
The Florida Forest Steward



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Congratulations to the Forest Stewardship Landowners of 2003: Bob Reid and Betsy Clark

When you meet Bob Reid and Betsy Clark of Niceville, FL, it doesn't take long to realize they share a passion for nature that is matched by few, and Little Creek Woods, their forest property in Walton County, is a testament to this. Although only recently enrolled in the Forest Stewardship Program, Bob and Betsy have been involved with natural resources for many years and are able to do much of the work on the property themselves. Bob's father was a forester, and Bob has a degree in zoology with special interest in herpetology. In addition, he has considerable experience in wildland firefighting and remote wilderness work with the US Forest Service, mostly in Montana and Idaho. He and Betsy have both served for several years on the board of the Florida Wildlife Federation.

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Little Creek Woods consists of more than 850 acres, covering a diverse mix of upland and bottomland forest habitats, openings and a small pond. Restoring the original longleaf/wiregrass ecosystem is their main focus. They are also managing a small longleaf pine agroforestry plot,

where scalped versus unscalped silvopasture planting can be compared. The long-range goal at Little Creek is to develop a multi-age forest supporting a full complement of wildlife, while providing a permanent source of

income for future generations. According to Bob, the Forest Stewardship program has contributed much to this goal by providing a guiding plan and facilitating the assistance of experts in forest management and wildlife biology. Perhaps more important, the program has afforded Bob and Betsy a way to network with other landowners to share experiences and help work toward common goals. In Bob's words, "Few individual landowners can hope to protect enough wild habitat to



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make a difference. Only through the coordinated effort of many Forest Stewardship participants will the future of wild places in Florida be secure."

Tour Highlights

On May 18, 2004, 35 landowners and natural resource professionals gathered for a Forest Stewardship Tour of Little Creek Woods. This tour was rescheduled from an earlier date due to severe weather but we still got a little wet on the day of the tour. Thanks to Mike Goodchild of the Walton County Cooperative Extension Office, we had a nice big tent to stand and talk under while it poured during the first part of the tour. The following is an account of our visit and some of the things we learned about the property.

Stop 1 - Timber Management: Ken Oser, a consulting forester out of Milton, Florida, assists with timber management on the property. Management of the timber resource here is toward the production of high quality forest products while maintaining and enhancing wildlife habitat. The intensity of management varies based on the dominant species. Slash pine stands are being intensively managed and will eventually be converted to longleaf stands. Longleaf pine stands are actively managed on long rotations utilizing natural regeneration, see the next article for more details on this method.

- **Thinning:** 35 acres were mechanically thinned (every 5th row removed) in April 2003 to provide more growing space for the residual stand. This stand will be grown for another 6-8 years, clearcut and planted with longleaf pine, which is

better adapted to the site and a better fit for the landowner's wildlife objectives.

- **Clearcut:** 10 acres of slash pines were clearcut and planted with longleaf tubelings in June 2003. Survival has been very good.

Stop 2 - Agroforestry Demonstration

Plot: Six acres of bahiagrass pasture were machine planted with longleaf pine with wide spacing (8' X 6' X 40') in January 2003 to serve as a demonstration. This type of planting arrangement has been shown to maximize both timber and livestock production. To compare different site preparation outcomes, half the rows were scalped and half were not. Mike Goodchild, Walton County Natural Resources Agent, is helping Bob with this project.

Stop 3 – Pond: A properly built and managed pond can yield from 100 – 300 pounds of fish per acre per year. Ponds also provide recreational opportunities and habitat values for birds, reptiles, amphibians and mammals. This pond is stocked with bream and bass as we could see when Bob threw some food in. Fish ponds require the proper stocking of the correct species and number of fish, a balanced harvest of mature fish, good water quality management, and proper aquatic vegetation management. In Florida, 100 bass and 500 bluegill fingerlings (1- to 4-inch fish) per acre is a recommended stocking. Dr. Charles Cichra wrote a very useful publication covering the guidelines to "Managing Florida Ponds for Fishing". This publication is online at: edis.ifas.ufl.edu/FA001.

Stop 4 – Planted longleaf pines, prescribed burning and wildlife management:

Planted longleaf pines and prescribed fire: These pines were planted in 1996. Forty-four acres were planted on an old field and 35 acres were planted on cut over timberland. On the former crop land, hardwood competition is non-existent, while turkey oak, bluejack oak, post oak, persimmon and yaupon are present on the cut over area. Some of these have been retained for wildlife food. This stand was burned last winter and will be burned on a 2 to 4 year rotation to keep hardwoods in check and promote herbaceous plants for wildlife.

