NAGPRA'S IMPACT ON NORTH CAROLINA AND THE SOUTHEAST: RESEARCH ON THE RESEARCH

by William C. Broughton

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This thesis researches the impact of the Native American Grave Protection and Repatriation Act (NAGPRA) on academic bioarchaeological research in the southeastern United States and North Carolina. Scholarly journals, conference bulletins, and dissertations were evaluated to determine if there have been any shifts in the amount of research conducted since the law was passed. The percentage of bioarchaeological studies for each year between 1970 and 2009 was calculated and analyzed for any changes over time. Questionnaires were e-mailed to several archaeologists, bioarchaeologists, and leaders in the North Carolina Native American community to sample their opinion of NAGPRA and compare perceived impacts of the law to any impact indicated by the quantitative data. By examining trends in percentages, the data indicates that NAGPRA has had no long-term impact upon the amount of bioarchaeological research involving Native American skeletal remains throughout North Carolina and the Southeast.

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CHAPTER ONE: INTRODUCTION

The Native American Grave Protection and Repatriation Act (NAGPRA) forever changed archaeological research practices regarding Native American skeletal remains, artifacts, and ceremonial sites. As required by the law, museums and universities across the United States conducted mandatory inventories of the tens-of-thousands of skeletal remains and associated burial artifacts held in their collections. Many of these objects and human remains were repatriated to the appropriate federally recognized Native American or Native Hawaiian tribe for reburial. The issue of reburial led to contention between the indigenous and scientific communities. While not the first repatriation legislation passed in the United States, NAGPRA has by far had the widest impact upon the country and has become a rallying point for Native Americans pushing for repatriation and protection of their cultural beliefs and civil rights. This thesis examines the effects of NAGPRA on the amount of bioarchaeological research conducted in the Southeast and North Carolina

Anthropologists, Native Americans, and NAGPRA

Since NAGPRA was passed in 1990, anthropological research involving Native American history, culture, and human remains is still possible; however, the field is standing at a critical theoretical crossroad (Kakaliouras 2008:126). As Bray (2001:1) states, "Repatriation has often been formulated as a highly polarized debate with museums, archaeologists, and anthropologists on one side, and Native Americans on the other." Many people in the academic world view the reburial of these scientific objects as a loss of potential knowledge. Restudies on these items cannot be conducted and no additional knowledge can be gained as analytical techniques and methods improve over time. Some physical anthropologists and archaeologists

see NAGPRA and the reburial of goods as a major obstruction to academic studies and future research (Clark 1996; Meighan 1992; Ubelaker and Grant 1989). Others have accepted the new direction of American archaeology and bioarchaeology, calling for open communication between Native Americans and the world of academia (Killion 2008; Zimmerman 2000). Ousley et al. (2005:2) believe that the repatriation process has not actually been as controversial as once depicted. Repatriation legislation's primary purpose is not to prevent studies of Native American skeletal remains and burial artifacts, but to quickly and accurately assess cultural affiliation of the objects and return them to their rightful guardians, correcting for years of mistreatment and disrespect by the scientific community (Ousley et al. 2005:4). Ubelaker and Grant (1989:280) state that if universal reburial of Native American artifacts and skeletal remains is achieved, then there will be an irreversible loss of Native American history. While current populations of Native Americans may not worry about such consequences, future generations may regret such actions and loss of knowledge (Ubelaker and Grant 1989:280). However, if indefinite preservation of artifacts and human remains is achieved, it will be through the discrediting of an entire way of life and religious tradition in the name of science (Ubelaker and Grant 1989:280).

Meighan (1992) has a particularly condemning view of repatriation legislation and NAGPRA. He states that archaeologists who are accepting of the return and reburial of collections and the loss of scientific data rely too heavily on the anthropological concept of cultural relativism to justify the law (Meighan 1992:704). He further states that it is pure hypocrisy for archaeologists to believe their values are not the only values and ethics that should guide scientific interpretation and research. It is his view that everyone has values that guide their personal actions, but accepting this viewpoint should not require the compromise of scientific data and standards of ethical research (Meighan 1992:705). If collections are destroyed,

there will be no way to evaluate past research for misinterpretations, inaccuracies, or bias, a critical part of the scientific method and advancement of knowledge (Meighan 1992:705). Another problem that Meighan (1992:706) has with repatriation is that the laws created by the federal and state governments favor indigenous tribal religious beliefs and forces others to accept and act in accordance with these beliefs. He also argues that such laws conflict with the First Amendment, which states that Congress shall not make any laws respecting the establishment of religion (Meighan 1992:706). Meighan (1992:708) further contends that there has been a major negative impact on archaeological research with a decreasing interest in American archaeology stating, "This chilling effect on research is creating an underground archaeology of ill-trained students, dishonest researchers, and intimidated teachers."

Clark (1996:4) goes as far to as to say that "NAGPRA is an unmitigated disaster for archaeologists, bioarchaeologists, and other physical anthropologists concerned with the study of human skeletal remains." According to Clark (1996:4) repatriation legislation gives undue weight under the law to unscientific religious beliefs and traditions that in turn severely weakens the scientific nature of archaeology. NAGPRA is problematic because it puts politics in front science, with the vocal minority seeking repatriation allying itself with political leaders seeking short-term political gain (Clark 1996:4). Such action forces the opinion of the majority of Native Americans favoring the preservation and research on skeletal collections to be unheard (Clark 1996:4). He warns that if archaeology continues down such a path, it will lose any scientific credibility that the field has gained in the last century.

An additional problem archaeologists have with NAGPRA is its application to ancient skeletal remains. The law has no provisions for dealing with ancient remains, leading to problems in the definition of what "Native American" means and how cultural affiliation is

determined for ancient remains (Crowther 2000:274). According to NAGPRA, "Native American" is defined as "Of, or relating to, a tribe, people, or culture that is indigenous to the United States" (National Park Service 2010). Scholars point out that the use of the term "indigenous" in the definition is problematic because as the field of archaeology has established, Native Americans' ancestors arrived in the New World from Europe and Asia thousands of years ago (Crowther 2000:274). "Indigenous," which has not been defined by NAGPRA, implies that a population originated in a particular region (Crowther 2000:274). Interpreted in this way, there are no "Native Americans" in North American since no human population occur in the region naturally (Crowther 2000:274). Such confusion needs to be clarified for archaeologists and lawmakers alike to better understand to which populations and cultures the law applies through prehistory (Crowther 2000:275).

Additionally, assigning cultural affiliation to these ancient remains is difficult simply due to their extreme age, often thousands of years old (Crowther 2000:275). According to the law, cultural affiliation is established by showing a relationship of a shared group identity that can be sensibly traced through history between present day tribes and identifiable earlier groups (National Park Service 2010). However, these original cultures and tribes could have died out, split into different cultures, or migrated to different areas of the country (Crowther 2000:275). The definition implies that not only can science establish to which original culture the individual belonged, assuming that there even is an identifiable prehistoric culture, but that there is a way to clearly trace the relationship between past and present groups (Crowther 2000:275). When remains can be upwards of 10,000 years old, firmly establishing cultural affiliation is almost impossible (Crowther 2000:275).

The most well-known example of the conflict between Native Americans and archaeologists regarding NAGPRA and ancient remains is the legal battle over Kennewick Man. On July 28, 1996, human skeletal remains were uncovered in a bank of the Columbia River near Kennewick, Washington (Crowther 2000:276; Willie 2007:301). After an examination by the local coroner, the remains were taken to anthropologists Dr. James Chatters, who established that the remains belonged to a male who died in his forties or fifties (Crowther 2000:276). Based on several morphological features of skeletal elements that matched people of European decent and that a stone point was discovered in the pelvis, Chatters assumed that the skeleton belonged to an early European American pioneer (Crowther 2000:277). However, based on dating of the stone point and radiocarbon dating of a metacarpal bone, it was determine that the skeleton was actually between 9,200 and 9,600 years old (Crowther 2000:277). As a result, the United States Army Corps of Engineers (USACE) determined that it was Native American and subject to NAGPRA. Problems arose because the remains were not found on tribal or recognized aboriginal land of any tribe (Crowther 2000:276). In addition, physical anthropologists could not assign the remains to any tribe in the area where the remains were found based on skeletal morphology. Nor could they match the remains to a general western Native American type (Ackerman 1997:361; Crowther 2000:277).

Following the guidelines in NAGPRA, the several tribes in the Pacific Northwest were notified of the remains and soon a coalition of five tribes formed claiming the skeleton as their ancestor (Ackerman 1997:361; Crowther 2000:277). The coalition demanded that all skeletal analysis stop and forbade any future analysis, also announcing that once the skeleton was repatriated, it would be reburied in a secret area (Crowther 2000:277). In concordance with their wishes, in September 1996 the USACE ordered that all analysis stop. However, many

anthropologists requested further analysis of the skeleton be conducted because of the extreme rarity of such an old skeleton and its potential to advance knowledge on the peopling of the Americas (Ackerman 1997:364). When the requests of the scientists were denied, eight anthropologists filed suit against the USACE, claiming that the remains were of national and international importance in understanding early North American populations and human evolution in general (Crowther 2000:278). After various appeals, *Bonnichsen v. United States* ended in 2004 with the United States Ninth Circuit Court of Appeals ruling in favor of the plaintiff anthropologists that Kennewick Man was not Native American under NAGPRA (Willie 2007:304). The *Bonnichsen* ruling on Kennewick Man was significant because it was the first time the courts ruled that NAGPRA was not applicable to skeletal remains because the remains were not considered Native American as defined by NAGPRA (Ray 2006:90). After *Bonnichsen,* tribes seeking repatriation of remain must clearly show that the remains are Native American as defined by the law (Ray 2006:92).

Research on the Academic Research

There has been and will continue to be conflict over NAGPRA. However, to keep the discussion constructive and to move future archaeological research in the United States forward, the effects of the law must be determined. Understanding the impacts of the law is necessary to avoid arguments becoming stagnant and caught up in the events of the past. Anthropologists, Native Americans, and lawmakers need to evaluate the effects of NAGPRA to better the relationship between Native Americans and archaeologists, advance scholarly work, and create better repatriation legislation in the future. It is clear that the law has led to the repatriation of

Native American remains and artifacts as well as increased communication between Native Americans and archaeologists. These outcomes were some of the key objectives of the law when it was passed in 1990. Nevertheless, what have been the unintended consequences of the law? The court ruling in Kennewick Man has called into question the very term "Native American" and challenged commonly held ideals of what the classification means. One can only help but wonder how NAGPRA has affected the study of Native American remains is the United States. Has the law been as detrimental to the amount of research in the field as Clark (1996) and Meighan (1992) predicted? A handful of studies have examined NAGPRA's effects on archaeology and bioarchaeology of Native American skeletal remains and burial artifacts at the national and regional level, but none have looked at its effect in the southeastern United States or at the state level. To provide a better understanding of NAGPRA's impact in the region, this thesis examines the effects of NAGPRA on Southeast and North Carolina bioarchaeology.

In the following chapters, I will report a brief history of NAGPRA and the repatriation movement in the United States followed by a chapter reviewing the few studies conducted on NAPGPRA's impact on bioarchaeological and archaeological research. Next, the quantitative and qualitative methods used to collect data for this thesis are discussed, followed by chapters discussing results and conclusions. To assess the effects of the law, the number of bioarchaeological articles published between 1970 and 2009 in the journals *Southeastern Archaeology* and *North Carolina Archaeology* were recorded. Additionally, dissertations from the Department of Anthropology at the University of North Carolina at Chapel Hill (UNC-CH) and abstracts from the Southeastern Archaeological Conference (SEAC) were examined. In addition, for a qualitative approach to assess NAGPRA's effect and to help place the quantitative data into greater context, questionnaires were sent to several archaeologists, bioarchaeologists,

and members of the Native American community to gauge their opinions on NAGPRA's impact on North Carolina bioarchaeology. The research hypothesis for this thesis is that the proportion of research and publications involving Native American skeletal remains from the Southeast will peak around 1990 because of mandatory inventories dictated by NAGPRA for the purpose of determining cultural affiliation. A similar pattern is expected for North Carolina. It is predicted that this peak period will then be followed by a slow and steady decrease in the amount of bioarchaeological research because of the repatriation of skeletal remains. In regards to the academic opinion of NAGPRA's impact, it is predicted that interviewees will see the law as more damaging to the field than the data indicate.

The findings from this research suggest that in the years directly after NAGPRA, there was a short increase in the amount of bioarchaeological studies conducted on Native American skeletal remains in the Southeast. While statistical analyses conducted in this thesis indicates a correlation between the peak in research and NAGPRA, the results do not prove causation. Research also suggests that the proportion of bioarchaeological studies using destructive analysis sharply decreased following the passage of the law. But the most important findings of this thesis suggest that directly after the shifts in amounts of bioarchaeological research, the amounts of research quickly returned to levels research comparable to those before NAGPRA, indicating no long-term impact of the law. For North Carolina, it was discovered that before the 1980s, very little bioarchaeological research was conducted on remains from the state. In the 20 years since NAGPRA, however, bioarchaeological research in the state has increased. Questionnaires revealed that interviewees predicted a more drastic effect of NAGPRA on bioarchaeological research in the Southeast and North Carolina than is indicated by the data.

CHAPTER TWO: BACKGROUND

The research objective of this thesis is to evaluate NAGPRA's impact on Southeast and North Carolina bioarchaeology. Specifically, it examines yearly trends in research conducted on Native American skeletal remains. In order to understand how NAGPRA could influence North Carolina and Southeastern bioarchaeological research, it is important to understand the history of NAGPRA and the repatriation movement in the United States. This section will review the movement's legislative history. In addition, there will be a short review of how bioarchaeology has been increasingly employed in an archaeological setting to help accurately reconstruct the culture and behaviors of past populations.

History of NAGPRA: Learning from the Past to Understand the Present

When enacted in 1990, NAGPRA ushered in a new era of archaeological research practices in the United States. In museums and university collections across the country, tens-of-thousands of skeletal remains and associated burial artifacts were inventoried in accordance with the law. Upon request by tribal leaders, many of these objects were repatriated to federally recognized Native American and Native Hawaiian tribes for reburial. The passage of NAGPRA was not the beginning of the repatriation movement. Its history is as long as it is complex, and in order to understand the current political movement and why laws like NAGPRA are necessary for modern research to continue, one must understand the troubled history between the United States federal government and the country's Native American populations.

Roots of repatriation and the fight for Native American civil rights can be traced back to the United States government's treatment of Native Americans in the late nineteenth and early twentieth centuries, which led to subsequent political action taken by these indigenous groups

(Fine-Dare 2002:47). At the time of European contact in the Americas, it is estimated that approximately 18 million Native Americas lived in the United States (Stannard 1992:267). Based on population census data, that number had dropped by 1890 to only 248,253 individuals due to mass killings, infectious diseases, and warfare (Stannard 1992:268). In 1790, the Trade and Intercourse Act encouraged the trade of resources, such as food and raw materials, between Native Americans and early European Americans (Fine-Dare 2002:58). However, the act also established procedures to assimilate the Native people into the standards of white dominant culture, a primary goal of presidents Thomas Jefferson and Andrew Jackson (Fine-Dare 2002:58; Prucha 1988:40). As Link (2009:157) states, it was this "frankly racist posture towards Indians" that led to the Indian Removal Act of 1830. In what later became known as the Trail of Tears thousands of Native Americans, roughly 15,000 Cherokee, Chickasaw, and others in North Carolina, Georgia, Tennessee, and Alabama, were forced off their land and into relocation camps in 1838 (Minges 2001:467-468). That summer, the Native Americans marched to northeastern Oklahoma, with 5,000 dying along the way or shortly after completion of the migration (Minges 2001:467). Before the Trail of Tears, Cherokees in North Carolina adopted the farming culture of the period, with some even owning slaves (Minges 2001:457). However, this assimilation into "white culture" did not stop the United States government taking the Cherokees' landholdings. Between 1783 and 1819, over half of their land in Georgia, South Carolina, and North Carolina was confiscated (Minges 2001:457). More action was taken in 1887 with the passage of the Dawes Severalty Act. This law confiscated large amounts of Native American's territory across the country, which declined from 140 million acres in 1887 to 50 million acres in 1934 (Fine-Dare 2002:59; Pevar 1992:5).

