

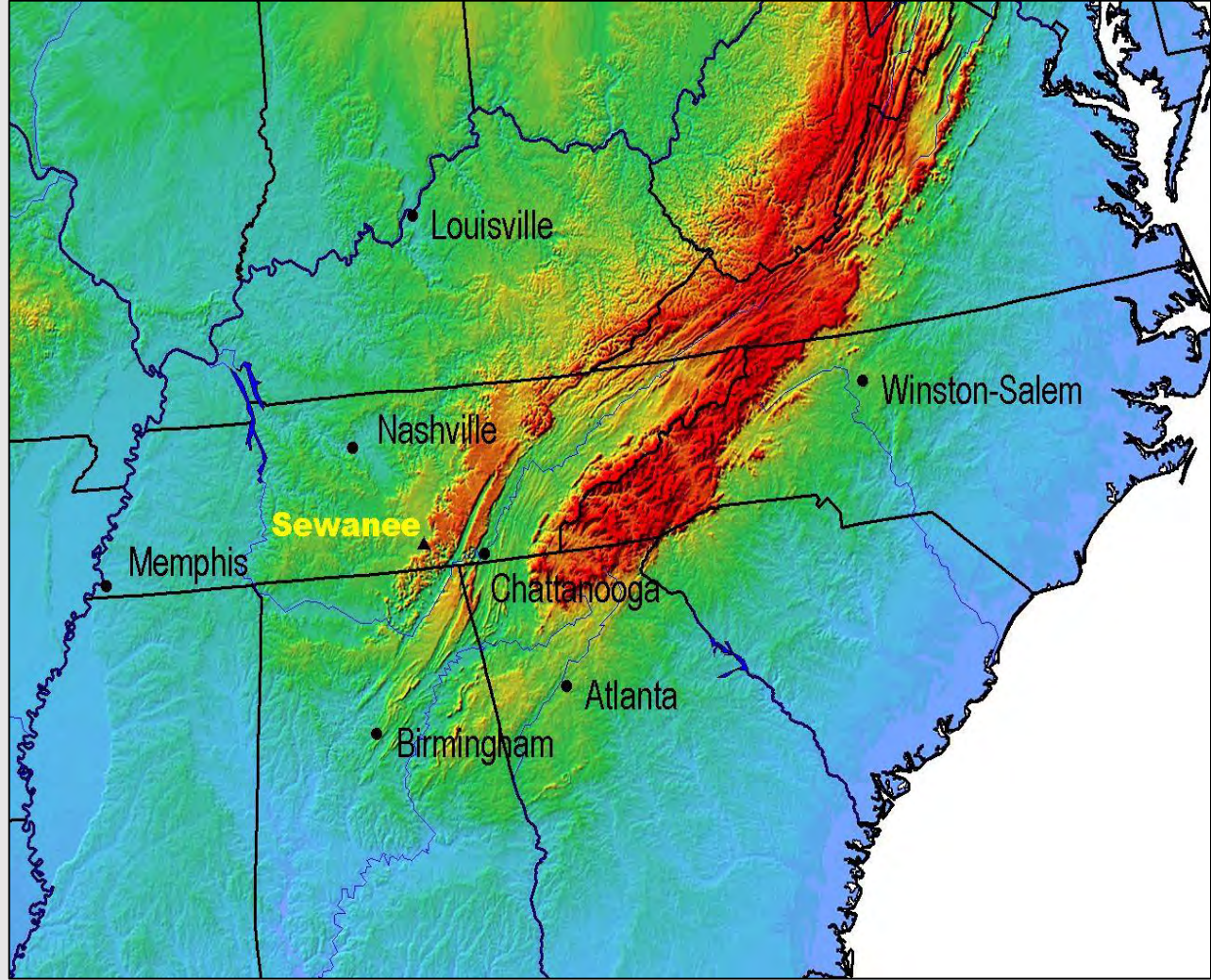
Ten Years of Oak/Pine Woodland Creation at The University of the South

Nate Wilson, Ken Smith, Amy Turner



- **Location overview**
 - **History**
 - **Our projects**
 - **Our students**
 - **Our partners**

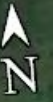




sewanees map

Legend

Google Earth



On top of plateau (1850-2000 feet elevation)

