

# The Warnell Continuing Education Program

Daniel B. Warnell School of Forestry and Natural Resources

## **Intensive Forest Management: Quantifying Treatment Responses and Making Decisions Based on Value Added**

**Instructor: Dr. Barry D. Shiver—CEO Smarter Forestry**

**Georgia Center for Continuing Education, 1197 South**

**Lumpkin Street, Athens, GA 30605**

**23-24 September 2015**



**WARNELL**  
SCHOOL OF FORESTRY AND NATURAL RESOURCES  
THE UNIVERSITY OF GEORGIA

### **Purpose**

There are so many silvicultural treatments available today for foresters, managers, and landowners who want to practice intensive forest management that a recent Society of American Foresters meeting was entitled “Growing 12 tons/ac/yr”. Of course that level of production comes at a price. Budgets, markets, site quality and personal objectives are important determinants of the best mix of treatments for a particular property. This course will evaluate the trade-offs between the costs, economic and otherwise, and the benefits for different mixes of silvicultural treatments with emphasis on quantifying the gains for objective decision making.

### **How One Will Benefit**

Upon completion of this course, a forest landowner or land manager will be able to make effective silvicultural and economical decisions for managing loblolly, longleaf, and slash stands.

### **Who Should Attend?**

Foresters, land managers, forest landowners, and others interested in effectively managing their pine stands with an emphasis on growth, yields, and maximizing economic benefits .

### **Instructor**

Dr. Barry D. Shiver – CEO Smarter Forestry  
former Professor and Plantation Management Research Coop Director  
UGA-WSF&NR

### **Directions**

For directions we suggest using [googlemaps.com](http://googlemaps.com). You may also contact Ingvar Elle 706-583-0566 or e-mail him at [ingvar@uga.edu](mailto:ingvar@uga.edu).

### **Special Needs**

For special services or dietary considerations contact Ingvar Elle at 706-583-0566 or e-mail him at [ingvar@uga.edu](mailto:ingvar@uga.edu) prior to 9 September 2015.

### **Accommodations**

A block of rooms has been reserved at the Georgia Center Hotel. The cost is \$104.00 per night plus 7% sales tax. Please call 1-800-884-1381 or 706-542-2134 and give the number 85565. Please reserve room by August 25, 2015.

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### Registration Fee

The fee for this course is \$295, which includes lunch, refreshment breaks, and instructional materials. There is a \$50 discount for fees paid and postmarked by 2 September 2015.

### Continuing Education Credits

- 13.5 Continuing Forestry Education (CFE) hours - Category 1 (applied for)
- 13.5 Continuing Logger Education hours - Environment (applied for)
- 4.0 Commercial and 1.0 Private Pesticide Applicator credit for GA (to be applied for)

*Full Attendance is Mandatory to Receive Credit*

Wednesday, 23 September 2015

Time	Event
8:00am	Registration
8:45	Welcome
9:00—10:00	<b>Overview and Some Needed General Concepts</b> <ul style="list-style-type: none"> <li>▶ Quantitative silviculture and the ability to make objective decisions</li> <li>▶ Trees are just plants; improving their growth up to their biological potential is a matter of removing factors limiting to growth (water, nutrients, light, rooting volume)</li> <li>▶ Potential may be influenced by climate (respiration) and disease/insect presence</li> <li>▶ Factors limiting growth depend on site</li> </ul> General site types (sand hills, wet flats, compact clays, P deficient, loams, old fields) <ul style="list-style-type: none"> <li>▶ Types of treatment response</li> <li>▶ What drives decisions? Site quality, treatment cost and response type, markets, length of investment</li> <li>▶ Site Quality and site index (define site index, distribution of base site index, changing site index through treatments)</li> </ul>
10:00-10:20	Refreshment Break
10:20—noon	<b>Regeneration Decisions</b> <ul style="list-style-type: none"> <li>▶ Species Choice- properties of loblolly, slash, and longleaf and what might push a decision toward each species</li> <li>▶ Genetics Choice – Open pollinated, control pollinated, varieties, flex stands; disease resistance, form and tree quality, growth</li> </ul>
Noon	Lunch
1:00—2:30pm	<b>Planting Density</b> – impact of markets, concept of limiting density, effect of density on height, dbh, some results of intensive culture/density study of PMRC including species comparisons
2:30—2:50	Refreshment Break