The Dawes Act also had provisions to assimilate Native Americans into Western culture. It outlawed certain religious ceremonies and divided reservations into individual plots of land for tribal members to farm and raise livestock (Edmunds 1995:718). Because of these unjust laws forced upon them, the diverse Native American cultural practices were slowly beginning to disappear all over the United States, a reality that most European Americans simply accepted as a fact of life (Edmunds 1995:718). Indigenous people were viewed as a culture unable to adapt to changing times as well as an inferior people not deserving of their resources and land (Garza and Powell 2001:44). Indigenous peoples' history and ways of life were seen as unimportant and not worth serious academic study by Western culture, an ideology that had lasting effects on academia. Edmunds (1995:720) states that between the years of 1920 and 1960 only four articles regarding Native Americans were published in the journal *American Historical Review*. As members assimilated into dominant culture, many dwindling tribes joined together to attempt to preserve some autonomy from western culture. One such example from North Carolina is the Lumbee tribe, who were originally refugees from several Siouan-speaking groups that joined together in the 1830's to maintain some autonomy from the western world (Padget 1997:392).

During the first quarter of the twentieth century, several political groups were formed to help fight for the equal rights of Native Americans as citizens of the United States (Fine-Dare 2002:63). At this time, a strong effort was being made by the United States government to force Native Americans to assimilate and adopt Christian values (Fine-Dare 2002:61-62). Civil rights organizations including both Indian and non-Indian activists appeared across the country. The Women's National Indian Association, the Indian Rights Association, the National Indian Defense Association, the Alaska Native Brotherhood, and the American Indian Defense Association are just a few examples of those created to help preserve Native American culture,

improve living conditions, and protect civil rights (Fine-Dare 2002:63). These political ideals were continued into the 1960's with the Red Power movement. One of the most important of these groups, American Indian Defense Association, was created in 1974 and represented 97 Native American tribes from North and South America (Ubelaker and Grant 1989:253). Additionally, in the world of academia scholars began to use ethnohistory to reexamine the roles Native Americans had played in the nation's development and how much the indigenous peoples had influenced United States history (Edmunds 1995:724-725).

Before the 1970's, Native American political action centered on citizenship rights, religious freedoms, and obtaining a strong political voice (Fine-Dare 2002:70). After 1970, the focus shifted to the repatriation of excavated material culture and skeletal remains stored in universities and museums (Fine-Dare 2002:71). This shift in political ideas is connected with increased scientific study of Native American skeletal remains from the Southwest in the 1960's (Ubelaker and Grant 1989:253). It is during the 1970's that Fine-Dare (2002:77) reports several successful repatriation protests by different Native Americans tribes. They were able to get remains and artifacts removed from museum displays and returned to the appropriate cultural group (Fine-Dare 2002:77). A 1971 legal battle in Glenwood, Iowa is often cited as one of the major catalysts of the repatriation movement by giving Native Americans a rallying issue (Ubelaker and Grant 1989:253). During an excavation in Glenwood, 26 European American skeletons were discovered along with one Native American skeleton. In concurrence with the current law at the time, the European American skeletons were reburied. However, the Native American skeleton was taken to a local museum for study, causing a political uproar over the differential treatment (Ubelaker and Grant 1989:253). In 1971, a panel at the Second Convention of Indian Scholars reviewed the roles of museums in displaying Native American artifacts and

skeletal remains (Fine-Dare 2002:76). At the convention, it was deliberated on how tribes should be more involved in creating museum and university exhibits that highlight their past, but in a culturally acceptable manner (Fine-Dare 2002:76). In 1978, as the result of pressure from the Native American community, the California Department of Parks and Recreation changed its policy regarding indigenous remains and artifacts, calling for the reburial of almost 10,000 artifacts. However, a ruling of the California Supreme Court stopped this action when the American Committee for the Preservation of Archaeological Collections took legal action to stop the reburial (Ubelaker and Grant 1989:253)

As a direct result of these and many other similar events across the country, the group American Indians Against Desecration (AIAD), was created in 1978 to help fight for the passage of repatriation legislation (Hammil and Cruz 1989:195). Additionally, an increased public awareness of the roughly 14,500 Native American skeletal remains held at the Smithsonian Institution amplified the demand for repatriation legislation (Rose et al. 1996:88). During a 1978 visit to several institutions that stored skeletal collections, the Director of AIAD, Jan Hammil, found "bodies of our ancestors stored in cardboard boxes, plastic bags and paper sacks" (Fine-Dare 2002:78). The number of Native American skeletons in collections across the country is staggering. Excavations resulting from federal laws like the Historic Sites Act of 1935 helped to create the massive Native American skeleton collections seen in universities and museums today (Rose et al. 1996:83). Rose et al. (1996:84) summarize these data from an overview of excavated skeletons in the United States conducted by the Southwest Division of the USACE. From the 5,124 reported mortuary sites between the Mississippi River, the Colorado Mountains, and the Canadian and Mexican border, 52,540 individuals have been removed from their final resting place (Rose et al. 1996:84). While sizeable in itself, this number does not include Native

American skeletal remains from the other 45% of the continental United States (Rose et al. 1996:84). A little more than 40% of all 4,759 documented skeletons collected in Arkansas and Louisiana were excavated between 1880 and 1919 (Rose and Harmon 1989:300). Another 22% came from Works Progress Administration excavations during the Great Depression (Rose and Harmon 1989:301).

According to information on NAGPRA's national website, (National Park Service 2010) there were 118,442 culturally unidentifiable Native American skeletal remains in the database in 2006. These remains are from locations in all 50 states. They are stored in various institutions because the remains cannot be culturally identified as belonging to any known Native American or Native Hawaiian group based on available data. Of this national total, 1,230 are from North Carolina. In addition, on a national level as of 2006, there have been 31,383 published notices of inventory completion, 281 of which are from North Carolina (National Park Service 2010). The notice of inventory completion is a published document made public and sent to an indigenous group when a museum or federal agency identifies Native American human remains and associated funerary objects as being culturally affiliated with a particular group (National Park Service 2010).

At the federal level, the actual repatriation of Native American skeletal remains began in the early 1980's. However, some of the first state repatriation legislation was passed in Iowa as early as 1976 (Ousley et al. 2005:3). The National Museum of Natural Science at the Smithsonian Institute returned five identified skeletons to their respective tribe in 1984 (Ousley et al. 2005:3). In addition, the museum mailed summaries of skeletal remains kept at the Smithsonian to federally recognized tribes in 1985 (Ousley et al. 2005:3). As a result of the growing support for the repatriation movement, the National Museum of the American Indian

Act (NMAIA) was passed in 1989, the first federal law of its kind (Bray 2001:2). Applying only to the Smithsonian Institution, it mandated the return of all culturally identifiable Native American remains and associated burial objects to the appropriate tribal groups with the required help of Native American consultation (Bray 2001:2). A deadline of June 1, 1998 was established for the completion of all inventories, which required attempting to establish geographic origins and cultural affiliation using the most accurate methods possible (Ousley et al. 2005:4). Another principal reason the NMAIA was passed was to transport skeletal and artifact collections from the Museum of the American Indian in New York to the Smithsonian Institution to create the National Museum of the American Indian (Ousley et al. 2005:4).

In addition to understanding the history of the repatriation movement, it is important to review the cultural and ideological issues behind the debate as well. One troublesome ideal that has been hard to overcome is the notion that Native American skeletal remains and artifacts are scientific objects, not the remains of the ancestors of living peoples (Fine-Dare 2002:14; Kakaliouras 2008:120). Remains and burial goods are seen as resources to be examined and interpreted by archaeologists and physical anthropologists exclusively. Such ideals can be traced back to at least 1906 (Fine-Dare 2002:14-15; Thomas 2000:142). In that year, the Federal Antiquities Act was passed. The law was aimed at protecting Native American burial sites from being looted, and the act made it illegal to sell Native American burial artifacts (Fine-Dare 2002:62). These archaeological sites became property of the federal government, and they could only be excavated with proper permission (Fine-Dare 2002:62). The Antiquities Act classified Native Americans skeletal remains and associated artifacts as belonging to the federal government, and it made them objects of important scientific significance (Fine-Dare 2002:62). While helping to protect the skeletal remains and grave goods, the law reinforced the concept

that the past material culture of Native Americans belongs to science, not to the Native Americans (Thomas 2000:142).

The Historic Sites Act of 1935 helped to continue this idea by stating that it was the responsibility of the United States government to protect historic landmarks and material culture (Fine-Dare 2002:66). The responsibility of enforcing the law was placed on the National Park Service, a theme that is still seen today with NAGPRA (Fine-Dare 2002:66). The Reservoir Salvage Act of 1960 was an addition to the Historic Sites Act that allowed the collection of material culture and human remains discovered during the construction of federally funded dams (Price 1991:26). Another law, the National Historic Preservation Act of 1966, established standards for what sites are placed on the National Register of Historic Places in the United States (Morenon 2003:112). Additionally, it provides federal and local funding to preserve these localities (Morenon 2003:112). Once again, it was impressed on the general public that Native Americans were no longer the keepers of their past.

Native Americans claimed victory when President George H.W. Bush signed NAGPRA into law on November 16, 1990. Similar to the NMAIA, NAGPRA requires an inventory of geographic origins and cultural affiliation of all Native American skeletal remains and associated funerary objects using readily available information (Ousley et al. 2005:4). This inventory was required to be completed by November 16, 1995 and with the help of Native American consultation (Ousley et al. 2005:4). If cultural affiliation can be established, the associated tribe must be notified within six months and the remains returned if requested by lineal descendents or the affiliated tribe (Ousley et al. 2005:4). However, if the inventory process cannot establish cultural affiliation, then the requesting tribe must prove their relationship using evidence such as oral traditions and expert opinions (Ousley et al. 2005:4). NAGPRA is different from the

NMAIA in that NAGPRA was expanded to include sacred objects and objects of cultural patrimony (Ousley et al. 2005:5).

NAGPRA applies to any institution receiving federal funding and states that Native American and Native Hawaiian skeletal remains and associated burial artifacts are not the property of any individual, government, or institution (Rose et al. 1996:89). The law makes it clear that relatives of the deceased can claim the remains and associated funerary objects (Winski 1992:187). NAGPRA only applies to objects excavated on tribal or federally owned land or that are held in institutions that receive federal money. Therefore, it is not applicable to excavations that occurred on private land or to private collections (Rose et al. 1996:89). While not completely forbidding the excavation or study of Native American skeletal remains, NAGPRA does require consultation with native communities regarding the excavation, treatment, and disposition of human remains (Rose et al. 1996:89). When repatriating remains, NAGPRA has certain procedures to determine which federally recognized tribe can claim custody. This process is based on either lineal descent or proven cultural affiliation, with only a "preponderance of evidence" needed to prove cultural affiliation (Rose et al. 1996:91).

Archaeological Toolkit: Bioarchaeology

Skeletal analysis plays a vital part in establishing cultural affiliation of Native American remains held in museum and university collections. This information can then be used for bioarchaeological analysis. Bioarchaeology is the study of human skeletal remains to evaluate a population's overall health and to reconstruct lifestyles and behavioral patterns (Pearson and Buikstra 2006:207). While skeletal analysis has a long history dating back to European

anatomists in the late eighteenth century, its application to archaeological settings to help determine population lifeways has only occurred on a regular basis since the 1950's. Bioarchaeology was not truly established as a discipline until the 1970's (Pearson and Buikstra 2006:210). Today, there are several common methods of skeletal analysis used by anthropologists. Most can be classified into the two broad categories of nondestructive analysis, which does not damage the skeleton, and destructive analysis, in which some portion of the skeleton is damaged or destroyed.

Nondestructive bioarchaeological methods center on establishing a biological profile and assessing any pathologies present in a skeleton. A biological profile includes estimating the sex, age, stature, and ancestry of the individual. These biological characteristics are determined through standardized measurements of certain skeletal elements and morphological features (Buikstra and Ubelaker 1994:5; White and Folkens 2005:359). Estimation of the sex of an individual is possible because human adult males and females are sexually dimorphic, leading to natural phenotypic ranges of physical characteristics that differ between males and females in a population (Buikstra and Ubelaker 1994:15; White and Folkens 2005:385). Estimation of age is possible, particularly in young children, because much of humans' growth and development is controlled by genetics and occurs at a known rate (Buikstra and Ubelaker 1994:39; White and Folkens 2005:364). The age of adults are based on the development of degenerative changes in the skeleton (Buikstra and Ubelaker 1994:21; White and Folkens 2005:363). Accessing ancestry of an individual is the technique most relevant to NAGPRA and defining cultural affiliation. The main principles that make these methods possible are that individuals in a population share similar characteristics due to genetic drift and the lack of gene flow (White and Folkens 2005:359). In addition to biological profiles, skeletal lesions associated with various pathologies

as well as antemortem and perimortem trauma are noted as part of nondestructive analysis. Since such techniques are commonly used and taught in archaeological and forensic settings, they will not be reviewed here. For a summary of these nondestructive methods, see Buikstra and Ubelaker (1994), White and Folkens (2005), and Bass (2005).

As for destructive analysis, there are five main methods used in studying human skeletal remains in a bioarchaeological setting. These five are stable isotope analysis, genetic testing, histology, biomechanical analysis, and radiocarbon dating. Each method can contribute something different to the study of human populations in the past. Because these methods are not as frequently discussed as nondestructive methods, this section will briefly review them. It is important to understand what each method can add to archaeological interpretations in order to understand archaeologists' arguments against reburial of Native American skeletal remains.

Stable Isotope Analysis

A technique originally developed in the fields of physics and geochemistry, stable isotope analysis is very useful in determining diet and creating food consumption profiles as well as helping with the construction of ancient populations' migration patterns (Larsen 1997:270, 2006:361). All organic matter, whether plant or animal, consists of elements that naturally occur in various forms based on the varying number of neutrons surrounding the nucleus of the atom (Larsen 2006:362). In stable isotope analysis, the ratios of these isotopes are measured and then compared to known international standards (Larsen 2006:362; Norr 2002:179). To investigate diet, carbon (C) and nitrogen (N) stable isotopes are the most useful, while strontium and oxygen stable isotopes are often used to determine locations of individuals' origins and populations' mobility. To obtain samples for testing, typical procedures call for taking five grams of clean,

dry cortical bone that is then freeze-dried and crushed for chemical testing and measurements (Norr 2002:180). However, procedures can vary greatly from one study to another due to the fact that samples are tested at different facilities and come from different location in the skeleton.

Vogel and van der Merwe (1977) were the first to apply stable carbon isotope analysis to an archaeological context in their study of prehistoric populations in the Eastern Woodlands of North America. Vogel and van der Merwe (1977:239) hypothesized that bone tissue of individuals consuming C_4 plants as the majority of their diet will have a higher $\delta^{13}C$ value then individuals that consume little or no C_4 plants. This important study suggested that maize was not a significant part of the Native American diet until around A.D. 800, much later in time than previously thought (Larsen 2006:362; Vogel and van der Merwe 1977:240). Additional research in eastern North America using stable carbon isotope analysis (Larsen 1997:273) confirms Vogel and van der Merwe's (1977) original finding.

Similar in collection procedure to carbon isotope analysis and often tested at the same time, nitrogen isotope analysis from bone collagen is used to distinguish between marine and terrestrial food sources consumed by populations (Norr 2002:179). The analysis exploits the fact that nitrogen enters into the two ecosystems differently. Bioarchaeologists can also use $\delta^{15}N$ values taken from skeletal remains of young children and infants to indicate a populations' average age of weaning. Such values have been linked with morbidity indicators of biological stress (Larsen 1997:283; Reed 1994:219). In addition, there is a link between high $\delta^{15}N$ values and age in women due to osteoporosis (Larsen 1997:285).

Another set of important isotopes in bioarchaeological research are strontium (Sr) and oxygen (O). Similar to ^{15}N and ^{14}N isotopes, the ratio of ^{87}Sr and ^{86}Sr isotopes vary based on the percentage of terrestrial and marine food sources in an individual's diet (Larsen 1997:289).

Because this ratio is unique to regional geochemistry, strontium isotopes can infer place of birth and mobility patterns of individuals and populations (Larsen 1997:289, 2006:362). Strontium isotope levels are extracted from skeletal tissues that form at different stages of development (Katzenberg 2001:4; Larsen 1997:289, 2006:371). Isotope levels in tissue such as tooth enamel, which is developed early in a person's life and does not regenerate, will reflect place of birth as well as early childhood habitation (Katzenberg 2001:4). However, results may vary depending on which tooth is sampled because different permanent teeth develop at different times in a person's life (Katzenberg 2001:4). Alternatively, bone tissue is remodeled constantly throughout one's life and samples can give a record of where someone lived during roughly the last five to 10 years of their life (Katzenberg 2001:5; Larsen 1997:289).

