Early North Carolina Colonial and Native American GPR Site Surveyal

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Abstract:

The earliest English colonial populations in the new world spread rapidly through southeastern Virginia and northeastern North Carolina in the late 16th and early 17th centuries. These peoples had to overcome insufficient food sources, threat of attack by hostile indigenous peoples and even hostile European powers. Early, mutually beneficial, contact and relations with non-hostile Native Americans were often sought by European colonists as a survival strategy. Sites characterized by close proximity between colonists and natives were well known in Northeastern North Carolina.

Opportunities for expanded archaeological investigations of early historic colonial sites became possible with a collaborative research effort undertaken with the Museum of the Albemarle (MOA) and the Elizabeth City State University's Center of Excellence in Remote Sensing Education and Research (CERSER) in June, 2012. Students in a summer research program for undergraduates engaged in a Ground Penetrating Radar (GPR) survey of a site related to the Culpeper rebellion of 1677.

This summer, in collaboration with MOA, a high-resolution GPR survey was performed of a known Native American settlement site that existed in close proximity to early colonial habitations near Edenton, NC, on the Chowan River. The survey was designed

to reveal the presence of any buried remnant structures that might indicate adoption by Native Americans of cultural features of colonial life such as defensive fortifications, or structures that may have served either religious or commercial purposes such as a church or trading post. Alternatively, evidence for the presence of dwellings might indicate a closer affiliation between struggling colonists and the indigenous population.

The Native American colonial contact site survey team learned to use the Geophysical Survey Systems SIR-3000 Utility Scan Ground Penetrating Radar (GPR) and the associated RADAN 6.6 data processing software. It will perform a Ground Penetrating Radar survey at 0.5-meter spatial resolution of the most promising areas for colonist and Native American interaction as defined by prior MOA archaeological studies in collaboration with the museum's archaeologist. Data collected will be processed and examined for any evidence of buried structural features. Surveying such sites with GPR is important due to modern threats to the maintenance of their pristine state. Threats to such sites include agricultural and forestry operations, commercial and residential development, and increasing shoreline erosion.

Keyword- Ground Penetrating Radar (GPR), transect, RADAN 6.6 software, grid system, raster pattern.