

# The Warnell Continuing Education Program

Daniel B. Warnell School of Forestry and Natural Resources

## Optimal Management of Southern Pine Plantations Under Varying Economic Conditions

Instructor: Dr. Barry Shiver

July 7-8, 2021

Flinchum's Phoenix, 650 Phoenix Road, Athens, GA



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

### Purpose

Silvicultural research and growth and yield research over the past 50 years in combination with financial analysis allow for an examination of treatments that should increase rates of return on investment. This course discusses how such evaluations should be made and provides examples for different stumpage markets and many combinations of treatments. The course will examine different combinations of silvicultural treatments and how those treatments impact return in different markets ranging from all products having low and high values to low pulpwood and higher solid wood markets.

### How One Will Benefit

Upon completion of this course, a forest landowner or land manager will have a better understanding of the effect different silvicultural treatments are likely to have on financial returns for existing and future southern pine stands in their market.

### Who Should Attend?

Foresters, land managers, forest landowners, and others interested in making objective decisions to effectively manage their pine stands with an emphasis on growth, yields, and maximizing financial returns.

### Instructor

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

### Continuing Education Credits

- 14.5 Continuing For. Ed. (CFE) hours - Cat 1 (approved)
- 13.5 Continuing Logger Ed. hours - Category B (approved)

*Full Attendance is Mandatory to Receive Credit*

**Cancellations:** Please notify Ingvar Elle at 706-583-0566 (ingvar@uga.edu) by 5:00 p.m. June 23, 2021 to receive a refund.

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Wednesday, July 7, 2021

Time	Event
8:00 a.m.	Registration
8:30-8:45	<b>Welcome – Ingvar Elle, Warnell School of Forestry and Natural Resources</b>
8:45-10:00	<p><b>Management Options and Biological Results</b></p> <ul style="list-style-type: none"> <li>• Optimal implies that there is an objective for management</li> <li>• Changes in timber management options over the last 50 years</li> <li>• As economic conditions vary demand also varies</li> <li>• To compare management alternatives we need to estimate wood for different management strategies at different ages – growth models</li> <li>• Biological growth – products, values, stand value vs tree value</li> <li>• Optimal biological rotations</li> <li>• Characteristics unique to timber as an investment</li> <li>• Effect of markets and risk on management decisions</li> </ul>
10:00-10:15	Break
10:15-12:00	<p><b>Financial Concepts and their Use in Decision Making</b></p> <ul style="list-style-type: none"> <li>• Financial Values - NPV, BLV, discounting, real and nominal interest rates.</li> <li>• Financial values and optimum management strategies</li> <li>• What constitutes a management regime</li> <li>• Optimum financial rotations compared to optimum biological rotations</li> <li>• Changes that can cause substantive changes in optimum financial rotation</li> <li>• Ranking management regimes</li> <li>• Quantifying cost of a one year delay in regeneration</li> <li>• Concept of Marginal Rate of Return</li> </ul>
Noon	Lunch
1:00-3:00	<p><b>Estimates of Future Stand Level Yields and Value are Key to Making Informed Decisions</b></p> <ul style="list-style-type: none"> <li>• NPV of future wood flows allows for objective management decisions</li> <li>• Prediction vs projection</li> <li>• Estimating yields for young stands (less than age 8-10)</li> <li>• Prediction uses growth and yield models which predict averages</li> <li>• Do averages exist anywhere? – A problem with strata level rather than stand level management</li> <li>• Projection provides a reset to growth and yield model using inventory data</li> <li>• Inventory data needed for use in projection</li> <li>• Incorporating inventory data for older stands</li> <li>• Allows for incorporation of measured dbh distribution, tree quality, and degrade</li> <li>• Examples of predicted estimates vs projected estimates</li> <li>• Underscores importance of inventory accuracy</li> </ul>
3:00-3:15	Break

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Wednesday, July 7, 2021 Continued

3:15-5:00	<p><b>Where did all this wood come from? Incorporating Silvicultural Responses</b></p> <ul style="list-style-type: none"> <li>Types and magnitude of silvicultural responses</li> <li>Adjusting for genetics, herbaceous weed control, juvenile fertilization, chemical site preparation for young stands (age &lt; 8-10) or older stands with no inventory data</li> <li>Adjusting for earlier silvicultural responses in projections of stands with inventory data</li> </ul>
5:00	Adjourn

Thursday, July 8, 2021

Time	Event
8:00 a.m.	<b>Quick review of day 1 and Question/Answer</b>
8:15-10:00	<p><b>Evaluating Existing Stand Alternatives: When to Hold em; When to Fold em</b></p> <ul style="list-style-type: none"> <li>Effect of future management and future rotation decisions on optimum rotation age for existing stands</li> <li>Calculating NPV incorporating future management and future rotations</li> <li>Evaluating existing stands under different pricing alternatives: (1) Low pulpwood (PW) relative to solid wood (SW), (2) High PW relative to SW, (3) Low prices all products, (4) High prices all products</li> <li>How to handle thinning cash flows when evaluating stand alternatives</li> <li>How to handle fertilizer and brush control costs when evaluating stand alternatives</li> </ul>
10:00-10:15	Break
10:15-12:00	<p><b>A Commonly Used Alternative for Existing Stands is Thinning</b></p> <ul style="list-style-type: none"> <li>General concepts of thinning</li> <li>Stand development with and without thinning</li> <li>Impacts of thinning on optimum rotation age with different stumpage pricing</li> <li>Effects of planting density and genetics on thinning timing and returns</li> <li>Importance of intermediate cash flows on financial returns</li> </ul>
12:00-1:00	<b>Lunch</b>
1:00-2:00	<p><b>Thinning Continued</b></p> <ul style="list-style-type: none"> <li>Importance of stem quality in thinning</li> <li>Importance of getting a quality operational thinning job</li> <li>Thinning intensity effects on returns</li> <li>Correlation of age of first thin and optimal rotation age</li> <li>Cost of delaying age of first thin from optimal</li> <li>Reducing price of PW in first thin or giving it away to get timely thinning</li> </ul>

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Thursday, July 8, 2021 Continued

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2:00-3:00	<p><b>To Fertilize or Not to Fertilize? Impact on Optimal Rotations and Financial Returns</b></p> <ul style="list-style-type: none"> <li>• Fertilization response – type, duration, and magnitude</li> <li>• Impact of fertilization on total and product yields</li> <li>• Fertilization and thinning</li> <li>• Marginal rates of return – fertilization</li> <li>• Cost of fertilization and effect on returns</li> </ul>
3:00-3:15	Break
3:15-4:00	<p><b>Brush Control in Existing Stands – Impacts on Optimum Rotations and Financial Returns</b></p> <ul style="list-style-type: none"> <li>• Brush control response – type, duration, and magnitude</li> <li>• Impact of brush control on total and product yields</li> <li>• Brush control and thinning</li> <li>• Marginal rates of return – brush control</li> </ul>
4:00-4:30	<p><b>Effects of Other Cash Flows on Optimal Management Decisions</b></p> <ul style="list-style-type: none"> <li>• Pine straw leases</li> <li>• Hunting leases</li> </ul>
4:30-5:00	<b>Course Summary and Recap</b>
5:00	<b>Adjourn</b>

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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 c 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.*

### **Optimal Management of Southern Pine Plantations Under Varying Economic Conditions**

July 7-8, 2021

Early registration through June 16, 2021.....\$300.00

Regular registration.....\$350.00

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

Mail payment to Attn:

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