TECHNICAL NOTE
FOR IN-SERVICE USE

CULTURAL RESOURCES FL - 3 **May 2012**

Environmental Indicators for Archaeological Sites

Daffodils as ornamental vegetation at a historic cemetery.

Introduction

Archaeologists and GIS specialists have utilized GIS software to create complex predictive models for locating archaeological sites based on variables including soils, hydrology, slope, elevation, and aspect, among others; these complex models are particularly useful on large-scale projects, focusing on counties, states, or other large regions. NRCS personnel also utilize GIS to determine site location, most commonly utilizing the cultural resource layers obtained from Florida's State Historic Preservation Office (SHPO), in conjunction with a NRCS Field Office (FO) personnel surface inspection of the project area and landowners' reports.

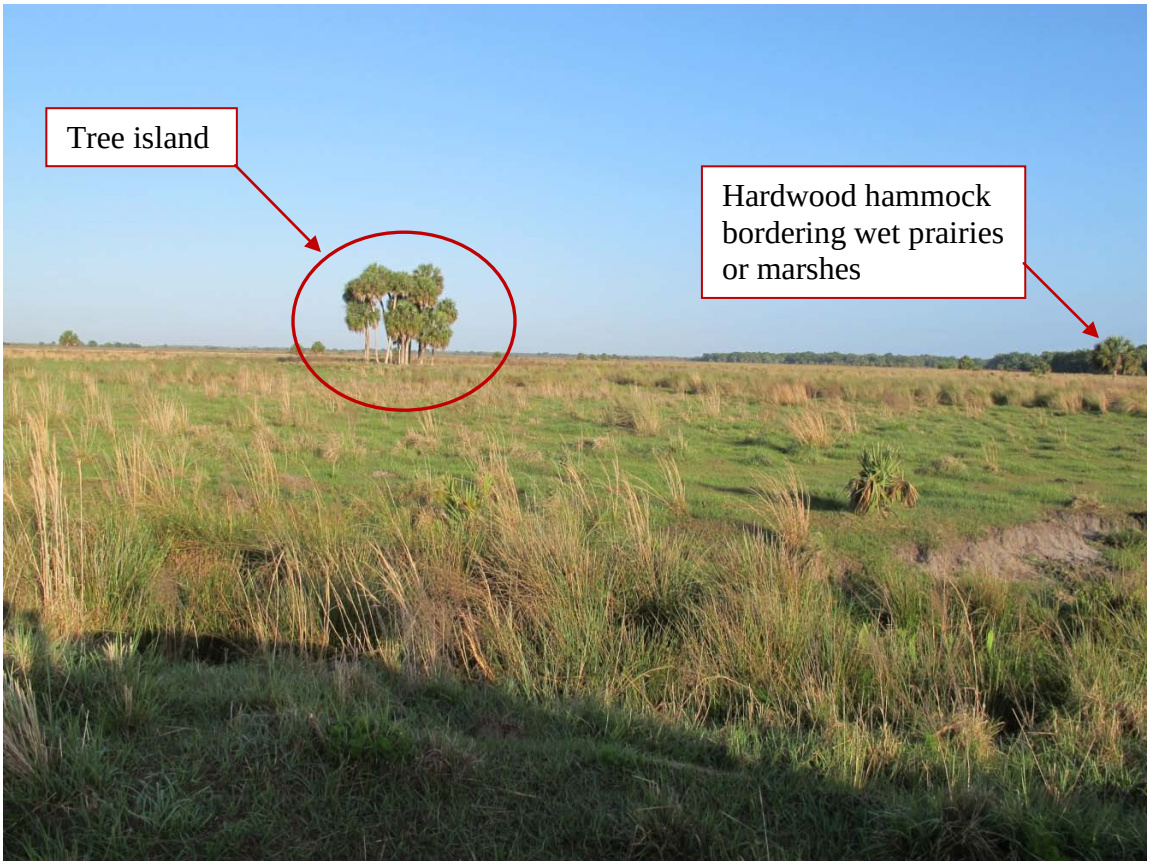
NRCS FO surface inspection may be the most important step in a preliminary identification of archaeological sites or site potential, especially since only recorded sites appear in the SHPO's records and so few sites have been recorded compared to the number that likely exist. Assessment of environmental indicators is an essential portion of NRCS FO surface inspection,