Oxygen isotope ratios are calculated from ^{16}O and ^{18}O isotopes and are represented as $\delta^{18}O$ values. Terrestrial water sources' $\delta^{18}O$ values vary according to climate (Kolodny et al. 1983:400; Luz et al. 1990:1723). The biggest factors in the variation are temperature and humidity (Larsen 1997:289). Since skeletal and dental tissues are in chemical equilibrium with water in the body (i.e., water consumed) the $\delta^{18}O$ values of an individual are directly correlated with the water source from where that person lived. In addition, the $\delta^{18}O$ values of the skeletal sample are connected to the regional environmental conditions that influenced the $\delta^{18}O$ values of the water consumed (Larsen 1997:290). Simply put, "hard tissue from archaeological settings can be used to track the history of regional climates" (Larsen 1997:290).

Genetic Testing

Determining the biological relationship between different populations is another goal of bioarchaeological research. A technique developed in the last decade, the extraction of

deoxyribonucleic acid (DNA), mitochondrial DNA (mtDNA), and even pathogenic DNA from ancient skeletal remains for genetic testing can provide insight into population migration patterns, ancestral-descendant relationships, and health (Buzon et al. 2005:896; Larsen 2006:372). DNA research typically focuses on red blood cell antigens and various protein polymorphisms, a series of repeating base pairs, to understand genetic diversity (O'Rourke 2000:111). Studying DNA from skeletal remains provides insight into various mechanisms of evolution that influenced Native American populations over time, such as gene flow, genetic mutations, and genetic drift (O'Rourke 2000:89).

When first developed, DNA analysis required large samples for testing, which was a problem when studying ancient DNA since large quantities of skeletal material are not always available. On average, ancient samples of bone yield 1-5% of the DNA extracted from modern samples (O'Rourke 2000:120). However, with the development of polymerase chain reactions (PCR), a technique used to amplify potentially limitless copies of DNA, only very small samples of genetic material are necessary for analysis (O'Rourke 2000:119). Because of these problematic issues with DNA recovery in a bioarchaeological setting, research often focuses on mtDNA polymorphisms (O'Rourke 2000:119). Located in the mitochondria of cells, anthropological research utilizing mtDNA is extremely beneficial in tracing human lineages as well as mating patterns. Consisting of roughly 16,500 bases and circular in shape, mtDNA is much smaller compared to the billions of base pairs in linear nuclear DNA (Weiss 2000:78). Additionally, mtDNA is only passed to offspring from the mother (Weiss 2000:78). This detail makes mitochondrial DNA useful when large skeletal samples are available in tracing family lineages and can emphasize if a population practiced matrilineal marriage practices. As O'Rourke (2000:117) explains, "The nature of mitochondrial inheritance makes possible the

estimation of dates of ancestry of related lineages, thus giving rise to the possibility of using a molecular clock to calibrate the colonization of geographical regions for which sufficient molecular data are available."

Histology

In a physical anthropology, histology is the study of the microstructure of bone and teeth, usually involving taking thin slices of the material and then staining it for examination under a microscope (Byers 2005:15). Histological analysis is often used to identify an individual's age-at-death by looking at cortical bone remodeling or dental changes (Katzenberg 2001:3). Cortical bone remodeling involves examining changes in the microstructure of bone tissues, which is most prevalent in adults (Byers 2005:246). Dental changes apparent with histological analysis are increased attrition of the crown and cusps of teeth, appearance of secondary dentin, increased root transparency, and root resorption (Byers 2005:249). These methods can be extremely useful when archaeological human remains are fragmentary or the usual skeletal elements normally used to estimate age-at-death are not recovered. In addition to determining age-at-death, examining bone microscopically can help distinguish between evidence of pathological conditions and damage that occurs from bone decomposition and taphonomy (Buzon et al. 2005:895). With standard bioarchaeological methods, it is sometime difficult to link pathological evidence on bone to specific diseases. However, with histological samples, it is possible to diagnose specific diseases such as anemia, scurvy, and treponematosis with greater accuracy (Buzon et al. 2005:896).

Biomechanical Analysis

Studying cross sections of long bones (e.g., femur, tibia, ulna, and radius) is one of the best ways to determine the mechanical forces an individual's skeletal system adapted to during life, reflecting habitual activity (Larsen 2006:367; Pearson and Buikstra 2006:211). This method can provide valuable insight into "topics such as mobility patterns and sexual division of labor arcoss time and space in a variety of archaeological skeletal samples" (Pearson and Buikstra 2006:211). For biomechanical analysis, bone is cut at the midshaft with a fine-tooth saw, photographed, and then the picture is scanned into computer software for calculations (Larsen 2006:367). Alternatively, similar images can be gained with the use of computed tomography scans, which is often chosen because they are noninvasive and do not harm the bone.

Radiocarbon Dating

First discovered in the early 1950's, the principles behind radiocarbon dating are now well understood and archaeological material containing carbon can be dated back about 55,000 years (Pettitt 2005:314). When necessary, human skeletal remains are radiocarbon dated. However, charcoal, animal bone, and other organic material recovered from an archaeological site is preferred because less material is required for an accurate test. With skeletal material, 100-500 mg are needed, while with charcoal, peat, and wood only 20-40 mg are required (Pettitt 2005:319).

Importance of Bioarchaeological Research

As seen by the various bioarchaeological techniques discussed above, it is clear why the reburial of Native American skeletal remains is such a heated debate in the academic world. The

majority of these methods were developed in the last thirty years' and some fear that as bioarchaeological methods continue to improve, the ability to conduct new research as well as reexamine skeletal samples will be hampered by repatriation legislation like NAGPRA. However, is there a basis to these fears? Twenty years after NAGPRA, has bioarchaeological research actually decreased over time as some researchers predicted? This thesis will attempt to answer this question for the southeastern United States and North Carolina. Such research is important to the field because, in order to continue to improve the relationship between Native Americans and archaeologists, we must understand the actual effect of the law and not simply depend on notions about what has happened.

CHAPTER THREE: IMPACT OF NAGPRA

While many papers and articles have been published discussing whether or not NAGPRA is the death of North American archaeology, very few have actually quantitatively examined the impact of the law on the amount of research produced. Nevertheless, several impacts of NAGPRA and repatriation legislation have been noted in the academic literature, both at the national and regional level. This section will review these impacts in the fields of archaeology and bioarchaeology.

National Impact

With the many complications associated with NAGPRA and studying historic and prehistoric Native American skeletal remains, the primary areas of research for new physical anthropologists are shifting outside of the United States (Kakaliouras 2008:115). A shift abroad has been noted after substantial amounts of skeletal data associated with NAGPRA inventories in the 1990's were collected (Kakaliouras 2008:115). Kakaliouras (2008:117) illustrates this by examining the number of academic papers presented at the annual American Association of Physical Anthropologists (AAPA) Conference between 1980 and 2005. The average percentage of papers involving research conducted on Native American skeletal remains between 1980 and 2000 was 6.9% (Kakaliouras 2008:117). An increase in research on Native American remains between 1980 and 2001 is attributed to the growth and development of bioarchaeology as a subfield in anthropology (Kakaliouras 2008:118-119). However, between 2001 and 2005 the average percentage of papers dropped to 3.9%. This drop was part of an overall decline in Native American research presented at the AAPA's between 1995 and 2005 (Kakaliouras 2008:117).

Such trends associated with NAGPRA and repatriation are detrimental to North American physical anthropology because it decreases theoretical and ideological development of the field (Kakaliouras 2008:120). Instead of running from research problems in the United States, osteologists must learn to appreciate and value Native American remains and figure out how skeletons can offer more to the field besides quantifiable data (Kakaliouras 2008:120).

NAGPRA has had both positive and negative effects on archaeology in the United States. Loring (2008:182) states that "As a result of repatriation legislation, the practice of archaeology in North America is at ─ or should be at ─ a watershed point where established traditional or normal science confronts a paradigmatic shift." NAGPRA and NMAIA forces Native Americans to take part in archaeological processes and discussions (Loring 2008:183). Because of this inclusion, NAGPRA validates their indigenous views of history and makes them as relevant as archaeologists' interpretations of the past. Scientific research no longer outweighs traditional oral histories and stories, forcing archaeologists to ask new questions (Loring 2008:184). Because of NAGPRA, there has clearly been greater communication and collaboration between Native Americans and archaeologists regarding the handling, studying, displaying, and reburial of skeletal remains and burial artifacts across the United States (Bray 2001; Kerber 2006; Mihesuah 2000; Swidler et al. 1997). This theoretical change is particularly true regarding Native American tribal members claiming skeletal remains as part of their ancestral family (Loring 2008:183). When bioarchaeological methods fail to establish clear cultural affiliation, tribal members can use information from folklore, linguistics, and oral traditions, among other methods, to provide evidence of their claim to the remains (Ousley et al. 2005:4). At its core, NAGPRA is a social law about sharing the past, civil rights, and repairing relationships between Native Americans and American anthropologists. According to Loring (2008:183), NAGPRA

"has the potential to broaden our awareness and understanding of human diversity and human experiences."

One positive effect of NAGPRA is the many studies generated from the skeletal inventories completed by institutions holding remains in collections. Increased analysis has broadened the understanding of Native American history by filling gaps in the knowledge base. Skeletal remains that have never been researched before are now being included in examinations, made possible by the funding associated with NAGPRA (Rose et al. 1996:99). An additional benefit is as inventories are completed, institutions will have a better idea of where certain skeletal samples are held. Having such a database will allow bioarchaeologists to find specific skeletal populations to address specific research questions (Rose et al. 1996:99). Inventories of museums and university collections were a necessary part of the repatriation process because little research had been previously done on these remains and cultural affiliation was unknown in many cases prior to NAGPRA. In the Lower Mississippi Valley, 64% of the 20,947 excavated skeletons have never been studied to determine age and sex (Rose et al. 1996:86). Similarly, only 23% of the 10,896 Native Americans skeletal remains excavated in Arkansas and Louisiana have had a biological profile constructed (Rose et al. 1996:86). In the northern portion of the country as of 1995, 37% of the 25,717 Native American skeletons have had osteological analysis (Rose et al. 1996:87)

The root causes of this inadequate osteological study of excavated Native American remains prior to NAGPRA stems from the lack of time and funding (Rose et al. 1996:86). To help the backlog, NAGPRA provides some federal and private funding to institutions for inventory completion. Morenon (2003:121) reports that "Between 1994 and 1998, 118 grants, totaling 6.5 million dollars, were awarded to Indian tribes and 89 grants, totaling 4.2 million

dollars, were awarded to museums to assist them to complete the required NAGPRA procedures." However, not every institution that needs money can get federal money for the completion of skeletal and artifact inventories. In the first five years of the law, the United States government only funded 10% of the need, leaving many universities and museums to fend for themselves (Rose et al. 1996:96). In the first round of grants awarded by the federal government, 107 institutions asked for 23 million dollars to help fund inventories, but only 41 grants totaling 2.14 million dollars were approved (Rose et al. 1996:96). The situation has improved in recent years. As of 2008, 592 grants totaling 31 million dollars have been awarded for repatriation, consultation, and documentation (Chari and Trice 2009:4). However, since 1994 when grants were first given, only half of the total grant applications requesting funds have received money (Chari and Trice 2009:4).

NAGPRA, as well as NMAIA, has also acted as a catalyst towards the standardization of skeletal data collection in the United States (Buikstra and Ubelaker 1994:5; Rose et al. 1996:92-93). Before major repatriation legislation in the early 1990's, there were several methods for constructing biological profiles, but there were no widely used standards for collecting skeletal data (Buikstra and Ubelaker 1994:2-3). Different techniques would be employed on different skeletal samples, resulting in information that could not be compared or aggregated with data from other studies (Buikstra and Ubelaker 1994:3; Rose et al. 1996:92-93). Such methodological issues are problematic when hundreds of physical anthropologists are trying to assign cultural affiliation to thousands of Native American skeletal remains for repatriation. Standardization was deemed necessary in the late 1980s and early 1990s because many anthropologists feared the loss of their objects of study. Researchers wanted to ensure that the best and most relevant data were collected before skeletons were repatriated and reburied. In 1989, Jonathan Haas, who was Vice

President for Collections and Research at Chicago's Field Museum of Natural History, received funding from the National Science Foundation to create a set of standards for osteologists to follow when conducting research (Buikstra and Ubelaker 1994:3; Rose et al. 1996:93). As a result, Jane E. Buikstra and Douglas H. Ubelaker's *Standards for Data Collection from Human Skeletal Remains* was published in 1994, which is now indispensable in all modern bioarchaeological research in the United States (Rose et al. 1996:93).

Impact in the Southwest

Keith W. Kintigh (2008) has examined NAGPRA's effects on archaeology and anthropology in the southwestern United States. He believes that the issue of repatriation and reburial is not as large of an issue in this area of the country as in other regions because of a long, 125-year history of anthropological work on and dealing with native tribes (Kintigh 2008:196). Because of this history of working together, archaeologists have long been aware of the cultural sensitivity surrounding skeletal remains and artifacts. Kintigh (2008:196) notes that there have been various positive and negative changes in some procedures, but none of the changes have been as extensive or as far-reaching as some archaeologists would like to see. Within the Southwest, there have been changes in archaeological theory, public policy, and practice (Kintigh 2008:198). In practice, the law obviously has impacted academic archaeology and cultural resource management (CRM) regarding when and where excavations may be conducted (Kintigh 2008:204-205). From a theoretical point of view, NAGPRA has also led to discussion on the idea of "cultural affiliation"(Kintigh 2008:199). There is more discussion on how the concept of affiliation differs from how it is defined in the law and how it is defined by Native

American groups in the Southwest. The definition in the law implies a long, traceable, linear family descent through time with a shared culture. However, this concept is sometimes hard to apply to dynamic cultural histories of groups like the Hopi in the Southwest or the Lumbee is North Carolina (Kintigh 2008:200; Padget 1997:392). Repatriation has affected archaeological interpretations in the region by increasing the value of traditional histories in interpreting the past, forcing Native American migration patterns in the area to the forefront of discussions, and making archaeologists take into account indigenous views of cultural affiliation (Kintigh 2008:199). More and more archaeologists are using oral histories to interpret and support their own findings from excavations. Bernardini (2005) examined traditional Hopi oral histories of migration and origin stories and compared them to archaeological data relating to migration patterns of the group. It was found that the two sources coincided with each other on the migration of the tribe through time (Bernardini 2005:7). Studies such as this one were rarely undertaken before NAGPRA.

Changes in public policy have caused the greatest positive impact in the Southwest, but it also has had the greatest negative effect from the viewpoint of some archaeologists (Kintigh 2008:200). Federal and local agencies in charge of making decisions about repatriation "respond to short-term pressures (basically, to get the project signed off on and done) at the expense of fair implementation of the law and the balance of Indian and public interests embodied by NAGPRA" (Kintigh 2008:202). According to Kintigh (2008:203), this has resulted in some unjustifiable repatriations of skeletal remains to some tribes claiming the bones while other times there is insufficient documentation when repatriation is necessary. Agencies that do not fully understand the regulations of NAGPRA are making uninformed decisions (Kintigh 2008:202).

Another direct effect of NAGPRA on archaeological practice in the Southwest is that there have been more consultations between Native American communities and museums regarding the display and repatriation of skeletal remains (Kintigh 2008:201). While there is the potential to lose large amounts of scientific information with the returning of material culture and skeletons, the improved relations between Native and academic communities is worth the cost (Kintigh 2008:202). Because of this cooperation in the Southwest, there have been several state laws passed dealing with repatriation. One in Arizona heavily favors Native Americans claims to skeletal remains by not requiring any proof of cultural relationship (Kintigh 2008:200).

Impact in the Northwest

Darby C. Stapp (2008) has investigated NAGPRA's impact on CRM in the Pacific Northwest. Individuals who work in CRM help federal, state, and local agencies to preserve and protect culturally important sites and objects (Stapp 2008:210). He bases his views and observations on 30 years of experience in archaeology, both before and after NAGPRA went into effect. In addition, he has dealt with issues surrounding the law first hand (Stapp 2008:209). Like Kintigh (2008) and Loring (2008), Stapp (2008:220) attributes the increased cooperation and constructiveness of Native Americans and CRM agencies in recent years to NAGPRA. The law allows Native Americans to have a clear voice in the deposition of their ancestors' remains as well as in planning and in the decision-making of future excavations. While not legally required to follow input of the Native Americans during these consultations, the vast majority of CRM companies do listen and take their suggestions into consideration (Stapp 2008:220). Tribes have also become involved in CRM to work together for the preservation of archaeological sites,

traditional-use areas, and artifacts. By relying on oral histories and other sources, archaeologists can anticipate where ancient Native American cemeteries might be located and possibly avoid these areas (Stapp 2008:222).