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Day - Time	Event
<b>Wednesday</b> 23 Sept. 2015 2:45—5:00pm  5:00 Adjourn	<b>Site Preparation</b> – objective(s) of site preparation; chemical, mechanical, combination chem/mech <ul style="list-style-type: none"> <li>▶ Herbaceous Weed Control – costs/benefits; tank mix and/or post-plant over the top; one year vs two years</li> <li>▶ Length &amp; magnitude of growth response; survival</li> <li>▶ Financial Analysis of Forestry Investments – concepts of BLV, NPV, ROI; don't have to grow more wood in a rotation to increase financial returns; could just lower rotation age to produce same wood</li> </ul>
<b>Thursday</b> 24 Sept. 2015 8:15 a.m.	<b>Established Stand Silvicultural Treatments</b> <ul style="list-style-type: none"> <li>▶ Woody Release age 1 to late teens; research results for woody release; type, length and magnitude of response; why plants respond; which portion of dbh distribution benefits most; easy to control and hard to control upland species; waxy leaf species issues</li> <li>▶ Concept of marginal rate of return and typical rates of return for woody release; trends in woody release costs</li> <li>▶ Additional benefits of woody release beyond growth (fire danger, harvesting costs, inventory costs, expensing costs rather than capitalizing, quicker turnaround after clearcut)</li> </ul>
10:00	Refreshment Break
10:20	<b>Fertilization</b> – P deficient sites; sampling for nutrient levels and levels to look for; ratios needed; <ul style="list-style-type: none"> <li>▶ Concept of leaf area; efficient ways to fertilize; type, length, and magnitude of response; N alone vs N+P fertilization;</li> <li>▶ Piedmont vs coastal plain nutrient levels; which portion of dbh distribution benefits most; marginal rates of return for fertilization and impact of fertilizer costs. Trends in fertilizer costs.</li> <li>▶ Release and fertilization combined</li> </ul>
12:00-1:00pm	lunch
1:00	<b>Thinning</b> – Is thinning an intensive silvicultural treatment? <ul style="list-style-type: none"> <li>▶ Yes, for most markets it is a way of capturing the growth of intensive treatments. Timing of thins, frequency of thins, intensity of thins. Importance of markets. Which trees to thin.</li> <li>▶ Importance of keeping inventory information up to date and what detail is important. Concept of TQI. Difference in returns for different thinning strategies. Thinning slash vs loblolly pine.</li> </ul>
2:30—2:50	Break
2:50 — 5:00	<b>Pine straw raking</b> - opportunities, realistic sites, nutrients, effect on thinning schedules <b>Wood Quality</b> as impacted by silvicultural treatments <ul style="list-style-type: none"> <li>▶ MAI that can be attained for slash and loblolly pines for different levels of management</li> <li>▶ Using operability information and inventory information to maximize stumpage prices received for sales</li> <li>▶ Summary and questions</li> </ul>
5:00	Adjourn

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Register online at  
<http://conted.warnell.uga.edu>

### Registration by Regular Mail

\_\_\_\_\_  
Name - please print

\_\_\_\_\_  
Preferred name for badge

Business mailing address or  Home address (please check one)

\_\_\_\_\_  
City State Zip County, if Georgia

\_\_\_\_\_  
Home phone Work phone Fax

\_\_\_\_\_  
Email address  Please send me e-mails about other Warnell Continuing Education programs.

\_\_\_\_\_  
Position Organization/employer

*By registering for this event I agree to comply with all event and lodging cancellation policies.*

### **Intensive Forest Management: Quantifying Treatment Responses and Making Decisions based on Value Added**

23-24 September 2015

Early registration through 2 September 2015: .....\$245.00

Regular registration:.....\$295.00

Enclosed is a check #\_\_\_\_ (payable to Warnell School of Forestry and Natural Resources). Fee must be received to process payment.

**Cancellations:** Notify Ingvar Elle at 706-583-0566 ([ingvar@uga.edu](mailto:ingvar@uga.edu)) by 5:00 p.m. 9 September 2015 to receive a refund.

Mail payment to: Attn:

Ingvar Elle  
Warnell School of Forestry & Natural Resources  
University of Georgia  
180 East Green Street  
Athens, Georgia 30602