Wildlife management: Wildlife management practices on the property promote habitat diversity and quality. Bob particularly enjoys bow hunting for deer and watching the variety of game and non-game birds that use the property. Important habitat management practices include retention of desirable upland and bottomland hardwoods; prescribed burning; installation and management of a fireline network; cavity box installation for bluebirds, wood ducks, and bats; gradual conversion of offsite slash pines to longleaf pines and maintaining permanent wildlife openings. Selective thinning of pine to promote further timber growth can also be of great benefit to wildlife habitat. Wildlife habitat can be enhanced by treatments that promote early succession plants: creating and maintaining openings by mowing, burning and discing. Food plots can supplement these practices but cannot be considered stand-alone wildlife habitat. When establishing food plots it is very important to assure that

the appropriate pH and nutrients are available to the variety of agronomic crops you choose.

After the tour we gathered for a supper, prepared by Bruce Ward, Walton County Extension Director; and sponsored by Farm Credit of Northwest Florida, Florida Farm Bureau and Meeks Farms and Nurseries. We appreciate all of their continuing support for Florida's Forest Stewardship Program events.

Thanks to everyone who made it out to help with or participate in the tour. Also, many thanks to the other landowners who hosted a Forest Stewardship Tour this year: Bill Bennett, Levy County and Doug Williams, Leon County. We appreciate all your efforts and hospitality.

Natural Regeneration of Pines: Is it Right for You?

By Chris Demers and Dr. Alan Long

Natural stand regeneration uses the seed crop of the mature trees left on the site to regenerate the next stand. This practice can only be used if the site has not been fully harvested and the right number of mature, vigorous trees is present to provide the seed. As with all land management practices, all decisions should be based on your management objectives and what you have to start with. These are some important questions to answer before deciding if natural regeneration is the right option for you:

-What are your objectives for the site? Are you planting or regenerating trees for aesthetic reasons, providing future income, restoring a natural forest community, or promoting wildlife?

Some of these objectives are compatible with each other and natural regeneration may be a way to reach them.

-Do you wish to avoid removing the entire overstory at one time? If so, natural regeneration methods will likely be the way to go.

-How much control over stand stocking or spacing do you desire or require? Planting will give you the most control.

-Will you harvest pine straw? Natural regeneration may not be compatible with this practice. Planted rows, at least 10 feet apart, work best for straw harvesting.

-How much will planting cost?

-How was the current stand regenerated?

-How many age classes are there?

-What are the soil conditions? This will help determine if the trees on the site are best suited or if the site will be difficult to regenerate.

Natural Regeneration Guidelines - The Shelterwood System

Landowners who have an even-aged stand (1 age class) of pines and wish to regenerate it naturally can take advantage of a practical, inexpensive natural regeneration method known as the shelterwood system, a natural seeding method well-suited to the biological requirements of most pine species. The shelterwood method maximizes per-acre seed production and yields sufficient needle litter to fuel fires hot enough to inhibit hardwood regeneration and to prepare the seed bed

for germination. Most of the mature stand can be removed at the end of the rotation, but a portion is left standing as a seed source until regeneration is well established. Success with this method depends on: a good seed year with adequate seed supply, a receptive seedbed, minimal vegetative competition, and ample soil moisture.

The shelterwood system requires 3 cuts that serve 3 basic purposes:

- 1- prepare the stand for production of abundant seed,
- 2- modify the environment in a way that promotes germination and survival, and
- 3- release the naturally regenerated seedlings from overstory shading.

Preparatory Cut

The preparatory cut is 10 or more years before the planned final harvest date of the stand and at least 5 years before the seed cut. This cut is essentially a thinning which reduces the basal area (BA) of the stand to a maximum of 60-70 square feet per acre of dominant and codominant pines (about 100 – 120 10-inch pines per acre). This cut promotes crown development and cone production. Most of the hardwoods not controlled by fire should also be cut at this time, but leave some fruit producing hardwoods, like oaks and persimmon, for wildlife if that is an objective.

Seed Cut

The seed cut is made 5 years prior to the planned harvest date and leaves trees with the most well-developed crowns and evidence of past cone production. Monitor the cone crop by taking spring binocular counts of both flowers (next year's cone crop) and 1 year-old conelets (this year's cone crop) on some trees in

the regeneration area. Conelets resemble small pink or light green cones and are located near the ends of the branches; cones are green and are located further in on the branches. Both conelets and cones are in the top 2/3 of the tree crown. These counts will give an estimate of the potential for the cone crop to regenerate the stand so that the seedbed can be prepared before the cones open.