Stapp (2008:221) notes that there have been changes in what is meant by "cultural resources." Native Americans have pushed to have the term include their sacred sites, traditional plant-gathering areas, traditional hunting grounds, and storytelling places (Stapp 2008:221). Because of this expanded definition, new and valuable ethnographic data has been collected to supplement archaeological data, particularly advancing knowledge of how Native American groups relate to their landscape and environment (Stapp 2008:221). In addition, CRM is now shifting away from traditional anthropological and archaeological research and focusing more on protection of these sites and other historically important areas (Stapp 2008:221). Before NAGPRA, CRM in the Northwest was focused more on answering research questions and generating new information for academia. However, since NAGPRA, there is a greater emphasis on preservation and survey which has led to fewer and smaller excavations. Stapp (2008:222) notes a marked increase in research studies as a direct result of all the inventories mandated by NAGPRA and a quickly advancing knowledge base involving Native American remains. This fact is evidenced in the National Park Service's cultural affiliation study of Kennewick Man, which included archaeological, ethnographic, burial, and linguistic studies (Stapp 2008:223). In total, these research projects on indigenous culture in the Northwest shed new light on the past 9000 years of Native American cultural continuity in the region and were conducted in direct response to NAGPRA (Stapp 2008:223).

Conclusion

As illustrated by the earlier review of repatriation history, the events leading up to the passage of NAGPRA in 1990 reach far back into North America's history. It is no secret that grave injustices were committed upon the indigenous people of America by the western world. From this history, the need for repatriation and laws like NAGPRA arose. Such laws have had a far-reaching and lasting effect on archaeology and physical anthropology in the United States. It has increased communications between archaeologists and the Native American community, influenced academic archaeology and CRM, and greatly increased knowledge regarding the interpretation of the past.

In a review of archaeological and anthropological literature, nothing was found discussing how NAGPRA has affected North Carolina and the Southeast. The lack of research could be the result of little funding for NAGPRA research in the region. Between 1994 when the first NAGPRA grants were given out and 2008, 490 grants totaling 30 million dollars have been awarded for consultation and documentation (Chari and Trice 2009:10). However, North Carolina and other states in the Southeast have only received up to 500 thousand dollars per state, with South Carolina, Virginia, and Tennessee having received none to date (Chari and Trice 2009:10). Since there is limited funding for the completion of inventories and the consultation process, researchers might simply be avoiding the region and focusing on others where there is more money and greater opportunities. To start exploring the extent of NAGPRA's effects, this thesis will address the question of the law's impact on bioarchaeological research in North Carolina and the Southeast.

CHAPTER FOUR: RESEARCH METHODS

The goal of this thesis research is to evaluate NAGPRA's effects on the bioarchaeology of Native American skeletal remains in North Carolina and the southeastern United States. Under NAGPRA, anthropological research involving Native American history, culture, and human remains is still possible since the law's direct purpose is not to prevent the study of Native American skeletal remain. Instead, the law encourages the use of readily available information on the remains and common analytical methods to assess cultural affiliation in order to return the remains to their proper caretakers (Ousley et al. 2005:4). Nevertheless, one must ask whether this primary objective of NAGPRA has indirectly decreased access to Native American skeletal remains and therefore decreased the amount of skeletal research undertaken and published.

To investigate whether repatriation has influenced bioarchaeological research in the Southeast, and specifically North Carolina, several data sources will be examined to see if changes in the amount of Native American skeletal research can be detected between the years 1970 and 2009. In addition, questionnaires will be used to evaluate the opinion of several archaeologists, bioarchaeologists, and leaders in the North Carolina Native American community. These individuals are asked about their view of NAGPRA and its influence in the state of North Carolina and the Southeast. The research hypothesis for this thesis is that the proportion of research and publications involving Native American skeletal remains from the Southeast will peak around 1990 because of the mandatory inventories dictated by NAGPRA for the purpose of determining cultural affiliation. A similar pattern is expected for North Carolina. It is predicted that this peak period will then be followed by a slow and steady decrease in the amount of bioarchaeological research conducted each year. In regards to the interviewees'

opinion of NAGPRA's effect on the region and state, it is predicted that the they will see the law as more damaging to the field than the data indicate.

Quantitative Research Methods

If NAGPRA has actually influenced the amount of research on Native American skeletal remains, the trend should be evident in the total amount of research produced each year. The yearly proportion of bioarchaeology studies relative to the total amount of archaeological research should increase or decrease from a pre-NAGPRA level to a post-NAGPRA level if the law actually affects research in some way. However, a complete literature review of all the published articles and abstracts regarding Native American bioarchaeology is outside the realm of possibility for this project. Therefore, the pool of potential data sources was narrowed to those relevant to North Carolina archaeology, which allows the research to focus on the state but will also provide a snapshot of any trends in the Southeast. To trace NAGPRA's effects on the state of North Carolina and the Southeast, I compare the amount of Native American bioarchaeological research to the total amount of archaeological research from several different academic sources. The journals *Southeastern Archaeology* and *North Carolina Archaeology* (formally *Southern Indian Studies*), doctoral dissertations from the UNC-CH Department of Anthropology, and bulletins from the Southeastern Archaeological Conference (SEAC) were all reviewed. Data were collected from the sources for the years 1970 through 2009.

Southeastern Archaeology and *North Carolina Archaeology* were selected as data sources for two reasons. First, it is important to review articles published in scholarly journals because they represent current trends in research. If there is any fluctuation in the amount

bioarchaeological research conducted each year, then it is logical to think that the shifts would be represented in the topics of journal articles. Second, articles submitted to *Southeastern Archaeology* and *North Carolina Archaeology* are geographically relevant for this study. The journals publish archaeological studies conducted in North Carolina and the southeastern United States. Doctoral dissertations from the anthropology department at UNC-CH were also chosen because the affiliated Research Laboratories of Archaeology has been a substantial source of archaeological research in North Carolina (University of North Carolina-Chapel Hill 2010). However, one problem arises with just examining research trends occurring only in journals and dissertations. These resources only represent a small and selective amount of research conducted because not all research is presented in these ways (Kakaliouras 2008:116). Often, archaeological and bioarchaeological work conducted by undergraduates, graduate students, and academics is only presented at conferences in the form of posters and papers. These studies may never be published, but they still represent a substantial amount of research in the field (Kakaliouras 2008:116). Therefore, to account for this bias, abstracts from the bulletins of SEAC were included in this study. Because of the numerous papers presented at SEAC each year, this represents the main source of data for this thesis.

The year 1970 was selected as the year to begin examining possible trends in research because the repatriation movement started to have a major voice in the United States around this period (Fine-Dare 2002:74-75). In addition, the 1960s ushered in the era of "New Archaeology," where scholars such as Lewis Binford pushed to make archaeology an empirical science to explain human history, employing the scientific method in excavations (Wenke and Olszewski 2007:26-26). It is from this processual archaeology that the concept of bioarchaeology arose, a term first mentioned in a symposium at the Southern Anthropological Society meeting in 1976

(Buikstra 2006:xvii). Buikstra (1977) and her fellow colleagues stressed the importance of skeletal analysis and the valuable information that can come from the various techniques when combined with other archaeological data (Blakely 1977:5-7). Lastly, choosing 1970 as a starting date allows for an examination of bioarchaeological research from 20 years before and after NAGPRA went into effect. If NAGPRA did have an effect on research, 20 years should be long enough to discern its impact in the data.

Data were collected by reading through each source, year by year, and determining if each article or abstract could be classified as "bioarchaeological." For the purpose of this study, bioarchaeology refers to research involving the analyzing of human skeletal remains to increase the understanding of the population's health and lifeways from which the bones are associated (Peason and Buikstra 2006:207). For a study to be counted as "bioarchaeological" in this analysis, there were three main qualifications. First, the main focus of the research had to be the bioarchaeological analysis of Native American skeletal remains from the southeastern United States. Second, the skeletal evidence gathered must be a significant component of the study's conclusions. For example, archeological reports summarizing excavations at a site containing skeletal remains but lacking analysis of the remains were not included in the study. Third, the article must present new analysis or data, not review and summarize past skeletal investigations.

If classified as "bioarchaeological," seven attributes of the research were recorded (Appendix A). These attributes are source and volume number, year of publication, author, general type of analysis, specific type of analysis, and state from which the skeletal material originated. With "general analysis," the studies were classified as utilizing either destructive or nondestructive methods. "Specific analysis" refers to the type of either destructive or nondestructive methods used. Nondestructive methods include creating a biological profile,

pathological analysis, and osteometrics. For this thesis, a biological profile consists of assessing an individual's sex, age, stature, or ethnicity and pathological analysis refers to any assessment of disease, trauma, health, or stress. Osteometrics refers to any skeletal measurements outside those necessary to create a biological profile. Destructive methods include trace element analysis, DNA analysis, histological samples, and chemical dating of the bones.

These various attributes regarding types of analysis were collected to help trace any shifts in types of methodology employed for bioarchaeological analysis over time. Specifically, I was most interested in seeing if, after the passage of NAGPRA, there was a decrease in studies using destructive analysis techniques. The state of origin for the skeletal remains analyzed was also recorded. This information was used to compare the amount of research conducted in North Carolina to the amounts conducted in other states in the Southeast.

Qualitative Research Methods

To help place the quantitative data in context, the opinion on NAGPRA of archaeologists and bioarchaeologists that work in the Southeast as well as leaders of the North Carolina Native American community were sought. Questionnaires were sent to 18 individuals via e-mail asking for the individual's views on NAGPRA's impact on North Carolina and Southeastern bioarchaeology (Appendix B). E-mail questionnaires were chosen over telephone and personal interviews as the best form of communication because it was the least time-consuming for the interviewees. Individuals were chosen based on either their research interests in the Southeast or their ties to the Native American community in North Carolina. The list of archaeologists and bioarchaeologists was compiled from individuals suggested by several East Carolina University

faculty members that conduct research in the Southeast. In addition, several faculty members from UNC-CH were chosen based on their research interests. The list of individuals from North Carolina's Native American community was gathered from the webpage of the North Carolina Commission of Indian Affairs (North Carolina Department of Administration 2010). Follow-up questionnaires were not possible due to time constraints for those that did not respond.

Testing the Research Hypothesis

Information gathered through these two data collection methods will be critical in determining if there is a shift in the amount of Native American bioarchaeological research in comparison to other archaeological research. The four quantitative data sources will show both regional trends and trends for North Carolina. Combining quantitative and qualitative data will allow for a consideration of the law's intended and unintended consequences.

CHAPTER FIVE: DISCUSSION

In the following section, the results from the quantitative and qualitative analysis will be reviewed. The quantitative data are broken into results from the Southeast and results from North Carolina. The qualitative section discusses the interviewees' responses and how their answers apply to the quantitative data.

Quantitative Results

From the four data sources examined, a total of 6,330 articles, abstracts, and dissertations were reviewed, evaluated, and recorded. Of these, 237 meet the classification of bioarchaeological studies as defined for this thesis in Chapter Four (Appendix A). The vast majority of data were collected from the SEAC bulletins. These bulletins represent a substantial portion of the data because of the large number of papers and posters given at the conference each year in comparison to the small number of articles published in the average journal. It is important to note that there are no data for *North Carolina Archaeology* between the years 1981 and 1983 and for 1987 because no volumes were published in these years. In addition, there is no information for 2009 because at the time of this study, volume 58 of *North Carolina Archaeology* had not been published.

For the *Southeastern Archaeology* data set, there is no information from the journal before 1982 because this is the first year the journal was officially published. Before 1982, papers presented at SEAC were submitted by the authors for publication in the bulletins once given at the meeting, sometimes years after the meeting itself. In one extreme case, Bulletins 20 and 21, which contain papers from the meetings in 1976 and 1977, were not published until 1983 in a joint volume (Marquardt 1983). It was because of this great delay between SEAC and the

actual publication that Bulletin 16 was never published (Vincas P. Steponaitis, personal communication 2009). For this study, the year recorded for each SEAC bulletin corresponds to the year that the conference was held, not the year it was published. It should also be noted that a bulletin for the thirty-eighth SEAC meeting in 1981 could not be located, possibly because it was never created. Bulletin 24 contains papers from the thirty-seventh SEAC meeting in 1980 and Bulletin 25 contains abstracts from the thirty-ninth SEAC meeting in 1982.

Regional Results

As stated earlier, the hypothesis regarding the effects of NAGPRA for this study is that there will be a steady growth of bioarchaeological research until the early 1990's, which will be followed by a rapid decline. To test this hypothesis, comparisons were made through time among the data collected. Counts were standardized by converting them to percentages, adjusting for the varying total number of studies from each year (Table 1). Percentages were calculated by dividing the number of bioarchaeological articles for each year by the total number of articles examined for that year. A graphic representation of these data by year (Figure 1) shows extreme variation in percentages between 1970 and 2009. Such results indicate that there have been changes in the amount of bioarchaeological research over time, but are these changes significant and can they be attributed to NAGPRA?

To firmly establish correlation between trends in the data and NAGPRA, the sectioning point of 6% was chosen to distinguish between years with a low percentage of bioarchaeological studies and years with high percentages. This division is based on breaks in the distribution of

Table 1. Total number of bioarchaeological studies.

	NC Archaeology		*Southeastern Archaeology*		SEAC Bulletin		UNC Dissertations				
Year	Bioarch	Total	Bioarch	Total	Bioarch	Total	Bioarch	Total	Total Bioarch	Total	Percent Bioarch
1970	-	3	nd	nd	-	35	-	1	-	39	0.0
1971	-	2	nd	nd	-	1	-	1	-	4	0.0
1972	-	2	nd	nd	-	20	-	-	-	22	0.0
1973	-	1	nd	nd	1	7	-	1	1	9	11.1
1974	-	1	nd	nd	3	39	-	-	3	40	7.5
1975	-	1	nd	nd	-	28	-	2	-	31	0.0
1976	-	2	nd	nd	1	25	-	1	1	28	3.6
1977	-	1	nd	nd	-	7	-	1	-	9	0.0
1978	1	2	nd	nd	-	30	-	-	1	32	3.1
1979	1	1	nd	nd	-	12	-	-	1	13	7.7
1980	-	1	nd	nd	1	39	-	2	1	42	2.4
1981	nd	nd	nd	nd	nd	nd	-	-	-	-	0.0
1982	nd	nd	-	11	2	113	-	3	2	127	1.6
1983	nd	nd	-	11	2	126	-	1	2	138	1.4
1984	-	1	-	15	6	109	-	-	6	125	4.8
1985	-	1	-	8	8	102	-	1	8	112	7.1
1986	-	1	-	11	5	145	-	2	5	159	3.1
1987	nd	nd	-	13	2	125	-	1	2	139	1.4
1988	-	2	-	7	5	183	1	1	6	193	3.1
1989	-	4	1	10	6	130	-	1	7	145	4.8
1990	-	3	1	11	3	126	-	-	4	140	2.9
1991	-	2	-	7	5	113	-	-	5	122	4.1
1992	-	1	-	8	9	160	-	2	9	171	5.3
1993	-	1	1	9	15	174	-	2	16	186	8.6
1994	-	1	-	12	16	328	-	2	16	343	4.7
1995	-	2	2	8	5	170	-	1	7	181	3.9
1996	1	3	1	7	10	189	-	1	12	200	6.0
1997	-	9	-	6	5	198	-	2	5	215	2.3
1998	-	4	1	7	3	212	-	-	4	223	1.8
1999	-	8	-	5	7	260	-	2	7	275	2.5
2000	-	5	1	9	10	234	-	-	11	248	4.4
2001	-	3	1	14	11	234	1	1	13	252	5.2
2002	-	5	1	24	6	228	-	-	7	257	2.7
2003	-	4	-	14	10	233	1	2	11	253	4.3
2004	-	4	1	19	2	348	-	2	3	373	0.8
2005	-	4	3	15	12	273	-	3	15	295	5.1
2006	-	4	2	16	4	204	-	-	6	224	2.7
2007	-	3	4	18	9	272	-	-	13	293	4.4
2008	-	5	-	17	15	355	-	-	15	377	4
2009	nd	nd	1	7	11	285	-	3	12	295	4.1
Totals	3	97	21	319	210	5872	3	42	237	6330	

