

# 2024 SFFGS/FLSAF SPRING SYMPOSIUM

## FROM THE GROUND UP

Reforestation and Restoration for Various Objectives

April 16-17, 2024
Stern Learning Center
Austin Cary Forest













**WELCOME** and **THANK YOU** for joining us for the 2024 SAF / SFFGS Spring Symposium: *From the Ground Up*!

This is a cooperative event of the Florida Division Society of American Foresters (SAF) and the University of Florida IFAS School of Forest, Fisheries, and Geomatics Sciences (SFFGS). This year's program features top experts in the world of reforestation and forest restoration in this region and beyond. They will present and discuss the current state of knowledge and practice in site preparation, prescribed fire, and species and genetics; and we'll bring it all together in case studies featuring new technologies and various land management objectives. The meeting will also include an update from Florida Forest Service Director, Rick Dolan, FL Division SAF Awards, our social and dinner on April 16, and FL Division SAF Business Meeting on the morning of April 17.

Our **Sponsors** are of tremendous importance in making this event possible. Please take some time to visit with them and thank them for their support. The **University of Florida IFAS Extension Bookstore** is set up in the Stern Learning Center Classroom so you can browse the selection of forestry and natural resource related books, tools, and other resources our faculty, staff, and partners have produced.

As always, this event is a team effort. A big thanks to everyone that helped in the planning, preparation, and/or promotion of the Symposium: Josh Baker, Dr. Terrell "Red" Baker, Suzette Cook, Scott Crosby, Sarah Hensley, Marshall Hilton, Kari Hurst, Felipe Romero, Sarah Rushing, and Scott Sager, to name a few.

This event has been approved for a total of **7.5 Cat. 1 CFEs**. If you need CFE credit, make sure you sign the CFE sign-in sheets for each day you attend. There will be one sign-in sheet for the first day and one for the morning session on the second day. Enjoy the program!

Sincerely,

**Chris Demers** 

Spring Symposium Co-Chair

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Marshall Hilton

2024 Florida Division SAF Chair

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## 2024 Spring Symposium "From the Ground Up"

# Exploring reforestation and restoration techniques for different land management objectives

Sponsored by the University of Florida / IFAS School of Forest, Fisheries, and Geomatics Sciences and the Florida Division Society of American Foresters

# April 16-17, 2024 University of Florida Stern Learning Center at Austin Cary Forest

- AGENDA -

7:00 – 8:00 am		Exhibitor Setup	
8:00 am – 5:00 pm		Registration, Sign in (Patio Entrance)	
Sponsor E	xhibits	Chair: Kari Hurst, Natural Resource Planning Services (NRPS)	
8:00 am	Contine	ntal breakfast, exhibits, meet & greet (Annex and Deck)	
9:00	Sciences Florida I	<b>Opening</b> , Dr. Terrell "Red" Baker, Director, UF/IFAS School of Forest, Fisheries, and Geomatics Sciences (SFFGS); Chris Demers, Spring Symposium Co-Chair, SFFGS, and Marshall Hilton, Chair, Florida Division Society of American Foresters and Spring Symposium Co-Chair <b>Welcome and update from the School of Forest, Fisheries, and Geomatics Sciences</b>	
9:15	Rick Dol	Rick Dolan, Director, Florida Forest Service  (Update from the Florida Forest Service"	
9:45	Refreshment and Break		
10:00	Site Preparation – Moderator: Cody Ball, Student, SFFGS		
10:05	Dr. Pat Minogue, SFFGS and North Florida Research and Education Center, Quincy "Components of successful reforestation"		
10:50		Jimmy Bielling, Bielling Site Prep & Reforestation  "Contractor perspectives on mechanical and chemical site preparation for reforestation"	
11:20		olland, Best Management Practices (BMP) Program Manager, Florida Forest Service her on site preparation BMPs"	
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12:00 pm	Lunch Visit wit	th exhibitors and the UF/IFAS Extension Bookstore	