Undulating surface with sandstone derived soils 1-4 feet deep, mainly Ultisols

10-15 tree species per acre, hardwood dominated

Many stands high graded, overstory 80-120 years dominated by oak

Native pine = shortleaf and Virginia

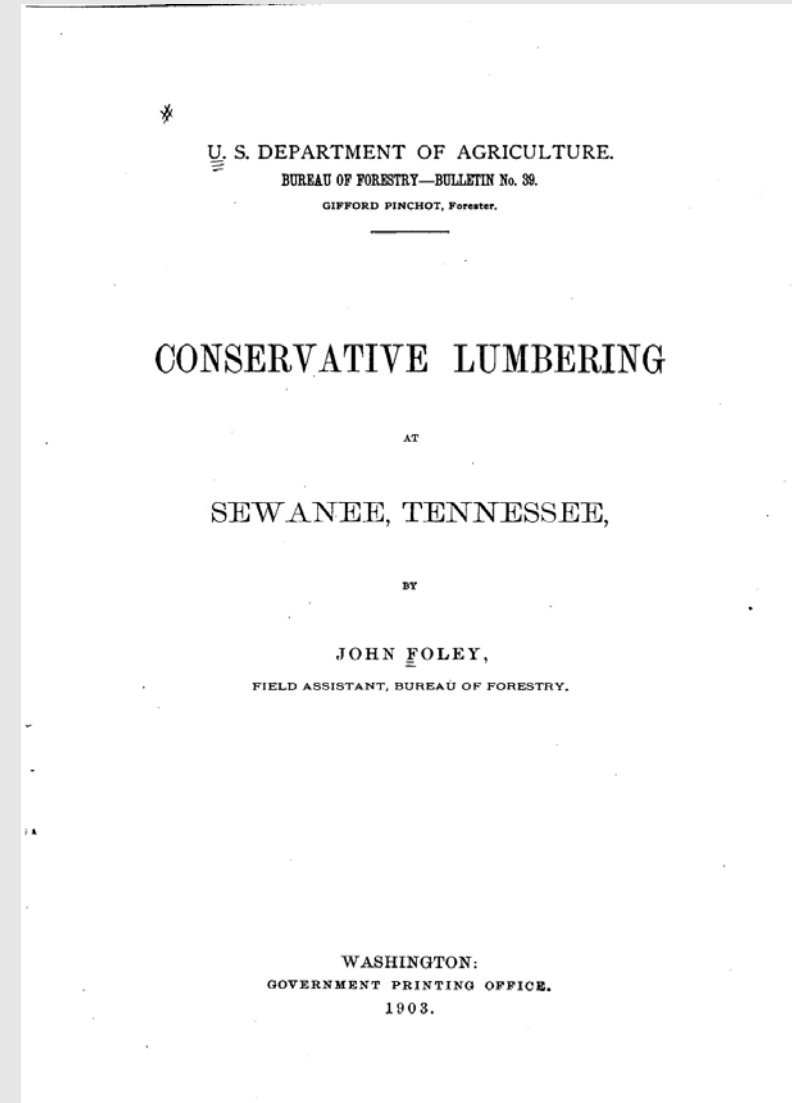
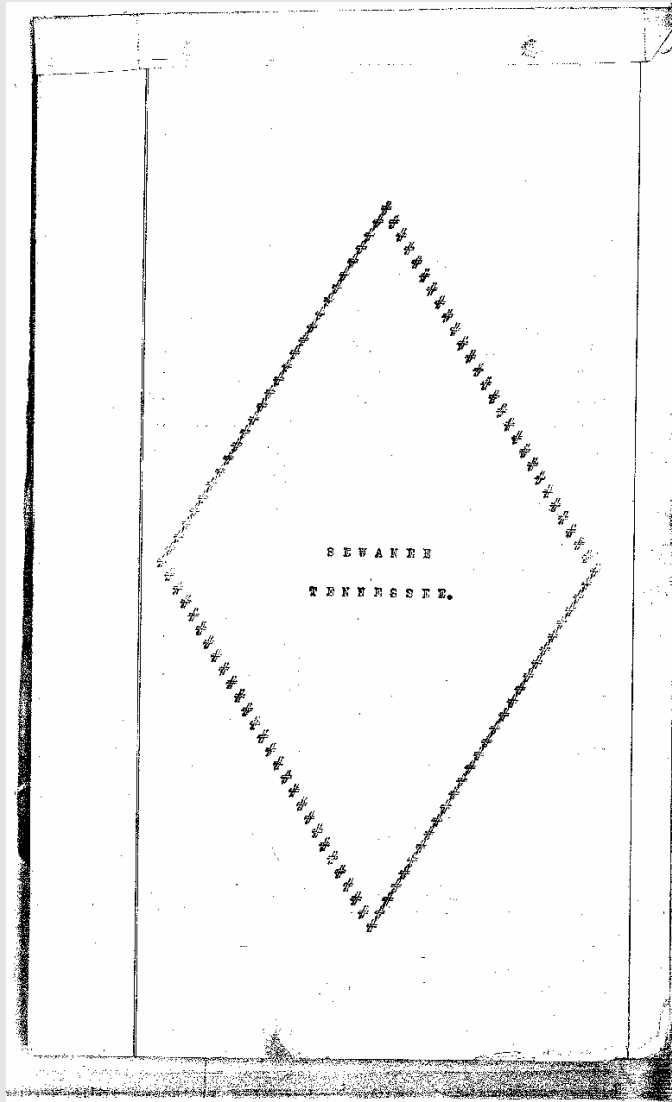
Understory dominated by *Smilax*, *Vaccinium*, tree seedlings