Note: nd = no data

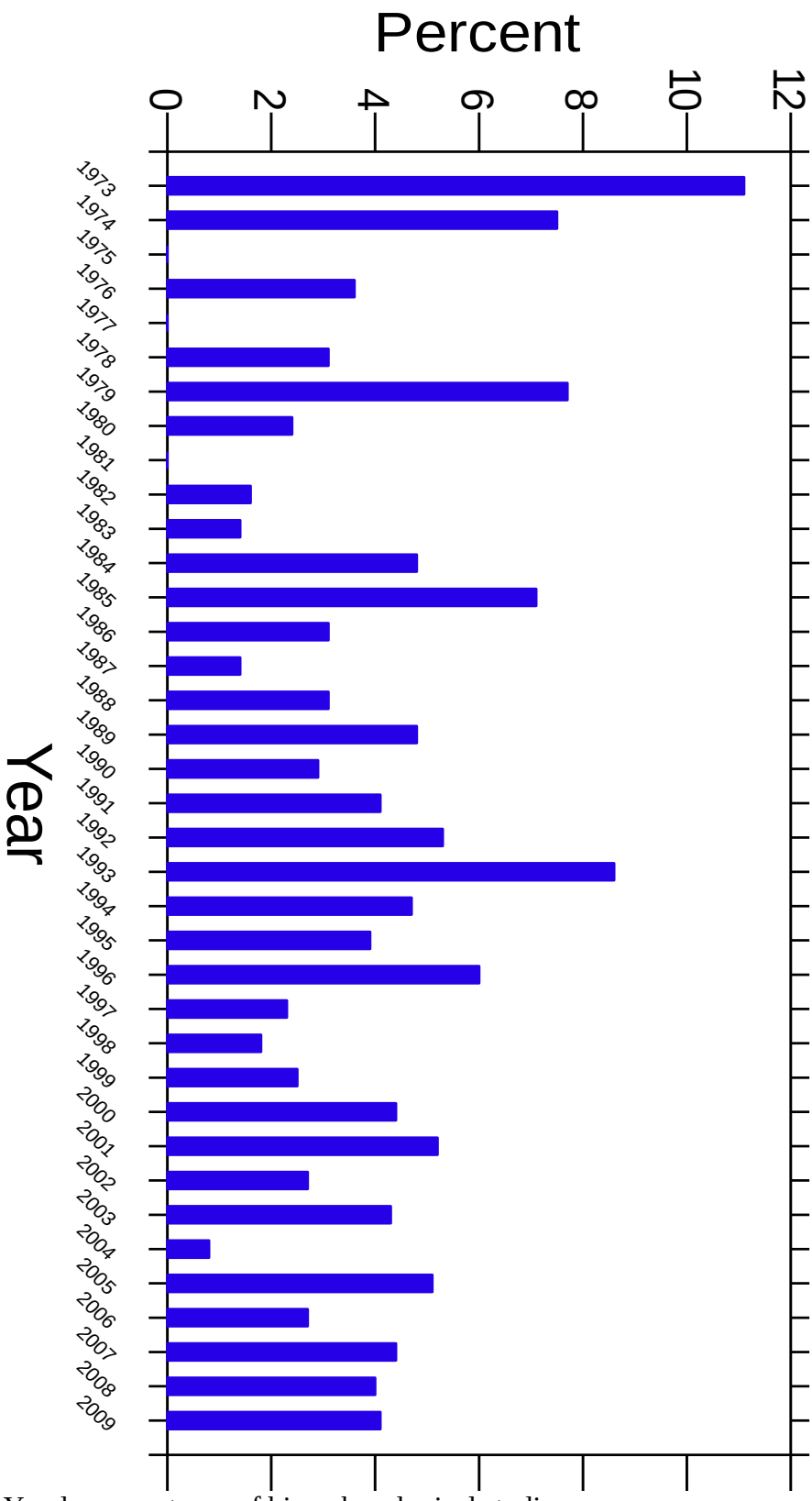

Figure 1. Yearly percentages of bioarchaeological studies.

the data as shown in a histogram (Figure 2). A histogram shows the distribution of a quantitative variable (Baldi and Moore 1996:13). My interpretation of this distribution is that there are three clusters present in the data. The first cluster in the graph represents all the years in which the percent of bioarchaeological research is below 6% which includes most of the data set. The second cluster consists of the percentages above 6%, which contains the five years of 1974, 1979, 1985, 1993, and 1996. The third cluster consists of the one datum point for 1973. At 11.1 percent, it is the highest overall percentage for the years studied. However, this datum point is an outlier due to its extremely small sample size, artificially inflating the percentage. For the 1973 outlier, there was one bioarchaeology study out of only nine total studies for the entire year. As for the other data points above 6%, there are several possible explanations for why the second cluster of five data points is above six percent. Similar to 1973, the percentages from 1974 and 1979 are likely higher than expected due to very small sample sizes. There were only three bioarchaeology studies out of 40 in 1974 and only one out of 13 total studies in 1979. Overall in this study, the years between 1970 and 1981 have a problem with small sample size. This likely stems from the fact that before 1982, the SEAC bulletins contained only a select number of articles presented at the conference. After 1982, the SEAC bulletin contained an abstract for every paper presented at the conference and the journal *Southeastern Archaeology* was created for the publication of articles.

The peak at 1985 is slightly more interesting and is important in helping to explain the steady growth in bioarchaeological research on Native American skeletal remains between 1985 and 1993. At the SEAC meeting in 1985, there was a symposium organized by Mary Lucas Powell, Patricia S. Bridges, and Ann Marie Wagner entitled “What Mean these Bones? The Dynamic Integration of Physical Anthropology and Archaeology in the Southeast” (Powell et al.

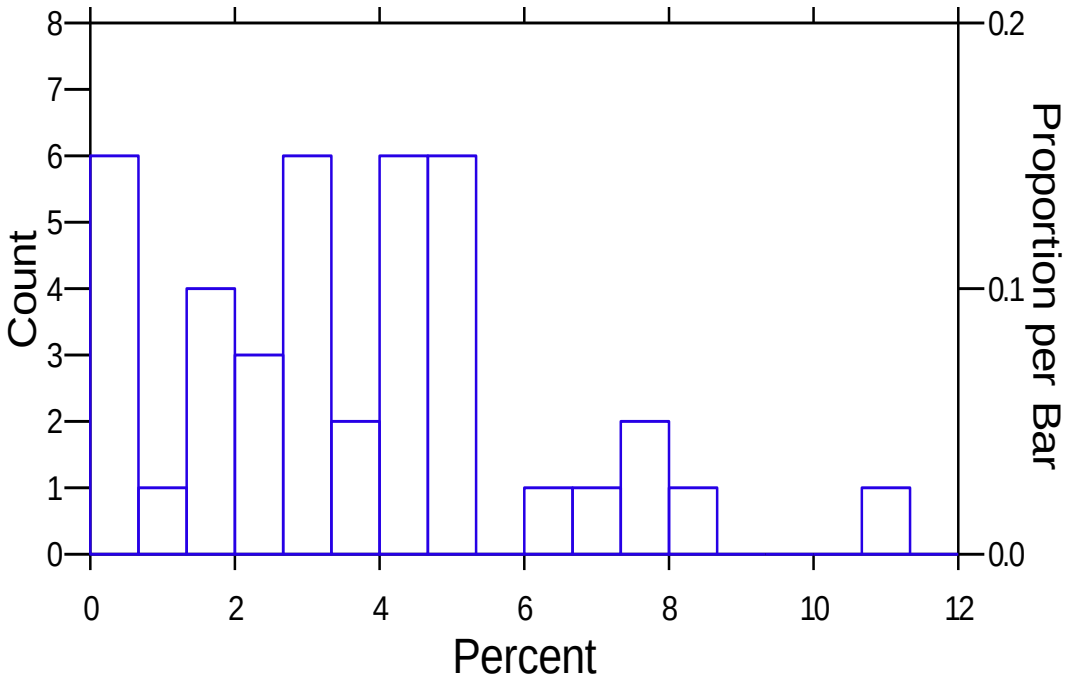

Figure 2. Histogram of the bioarchaeology data.

1991:1). This symposium is important for two reasons. First, its organization at SEAC brought more Native American bioarchaeological studies to the meeting than any other year before examined in this study, explaining the mode in Figure 1. The symposium was organized to foster communications between physical anthropological and archaeologists and to help both groups understand the valuable information that can be gathered from skeletal remains in archaeological contexts by stressing a bioarchaeological view (Powell et al. 1991:1). Such consultation between archaeologists and physical anthropologists was severely lacking in previous years (Powell et al. 1991:1). Second, the "What Mean These Bones" symposium was important because it was later published as a book by the same title (Powell et al. 1991). The book again stresses the importance of skeletal data in archaeology for a more holistic interpretation of everything from cultural behaviors to subsistence (Powell et al. 1991:2).

Additional unique circumstances, such as low sample size or the presence of certain symposia likely explain the modes in 1993 and 1996, but these circumstances are less evident than the other four peaks above 6%. Two symposia at SEAC are likely influencing the high percentage for the 1993 data, entitled "Interpreting Skeletal Trauma in Archaeological Context" and "The East Okeechobee Area of Southeast Florida- Fact or Fantasy?"(Steponaitis 1993). The first symposium focused on the use of trauma analysis in reconstructing the lifeways of prehistoric Native Americans in the Southeast (Steponaitis 1993:8). The second was a collection of papers using artifact, faunal, and human skeletal analysis to investigate the cultural areas in south Florida (Steponaitis 1993:10). For the 1996 peak, there is no clear link between the bioarchaeology studies and symposia presented at SEAC. Nevertheless, one wonders if the presence of the two symposia in 1993 independently caused the high percentage for that year.

Alternatively, were the two symposia necessary because of increased Native American research associated with NAGPRA and inventories for cultural affiliation?

To clarify this question, the data were grouped into five and 10-year intervals. The advantages of grouping the data are that it corrects for the bias from the very small sample sizes between the years 1970-1981 and provides a clearer picture of any trends. For the 10-year intervals the data show a steady increase in studies from 1970-1989, then a dramatic increase with the mode for the data being between 1990 and 1999 (Figure 3). This decade corresponds to the passing and implementation of NAGPRA and clearly shows that Southeastern bioarchaeological research of Native American remains increased in the 1990s in comparison to the previous two decades. The 10-year intervals also shows that after 1999, the percentage of research decreases slightly for the 2000-2009 interval. To offer a more detailed view of this pattern, data were grouped into five year-intervals (Figure 4).

In five-year intervals, the data show an overall shape that echoes the yearly data (Figure 1). There is a decrease in the percentage of bioarchaeological research between 1970 and 1984. Then, between 1985 and 1989, there is a sharp increase in Native American skeletal research. In addition, between the years 1995 and 2004, research levels off at percentages similar to those before 1990, with another slight increase in the 2005-2009 interval. Such an increase around 1985 is possibly linked with the "What Mean These Bones" symposium at the SEAC meeting in 1985 and its effects in the field. The symposium and the volume (Powell et al. 1991) that was later published were very influential in illustrating the importance of skeletal analysis in the interpretation of archaeological sites. The mode at the interval of 1990-1994 indicates a larger percentage of Native American bioarchaeological research in these years than any other five-year period examined in this study. This five-year period corresponds with the passage and

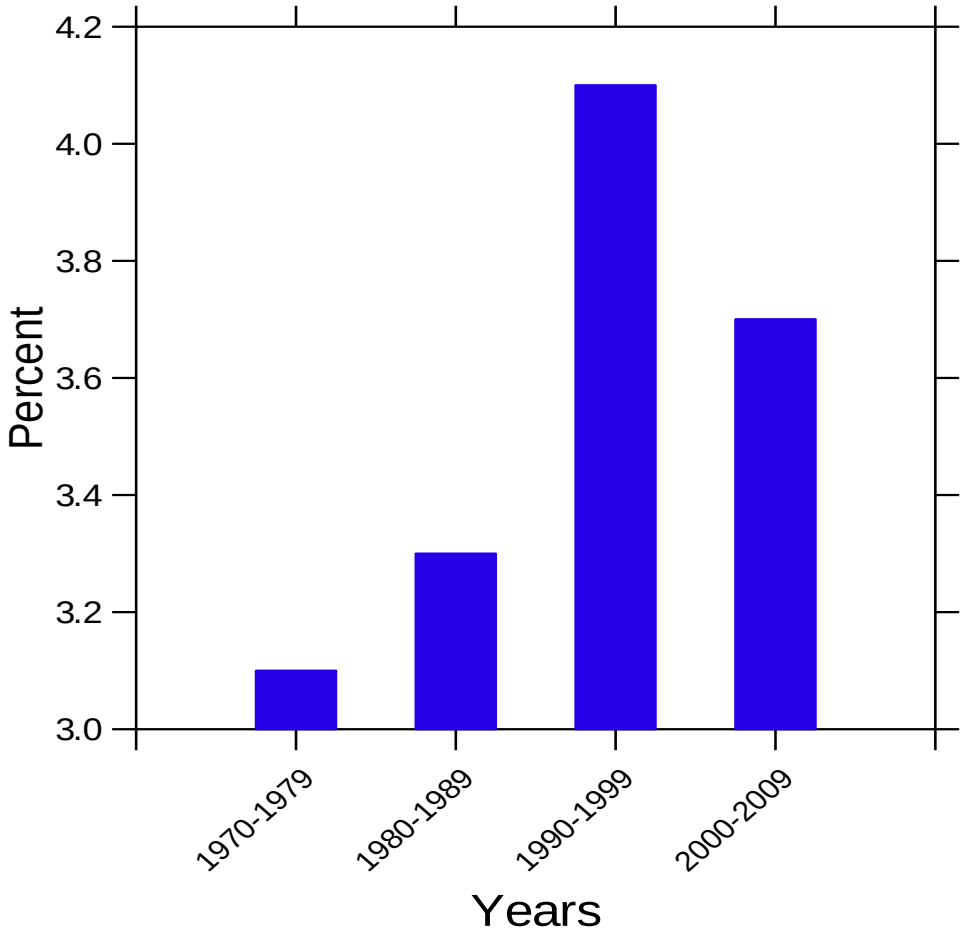

Figure 3. Percent of bioarchaeological studies in 10-year intervals.

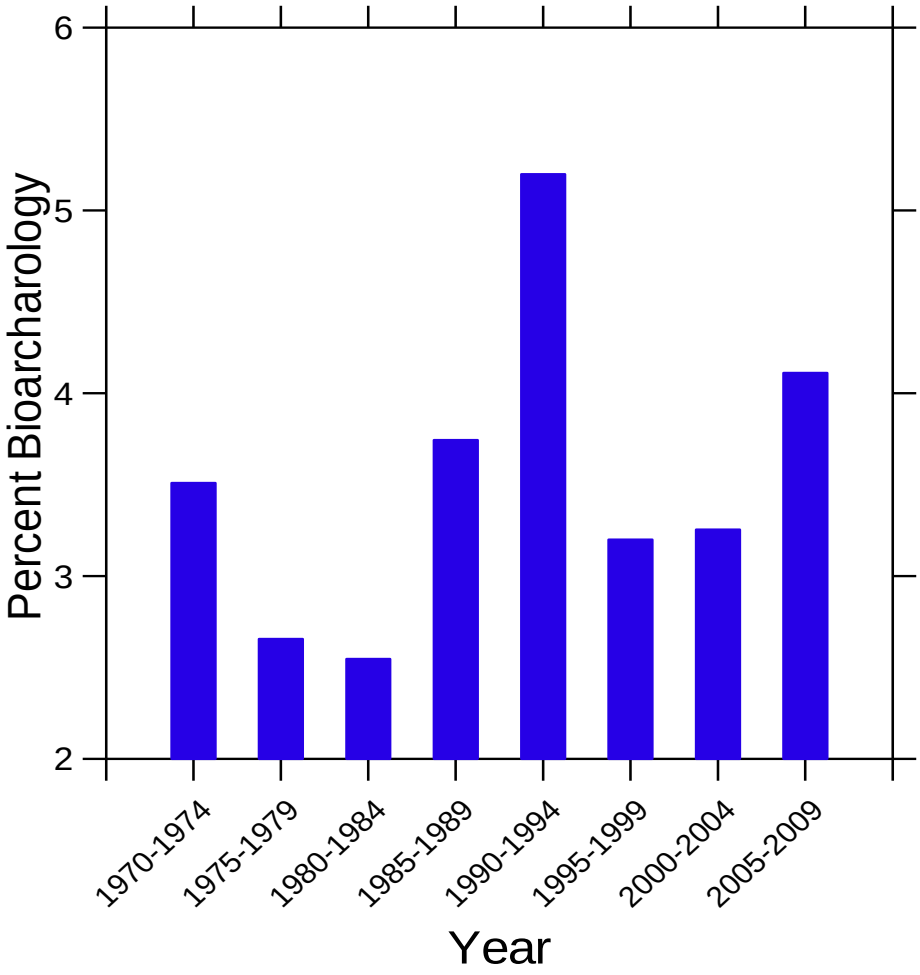

Figure 4. Percent of bioarchaeological studies in five-year intervals.

implementation of NAGPRA, as well as with the deadline for inventory completion of skeletal remains held in institutions. However, while this suggests a short-term effect, were there long-term effects of research that can be seen in the data?