Tuesday	April 16 – Continued		
1:00 pm	Prescribed Burning – Moderator: Allie Mitchell, Student, SFFGS		
1:05	John McGuire, Tall Timbers		
	"The costs of prescribed burning"		
1:45	Dr. Carolina Baruzzi, UF/IFAS Department of Wildlife Ecology & Conservation		
	"Using wiregrass for restoration"		
2:30	Refreshment Break		
2:45	Species and Genetic Selection – Moderator: Brent Dixon, Student, SFFGS		
2:50	Josh Faylo, Environmental Scientist and Wetland Specialist; and Audrey Plauche, Graduate Student,		
	SFFGS		
	"Pond pine: The missing tree?"		
3:30	Dr. Andrew Sims, Cooperative Forest Genetics Research Program Coordinator, SFFGS		
	"Genetic considerations for restoration vs. industrial forest management goals"		
4:10	Florida Division SAF Awards, Scott Sager, SFFGS and Marshall Hilton, F4 Tech		
	Sponsor Recognition, Kari Hurst, NRPS		
5:00	Social on Deck		
6:00	Dinner by Hills BBQ		
Wodnose	lay April 17 – Morning Session		
wednest	ay April 17 – Worlling Session		
7:30 am	Continental Breakfast		
8:00	FL SAF Business Meeting, Florida Division Society of American Foresters		
9:15	Bringing it all together – Moderator: Garrett Henderson, Student, SFFGS		
9:20	Gage LaPierre, Graduate Student, SFFGS		
	"Groundcover restoration and enhancement: Lessons learned"		
10:00	Dr. Eben Broadbent, Associate Professor, SFFGS		
	"Assessing reforestation and restoration projects with remote sensing technology"		
10:40	Alex Clark, F4 Tech; and Melanie Kaeser, USFWS		
	"Longleaf and groundcover restoration following a major hurricane"		
11: 30	Conclusion		
	1		

Program Committee: Dr. Terrell "Red" Baker, Josh Baker, Suzette Cook, Chris Demers, Marshall Hilton, Kari Hurst, Scott Sager

The Symposium is approved for 7.5 Cat. 1 SAF Continuing Forestry Educations Credits. Please make sure you sign the CFE attendance record provided at the end of each day.

## 2024 SAF / SFFGS Spring Symposium "From the Ground up"

#### Presenter bios and presentation summaries

(listed alphabetically by last name)

#### Jimmy Bielling

Bielling Site Prep & Reforestation jimmybielling@aol.com

Jimmy Bielling is the president of the Florida Forestry Association. A fourth-generation member and a 45-year veteran of the forestry community, Jimmy owns and operates Bielling Site Prep and Reforestation, Inc., in Lake Butler, FL, with his wife, Kathy, and son, Jesse. He fulfills a wide range of duties for the business. In addition to overseeing operations, on any given day he can also be found conducting prescribed burns, driving trucks, and



operating machinery. Jimmy is a longtime advocate for forestry. He has served as chair of the Florida Department of Agriculture's Forestry Council, is an active member of the Working Forest Partners coalition of forestry practitioners, environmental organizations, and governmental agencies, and has been effective in walking the halls of the capitols in both Tallahassee and Washington, D.C.

#### **Presentation Summary**

"Contractor perspectives on mechanical and chemical site preparation for reforestation"

Jimmy will discuss the value of good mechanical and chemical site preparation, show some results of treatments on newly established stands, and also discuss the importance and use of silvicultural Best Management Practices to protect water quality.

#### Dr. Carolina Baruzzi

Assistant Professor University of Florida IFAS Dept. of Wildlife Ecology and Conservation carolina.baruzzi@ufl.edu

Dr. Carolina Baruzzi is an Assistant Professor of Wildlife Ecology and Management at the North Florida Research and Education Center. She joined the faculty at the Center and the UF Department of Wildlife Ecology and Conservation in spring 2023. Carolina received her Ph.D. from Mississippi State University where she focused her studies on wildlife and plant community responses to large scale disturbance. After her Ph.D., she



joined UF as a postdoc studying best practices to restore understory plant communities in longleaf pine savannas. Her extension and research programs at the North Florida Research and Education Center are focused on habitat management and restoration, and their effects on wildlife. Her extension work particularly emphasizes the use of prescribed burning as a wildlife habitat management tool and assists landowners in monitoring wildlife populations with camera traps.

