

Healthy Forest Restoration Act Projects **Title IV – Silvicultural Assessment**

Project Title: Maintaining Habitat Diversity, Sustaining Oak Systems, and Reducing Risk of Mortality from Gypsy Moth and Oak Decline on the Daniel Boone National Forest: Silvicultural Approaches and Their Operational Dimensions

Significance: Oak forests dominate the southern Appalachian landscape. The arrival of the gypsy moth and related oak decline over the next few decades threatens the character and integrity of these ecosystems and the benefits and ecological functions they provide on tens of millions of acres of public and private land.

Approach: The recently completed Land and Resource Management Plan for the Daniel Boone National Forest provides for a broad range of silvicultural treatments to sustain oak forests and to provide for a variety of structural habitat. A research study is being developed (currently in the stand selection/study plan development phase) on 600 acres to assess how the various



silvicultural treatments will affect vulnerability to gypsy moth/oak decline in both the near term and long term, as well as whether the treatments will sustain oak forests. Oak-dominated stands will be selected on sites representative of a large majority of forest land in the southern Appalachians and the silvicultural treatments will be applied using the Title IV categorical exclusion. A combination of measured and modeled outcomes of the silvicultural treatments will be used to assess vulnerability to gypsy moth/oak decline. Some results will be available soon after harvest, while others will require 10 years or more to obtain. This project is a joint effort between the Northeastern Research Station, Southern

Research Station, Forest Health Protection, and the Daniel Boone National Forest.

Outcome(s): The major outcome will be knowledge of the effectiveness of various silvicultural treatments to condition oak forests to withstand and recover from gypsy moth, retaining the composition, structure and function associated with these ecosystems.

Benefits: Silviculture can be used to sustain oak forests and the commodity and non-commodity benefits they provide.

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