While the five year-intervals illustrate a change in amount of research in correlation with NAGPRA being passed, when the 1990-1994 interval is excluded the range of the data before 1990 is similar to the range of the data after 1994. Before 1990, the range is between 2.5 percent and 3.7 percent compared to the range of 3.2 percent to 4.1 percent after 1994. When graphed in a notched boxplot, there is no statically significant difference between these ranges (Figure 5). A boxplot is a graph of the five-number summary of a set of data, which consists of the minimum value, lower quartile, median, upper quartile, and maximum value. The box marks the upper and lower quartiles and the line in the box marks the median. Lines that extend from the box illustrate the maximum and minimum values (Baldi and Moore 1996:46). A notched boxplot shows the five-number summary in addition to the 95% confidence interval for the data, which gives the probability that the interval will contain the true range of the data in repeated samples (Baldi and Moore 1996:357). The 95% confidence interval from the pre-1990 data and post-1994 data overlap, suggesting that there is no statistically significant difference between the ranges. This similar variation between the pre-1990 and post-1994 intervals indicates that the amount of bioarchaeological research in comparison to archaeological research has not changed in the long term.

Overall, it is clear the data indicate that after the increase in the percentage of Southeastern Native American skeletal research in the early 1990s, research has returned to levels similar to past decades prior to the passage of NAGPRA. These trends do not indicate that the actual number of studies has not increased over time. It indicates that in relation to the total

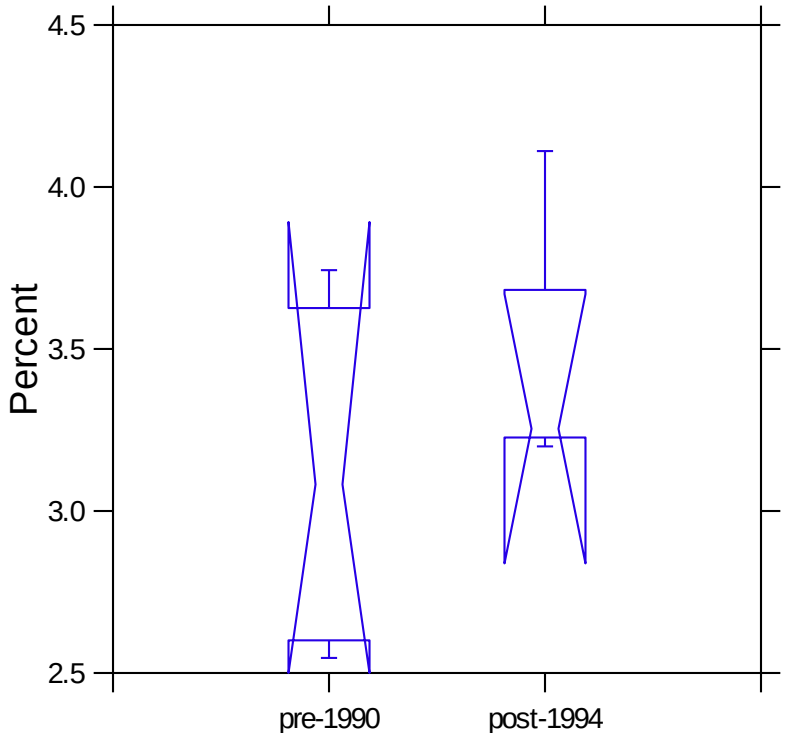

Figure 5. Boxplot comparing percents from the five-year intervals.

amount of archaeological research conducted, the percentage of bioarchaeology research has changed little over time in comparison to the whole.

Additional evidence supporting the interpretation that NAGPRA has had little long-term impact on the amount of Native American bioarchaeological research in the Southeast is that there is a positive correlation between the number of bioarchaeological studies and the overall number of archaeological studies. The Pearson correlation coefficient (r) measures the direction and strength of the linear relationship between two quantitative variables (Baldi and Moore 1996:75). Always between positive one and negative one, a positive r-value indicates a positive relationship between an independent and dependant variable while a negative r-value indicates a negative relationship (Baldi and Moore 1996:77). The closer the r-value is to either positive or negative one, the stronger the correlation between the two variables (Baldi and Moore 1996:77). A scatterplot (Figure 6) of the total number of archaeological studies against the number of bioarchaeological studies conducted on Native American skeletal remains shows that these variables are positively correlated ($r = 0.788$). The positive correlation is a notable finding because it illustrates that as the number of overall archaeological studies have increased over time, the number of bioarchaeological studies also have increased. This relationship again suggests that NAGPRA has not impacted the amount of bioarchaeological research in the long term since this positive correlation has been generally constant over the forty-year period between 1970 and 2009. If the percentages of bioarchaeological studies were changing in relation to the total number of studies over time, there would not be such a strong positive relationship. Instead, there would be clusters of data from multiple years in the scatterplot where the number of bioarchaeological studies were over- or underrepresented.

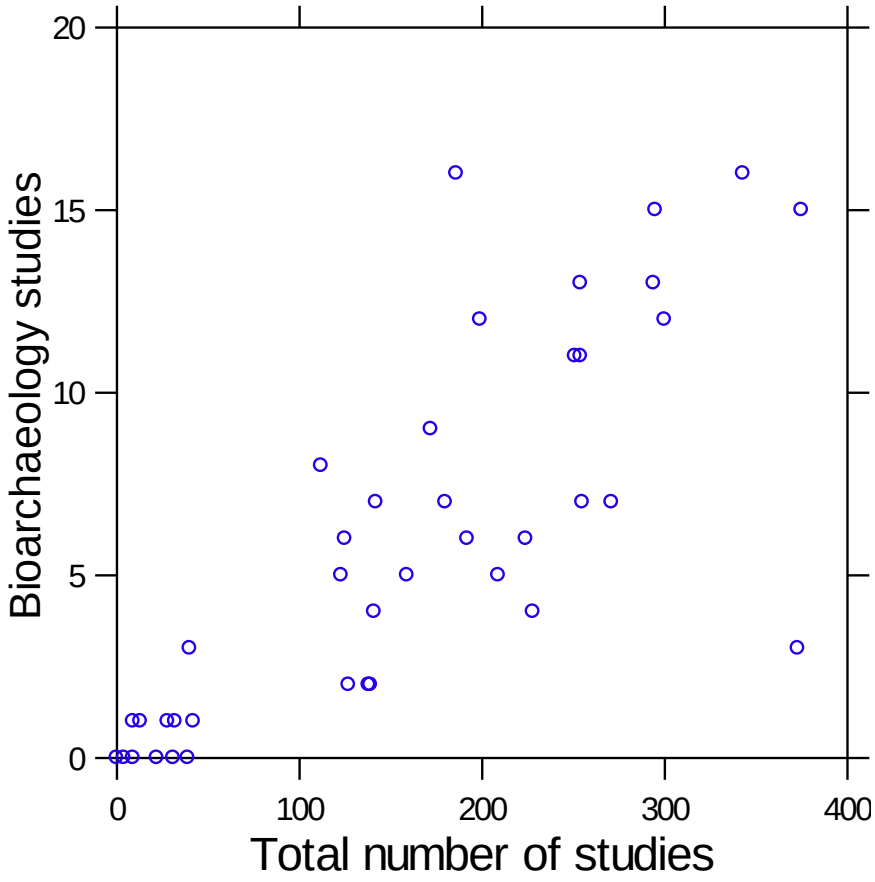

Figure 6. Scatterplot of total number of studies against number of bioarchaeology studies.

Two data points that deviate from the pattern and possibly represent an over- and underrepresentation are 1993 and 2004. As noted earlier, the presence of two bioarchaeology symposia at SEAC is a likely reason for the high percentage of bioarchaeological studies in comparison to the total number of archaeological studies for 1993. The low percentage of bioarchaeological studies in comparison to the total number of archaeological studies for 2004 is possibly explained by NAGPRA having a negative impact on research, but the overall trend dictated by the data is that bioarchaeological studies increased as a function of an increase in overall archaeological research.

From the evidence discussed thus far, the data suggest that NAGPRA has had no noticeable long-term effect on the amount of Native American bioarchaeological research conducted in the Southeast. With this conclusion, it is necessary to ask if the same can be said about the types of analytical techniques used in bioarchaeological research, particularly destructive analysis. According to NAGPRA, readily available information and data collection methods, not destructive analysis, should be used in the inventory process to assess cultural affiliation of Native American skeletal remains (Ousley et al. 2005:4). Since destructive analysis is not part of the regular NAGPRA inventory process to assign cultural affiliation, one could expect the use of destructive analysis to decrease after 1990. To address this question, the general type of analysis, either nondestructive or destructive, was noted for each bioarchaeology study examined between 1970 and 2009 in the data collection process (Table 2). Studies using destructive analysis were grouped into five-year intervals and graphed to illustrate any changes over time. As expected, there was a rapid decrease in the percentage of studies using destructive analysis in the years directly following NAGPRA's enactment (Figure 7). While there were no studies using destructive analysis before 1980, there is considerable increase in the percentage of

Table 2. Total number of bioarchaeological studies using destructive analysis.

Year	Number of Bioarch Studies Using Destructive Analysis	Total Number of Bioarch Studies	Percent
1970	-	-	-
1971	-	-	-
1972	-	-	-
1973	-	1	-
1974	-	3	-
1975	-	-	-
1976	-	1	-
1977	-	-	-
1978	-	1	-
1979	-	1	-
1980	1	1	100.0
1981	-	-	-
1982	-	2	-
1983	-	2	-
1984	1	6	16.7
1985	4	8	50.0
1986	-	5	-
1987	1	2	50.0
1988	1	6	16.7
1989	2	7	28.6
1990	2	4	50.0
1991	1	5	20.0
1992	1	9	11.1
1993	1	16	6.3
1994	2	16	12.5
1995	3	7	42.9
1996	-	12	-
1997	-	5	-
1998	1	4	25.0
1999	2	7	28.6
2000	3	11	27.3
2001	1	13	7.7
2002	-	7	-
2003	3	11	27.3
2004	1	3	33.3
2005	6	15	40.0
2006	3	6	50.0
2007	3	13	23.1
2008	4	15	26.7
2009	-	12	-
Total	47	237	

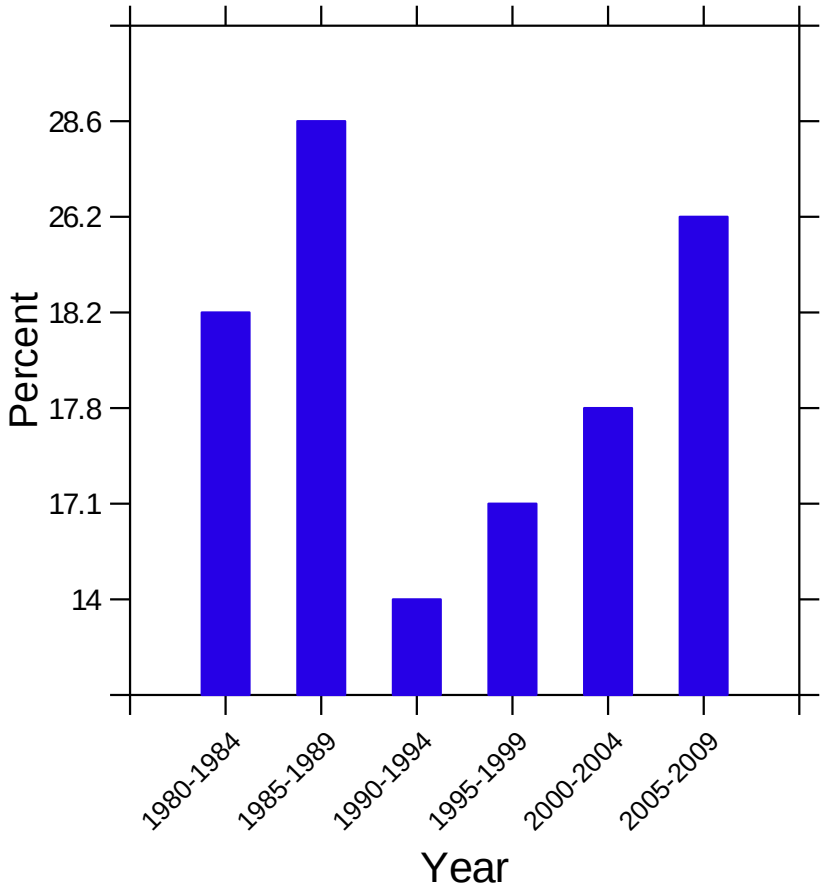

Figure 7. Percent of bioarchaeology studies using destructive analysis.

destructive analysis from 1980 to 1989. After 1994, the percentage again climbs steadily over time. The increase in destructive analysis prior to 1990 is likely related to the new development and increasing popularity of destructive analytical techniques, such as stable isotope analysis, that were first used in an archaeological setting in 1977 (Vogel and van der Merwe 1977). The sharp decrease seen between 1990 and 1994 is what one would expect to see as physical anthropologists publish and present data collected from the inventories. These inventories would be unlikely to include any destructive analysis of Native American remains, thereby explaining the lowering of the overall percentage of bioarchaeological studies using destructive analysis in these years. However, as with the overall percentage of bioarchaeology research data over time, this decrease is followed by a gradual increase back to levels seen before NAGPRA by 2009. This increase is likely linked with the increased communication and consultation between archaeologists and Native Americans regarding the development of future research projects. When taken in consideration with earlier results, the data on destructive analysis once again support the conclusion that NAGPRA has had little long-term impact on bioarchaeological research of Native American skeletal remains in the Southeast.

North Carolina Results

In the Southeast, the evidence suggests that NAGPRA has only had a short-term effect on amounts of bioarchaeological research on Native American remains and that over time research amounts returned to pre-NAGPRA levels. Does this trend hold true for North Carolina? From the 237 bioarchaeological studies examined, 18 make use of Native American skeletal remains from North Carolina (Appendix A). Analysis of the data in five-year intervals (Figure

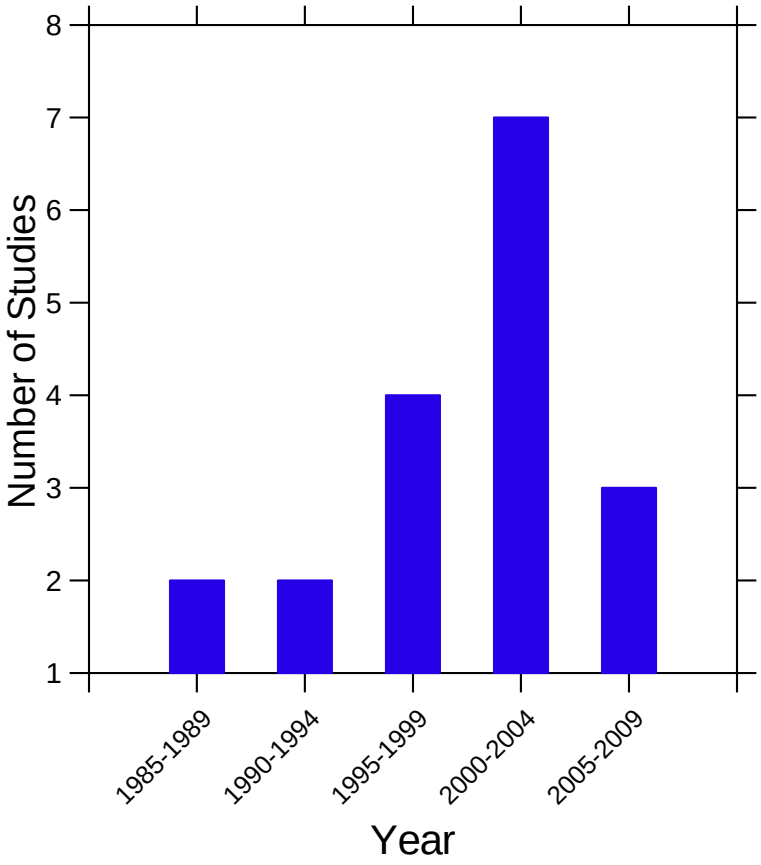

Figure 8. North Carolina bioarchaeological studies grouped in five-year intervals.

8) shows that the data for North Carolina have a unimodal distribution over time with the highest percentage of bioarchaeology studies for the state having occurred between 2000 and 2004. The same trend of returning to pre-NAGPRA levels after a peak in the percentages demonstrated by the Southeastern data is also apparent in the North Carolina data. However, while the mode for the Southeastern data corresponds to the interval between 1990 and 1994, in North Carolina, the mode is between 2000 and 2004.

These results for North Carolina lead to several question. First, why do the highest percentages occur during different years for North Carolina than for the rest of the Southeast? Why was there no bioarchaeological analysis of North Carolina's Native Americans before 1988? One possible explanation of these results is that, once again, the data are skewed by small sample size with only 18 studies from the state. In addition, skeletal data could have been presented in sources other than those considered in this study. However, I believe the results are an accurate representation of the trend in North Carolina. Levy (1986:vi) notes that as of 1986, while abundant archaeological research had been conducted in the Southeast, little had been published on bioarchaeological analysis of Native American skeletal remains. In addition, Levy (1986:vvi) states that this trend was even more evident in North Carolina and South Carolina.

