

It is all in the Questions: Incorporating Archeological Data in Wetland Studies

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ABSTRACT

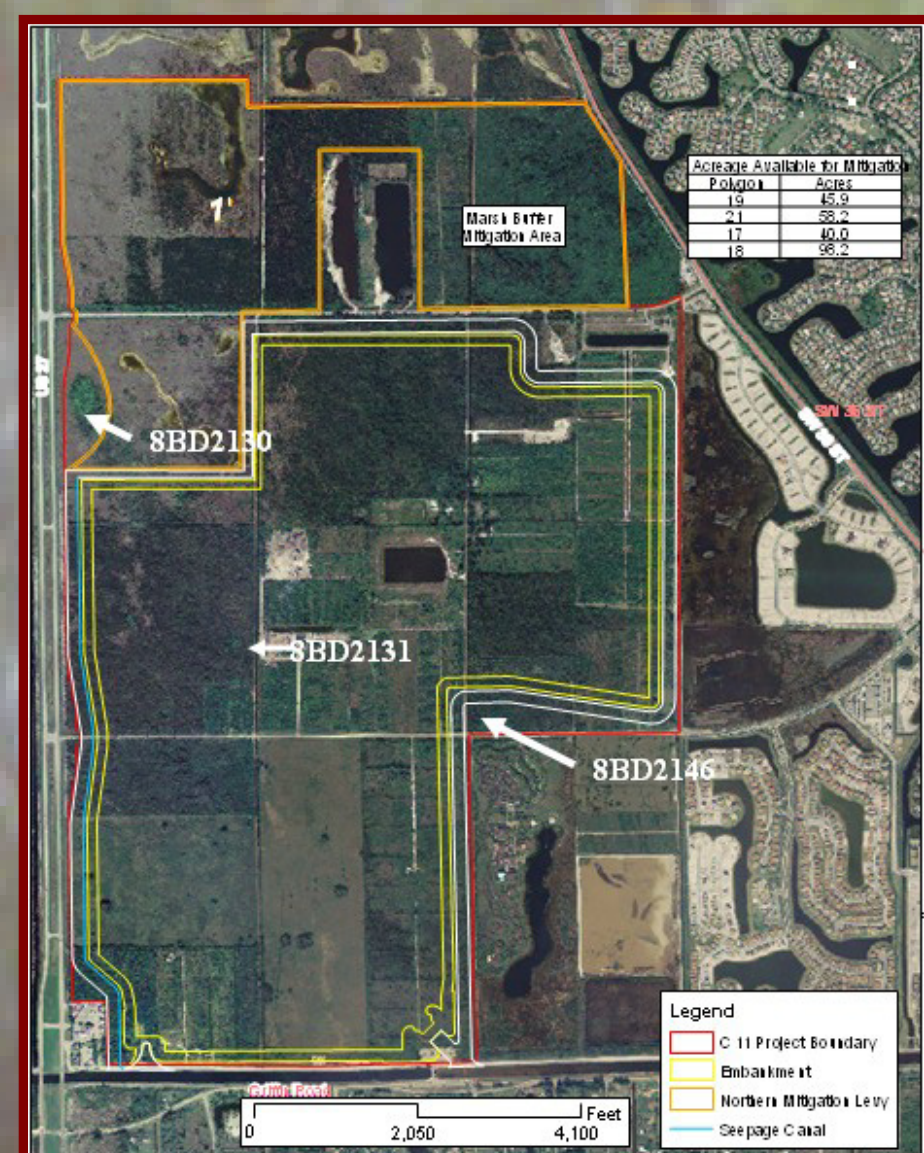
People have been using and living in the wetland environment for tens of thousands years. The remains left behind in archeological sites include plant and animal remains that can tell us about the past environments. In general archeologist are most often interested in knowing about what people in the past eat and how they lived, as well as the past environments that help explain earlier cultures. The remains in archeological sites include bones from animals hunted for food which reflect both the availability of the animals and their abundance. In addition the animals hunted and intently brought to the site other animals, like mice and voles, are attracted to the sites and become part of the archeological record. Plant remains can be recovered from silica plant remains can also be recovered from the archeological soils or adhering to artifacts. archeological sites in the form of charcoal from fires along with carbonized food remains; all coming from the local environment. In some cases pollen and phytoliths (microscopic silica plant remains) can also be recovered from the archeological soils or adhering to artifacts.

When conducting archeological research it is important to identify the questions to be asked of the sites. Because this dictates what information is gathered and analyzed. Basic subsistence and technological information can be recovered using standard excavation methods. However, to recover plant and small animal remains additional fine screen samples are needed. Pollen and phytoliths require additional sampling techniques.

The Jacksonville District of the U.S. Army Corps of Engineers has been conducting archeological investigations in wetlands across Florida in support of restoration projects for more than a decade. This poster presents a sample of the types of environmental information contained in archeological sites. This information is available for use by other wetland scientists for environmental reconstruction and examination of past climate changes. The presenters would encourage interdisciplinary involvement and use of the archeological record.