Cone production peaks in the range of 30 to 40 square feet BA per acre for longleaf pine, but the lower end of this range is preferred because logging-related seedling losses increase when more trees are removed in the final cut. Fewer seed trees are required for regenerating slash and loblolly due to their more prolific cone production. The table below provides the recommended number of leave trees/acre based on diameter for each species (from Duryea, 1992).

After the seed cut, and during the year before seedfall, a prescribed

burn will remove accumulated litter and expose sufficient mineral soil for seedling establishment. A late-spring burn is most effective in controlling woody stems.

Removal Cut

Once an acceptable stand of seedlings is established (700-900 seedlings per acre is a comfortable range), the parent overstory can be removed. This cut can be delayed if necessary to take advantage of additional seed crops, for

other management needs or for improved market conditions. Seedlings can survive 8 or more years under the parent overstory with little adverse effect. However, logging damage becomes more serious once seedling height growth begins. Leave a few residual seed trees per acre to help offset possible damage.

Naturally regenerated stands require the same attention as planted stands with respect to insects, diseases and competing vegetation. When regenerating longleaf pine naturally, regular prescribed burns can be scheduled throughout the rotation to maintain a low understory, but young stands should not be burned for 3 to 4 years after seedlings begin height growth out of the grass stage or reach a height of approximately 6 feet. Unless too numerous, slash and loblolly pine stands should not be burned until the trees are at least 6 inches in diameter.

Species	Number of seed trees to leave per acre by diameter class				Frequency of seed crop (years)
	Tree Diameter (inches)				
	10	12	14	16+	
Slash	12	9	9	4	Every 3 years
Loblolly	12	9	9	4	Every 1-3 years
Longleaf	55	38	28	21	Every 5-10 years

More information about this and other regeneration methods can be found in

“Forest Regeneration Methods: Natural Regeneration, Direct Seeding and Planting”, on-line at edis.ifas.ufl.edu/FR024.

The Selection System – Regenerating an Uneven-Aged Stand

Uneven-aged management systems create or maintain stands with at least three distinct age classes. If the stand is a balanced uneven-aged stand, the ground area occupied by each age class is

approximately equal. This management approach allows for more frequent periodic harvests of mature trees while maintaining a continuous forest cover, which is desirable for many species of wildlife and various recreational opportunities.

Uneven-aged stands are regenerated (or maintained) by a selection harvesting system. Trees representing a range in size are harvested at fixed intervals (called the cutting cycle, which ranges from 10 to 25 years) and regeneration occurs naturally in the harvested openings. Smaller, lower quality trees are also removed to improve the overall quality of the stand. More information about this method is in Gagnon and Jokela's Extension circular, "Opportunities for Uneven-Aged Management in Second Growth Longleaf Pine Stands in Florida", on-line at edis.ifas.ufl.edu/FR132.

Conclusion

So is natural regeneration right for you? Here's a summary of the advantages and disadvantages to help you decide:

Advantages of Natural Regeneration

-The initial costs of stand establishment may be lower, especially if site preparation is not necessary.

-Less heavy equipment and labor is required.

-Group selection systems maintain a mosaic of forest stages, which is best for many wildlife species and some types of recreation.

-More aesthetically pleasing for landowners who prefer to see a forest stand which varies

in height and diameter and is unevenly and naturally spaced versus in rows.

Disadvantages

-A seed crop must be available and seed dispersal must be timed correctly with site preparation so that a suitable seedbed is available for seed germination.

-Soil moisture must be adequate for the seeds to germinate; exceptionally dry years or sites may result in poor germination or seedling mortality.

-Insects and other small seed-eating animals may consume most of the seed.

-Competing vegetation may be a problem for survival and growth for a longer time period than with planting because seedlings are smaller or seed may not be disseminated in the first year.

-If the seed is abundant and a dense stand results, a pre-commercial thinning may be necessary to decrease the number of trees per acre. For example, if there are more than 2000 slash pine seedlings at age three, growth may be inhibited and the site will require pre-commercial thinning to 700 trees per acre. This thinning may be accomplished by hand-cutting or roller chopping rows of seedlings and leaving the remaining rows about 10-12 feet apart.

-Because the site is planted with seed versus 1-year-old seedlings, the rotation length (time until harvest) may be increased by one or more years.

-The seed coming from the seed trees is not genetically improved as when the seed comes from a seed orchard.

-Natural regeneration may be less expensive initially but may be costly in the long run if it is necessary to prepare the site or precommercially thin.

-The landowner has very little control over spacing between trees or stocking levels.