Examining a breakdown of the bioarchaeology data collected for this thesis by state from which the remains came supports Levy's (1986:vvi) claim (Figure 9, Table 3). Based on the data, North Carolina's Native American skeletal remains have received much less study than other states, such as Florida, Georgia, and Tennessee. The difference is likely even greater between North Carolina and the Southeast because this research was designed towards collecting the maximum number of North Carolina skeletal studies possible, skewing the data towards North Carolina. One explanation for the little Native American skeletal research in North Carolina

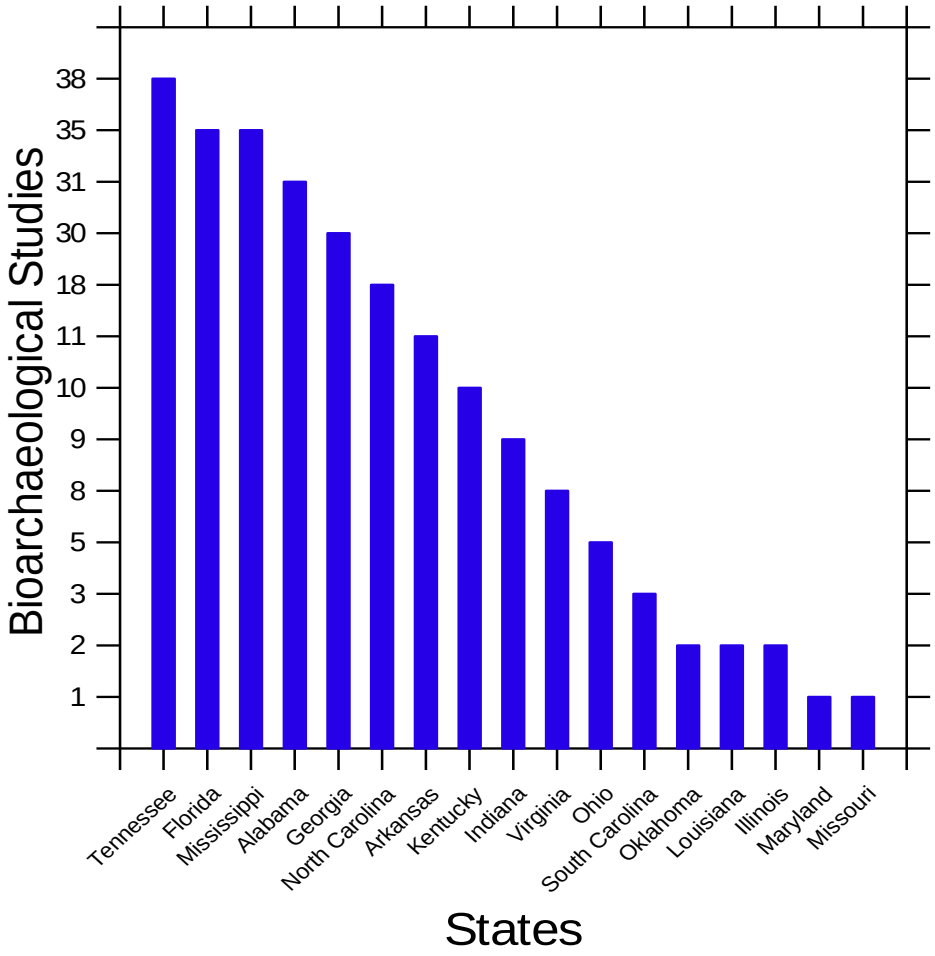

Figure 9. Bioarchaeology studies by state between 1970 and 2009

Table 3. Bioarchaeological studies by state.

State	Number of Bioarch Studies
Alabama	31
Arkansas	11
Florida	35
Georgia	30
Indiana	9
Illinois	2
Kentucky	10
Louisiana	2
Maryland	1
Mississippi	35
Missouri	1
North Carolina	18
Ohio	5
Oklahoma	2
South Carolina	3
Tennessee	38
Virginia	8
Total	241

could stem from the small number of culturally unaffiliated remains from the state. Ousley et al. (2005:13) suggests that while culturally affiliated remains held at institutions waiting to be repatriated are generally not available for skeletal research, the roughly 100,000 unaffiliated remains still held in institutions are more readily available for study. As of 2006, there were only 1,230 culturally unidentifiable remains in North Carolina compared to Florida with 6,877 unaffiliated remains and Tennessee with 11,510 (National Park Service 2010). When these numbers are compared to the data in Table 3, it is not surprising that these two states with the most unaffiliated remains have had the most bioarchaeology studies conducted.

The lack of bioarchaeological research prior to the 1980s in North Carolina and difference between when the peak of bioarchaeological research occurs for the state and the Southeast could be linked to the state's legislative history. In 1935, the North Carolina General Assembly enacted the Indian Antiquities Act (NCGS Chapter 70, Article 1) to protect Native American sites on private and state-owned land as well as to make the destruction or selling of remains and artifacts a crime (Burke 1986:152). As the repatriation movement gathered strength in the state and across the nation during the late 1970s, it became clear that the Indian Antiquities Act needed to be updated and clarified. In 1974, Native Americans lodged complaints about skeletons in a mortuary house display at Town Creek Indian Mound State Historic Site (Burke 1986:152). To deal with these issues, the General Assembly passed the Unmarked Human Burial and Human Skeletal Remains Protection Act in 1981 (Burke 1986:153). The three main purposes of the law were to protect unmarked graves and human skeletal remains, both native and non-native, from vandalism, to protect unmarked graves and skeletal remains inadvertently uncovered during construction or excavation, and to allow for the analysis of recovered remains if it would yield important scientific information (Burke 1986:153). When possible Native

American skeletal remains are located, the Executive Director of the North Carolina Commission of Indian Affairs (NCCIA) and the Chief Archaeologist for the state are notified and they will make any decisions regarding skeletal analysis.

Burke (1986:157) states that since the enactment of the Unmarked Burial Act in 1981, the NCCIA has been very flexible in allowing skeletal analysis. The first uncovered skeletal remains to test the new law were found in 1982. In this case, the NCCIA granted researchers three years to conduct skeletal analysis on five burials, including keeping 20 grams of bone fragments for future analysis (Burke 1986:158). The NCCIA did not oppose any destructive analysis for the 11 total cases between the enactment of the law and 1985. Their only rejection was one request to retain a sample of bone (Burke 1986:158). In 1984, the NCCIA granted 10 years for the curation of one skeletal collection (Burke 1986:158). Such a history of flexibility regarding skeletal analysis, and not NAGPRA, likely explains why skeletal analysis in North Carolina has increased steadily over time starting in the late 1980s.

Qualitative Results

The quantitative data collected supports that NAGPRA has had little long-term impact on the percentage of Native American bioarchaeological research in the Southeast and North Carolina. It is my interpretation that NAGPRA has changed how archaeologists think and ask questions about Native American remains more than it has affected the actual output of knowledge. Scholars and leaders in the Native American community likely perceive a greater impact on research then has actually occurred. To test this, it must first be established what exactly is the opinion of repatriation and NAGPRA among academics and those of the Native

American community. This was attempted by sending out e-mail questionnaires to 18 individuals with different experiences with NAGPRA, such as physical anthropologists and archaeologists that conduct research in the North Carolina and the Southeast, and leaders in the North Carolina Native American community. Unfortunately, I experienced an extremely low response rate with only four responses. Even though there is probable bias due to the low number of responses, the information gathered is still relevant in helping to place the quantitative data into a greater context. Of the four individuals that responded to the questionnaire, all were professors. They come from a diverse background in their experiences with and viewpoints on NAGPRA. Two are archaeologists, one is a physical anthropologist, and one is a social anthropologist and active member of a Native American tribe.

When asked about if, since NAGPRA, they perceived any shifts in the amount of bioarchaeological research involving Native American skeletal remains in the Southeast and North Carolina, most suspected that there was an increase in the mid-1990s due to the inventory process (Table 4). However, after these inventories were completed, most interviewees thought there was likely a very noticeable decrease in Native American bioarchaeological research. In regards to the law's overall impact, one individual saw the passage of NAGPRA as beneficial because it made skeletal analysis a top priority to archaeologists, where before skeletal analysis of excavated remains was often considered unimportant. Another interviewee hypothesized that since NAGPRA, bioarchaeologists have shifted their research outside the United States. As this shift happens, students of these researchers are likely to follow in their advisor's footsteps, thereby decreasing the number of bioarchaeologists working in the United States. Lastly, most agreed that with repatriation of skeletal remains, there are fewer opportunities to conduct bioarchaeological research.

Table 4. Summary of answers to the questionnaire.

Questions	Common Answers
1) Has the amount of bioarchaeological research involving Native American skeletal remains from the Southeast and North Carolina changed since the passage of NAGPRA? Why do you think this is? Is there a noticeable difference before and after NAGPRA?	Increases in research related to the inventory process. After inventories completed, likely decrease in Native American bioarchaeological research in the Southeast. Made skeletal analysis a priority. Bioarchaeologists start to shift research outside the United States and students likely to follow. Fewer opportunities to conduct research.
2) Do you view these changes as having a positive, negative, or neutral affect on the field of archaeology and bioarchaeology in North Carolina? Why?	Forced communication between archaeologists and Native Americans is positive but decreased research and fewer bioarchaeologists working in United States is seen as negative. Effects in North Carolina are lessened than rest of the United States because, except for the Eastern Band of Cherokee Indians in the western part of the state, there are no federally recognized tribes to claim remains.
3) Do you view these changes as having a positive, negative or neutral affect on the Native American community in the Southeast and North Carolina? Why?	Positive because NAGPRA gives Native Americans more voice in archaeological process and in dealing with their past. However, not as positive as rest of United States because few federally recognized tribes in the Southeast and North Carolina. Negative because loss of opportunity to gain useful information from skeletal remains for future generations.
4) What effects do you think NAPGRA has had on the relationship between Native Americans and bioarchaeologists/archaeologists?	NAGPRA has created a relationship where one did not exist before. Archaeologists starting to lose assumptions about Native Americans and their relationship with skeletal remains. Archaeologists need to be more aggressive in promoting what can be gained by bioarchaeological research.
5) Did you participate in any consultation between Native Americans and archaeologists before NAGPRA? After NAGPRA?	Three people stated that no, they had not before NAGPRA, but yes after NAGPRA. One person said that they had participated in consultations before and after NAGPRA.
6) What changes, if any, do you think should be made to the law?	Definition of "Native American" needs to be changed in light of court's decision on Kennewick Man. Need to understand that the law is based in politics, not science. Native American remains should be treated the same as bones from other populations. Change is needed in how unaffiliated remains are dealt with and standardization in cultural affiliation.

In North Carolina, the interviewees saw the passage of NAGPRA as an overall positive step forward because it forces communication between archaeologists and Native Americans. The fact that the law has potentially decreased research and forced fewer bioarchaeologists to start working in the region is seen as a negative. But unlike the rest of the country, the law's effects in North Carolina are thought to be less because, except for the Eastern Band of Cherokee Indians in the western part of the state, there are no federally recognized tribes living in the state to claim skeletal remains. As stated earlier, it is easier to gain access to unaffiliated remains for skeletal analysis than affiliated remains. However, this diminished impact on research in North Carolina comes at a price. Since there is only one federally recognized Native American tribe in the state that can make claims under NAGPRA, relations between the nonfederally recognized tribe and archaeologists have suffered because the nonfederal tribes feel as if they have no voice in the handling of their heritage.

All individuals that responded stated that since NAGPRA was passed, they now play a part in the consultation process with Native Americans. This result is not surprising considering the multitude of texts and papers that have been published discussing the accomplishments and benefits of the consultation process (Bray 2001; Kerber 2006; Mihesuah 2000; Swidler et al. 1997). Interviewees also hope that the continued consultation will slowly lessen the stigma surrounding Native American research in the fields of archaeology and bioarchaeology. As one respondent in particular stated, while NAGPRA was a necessary step to help Native Americans obtain a voice in the archaeological process, the law has a major flaw. When Native American skeletal remains are discovered, they should be viewed in the same light and treated the same as skeletal remains from any other population. The interviewee also felt that NAGPRA perpetuates the offensive stereotype that all Native Americans have a revulsion to skeletal analysis of their

ancestors, which is simply not the case. The misguided perceptions of academia and lawmakers have led to fewer chances for physical anthropologists to access the valuable information that Native American skeletons hold for two reasons. First, the remains are repatriated or are simply unavailable for analysis. Second, NAGPRA discourages graduate students from entering into North American bioarchaeology and conducting new research (Kakaliouras 2008:115). Both results are very damaging to the field and its future development.

When asked what changes should be made to NAGPRA, several things were suggested by the interviewees. First, the definition of "Native American" as defined by NAGPRA needs to be changed in light of the court's decision on Kennewick Man. As discussed earlier, the court ruled that Kennewick Man was not considered “Native American” under the law and therefore not subject to NAGPRA. Greater clarification in the wording of what it means to be “Native American” needs to take place to avoid further court cases and confusion on the matter. One interviewee also stated that he would standardize the establishing of cultural affiliation. Until this is done, the law will continue to be based in politics, not science, and the affiliation of remains and claiming of the remains will be left to the whim of the political environment of the time.

CHAPTER SIX: CONCLUSIONS

The quantitative data from this research suggest that NAGPRA has had little long-lasting impact on the amount of Native American bioarchaeological research in the Southeast. This conclusion was determined by comparing the percentages of bioarchaeological research before NAGPRA to the percentages after, which indicated little change in the amount of research over time. There was a peak in research directly around the years of NAGPRA indicating a short-term influence in the amount of research, however the data only prove correlation between these two variables, not direct causation. While likely associated with NAGPRA, it is unclear what specific aspects of the law caused this short-term increase and why these effects were not sustained over time. Such questions require further research.

In North Carolina, the state has seen a similar short-term peak in the amount of bioarchaeological data from NAGPRA, but little long-lasting impacts. However, the short-term peak occurs 10 years later than the peak seen in the Southeast. As with the regional data, the peak in the percentages for North Carolina is followed by a return to normal percentages shortly thereafter. I attribute this delay to lack of funding for NAGPRA inventories and the state's unique legislative history regarding human graves and burial. Again, the direct causes of the peak have yet to be determined and require future research to establish what characteristics of NAGPRA led to the short-term peak.

In addition to NAGPRA not appearing to impact the amount of bioarchaeological research in the Southeast and North Carolina over time, it has also not affected the analytical techniques used by bioarchaeologists. There was a drastic decrease in the number of studies using destructive analysis in 1990, but this was followed by a slow and steady increase over the next 20 years. These results on destructive analysis illustrate some key points discussed by the

interviewees. I attribute the initial decrease to archaeologists and physical anthropologists halting all attempts to perform destructive analysis on Native American skeletal remains. This reaction is likely from preconceived notions held by many people regarding Native Americans' relationship with their ancestors' bones and exacerbated by the negative stigma surrounding NAGPRA. Responses to the questionnaires show that 20 years later, people still assume NAGPRA is negatively affecting research when this is not the case. Such misconceptions underscore the importance of the research conducted in this thesis. Anthropologists need to understand that there has been an overcautious reaction to NAGPRA and the skeletal analysis of Native Americans.

While the data show the law has not affected the actual output of knowledge, NAGPRA's biggest impact has been on the communication between Native Americans and archaeologists. A sentiment echoed by the interviewees, NAGPRA has been a much needed starting point in getting these two groups working together for the betterment of North American archaeology. Communication is the likely reason why destructive analysis has increased since 1995, once again becoming a common form of analyzing skeletal remains. Archaeologists are explaining what can be gained from such analysis while Native Americans are becoming more interested in what the information can offer to them about their heritage. Open communication is probably why there has not been a decrease in bioarchaeological research since NAGPRA was passed. Individuals working together, overcoming personal convictions, have kept the field moving forward and prevented the disaster predicted by so many archaeologists.

However, a major change is on the horizon for NAGPRA. On March 15, 2010, the NAGPRA Review Committee made a final ruling on the treatment of culturally unidentifiable Native American skeletal remains. Going into effect on May 14, 2010, the new ruling removes the hold on the 124,301 culturally unidentifiable remains held by museums and universities

across the country (National Park Service 2010). If the remains can be determined to be Native American but not affiliated with a federally recognized group, institutions holding the remains are required to initiate consultation with the tribes from whose tribal land the remains were originally excavated (National Park Service 2010). Such a change in the inventory process will no doubt have an effect on bioarchaeological research since the majority of research currently conducted utilizes culturally unidentifiable remains (Ousley et al. 2005:13). Nevertheless, the relationship between Native Americans and archaeologists will survive this change and continue to grow through the communication that has been built over the last 20 years.