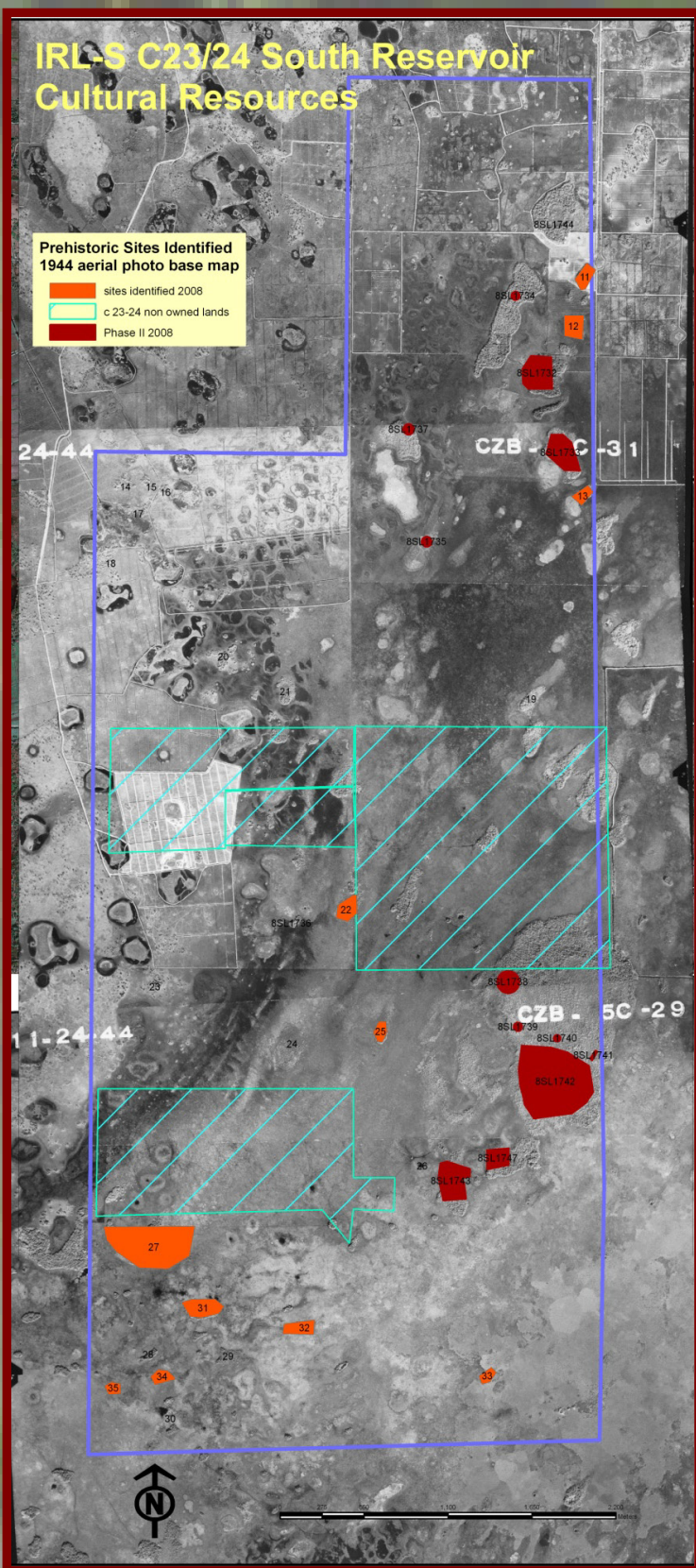
Broward County WPA

Brevard County Water Preserve Area C-11 impound located in central Brevard County on the east edge of the Everglades sea of grass and the sites were upland hammocks. The faunal distribution to the left shows a significant difference between the sites. Of note is the presence of both Snail (*Ameiurus brunneus*) and Brown (*Ameiurus nebulosus*) Bullhead catfish. Flora material from 8BD2146 includes charred/burnt seeds from grass (*Graminea*), knotweed (*Polygonum sp.*), wood charcoal dominated by pine, with tall cane; un-burnt seeds from goosefoot, palm ragweed and elderberry (very extensive and at all depths). Very little floral material was recovered from site 8BD2131 consisting of a single fragment of pine charcoal. Like the faunal material site 8BD2130 contained much more floral material than the other three sites charcoal was dominated by pine with palm and oak in the upper most level and tall cane in the lowest level. One carbonized possible bayberry seed was recovered from the upper level like 8BD2146 the un-burnt seed assemblage was dominated by elderberry at all levels, fig and bulrush were recovered 20-40 cm below the surface and goosefoot was abundant in the first 10 cm and present between at 50 cm below the surface.



