

# Daniel Boone National Forest

WINCHESTER, KENTUCKY



## *Shortleaf pine savanna and shortleaf pine woodland management\**

### Background

During 1998-2000, approximately 85% of the shortleaf pine on the Stearns Ranger District was destroyed by the Southern Pine Beetle (SPB). The Forest is currently restoring shortleaf pine across the district, with management objectives that address SPB susceptibility while creating critical wildlife habitat.

### Restoration Activities

Several shortleaf restoration projects are currently underway at Daniel Boone. Forty-one acres of containerized shortleaf seedlings were planted in the spring of 2015 using a two-age management system. On this site, the overstory was thinned to 10-20 square feet/ acre basal area. Retained, or leave trees, were primarily oak and hickory with a diameter at breast height greater than 12 inches. Retaining an overstory hardwood component preserved important bat habitat. After thinning, the site was prepped with a masticator and planted with 436 shortleaf containerized seedlings per acre. This stand is expected to develop into a well-stocked mixed pine hardwood stand. This two-age restoration project achieved two goals: (1) shortleaf restoration in the understory and (2) preservation of important bat roosting habitat in the overstory.

The “range fields”, another shortleaf management area at Daniel Boone, contain an exceptional diversity of native grasses, wildflowers, and wildlife. This area is characterized as a grassland with widely spaced pines, or a pine savanna (10-30 square feet/ acre basal area), that is interspersed with shortleaf pine or mixed hardwood woodlands (both have 30-50 square foot /acre basal area). The range fields were previously used for grazing and are now managed with prescribe fire every one to two years. The range



*Shortleaf pine savanna management at the “range fields,” Daniel Boone National Forest. Credit: Mike Lick*



*Shortleaf pine woodland at the “range fields,” Daniel Boone National Forest. Credit: Mike Lick*

*\*The shortleaf pine forest type is an FIA-defined forest type group where pines comprise 50% of the species present in a forest stand and shortleaf is the most common pine that occurs. Basal area for savannas ranges from 30-45 sq. ft./ acre and woodlands ranges from 45-65 sq. ft./ acre. Basal area is used to describe the average amount of an area (usually an acre) occupied by tree stems (trunks) and is measured by the total cross-sectional area of all stems in a forest stand-measured at breast height and typically expressed as square feet per acre. Both savannas and woodlands are described as having widely spaced trees with sunlight reaching the forest floor and contain diverse understory vegetation and wildlife.*



**Shortleaf Pine Management Area (SMA)** fact sheets highlight regional shortleaf pine management or research projects. Please inquire with project contact/ partners to learn more about a specific management area. For general questions concerning SMAs or the [www.shortleafpine.net](http://www.shortleafpine.net) website, please contact: **Holly Campbell**, [hcampbell@sref.info](mailto:hcampbell@sref.info)

The Shortleaf Pine Initiative represents a broad range of federal, state, and private agencies and organizations currently working to promote shortleaf pine ecosystem restoration. For more information about shortleaf restoration or the Initiative, please visit: [www.shortleafpine.net](http://www.shortleafpine.net)

fields contain “veteran” shortleaf pine trees aged 70-90 years. It is presumed that these trees survived the massive SPB epidemic because they contained a lower basal area, or stands were less dense, than surrounding stands.

Future restoration activities at The Forest are planned through the Greenwood Vegetation Management Project. Under this proposed action, 447 acres across 19 shortleaf stands will be commercially thinned to 60-90 square feet /acre basal area and then managed with prescribed fire to enhance wildlife habitat. These forest management activities will assist in reducing SPB susceptibility. An additional 731 acres of shortleaf and shortleaf pine-hardwood forests will be established through this project and maintained with prescribed fire.

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### Project Partners

Kentucky Department of Fish and Wildlife,  
Kentucky Division of Forestry, National Wild  
Turkey Federation

### Project Contact

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