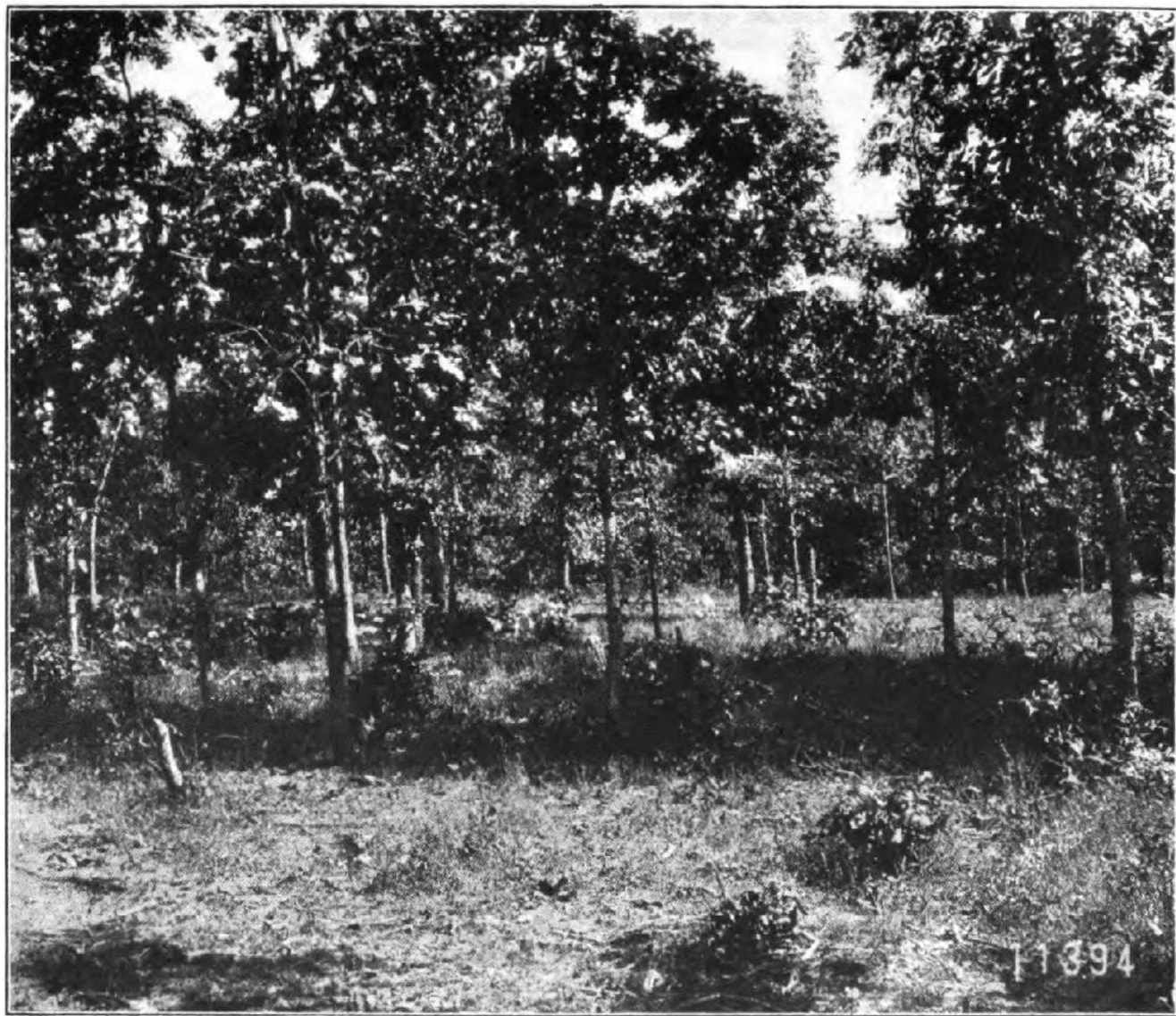
American chestnut once common



Putting fire back on the landscape

First management plan in 1899 by Carl Schenck (The Facts at Hand), the second in 1903 by John Foley (Conservative Lumbering at Sewanee)





Most fires at Sewanee occur in the early spring and late fall. They are usually set by railroad locomotives, farmers, nut-gatherers, or visitors to the woods. The railroad is responsible for some fires, but not for as many as are laid at its door. It is, for example, often charged with setting fires which had their origin on the windward side of the track, far beyond the reach of sparks. Farmers burn off the leaves and underbrush to improve the pasturage; nut-gatherers set the leaves afire in the fall to expose the nuts and crack the husks; and visitors, thoughtless or careless of consequences, drop lighted matches or burning tobacco in the forest.

EFFECTS OF FIRE ON THE TREES.

The susceptibility of the trees to fire depends largely upon the protection their bark affords them. The bark of Tulip-tree, White Ash, Cucumber-tree, and White Basswood is thick, but it burns through very rapidly; while that of hickory, although much thinner, is hard to ignite, and affords a better protection. The oaks, especially Scarlet Oak, are protected by an excellent fire-resisting bark, thick and corky. Young trees, because their bark is thinner and their crowns nearer the ground, are more easily injured than old trees; and seedlings a year old will die altogether if their leaves are burned away, although in their second year and afterwards their roots will sprout. The season in which the fire occurs, and the health of the tree, are factors which have much to do with the damage done the forest by burning. A tree burned in the spring before the sap has begun to

Why shortleaf at Sewanee?