and anyone can learn to recognize these indicators with a little research and practice. Four broad categories of environmental indicators are (1) landforms, (2) surface water, (3) soils and vegetation, and (4) mineral deposits.

When considering environmental indicators, think of your own interactions with the environment and the landscape. Would you consider camping or building a home in any portion of the project area? Does it provide access to water, food, or any other important resources? Are the soils generally dry; are they particularly fertile? Does the area flood often, rarely, or never?

Environmental indicators commonly located in inland areas of Florida include:

1. Landforms such as terraces, bluffs, and ridges; those that are situated adjacent to or near bodies of water are particularly likely locations of past human activity. Hammocks, or "tree islands," are common in south Florida, often situated within wetlands and prairies and containing palms, oaks, or some combination of these along with other hardwoods. In coastal areas, cedar trees are common on hammocks, particularly those with shell middens. Historic aerials are useful for identifying twentieth century changes in the landscape, as many hammocks have been cleared in the historic and modern periods.



Tree island and hardwood hammock within a prairie on a floodplain. Uplands near consistent sources of water indicate an increased potential for the identification of archaeological sites.

2. Surface water including ponds, springs, sinks, wetlands, rivers, and streams as well as coastal waters. Both fresh and salt water provided important resources to prehistoric and historic populations, and large bodies of water were commonly used for transportation. Note the relationship of surrounding landforms to bodies of water, and remember that natural and cultural resources may be present in both terrestrial and in wetland or submerged contexts. While it is more difficult to explore wet environments for cultural resources, potential impacts to submerged resources should be considered.

   Lands adjacent to consistent sources of fresh water were likely utilized during multiple periods for occupations of varying size and duration. It is common for bodies of water to be completely or nearly completely surrounded by archaeological deposits of varying complexity. Large bodies of water, including rivers and large lakes, were commonly occupied during the prehistoric and early historic periods for extended and extensive occupations, and mounds and large settlement sites are often located along their shores. Water levels have changed dramatically over the thousands of years since humans arrived in Florida; water is now plentiful where it was previously scarce, and in some cases rising water levels have submerged archaeological sites entirely.

Little Salt Spring. This famous archaeological site has yielded some of the earliest known evidence of human occupation in Florida. Though much of this evidence has come from submerged contexts, the likelihood of identifying archaeological material in the surrounding terrestrial environment is also high.

3. Well-drained soils and key vegetation. Well-drained soils were as significant to past populations for settlements as they are in the modern period. Though some habitation would likely have occurred on poorly-drained soils, particularly during resource procurement such as hunting excursions, extended settlements such as hamlets and villages are much more likely to be identified on well-drained soils. In some cases, this may not be an absolute, but rather a comparative, designation; while soil surveys are helpful, it is important to consider context as well. In the tree island and hardwood hammock example above, for instance, soils within the hammocks may not be particularly well drained, but the landforms provided an important source of relatively dry land and increased protection from the elements.

   Vegetative markers vary by region with environmental context as well as cultural context. Vegetative markers for prehistoric sites are more directly related to the landforms preferred for habitation or other activities, and include naturally occurring plants such as palms, oaks, palmettos, and cedar. For historic sites, on the other hand, ornamental vegetation can be instrumental in making a preliminary identification. Flowering and/or fruiting trees, clusters of shrubs such as camellias, roses, and hydrangeas, and smaller ornamentals such as daffodils, lilacs, day lilies, and morning glories may all indicate the presence of a historic home site and/or cemetery.

