Pro-B treated forest using group selection

As they work, tree markers need at most to remember only three fractions (each a rate of tree removal for each category). This flexible method also allows managers to retain larger trees that improve structural diversity and wildlife habitat. Multiple species are easily accommodated and tree markers can leave the best cone producers, those with the best form or broad flattops, while removing those that appear likely to die soon and breaking up overly-dense clusters. Different individuals can apply the Pro-B Method and obtain consistent results. Pro-B provides guidance for maintaining a stable stand structure while allowing for the periodic removal of high-quality forest products on a 10 to 15-year cutting cycle.

Pro-B CALCULATOR
Standard forest inventory data are easily entered into the yellow columns at the top left of the Pro-B Calculator, which is a spreadsheet with all needed formulas embedded. Marking guidelines needed to guide a particular forest to the specified target basal area are rapidly computed and displayed in green cells at the top center of the Pro-B Calculator. Forest stand condition is then displayed in both tabular and graphic formats.

Stand structure is shown graphically, both before and after thinning. Once the Pro-B Calculator becomes available at a website, anyone in the world with an internet connection can run their inventory data online and obtain guidance for managing their forest using the Pro-B Method.

FIELD APPLICATION of Pro-B
Early management experience indicates that Pro-B is a low-impact method (as perceived by members of the public), that fosters regeneration, maintains forest growth and conserves biological diversity in longleaf pine forest ecosystems. Its use in this and other forest types is expected to expand with time.

Pro-B treated forest blends well into a landscape

For more information Scan Here!
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LONGLEAF PINE REGENERATION & Pro-B METHOD FOR SELECTION SILVICULTURE

RESTORING AND MANAGING
LONGLEAF PINE ECOSYSTEMS

USDA Forest Service
Southern Research Station
SRS-RWU-4158
REGENERATION IS CRUCIAL

Although longleaf pine was known in the past for erratic seed production and poor seedling survival, knowledge gained through research in recent decades has greatly increased regeneration success. Periodic regeneration, preferably by natural means and if necessary by artificial approaches, is essential for the sustainable management of longleaf pine forests.

ARTIFICIAL REGENERATION

When a natural seed source is absent, sites can be regenerated by planting longleaf pine seedlings. These are produced in tree nurseries and grown as either bare-root or container planting stock. Woody plant competition should be controlled by mechanical, herbicide and/or fire treatments for site preparation. Container-grown seedlings can then be planted anytime from July to March, while bare-root seedlings are best planted from November to February, when soil moisture is adequate. To obtain 300 well-established seedlings per acre, 500 or more seedlings may be planted as a hedge against mortality, which can sometimes be as high as 40 percent but is often lower.

NATURAL REGENERATION

When a natural seed source is present, natural regeneration allows managers to forgo the expense of planting. Although exceptional seed crops do not occur each year, some “seed rain” falls from the longleaf pine overstory every year. This modest seed input is adequate to support regeneration for uneven-aged management. Even-aged management, on the other hand, depends greatly on infrequently-occurring heavy seed crops for successful regeneration.

UNEVEN-AGED MANAGEMENT

Single-tree Selection and Group Selection may be successfully applied in longleaf pine forests and woodlands. These selection methods maintain a continuous canopy cover while providing a sustained output of forest products. The key to successful uneven-aged management is to maintain each stand at a basal area that allows the pine trees to effectively regenerate while remaining free to grow. Traditional forest regulation approaches for uneven-aged management, like BDq and VGDG, have proven to be complicated to apply in the field and have not been widely adopted. Therefore, work on developing more practical and effective methods has proceeded.

PROPORTIONAL-B METHOD (Pro-B)

This easy-to-learn method for selection silviculture overcomes many earlier objections about uneven-aged management, making it a practical and efficient option for forest managers. Field crews can mark stands, to a target basal area with high precision, using only a single marking pass, because tree size-classes are combined into three ecological and product-relevant categories.