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Picayune Strand

The Picayune Strand Restoration Project (PSRP) is located in southwestern Florida. On its southern boundary is the Ten Thousand Islands National Wildlife Refuge. The Refuge is a tidal wetland with salt water extending to the very southern edge of the PSRP about four miles from the Gulf of Mexico. Historically the area was cypress swamp with scattered hammocks. In the 1960's much of the cypress was logged off followed by construction of major drainage canals and an extensive road system this effectively dried out the swamp. The current project being constructed by the Corps of Engineers and the South Florida Water Management District will remove most of the roads and the canals as well as reestablish sheet flow. This should rehydrate the historic wetlands. The Corps has identified over 40 sites within the PSRP. Phase II site evaluations have been conducted on 24 of the sites. The Tables provide the details of the fine screen column sampling from these sites. Based on the pottery and some radio carbon dating the sites date appear to have been established during the Late Archaic 3000 to 4000 years ago or the early Glades period 1000 to 3000 years ago. There is some suggestions of use in the last 1000 years, however, this time period is based on the presence of pottery types that could easily have been not recovered in the limited sampling conducted on these sites. The sites vary in size and function this is reflected in the faunal assemblage. The fine screen column samples also recovered wood as well as burnt seeds. It should be recognized that floral material is much more fragile than bone which is reflected in the assemblages. Much of the faunal assemblage reflects the animals that lived in the local area. A few especially the sharks, rays, dolphin, the sand dollar, and large marine mollusca probably represent imports as tools or short transportation of coastal food. Others like the crab and the mangrove periwinkle may represent a higher sea level. Some sources (Dorsey 1997) suggest that between 2000 and 3000 years ago sea level off Florida might have been as much as two meters higher than present which would put the sites with the periwinkle at the edge of the saltwater.

Environmental Information in Archeological Sites

Archeological sites associated with wetlands are often able to provide greater environmental information than upland sites. Many wetland sites provide excellent preservation of perishable items including wood and fiber artifacts as well as plant and animal remains. The animal remains in these sites are there because they were used for food or tools, are remains of scavengers that were attracted to the site because of the garbage left behind, or are animals that were normal inhabitants of the area that become incorporated into the archeological materials. Some animals may become part of the archeological site because they are attached to other materials that were brought into the site like small aquatic snails attached to aquatic plants gathered for food or basketry materials. Plant remains include artifacts, fire wood, construction materials, burnt or charred seeds and occasionally burnt/charred fruits. These remains can be recovered by the standard excavation and fine screen sampling methods described in the Background section. Other plant and even animal remains may also be contained in the sites which require specialized sampling methods. These include pollen (including the natural occurring pollen as well as pollen from gathered plants), phytolith (microscopic silica remains from some plants), starch from plants, and protein residue from animals and some plants. Except for the protein, depending on site conditions, may be recovered from the soil in the site; they all may also be recovered (again depending of conditions) adhering to artifacts from the site. Note the Snail Bullhead (*Ameiurus brunneus*) identified in sites in Brevard County Three Forks Marsh, central Saint Lucie County's Indian River Lagoon Sites, and on the eastern edge of the Everglades in the Broward County WPA. These may represent the prehistoric distribution of this species.

Three Forks Marsh

The Three Forks Marsh impound project proposes to create large shallow freshwater impound in Brevard County. The Jacksonville District Corps of Engineers conducted Phase II investigations on two mound sites located on hammocks in a large freshwater marsh located near the headwaters of the St. Johns River. Like site in the Indian River Lagoon site 8SL1739 the Snail Bullhead (*Ameiurus brunneus*) identified in sites 8BR244 and 8BR245 may represent a prehistoric distribution of this species. These two sites also recovered other *Ameiurus* species as well as a large number of Sunfish (*Lepomis*) species. Some carbonized wood was recovered from the two mounds; pine dominates the assemblage, with some monacat stem; oak appears to have been used during the Late Archaic.

Summary

This poster summarizes the type of information that is available in many archeological site investigation reports. This information suggest expanded prehistoric distribution of the Snail Bullhead as well as other fish species. As we design wetland restoration projects the information from archeological sites could be used to identify species that once occupied the areas that can be reintroduced. Many archeological sites were occupied over long periods of time and often reflect both people's as well as the environments response to climate change. The reports included in this poster reflect a minimum level of site analysis. As archeologist are asked more questions about the past environment they will place greater emphasis on collecting and reporting that information. In the next year the Jacksonville District of the Corps of Engineers will be conducting additional archeological investigations in the Greater Everglades area. This will include a large scale survey with limited site evaluation that is expected to recover a representative sample of data across the Water Conservation Areas north of the Everglades National Park. The other project will conduct an in depth analysis of the types of information that is contained in the Greater Everglades wetland associated archeological sites. This includes trying to recover pollen, phytolith, and plant starch as well as other environmental information. Large scale investigations with extensive paleoenvironmental information are rare however they have been conducted these include the Window site in Brevard County as well as the ongoing investigations at Little Salt Springs in Charlotte County.



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