

**USDI-NATIONAL PARK SERVICE
STONES RIVER NATIONAL BATTLEFIELD**

**FY2006 Annual Report
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**NATURAL RESOURCES CONSERVATION SERVICE
ALDERSON, WV PLANT MATERIALS CENTER**

INTRODUCTION –

Stones River National Battlefield is located in South-Central Tennessee on the outskirts of the City of Murfreesboro. Historically, this park is the location of the first major battle in the Union's effort to divide the Confederacy by mounting an eastward moving campaign through the South to the Atlantic Ocean. The battle fought here between December 31, 1862 and January 2, 1863 ranged over 4,000 acres, of which 10 to 12 percent is preserved within the current Stones River National Battlefield. Many battlefield accounts of the difficult terrain exist, especially of the cedar thickets, cedar brakes, and rock ledges and outcroppings that presented major obstacles to the movement of troops and equipment. Cedar glades, another component of the battlefield terrain, are also mentioned in battlefield records.

In addition to its' historical significance, Stones River National Battlefield is also ecologically important. Stones River is one of the top twenty-six calcareous glades in Tennessee and one of the top 40 glades in the Southeast. Calcareous glades of the Southeastern United States contribute to the biodiversity of the region through their unique habitat and the species that colonize that habitat. In Tennessee, the Division of Natural Heritage has found that 10 percent of the listed rare plants are found in limestone glades. A glade is identified as an open area of relatively shallow, often rocky soil surrounded by cedar woods. Some examples of rare taxa that inhabit Stones River glades are: *Echinacea tennesseensis*, Tennessee coneflower, and *Talinum calcaricum*, limestone fameflower

In 1995, the Natural Resources Staff at Stones River conducted a vascular plant inventory of the calcareous glades of the battlefield. This inventory established a vegetative baseline for monitoring vegetative changes within the Stones River glades. The data also provided information about the direction of change for major glade indicators with the increase in woody, that is, cedar cover. Population trends for major glade indicator species have declined with increasing cedar cover. Thus, the Stones River National Battlefield opted to enter into an agreement with the USDA-NRCS Plant Materials Center in Alderson, WV to produce seed and/or seedlings of some 20 species of glade indicator plants in order to preserve and/or improve cedar glade floristic authenticity. Plants are produced by the Plant Materials Center from Stones River ecotype seeds and used to establish seed production fields within the park. Seed harvested from these fields will then be used to enhance floristic authenticity within the Park's calcareous glades.

ACCOMPLISHMENTS –

Fiscal year 2006 marked the fourth year of this agreement. During 2006, PMC personnel continued to harvest and condition seeds from native species of interest to the Stones River Natural Resource Staff and produce seedlings for establishment of seed production fields at the battlefield park. Approximately 18,000 seedlings were produced at the PMC and delivered to Stones River for transplanting into their seed production fields.



Typical *Andropogon ternarius* Seed Production Field at Stones River

Seedlings produced during 2006 included: *Panicum anceps*, flat-stemmed panic grass; *Elymus virginicus*, Virginia wildrye; *Andropogon ternarius*, splitbeard bluestem; *Andropogon gyrans*, Elliott's bluestem; *Rudbeckia hirta*, black eyed susan; *Forestiera ligustrina*, privet; *Eragrostis spectabilis*, purple lovegrass; *Bouteloua curtipendula*, sideoats grama; and *Lespedeza virginica*, slender lespedeza.

In fiscal year 2007, production of seedlings for establishment of seed production fields and restoration of the park's floristic authenticity is expected to continue. Species of interest for 2007 are as follows: *Dichanthelium spp.*, deertongue; *Panicum anceps*, flat-stemmed or beaked panic grass; *Eragrostis spectabilis*, purple lovegrass; *Andropogon ternarius*, splitbeard bluestem; *Elymus riparius*, riverbank wildrye; *Elymus villosus*, hairy wildrye; *Elymus virginicus*, Virginia wildrye; *Chasmanthium latifolium*, river oats; *Cornus drummondii*, roughleaf dogwood; *Philadelphus pubescens*, hoary mock orange; *Ostrya virginiana*, hop hornbeam; and *Cephalanthus occidentalis*, common buttonbush.