#### **Presentation Summary**

#### "Using wiregrass for restoration"

Wiregrass (*Aristida beyrichiana*) is one of the most commonly targeted bunchgrass species during longleaf pine (*Pinus palustris*) savanna restoration. We conducted a series of studies in longleaf pine savanna sandhills and flatwoods to understand the factors that may be affecting wiregrass use in restoration. These studies focus on various aspects of wiregrass ecology, including reproduction, establishment, and interactions with other plant species and the soil. As such, we will discuss approaches to maximize the use of wiregrass at different restoration stages. For example, after a fire, wiregrass tends to exhibit synchronized flowering and seeding, which results in a concentrated abundance of seeds that can be collected for restoration. Our research suggests that plants burned during June fires should produce more viable seeds for restoration use. Likewise, the role of canopy cover, which had contrasting effects in our experiment depending on fire season, should also be considered when planning seed collection.

#### Dr. Eben N. Broadbent

Associate Professor University of Florida IFAS School of Forest, Fisheries and Geomatics Sciences eben@ufl.edu

Eben Broadbent is an Associate Professor of forest ecology and geomatics in the School of Forest, Fisheries, and Geomatics Sciences at the University of Florida where he co-directs the Spatial Ecology and Conservation Lab and the GatorEye Unmanned Flying Laboratory, a leading academic-commercial partnership drone-borne



sensor-fusion system. He holds a PhD in Biology from Stanford University, a MS in Tropical Forestry from the University of Florida, and a BA in Botany from the University of Vermont. He is a faculty affiliate of UF's Tropical Conservation and Development program, Center for Latin American Studies, Water Institute, and Biodiversity Institute. His research spans spatial scales from the globe to the leaf, and integrates multi-temporal analysis to look at how fast changes are occurring across the landscape. For this he frequently integrates a variety of remote sensing approaches, including those borne on satellites, aircraft, drones, or in the field. A few example projects include, at the global scale, the GeoPlot system for monitoring bioclimatic and land-use change around global plot networks, focusing on his role in the 2ndFOR network to understand forest successional processes in the tropics; the GAP dataset which calculates Global Aboveground biomass uptake Potential at a global scale; at the regional scale, the STORM CLOUD system which uses satellite-borne radar data

to monitor hurricane forest damages in near real-time, a collaboration with USFS and FIA; the development of long-term network of forest disturbance monitoring plots through the BigPlot network; and at the stand-scale, the development of new long-term stem-level monitoring plots in Florida, specifically leading the San Felasco permanent ecological monitoring plot, a close long-term collaboration with Florida Park Officials and Ecologists. Over the last years he has conducted field-research in more than 14 countries, including Brazilian, Bolivian, and Peruvian Amazon, Papua Indonesia, Hawaii, Costa Rica, Philippines, and Mexico, and also including work in California and in his childhood forests of New England. His collaborative projects often blend social sciences with ecological and remote sensing methods, providing comprehensive insights into ecosystem processes and conservation strategies. He has worked as a research ecologist in the Department of Global Ecology of the Carnegie Institution for Science at Stanford University, at the Instituto Boliviano de Investigación Forestal in Santa Cruz, Bolivia, and at Hudsonia Ltd. at Bard College. His favorite activity is spending time with his family, including his kids Liana and Kai, and his dogs Turbo and Inti Duce. When time allows, he enjoys mountain biking, trail running, snowboarding, guitar, and playing chess.

#### **Presentation Summary**

#### "Assessing reforestation and restoration projects with remote sensing technology"

This presentation leverages Dr. Broadbent's use of remote sensing for ecosystem monitoring, progressing from global-scale analyses, including Carbon Uptake potential, to country-level analyses, like forest carbon markets in Latin America and restoration priorities in Colombia. In Brazil, his work on carbon potential showcases regional focus, including understanding the rates at which forests can regrow following disturbances. At site scale, discussion includes both sources of disturbance in areas undergoing significant climate change, focusing on Hurricanes in the Caribbean, and restoration activities designed to mitigate these effects, and highlights the use of UAV-lidar for carbon stock quantification and diverse remote sensing technologies—multispectral, hyperspectral, LiDAR—, for detailed ecological monitoring., as well as capacity building to assist local communities in using drones (e.g., CDK) to monitor their ecosystems over the longer-term. The presentation works to cover a gradient from global assessments to pinpointed local interventions, using advanced tech to inform restoration strategies.