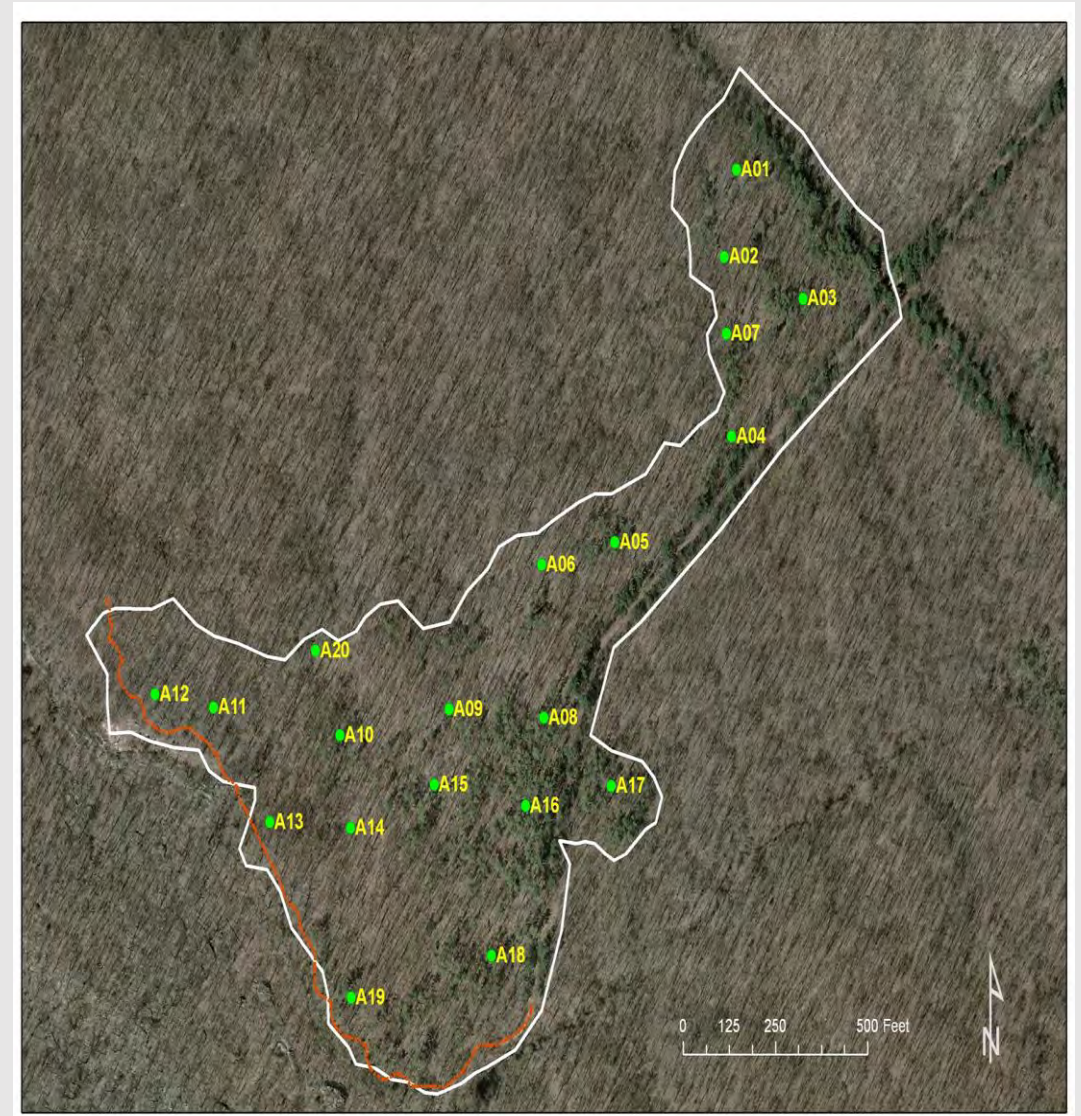
- Historic precedent
- Increase in forest diversity (trees and associated species).
- Increase in forest resilience.
- Increases underrepresented habitat type on the property.

“A Sand County Almanac” - Aldo Leopold (1949)

- *“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”*



Restoration Technique Midstory Removal





all pine timber was removed and hardwoods were thinned from below with all hardwoods greater than 12" dbh retained.

Over the 30 acres, 36 tons per acre of pulpwood was removed and 4 tons of pine sawtimber.

Trees were all delimbed at landing and tops were distributed through the unit.

Total revenue low, driven by pine

Harvest was in the spring, First fire occurred the following spring.



Fire was reintroduced the spring following harvest. Slash piles caused mortality and some value loss in the residual timber.





- Site was burned biannually until 2016.
- Currently in oak release phase.
- Next fire scheduled for 2024

