

## **Native Vegetation Appropriate for Conservation Cover at Archeological & Historic Sites**

### **Farm Bill Implementation, Conservation Cover**

Native vegetation is considered an excellent choice when used as conservation cover (conservation practice 327) to conserve soil and water resources on land that has been retired from agricultural production. The use of native vegetation can also be effective in protecting and maintaining archeological and historical (A&H) sites. A&H sites are often vulnerable to soil erosion that can damage the above ground features (mounds or earthworks) or below ground deposits of fragile, non-renewable resources.

When using native vegetation as a conservation cover at A&H sites, thorough consideration for the appropriate type of vegetation must first be considered. If unsuitable vegetation types are chosen for a site, this could result in unintentional damage to archaeological deposits. Plant species that produce a more vertical root system may be beneficial in stabilizing earth banks, whereas species with more lateral root systems may minimize surface soil erosion or be used to avoid deeper archaeology. Certain tree species with deep tap roots (pine, hickory) can disturb buried archaeological remains; however, shallow root species may be more susceptible to wind throw, which can cause massive damage to archaeological deposits when the root plate is dislodged. Although most tree roots occur in the top 24 inches of soil, archaeological evidence typically occurs within this depth. Therefore, tree planting is generally not recommended on A&H sites.



### **Highly eroded A&H sites not protected with conservation cover**

Ecological Sciences Staff, Jackson, MS

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### **A&H site protected with conservation cover**

#### **Recommended Vegetation:**

Warm season native grass mixtures are a good choice for planting on A&H sites. Not only do these grasses generally help to control soil erosion, improve water quality and provide wildlife habitat, but these species produce fibrous root systems that help to stabilize A&H sites without causing extensive damage to subsurface archaeological deposits.

Legumes and wildflower species can also be planted along with warm season native grasses to add wildlife food, cover, and aesthetics to the site.

If trees must be planted on A&H sites, it is recommended that species with relatively shallow root systems be used, because these species are less likely to damage buried archaeological remains. Oak species are preferred over many deep rooted, early successional species such as, loblolly pine, sweetgum, yellow poplar. Tree planting on all archaeological features such as mounds and earthworks is strongly discouraged.

#### **Proper equipment for seed bed preparation:**

When planting native warm season grass mixtures a no-till seed drill is the most suitable type of equipment for use on A&H sites. No-till practices result in the least amount of

disturbance to the site area, and also prevent soil erosion and water evaporation. Prior to planting, all existing vegetation must be removed by prescribed burning or by spraying with a broad-spectrum herbicide such as Round-up®.

If tillage is needed for seed bed preparation, chiseling and subsoiling should be avoided due to the additional damage that can be caused by these deep tillage techniques. Disking and harrowing are more desirable approaches because these tillage methods are less likely to extend as far below the plow zone.

**Management:**

After native vegetation has become established management needs to be performed every 2-3 years to promote stand growth, and maintain a proper wildlife habitat. The most effective maintenance method is late winter or early spring prescribed burning. This method is the most cost-effective; however, the appropriate state or federal agencies must be contacted before burns are performed. If burning is not an option, mowing vegetation with a bush hog, and spot spraying with herbicide to control specific weed species are alternative options. However, bush hogging tall stands of native vegetation may result in less desirable conditions for the brooding and breeding of many wildlife species.

**Recommended native vegetation for archeological & historical sites in Mississippi**

All A&H sites Tall Grasses	All A&H sites Short Grasses	All A&H sites Wildflowers & Forbs	Non-mound sites Trees & Shrubs
Switchgrass *	Little bluestem *	Partridge pea	Oak spp.
Eastern gamagrass *	Indiangrass *	Black-eyed susan	Wild Plum
Big bluestem *	Purpletop	Plains coreopsis	Flowering dogwood
	Beaked panicum	Clasping coneflower	Chinquapin
	Little barley	Lance-leaf coreopsis	Possumhaw
	Maidencane	Lyre-leaf sage	Hawthorn
		Meadow beauty	Smooth sumac
		Mistflower	American beautyberry
			Green ash
			Cottonwood
			Black cherry
			Persimmon
			American holly
			Black willow
			Sassafras
			Box elder
			Red & silver maple

\* produce deep fibrous root systems

Other considerations:

- If an A&H site has been subjected to looting in the past it is recommended that short stature native vegetation types (e.g. short grasses and wildflowers) be planted to reduce cover for possible vandals.
- The historical and environmental structure of A&H sites is specific to each site; therefore, please contact the Cultural Resources staff for additional recommendations on planting proper native vegetation.

Miscellaneous

Refer to the following documents for additional information and assistance:

- Mississippi Planting Guide
- National Clearinghouse for Archeological Site Stabilization at <http://www.cr.nps.gov/seac/stabil-clearinghouse.htm>
- For more detailed information on planting and establishing warm season grass mixtures please refer to the MS-ECS-370-01 Establishment of Permanent Native Grasses and Mixtures Job sheet

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