#### Alex Clark

Forester F4 Tech aclark@thinkf4.com

Alex joined F4 Tech in May of 2022 and has 3 years of forest industry experience in the Southeast. His focus at F4 Tech is field project management, forest inventory project development, prescribed burning, GIS/GPS work, and project scoping. Since starting his career, Alex has gained experience managing forests on a combination of private, state, and federal lands across the southeast. Alex graduated



with his B.S. from Florida State University and a Master of Science with a concentration on

Ecological Restoration from the School of Forest, Fisheries, and Geomatics Sciences at the University of Florida.

#### **Presentation Summary**

#### "Longleaf and wiregrass restoration methods after a major Hurricane"

The longleaf pine ecosystem historically has had a great reduction in its acreage from many factors like anthropogenic causes, fire suppression, industrialization, and natural disaster. One disaster that hits close to home in the state of Florida is Hurricane Michael that made landfall in October of 2018. This storm caused catastrophic damage across thousands of acres in the panhandle of Florida and further north along its path. This storm left many pine ecosystems destroyed with little hope of salvaging wood or other services associated. It left many different organizations and landowners asking the question of what now? How will we complete site prep? How will we reforest the sites? What will happen to the flora and fauna that relied on these systems? What will happen to the investment I have made and how will this loss be subsidized or mitigated? The primary focus of this talk is to talk about Hurricane Michael at Tyndall Air Force Base and the journey our restoration team went through over the past five years to help remove damaged timber, site prep and restore Tyndall's overstory and understory.

Rick Dolan
Director
Florida Forest Service
Richard.Dolan@FDACS.gov

Rick began his career in 1993 as a Forest Ranger in the Perry District. He was promoted to Senior Forest Ranger at Goethe State Forest in 1996, with primary job duties being Prescribed Fire and Forest Management. From 1999 until 2010 Rick was Forest Area Supervisor for the Wildfire Mitigation Team in Bunnell, Florida, then moved to a traditional Forest



Area Supervisor position covering Alachua and Gilchrist Counties. He served as Forestry Operations Administrator from 2010 to 2014 and held the Waccasassa Forestry Center Manager position from 2014 until 2023. In March 2023, he was appointed to the Florida Forest Service Director position.

Rick served on the Florida Red Incident Management Team for 21 years, working his way up from Division Supervisor trainee to Incident Commander Type 1. He has led the team nationally on wildfires and numerous in-state assignments including hurricanes. He is very active on a national level, serving on the National Association of State Foresters Fire and Awards Committees. Rick also has served on the Complex Incident Management Course (CIMC) cadre since 2009, also served on the Steering Committee and as course coordinator and Steering Committee Chair. Rick is a Certified Public Manager through Florida State University.

#### Josh Faylo Environmental Scientist and Wetland Specialist faylofaylo@outlook.com

Josh Faylo is an Environmental Scientist with a passion and focus on large scale land conservation.

#### **Presentation Summary**

"Pond pine: The missing tree?"

Pond Pine is regarded as one of the most fire dependent species in the southeast, it may also be dependent on other forms of disturbance, which seem to be on the decline across its range. Come explore the landscape and together we might begin to come up with solutions, not just for this one species, but for Florida and the southeast as a whole.



Robin Holland is the Best Management Practices (BMP) Program Manager for the Florida Forest Service (FFS). Her responsibilities include all aspects of Florida's Silviculture BMPs and Forestry Wildlife BMPs for State Imperiled Species programs. Robin received a bachelor's degree in Forest Resources and Conservation from the University of Florida in May 2000. She started her career with FFS in the summer of 2000 as a Forest



Ranger in Madison County and was soon promoted to the Madison County Forester position. She joined the FFS Hydrology Section in July 2005 as the Ocala BMP Forester, where she served until promoted to her current position as the statewide BMP Program Manager in 2022.