Restoration Technique Patch Cuts and Marked Thinning

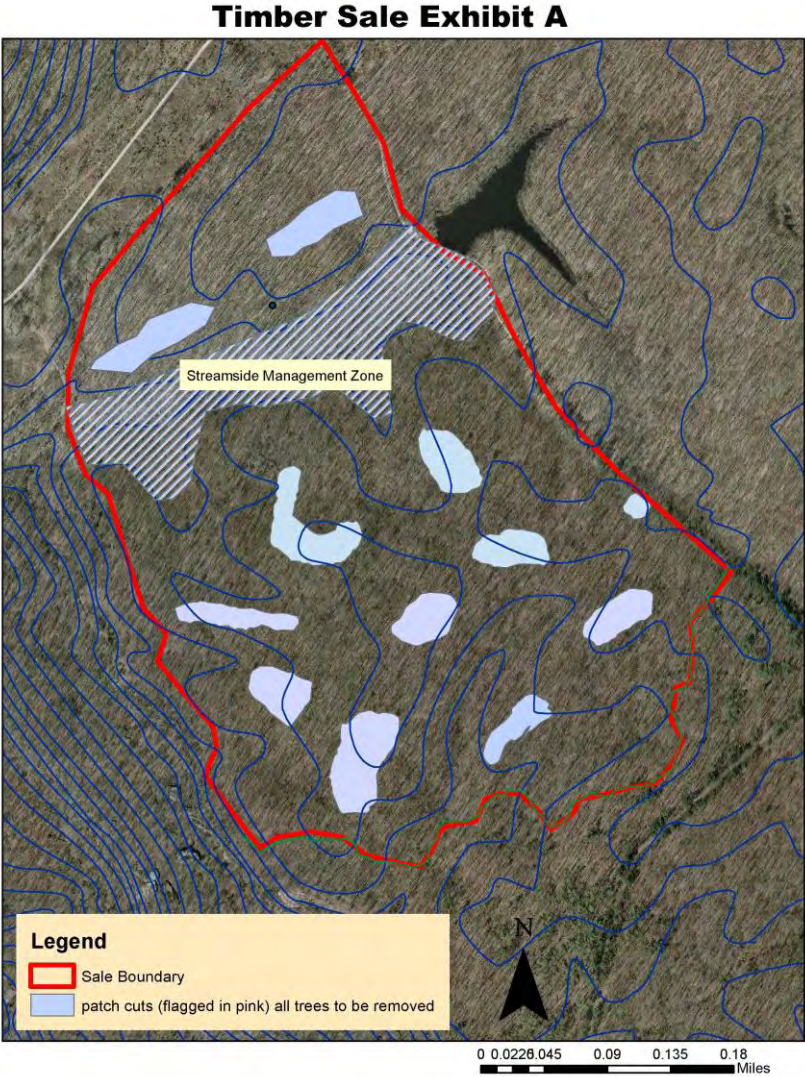


- Portion marked sale across diameter classes
- Portion patch clearcut and replanted to shortleaf
- Portion remain intact.
- Revenue better, habitat diversity higher.



Fire held for minimum of two growing seasons to allow shortleaf to become established.

Restoration Technique Slot limit cut and patch cuts



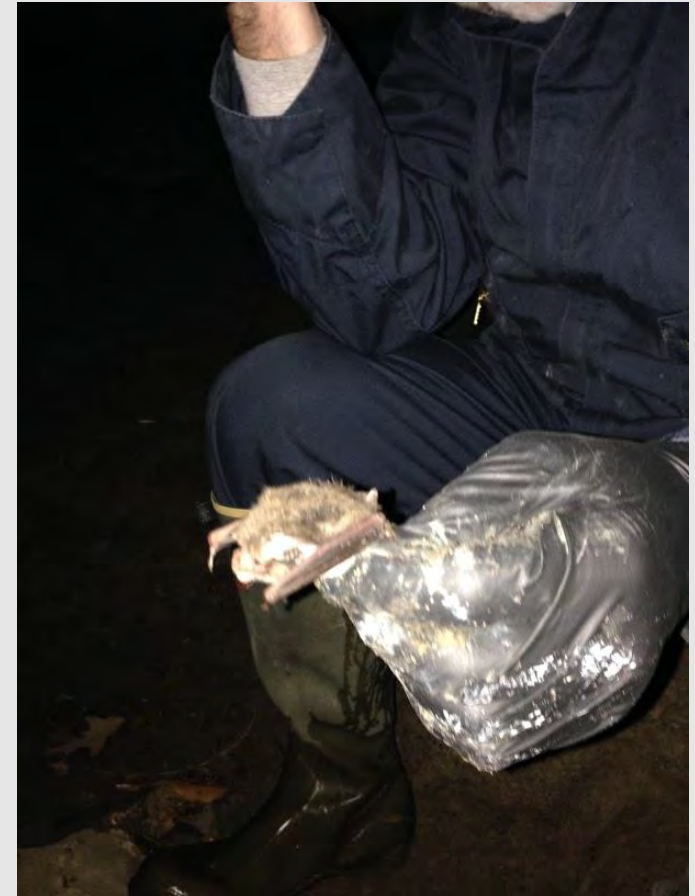
- First fire held for two growing seasons.
- Then burned on 3-5 year rotation