Periwinkle carpeting an historic cemetery. In many cases, gravestones may have been stolen, overturned, or may simply be absent, leaving only ornamental vegetation to indicate a site's location. Periwinkle is commonly found as an ornamental plant at historic home sites and especially at cemeteries in the southeastern U.S.

4. Mineral deposits, including rock outcrops and sources of clay. While potential sources of clay for production of ceramics are difficult to identify in the early stages of a cultural resource investigation, rock outcrops are easily identified in Florida and are limited primarily to limestone. These outcrops are especially significant because of the scarcity of raw materials for stone tools or *lithics* in much of the southeast, and particularly in Florida. Nodules of chert are commonly found within limestone, and chert is the most common lithic material recovered at archaeological sites in Florida. Though bone and wood would also have been utilized in the prehistoric period for tools and tool manufacture, lithics were more durable and may have been more highly valued.

Limestone outcrop at a spring; low water levels have exposed the limestone. Higher water levels are evident in the water marks on the surrounding cypress. Exposed limestone, a consistent source of fresh water, and an adjacent terrace (background) provide three environmental indicators for an increased potential for cultural resources.

Remember that we are concerned with human occupation and activities older than 50 years; this includes human activity through 1962. Often archaeologists find that "a good site is a good site is a good site," by which we mean that a pleasant area for human occupation thousands of years ago was likely just as pleasant several hundred years ago and remains so in the present. In many locations, we find evidence of multiple occupations, and these sites are called "multicomponent" sites. The site of a Native American village along a river, for instance, may also have been a strategic location during the colonial period and during the Civil War, and may later have been

the location of an early twentieth century farmstead. Keep in mind that you should consider all time periods – both prehistoric and historic – when looking for environmental indicators. Not all environmental indicators have to be observed in one locale to necessitate a cultural resources investigation. Further, archaeological sites are often located where no environmental indicators are present. Landscapes have changed substantially since the area we now call Florida was originally inhabited by humans, and environmental indicators have changed; people were also often required to inhabit areas that may not have been ideal due to unpredictable events, including fires, floods, and storms. Environmental indicators are helpful in identifying areas of increased probability for containing archaeological sites, but they need not be present in order for an archaeological site to be present. When you identify environmental indicators that you believe may elevate the potential for archaeological sites, and when you find evidence of unrecorded archaeological sites, contact the Florida NRCS Cultural Resource Coordinator and/or the Cultural Resource Specialist to determine whether a NRCS ECS cultural resources investigation is appropriate for your project.

Also, remember that only conservation planners and other NRCS personnel who have completed NRCS National Historic Preservation Act (NHPA) Section 106 training (Modules 1 – 8) are authorized to conduct NRCS FO surface inspection, and that no one from NRCS should conduct any excavations or collect any artifacts unless assisting the Florida NRCS Cultural Resource Specialist during a NRCS ECS cultural resources investigation. This is especially important in relation to potential burial locations, which are often not evident as such; artifacts associated with burials are protected under the same state law as the burials themselves, even when burials are unmarked.

"A person who willfully and knowingly destroys, mutilates, defaces, injures, or removes any tomb, monument, gravestone, burial mound, earthen or shell monument containing human skeletal remains or associated burial artifacts, or other structure or thing placed or designed for a memorial of the dead, or any fence, railing, curb, or other thing intended for the protection or ornamentation of any tomb, monument, gravestone, burial mound, earthen or shell monument containing human skeletal remains or associated burial artifacts, or other structure before mentioned, or for any enclosure for the burial of the dead, or willfully destroys, mutilates, removes, cuts, breaks, or injures any tree, shrub, or plant placed or being within any such enclosure, commits a felony of the third degree, punishable as provided in § 775.082, § 775.083, or § 775.084." - Florida Statute § 872.02

Image sources available upon request.

Prepared May 7, 2012 by:

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