#### <u>Presentation Summary</u>

#### "Refresher on site preparation BMPs"

Robin will present an overview of the site prep considerations associated with Florida's two BMP programs for forestry operations, the Silviculture BMPs for water quality and the Forestry Wildlife BMPs for State Imperiled Species.

#### Melanie Kaeser Fish and Wildlife Biologist U.S. Fish and Wildlife Service melanie kaeser@fws.gov

Melanie Kaeser is a U.S. Fish and Wildlife Service Biologist supporting Tyndall Air Force Base. Melanie has a B.S. in Environmental Science from Nazareth College and an M.S. in Forest Resources from The Pennsylvania State University. She has managed conservation and restoration projects in the Coastal Plain of Florida and Georgia for the past 19 years. Melanie joined the U.S. Fish and Wildlife Service in 2015 as a Biologist supporting



the Tyndall AFB Natural Resources program. She assists in leading a diverse program focused on threatened and endangered species protection and habitat conservation, forest ecosystem and wetland restoration, invasive species control, and regulatory compliance to promote healthy ecosystems and support the military mission.

#### Presentation Summary

#### "Longleaf and wiregrass restoration methods after a major Hurricane"

Melanie will be presenting with Alex Clark about their team's restoration project at Tyndall AFB after Hurricane Michael. See Alex's summary above for details.

#### **Gage Daniel J. LaPierre**

Groundcover Enhancement & Restoration
PhD Candidate - Forests Systems Lab
Manager - UF Native Plant Nursery
Co-Chair - Natural Areas Teaching Laboratory
UF/IFAS School of Forest, Fisheries, & Geomatics Sciences
gagemo@ufl.edu

Growing up in a rural setting in Marion county FL provided me with a unique childhood containing natural areas to explore coupled with rapid



urban expansion into those areas. The importance of conserving, restoring, and maintaining the diversity and integrity of natural communities is very important to me. Providing knowledge and understanding for others seeking to do the same has become the premier focus of my education. Groundcover restoration and enhancement is the focus of my PhD studies. At UF I help oversee the management of the Natural Area Teaching Laboratory, as well as the UF Native Plant Nursery.

#### **Presentation Summary**

#### "Groundcover restoration and enhancement: Lessons learned"

Gage will present a summary of his experiences over the past six years in a management-oriented role at the Natural Area Teaching Laboratory. In this role he was presented with challenges that became opportunities, such as the development of the UF Native Plant Nursery and introduction to the meadow concept. He'll also highlight some findings in his research on related topics.

# John P. McGuire Director, Private Lands Fire Initiative Tall Timbers jmcguire@talltimbers.org

John McGuire is the director of the Private Lands Prescribed Fire Initiative with Tall Timbers since 2020. His career has equally spanned working for nonprofits and for-profit companies and organizations. Prescribed fire operations have been a common theme throughout that time. He's a certified burn manager in AL, FL, GA and MS.



#### **Presentation Summary**

#### "The costs of prescribed burning"

Prescribed fire has long been described as the most cost-effective land management tool available to landowners. However, the environment that influences the cost of prescribed burning is changing in Florida and the Southeastern United States. Fuel loading and arrangement, cost of insurance, increase in smoke sensitive areas, etc. are dynamic and all influence the cost of the safe use of prescribed fire. The challenge is that many cost-share programs and landowner expectations don't consider or adequately understand how that variability influences price. The end result is often underfunded burning that can lead to properties not getting treated or a race to the bottom in price that can increase the risk of hostile fire (escaped fire). The primary focus of this talk is to describe those factors that influence burning on private lands in the Southeastern United States. Additionally, alternative mechanisms to use of vendors and/or State agencies will be assessed; especially Burn Associations and Landowner Cooperatives.