Sewanee Prescribed Fire Team



Students also participate in wildlife monitoring, timber marking, and planting





The Forest Stewards Guild, Tennessee Wildlife Federation, and the University of the South invite you to

Restoring Woodland Health with Shortleaf Pine



Learn how to improve forest health and ecological value, with shortleaf pine and prescribed fire

Free presentations and tour:

Saturday April 14th, 2018

Forest of the Domain at Sewanee, TN

9:00am to 12:30pm

(Registration begins at 8:30am)

REGISTER TODAY

Details: forestguild.org/node/564

Inquiries: email nicke@forestguild.org

Join us and bring a friend

for an overview of the ecology and economics of shortleaf pine along with information on the available financial and technical assistance to help you steward your woodland, enhance wildlife habitat, and improve value. Learn about shortleaf management practices such as:

- Prescribed burning
- Planting shortleaf pine
- Managing for wildlife
- Forest thinning

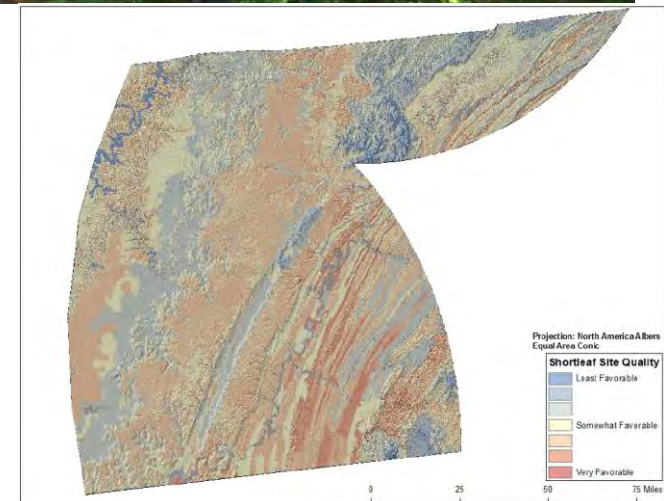




Goals of Project – Phase I



- **Restore ~800 acres** at Sewanee and Berea College
- **Engaged >200 strategic landowners** and resource professionals through workshops and direct communication
- **Prepared 10 forest management plans** that cover 12,800 total acres on the Plateau
- **Developed habitat prediction model**



Upgrade in equipment





Goals of Project – Phase II



- **Restore ~8,600 acres** of oak-pine habitats on private forestland in TN and KY, and **3,000 acres at Savage Gulf**
- **Prepare forest management plans** for private landowners in KY and a plan for TWRA's Bridgestone Firestone WMA
- **Prepare Rx burn plans** for 6,039 acres forestland from Phase I
- **Increase capacity for Rx burning** through “learn-and-burn” trainings for private landowners and resource professionals
- **Increase capacity for Rx burning** with the Forest Stewards Guild's Fire Module



The Fire Module's Ecological Mission and Services

- Reintroduce prescribed fire to **fire-adapted ecosystems** on a landscape scale
- **14-person**, Type 1 capable, wildland fire crew
- **Focuses on prescribed fire** and fuels management
- **Type 5 Wildland Engine**, fully self-sufficient 10-person hand crew



The Fire Module's Social Mission



- Training program for young people from **traditionally underrepresented** and **underserved** populations
- **18-month firefighter training program** nationally- focused in SW-
- **Bridge employment** to land management agencies
- **Inspires** future conservationists
- **Detailer program-**
 - Fire Professionals
 - Fire Influenced Professionals
 - Untrained young adults

Bringing the Fire Module to the Plateau

- **14-day detail** in Spring 2020 in TN/KY
- The Module can burn **500-1,000 acres/day**
 - Daily rate
- Robust insurance plan- nationwide
 - Liability coverage
- **Force multiplier-** burn collaboratively with local partners
- Short-term solution, long-term collaboration



Questions

