southern Appalachians
5	Rabina Phuyal*	Variation in the growth response and survival of longleaf pine (<i>Pinus palustris</i> Mill.) families from contrasting provenances established in a drought-prone site
6	Tej Raj Oli*	Comparison of Diameter and Height Growth among Four Genetically Improved Loblolly Pine Genotypes
7	Lorelei Wigginton*	Suppression and Release of White Oak (<i>Quercus alba</i>) During Canopy Recruitment in Upland Hardwood Stands
8	Lucy McGuire*	Structural and Compositional Effects of Fire in Long-Unburned Oak-Pine Mixedwoods in Tennessee
9	Emily Gustafson*	Spatial Measures of Species Composition in a Multi-Aged Hardwood Stand
10	Connor Crouch	Post oak decline: investigating the extent, impacts, and causes of an emerging forest health threat (withdrawal)
11	Lauren Pile Knapp	Tornado Impacts on the Structure and Composition of an Upland Oak Forest in Southern Indiana (withdrawal)
12	Morgan Silanskis*	Documenting 60 years of structural and compositional change in an oak-hickory forest in southern Illinois
13	Zachary Hackworth	Barricading the Buffet: Does Slash Discourage Herbivory Damage to Underplanted Oaks?
14	Zachary Hackworth	gapdesignR: A Decision-Support Tool for Gap-based Harvest Planning

- 15 Jiaxin Wang SapFlower: An automated tool for sap flow data preprocessing, gap filling, and analysis using deep learning
- 16 Daniel Markewitz White Oak and Tulip Poplar Plantings in the Piedmont of Georgia: Year 3 Survival and Vigor
- 17 Henry McNab Twenty-two years of coarse woody debris decomposition in microburst gaps in an Appalachian upland oak forest
- 18 Curtis VanderSchaaf Reforestation Tax Incentive Impacts On Financial Returns Of Loblolly Pine Plantations For Material Participant Business Landowners In Mississippi
- 19 John Jacobson* Quantifying The Effects of Prescribed Fire on Loblolly Pine Growth: A Dendrochronological Analysis
- 20 Dawson Garrett* Climate Variability and Water Availability in Loblolly Pine Plantations: A 44-Year Study in the US Transition Zone
- 21 Luke Ferguson* Generalized aboveground biomass equation for *Populus deltoides*
- 22 Jaden King* Foliar response of loblolly pine (*Pinus taeda* L.) to different infection levels of brown spot needle blight (*Lecanosticta acicola*)
- 23 Gracey Goldsby* Using Dendrochronology to Evaluate the Impacts of Brown Spot Needle Blight
- 24 Caroline Crews* Restoration of an Old Field Shortleaf Pine-Oak-Hickory Woodland Following Six Decades of Fire Exclusion
- 25 Trisha Markus* Invasive Plants and the Forests They Invade: Use of FIA data & Bayesian inferential statistics
- 26 Katharine Gilbert* Duff removal as a pre-fire treatment in the restoration of long-unburned mixed pine woodlands: preliminary results
- 27 Max Arnold* Bark hygroscopicity as a function of morphology and subsequent impacts on stemflow volume in a mixed hardwood stand; an analysis of 6 different southeastern tree species
- 28 Kern Freesland* The Effects of Longleaf Pine Restoration on Breeding Bird Communities of William B. Bankhead National Forest
- 29 Anthony Umeojiakor* Preliminary Study of Soil Carbon and Nitrogen Storage at On-going Silvicultural Treatments in Upland Oak Regeneration of Hardwood Forest of Northern Mississippi

- 30 Sabina Sigdel* Assessing the Status and Distribution of Yaupon within Pre-Thinned Loblolly Pine Plantations in East Texas
- 31 Morné le Roux* The effects of repeated canopy scorch on the growth, wind resistance, and resilience of longleaf pine (*Pinus palustris*) in southeastern pine savannas
- 32 Kylie Birchfield* Evaluating family-level response to heat and drought stress in longleaf pine
- 33 Emmaline Clark* Quantifying Streamside Management Zone Breakthroughs for Tethered and Conventional Harvesting Sites in West Virginia
- 34 Zhongqian Cheng The influence of mulching and overstory species composition on understory plant diversity in East Texas pine woodlands
- 35 Seth Bigelow Canopy cover and acidic soil improve performance of wiregrass plugs in loblolly-shortleaf pine woodland
- 36 Daniel Grebner* Evaluating Drought Resistance of Loblolly, Longleaf and Sonderegger Pine Hybrid Seedlings
- 37 Dennis Richardson* 50-years of structural change in managed bottomland hardwood forests of the Lower Mississippi Alluvial Valley