References

Demers, C and A. Long. 1999. Longleaf Pine Regeneration. IFAS, University of Florida, Cooperative Extension Service. SS-FOR-13. 5 p.

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Timber Price Update

This information is useful for observing trends over time, but does not necessarily reflect current conditions at a particular location. Landowners considering a timber sale would be wise to let a consulting forester help them obtain the best current prices. Note that price per ton for each product is included in parentheses after the price per cord.

Stumpage price ranges reported across Florida in the 2nd Quarter 2004 Timber Mart-South (TMS) report were:

- Pine pulpwood: \$16-\$30/cord (\$6-\$11/ton), ↑ from 1st Quarter 2004
- Pine C-N-S: \$54-\$77/cord (\$20 - \$29/ton), ↓
- Pine sawtimber: \$79 - \$116/cord (\$30 - \$43/ton), ↓
- Pine plylogs: \$109 - \$130/cord (\$38 - \$49/ton), ↓

- Hardwood pulpwood: \$14 - \$27/cord (\$5 - \$9/ton), ↓

A more complete summary of 2nd Quarter 2004 stumpage prices is available at your County Extension office. See *forest2market.com* for weekly, South-wide, per-ton price updates for the major pine and hardwood timber products.

Trend Report

Stumpage prices in Florida generally reflect those across the South, most of them averaging lower than last quarter. Despite the heavy rains picking up in some parts of the region, pulpwood is still very plentiful and difficult to sell. Some Timber Mart-South reporters are blaming the price lull on the high hauling costs due to high fuel prices.

Upcoming Events

Gulf Coastal Lowlands Tree ID Lab.
August 25, 2004, 1:00-4:00 PM, Garden Club Center, 8th St, Port St Joe, FL. Free and open to the public. Leon County Extension Agent Will Sheftall will teach diagnostic characteristics and ID tips for correctly identifying 75 species of native trees and shrubs.

Annual Tree ID Lab. August 26, 2004, 9:00 AM-12:30 PM, Leon Extension Auditorium, 615 Paul Russell Rd, Tallahassee, FL. Free and open to the public. Take an indoor field trip with UF/IFAS Extension Agents Stan Rosenthal and Will Sheftall to see if you can correctly identify 100 species of native trees and shrubs, and learn ID tips and diagnostic characteristics from the experts.

Florida Forestry Association Annual Meeting: Staying in the Game! September 8-9, Villages of Baytowne Wharf in Sandestin, FL. This year's Annual Meeting

is designed to share winning strategies to help the forestry team stay in the game both economically and ecologically. The first day of the meeting is Landowner Day and will feature information on the new BMP Notice of Intent rule, cogongrass and its impact on pine plantation productivity, pine straw and other alternative enterprises, and practical ways to reduce fuel and cut brush. Other topics to be covered during the meeting are forestry's economic impact study results, new market information for small diameter pines, an up-close look at the proposed Greenway Initiative for Northwest Florida, and the proposed missile range for the Big Bend. Call the Florida Forestry Association at 850-222-5646 to register for the meeting. A registration form is available on-line at www.floridaforest.org/.

UF West Florida REC Wildlife Expo. October 1, 2004; University of Florida West Florida Research and Education Center Jay Research Station. Topics will include: deer breeding chronology, habitat and basics of Quality Deer Management, using herbicides for managing wildlife habitat, food plots, antler development, legal practices for doves, managing native vegetation to enhance wildlife habitat. Pre-registration: \$35.00 (before September 26), On-site registration: \$45.00, Children 16 & under: \$20.00, Vendor registration: \$250.00

(Contact Ms. Robin Vickers at 850-983-5216 x 113). For more information about the program contact Dr. Rick Williams at 850 983-5216 ext. 102 or rawilliams@ifas.ufl.edu.

Stewardship Property Tour, Forest October 8, 2004, Property of John Wilkerson, Walton County. Call the Walton County Cooperative Extension Service Office at 850- 892-8172 to register. Announcement to be mailed.

Southeastern Society of American Foresters Annual Meeting: It's All About Wildlife. November 7 - 9 at the Hilton Riverfront Hotel in Jacksonville, FL. Landowners and natural resource professionals are invited to participate in this event, which will include presentations on game management, economics, recreation, and endangered species. Participants will also have their choice of wildlife-related field trips. Arrangements are being made for trips to D-Dot Ranch, Longleaf Timber Company lands, and an urban forestry walking tour. For more information contact Charles Hall at 706-845-9085 or chall@asginfo.net.

For more information about Florida's Forest Stewardship Program and forest management visit the Florida Forestry Information Web site at www.sfrc.ufl.edu/Extension/ffws/ffwshome.htm

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