#### Dr. Patrick J. Minogue

Associate Professor
University of Florida IFAS School of Forest, Fisheries and Geomatics
Sciences, North Florida Research and Education Center
pminogue@ufl.edu

Patrick Minogue is Associate Professor of Silviculture with the School of Forest, Fisheries, and Geomatics Science, University of Florida, affiliate faculty with the UF School of Natural Resources and Environment, and The Water Institute. His research focuses on applied aspects of forest



management, including development of forest vegetation management practices for diverse silviculture objectives, management of invasive plants, and mitigating wildfire hazard; refinement of best forest management practices to protect water resource quality and quantity; and development of alternative forest crops to provide new economic opportunities. Dr. Pat has more than 46 years' experience in agricultural, forestry, and environmental research working with USDA ARS Beltsville, North Carolina State University, Auburn University,

Cyanamid, BASF, DuPont, and as a private forestry and environmental consultant in the southeastern and western United States. He has been a licensed forester in Alabama and Georgia for many years and was instrumental in developing herbicide technology for reforestation and improved productivity and health of southern pine and hardwood forests.

#### **Presentation Summary**

#### "Components of successful reforestation"

In consideration of landowner objectives and resources, we will review the selection of appropriate pine species, stock type, and plantation densities, and propose a timeline for ordering seedlings, site preparation integrating the use of machinery, herbicide, and broadcast burning, timing and management of planting activities, and post-planting weed control for successful reforestation.

#### **Audrey Plauche**

Graduate student
University of Florida IFAS School of Forest, Fisheries and Geomatics
Sciences
aplauche@ufl.edu

Audrey is an Environmental Science and Soil Science double major. She is researching the ecology of pond pine with Dr. Michael Andreu, and also currently studies dairy soil health with Dr. Yang Lin. She is an intern for the UF Native Plant Nursery and loves to lead their yearly fall seed collection trips. In her spare time, she likes to identify plants and look at soil profiles.



#### **Presentation Summary**

#### "Pond pine: The missing tree?"

Audrey is presenting with Josh Faylo and will be focusing on some of her research on the species and what restoration and uses in Forestry may look like.

#### **Dr. Andrew Sims**

Manager, Cooperative Forest Genetics Research Program University of Florida IFAS School of Forest, Fisheries and Geomatics Sciences adsims@ufl.edu

Dr. Andrew Sims has been the manager of the UF | IFAS Cooperative Forest Genetics Research Program (CFGRP) since 2018. His graduate training was through the CFGRP and the NC State University Cooperative Tree Improvement Program, two of the three state-private forest tree improvement research groups in the US Southeast.



In his capacity as CFGRP manager, he has specialized in translating fundamental research results to practical utility, working with CFGRP members, state and federal agencies, external industrial forestry companies, and individual landowners. His research and tech transfer interests include improvement for growth and disease resilience characteristics, genetic characterization of primary and secondary traits, interrogation of integrity of genetic data regarding research breeding and operational seedling production, and proactive research to address potential threats to the ecological and economic health of forests.

#### **Presentation Abstract**

#### "Genetic considerations for restoration vs. industrial forest management goals"

In the US Southeast, the overwhelming majority of deployed pine seedlings are the product of more than 70 years of forest genetics research. In a world with a matured seedling market, landowners and stakeholders of all varieties have more options for capturing genetic improvement in forests than ever before. Here, we will discuss first what "genetic improvement" means and why it is vital for landowners and land managers. Then, we will look at the spectrum of options available in loblolly, longleaf, and slash pine seedlings and how they are being used to optimize deployment. Lastly, we will cover the state of tree improvement research including current available resources, cutting edge research, and frontiers for improvement of future forests.



# 2024 Awards Florida Division Society of American Foresters

#### C. Huxley Coulter Award: Paul Hudson

Named in honor of C. Huxley Coulter, State Forester from 1945 to 1969, this award is presented to an individual for contributions to the profession of forestry. The recipient has made one or more noteworthy or significant contributions to forestry in Florida during their career.

#### Young Forester of the Year: Matthew Darnell

The Young Forester of the Year Award is presented annually to a young forester, residing in Florida, who demonstrates leadership in forestry and community. This award recognizes active participation and outstanding achievement in all aspects of SAF, forestry or natural resource related organizations, civic groups, church, special community projects and achievements in a professional forestry position.

#### 2024 Florida Foresters Hall of Fame

#### **Charles Houder**

The Florida Foresters Hall of Fame, a function of the Florida Division, Southeastern Society of American Foresters, is to honor foresters who have made outstanding and significant contributions to the forestry profession during their career.

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