As stated several times before, the goal of this thesis was to uncover any NAGPRA-related trends in bioarchaeological research for the Southeast and North Carolina. It is clear that this goal has been accomplished and that NAGPRA has had much less of an impact on bioarchaeological research than would be indicated by academic opinion. As such, I hope that this research is the first of many future investigations into quantifying NAGPRA's effect in the Southeast and across the United States.

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APPENDIX A. BIOARCHAEOLOGY STUDIES.

Source	Year of Article	Author	Type of Analysis (general)	Type of Analysis (specific)	Site Location (state)
Southeastern Archaeological Bulletin	1973	R.C. Dailey	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1974	Lucy Tally	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeological Bulletin	1974	Sharon A. Bolt	nondestructive	biological profile	Georgia
Southeastern Archaeological Bulletin	1974	James W. Hatch	nondestructive	biological profile	Tennessee and Georgia
Southeastern Archaeological Bulletin	1976	Thomas K. Black	nondestructive	biological profile, pathological analysis	Missouri
Southern Indian Studies/North Carolina Archaeology	1978	S. Homes Hogue, Michael Trinkley	nondestructive	biological profile, pathological analysis	South Carolina
Southern Indian Studies/North Carolina Archaeology	1979	Michael Trinkley, S. Homes Hogue	nondestructive	biological profile, pathological analysis	South Carolina
Southeastern Archaeological Bulletin	1980	Alice Haddy, Albert Hanson	destructive	trace element analysis	Alabama
Southeastern Archaeological Bulletin	1982	Craig H. Lahren, Hugh E. Berryman	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1982	Douglas W. Owsley	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1983	Clark S. Larsen	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeological Bulletin	1983	David H. Thomas	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeological Bulletin	1984	R.C. Helmkamp	nondestructive	biological profile	Tennessee, Georgia
Southeastern Archaeological Bulletin	1984	Mary Lucas Powell	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	1984	K.R. Turner	nondestructive	biological profile, pathological analysis	Alabama

Southeastern Archaeological Bulletin	1984	D. Williams	destructive	biological profile, trace element analysis	Florida
Southeastern Archaeological Bulletin	1984	E. Zahn, A.M. Harmon, B.A. Burnett	nondestructive	biological profile	Arkansas
Southeastern Archaeological Bulletin	1984	W. Maples	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	1985	Lane A. Beck	destructive	biological profile, trace element analysis	Georgia
Southeastern Archaeological Bulletin	1985	Patricia S. Bridges	destructive	biological profile, osteometrics	Alabama
Southeastern Archaeological Bulletin	1985	Leslie E. Eisenberg	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1985	Clark S. Larsen	destructive	biological profile, osteometrics	Georgia
Southeastern Archaeological Bulletin	1985	Patricia Miller-Shaivitz , Mehmet Yasar Iscan	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	1985	George R. Milner	nondestructive	biological profile, pathological analysis	Illinois
Southeastern Archaeological Bulletin	1985	Jerome C. Rose, Murray K. Marks	destructive	biological profile, pathological analysis, trace element analysis	Central, Lower Mississippi Valley
Southeastern Archaeological Bulletin	1985	Kenneth R. Turner	nondestructive	biological profile, pathological analysis	Alabama, Georgia
Southeastern Archaeological Bulletin	1986	David H. Dye , David R. Stevenson	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1986	Mary C. Hill	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	1986	William H. Marquardt	nondestructive	biological profile, unspecified	Florida
Southeastern Archaeological Bulletin	1986	Jeffrey M. Mitchem , Dale L. Hutchinson	nondestructive	biological profile, pathological analysis	Florida

Southeastern Archaeological Bulletin	1986	Paul Pacheco, Charles Janini, Paul Sucilli	nondestructive	biological profile, osteometrics	Ohio
Southeastern Archaeological Bulletin	1987	Donna C. Boyd, C. Clifford Boyd Jr.	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1987	Jolee West , Dale L. Hutchinson	destructive	biological profile, pathological analysis	Florida
UNC Dissertations	1988	S. Homes Hugue	nondestructive	biological profile, pathological analysis	North Carolina, Virginia
Southeastern Archaeological Bulletin	1988	Donna C. Boyd	nondestructive	biological profile, osteometrics	Tennessee
Southeastern Archaeological Bulletin	1988	Glen H. Doran	destructive	biological profile, pathological analysis, trace element analysis	Florida
Southeastern Archaeological Bulletin	1988	David Pollack	nondestructive	biological profile	Kentucky
Southeastern Archaeological Bulletin	1988	Rick R. Richardson	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1988	Nancy Ross	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeology	1989	Donna C. Boyd, C. Clifford Boyd, Jr.	nondestructive	biological profile, osteometrics	Tennessee
Southeastern Archaeological Bulletin	1989	Robert L. Blakely	destructive	biological profile, pathological analysis, trace element analysis	Georgia
Southeastern Archaeological Bulletin	1989	Donna C. Boyd , C. Clifford Boyd Jr.	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1989	Jefferson Chapman, Sue Myster	destructive	dating	Tennessee
Southeastern Archaeological Bulletin	1989	Susan Lee	nondestructive	biological profile, pathological analysis	Southeast US
Southeastern Archaeological Bulletin	1989	Thomas C. Loftfield	nondestructive	biological profile, pathological analysis	North Carolina

Southeastern Archaeological Bulletin	1989	Nancy Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeology	1990	Thomas C. Loftfield	destructive	biological profile, dating	North Carolina
Southeastern Archaeological Bulletin	1990	Jay K. Johnson, Jenny D. Yearous, Nancy Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1990	Mary Lucas Powell	destructive	biological profile, pathological analysis, trace element analysis	Alabama, Tennessee
Southeastern Archaeological Bulletin	1990	Rebecca Storey	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	1991	Mary C. Hill	nondestructive	biological profile	Alabama
Southeastern Archaeological Bulletin	1991	S. Homes Hogue	destructive	biological profile, pathological analysis, trace element analysis	Mississippi
Southeastern Archaeological Bulletin	1991	Nancy A. Ross-Stallings	nondestructive	biological profile, unspecified	Mississippi
Southeastern Archaeological Bulletin	1991	Rebecca Storey	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	1991	Kenneth R. Turner	nondestructive	biological profile, osteometrics	Mississippi, Alabama
Southeastern Archaeological Bulletin	1992	James E. Barnes	nondestructive	biological profile, pathological analysis	Arkansas
Southeastern Archaeological Bulletin	1992	C. Clifford Boyd, Donna C. Boyd, Paul S. Gardner, Michael B. Barber	nondestructive	biological profile, unspecified	Virginia
Southeastern Archaeological Bulletin	1992	Mary C. Hill	nondestructive	biological profile, unspecified	Tennessee
Southeastern Archaeological Bulletin	1992	J. Daniel Rodgers, Karen M. Dohm	destructive	trace element analysis, dating	Oklahoma

Southeastern Archaeological Bulletin	1992	Jerome C. Rose, Barbara A. Burnett, Anna M. Harmon, James E. Barnes	nondestructive	biological profile, pathological analysis	Arkansas
Southeastern Archaeological Bulletin	1992	Nancy A. Ross-Stallings	nondestructive	biological profile, unspecified	Mississippi
Southeastern Archaeological Bulletin	1992	Kenneth E. Sassaman	nondestructive	biological profile, unspecified	Southeast US
Southeastern Archaeological Bulletin	1992	Frank F. Schambach	nondestructive	biological profile, unspecified	Arkansas
Southeastern Archaeological Bulletin	1992	Maria O. Smith	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeology	1993	Gayle J. Fritz, Tristram Kidder	destructive	biological profile, pathological analysis, trace element analysis	Lower Mississippi Valley
Southeastern Archaeological Bulletin	1993	Hugh E. Berryman , Susan Haun	nondestructive	pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1993	Donna C. Boyd, C. Clifford Boyd Jr.	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1993	Patricia S. Bridges	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	1993	Natileene W. Cassel, Kenneth J. Winland, M. Yasar Iscan	nondestructive	biological profile, osteometrics	Florida
Southeastern Archaeological Bulletin	1993	Leslie E. Eisenberg	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1993	Jim Fenton	nondestructive	biological profile	Ohio Valley
Southeastern Archaeological Bulletin	1993	Mary C. Hill	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1993	Dale L. Hutchinson	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	1993	Hong P. Huynh, Clark S. Larsen, Bonnie G. McEwan	nondestructive	biological profile, pathological analysis	Florida

Southeastern Archaeological Bulletin	1993	Clark S. Larsen	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	1993	Ted A. Rathbun	nondestructive	biological profile, pathological analysis	South Carolina
Southeastern Archaeological Bulletin	1993	Nancy A. Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1993	Maria O. Smith	nondestructive	biological profile, pathological analysis	Southeast US
Southeastern Archaeological Bulletin	1993	Maria O. Smith	nondestructive	biological profile, pathological profile	Southeast US
Southeastern Archaeological Bulletin	1993	Kenneth J. Winland, Natileene W. Cassel, M. Yasar Iscan	nondestructive	biological profile, pathological profile	Florida
Southeastern Archaeological Bulletin	1994	Stephanie J. Belovich	nondestructive	biological profile, pathological profile	Kentucky
Southeastern Archaeological Bulletin	1994	Cliff Boyd, Donna Boyd, Michael Barber	nondestructive	biological profile, pathological profile	Virginia, North Carolina
Southeastern Archaeological Bulletin	1994	Myra Giesen, Paul Sciulli	nondestructive	biological profile, osteometrics	Ohio
Southeastern Archaeological Bulletin	1994	Debra Gold	nondestructive	biological profile, pathological analysis	Virginia
Southeastern Archaeological Bulletin	1994	David J. Hally	nondestructive	biological profile	Georgia
Southeastern Archaeological Bulletin	1994	Mary C. Hill	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeological Bulletin	1994	Leon Lane	nondestructive	biological profile, pathological analysis	Kentucky
Southeastern Archaeological Bulletin	1994	Amy Maish, Jeffrey D. Price	nondestructive	biological profile, pathological analysis	Arkansas
Southeastern Archaeological Bulletin	1994	Hugh Matternes	nondestructive	biological profile	Kentucky
Southeastern Archaeological Bulletin	1994	George R. Milner, Clark S. Larsen, Dale L. Hutchinson, Matthew Williamson	nondestructive	pathological analysis	Georgia

Southeastern Archaeological Bulletin	1994	Stephen P. Nawrocki	nondestructive	biological profile, pathological analysis	Indiana
Southeastern Archaeological Bulletin	1994	Nancy A. Ross-Stallings	nondestructive	biological profile, pathological analysis, osteometrics	Mississippi
Southeastern Archaeological Bulletin	1994	Christopher Schmidt, Criss Helmkamp	nondestructive	pathological analysis	Indiana
Southeastern Archaeological Bulletin	1994	Paul Sciullli, Myra Giesen	nondestructive	biological profile, pathological analysis	Ohio
Southeastern Archaeological Bulletin	1994	Mark R. Schurr	destructive	trace element analysis	Ohio Valley
Southeastern Archaeological Bulletin	1994	Diane Wilson	destructive	biological profile, pathological analysis, trace element analysis	Ohio
Southeastern Archaeology	1995	Robert L. Blakely	destructive	biological profile, pathological analysis, trace element analysis	Georgia
Southeastern Archaeology	1995	S. Homes Hogue, Evan Peacock	destructive	biological profile, pathological analysis, trace element analysis	Mississippi
Southern Indian Studies/North Carolina Archaeology	1995	Elizabeth I. Monahan	nondestructive	biological profile, pathological analysis	North Carolina
Southeastern Archaeological Bulletin	1995	Cliff Boyd, Carmen Trimble, David Hubbard	destructive	biological profile, pathological analysis, trace element analysis	Virginia
Southeastern Archaeological Bulletin	1995	Dorothy Humpf	nondestructive	biological profile, pathological analysis	Tennessee, Georgia
Southeastern Archaeological Bulletin	1995	Hugh B. Matternes	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	1995	Nancy A. Ross-Stallings	nondestructive	pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1995	Frank T. Schnell	nondestructive	biological analysis, unspecified	Alabama

Southeastern Archaeology	1996	Dale L. Hutchinson , Jeffrey M. Mitchem	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	1996	Patricia S. Bridges, Keith P. Jacobi, Mary Lucas Powell	nondestructive	biological analysis, pathological analysis	Alabama
Southeastern Archaeological Bulletin	1996	Marie Danforth	nondestructive	biological analysis, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1996	Keith P. Jacobi, Patricia S. Bridge, Mary Lucas Powell, Maria O. Smith, V.S. Jones	nondestructive	biological analysis, pathological analysis	Alabama, Tennessee
Southeastern Archaeological Bulletin	1996	Patricia Lambert	nondestructive	biological analysis, pathological analysis	North Carolina, Virginia
Southeastern Archaeological Bulletin	1996	Mary Lucas Powell	nondestructive	biological analysis, pathological analysis	Alabama
Southeastern Archaeological Bulletin	1996	Marianne E. Reeves	nondestructive	biological analysis, pathological analysis	Alabama
Southeastern Archaeological Bulletin	1996	Nancy A. Ross-Stallings	nondestructive	biological analysis, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1996	Maria O. Smith	nondestructive	pathological analysis	Alabama
Southeastern Archaeological Bulletin	1996	H. Trawick Ward, R.P. Stephen Davids Jr., Elizabeth I. Monahan, Marianne E. Reeves	nondestructive	biological profile, pathological analysis	North Carolina
Southeastern Archaeological Bulletin	1996	Kristin J. Wilson	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeological Bulletin	1997	Steven Byers	nondestructive	biological profile, pathological analysis, osteometrics	Louisiana
Southeastern Archaeological Bulletin	1997	Nicholas P. Hermann	nondestructive	pathological analysis	Kentucky
Southeastern Archaeological Bulletin	1997	John H. House	nondestructive	biological profile, pathological analysis	Arkansas

Southeastern Archaeological Bulletin	1997	Dick Jefferies, George Milner, Cathy Labadia	nondestructive	biological profile, unspecified	Kentucky
Southeastern Archaeological Bulletin	1997	Nancy A. Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeology	1998	George R. Milner, Jefferies	destructive	biological analysis, dating	Kentucky
Southeastern Archaeological Bulletin	1998	Keith P. Jacobi	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1998	Nancy Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1998	Tiffiny Tung, Clark S. Larsen, Bonnie G. McEwan	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	1999	Glen H. Doran	destructive	biological profile, pathological analysis, trace element analysis	Florida
Southeastern Archaeological Bulletin	1999	Marie Danforth	nondestructive	biological profile, pathological analysis	Louisiana
Southeastern Archaeological Bulletin	1999	Keith Jacobi	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	1999	Patricia M. Lambert	nondestructive	biological profile, pathological analysis	North Carolina
Southeastern Archaeological Bulletin	1999	Dane T. Magoon, Lynette Norr, Dale L. Hutchinson	destructive	biological profile, pathological analysis, trace element analysis	Florida
Southeastern Archaeological Bulletin	1999	Nancy A. Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	1999	Maria O. Smith	nondestructive	pathological analysis	Tennessee
Southeastern Archaeology	2000	S. Homes Hogue	destructive	biological profile, pathological analysis, trace element analysis	Mississippi
Southeastern Archaeological Bulletin	2000	Donna C. Boyd, C. Clifford Boyd Jr.	nondestructive	biological profile, pathological analysis	Virginia

Southeastern Archaeological Bulletin	2000	Rita F. Carroll	nondestructive	biological profile, pathological analysis	Arkansas
Southeastern Archaeological Bulletin	2000	Elizabeth M. Driscoll	nondestructive	biological profile, osteometrics	North Carolina
Southeastern Archaeological Bulletin	2000	David H. Dye, Keith P. Jacobi	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	2000	Mary C. Hill	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeological Bulletin	2000	Mary C. Hil , Robert H. Lafferty	nondestructive	biological profile, unspecified	Arkansas
Southeastern Archaeological Bulletin	2000	S. Homes Hogue	destructive	pathological analysis, trace element analysis	Mississippi
Southeastern Archaeological Bulletin	2000	Hugh Matternes	nondestructive	biological profile, pathological analysis, osteometrics	Kentucky, Tennessee
Southeastern Archaeological Bulletin	2000	Lynette Norr, Dale L. Hutchinson, William H. Marquardt, Karen J. Walker, Lee A. Newsom	destructive	biological profile, pathological analysis, trace element analysis	Florida
Southeastern Archaeological Bulletin	2000	Matthew A. Williamson	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeology	2001	Dane Magoon, Lynette Norr, Dale L. Hutchinson, Charles R. Ewen	destructive	biological profile, trace element analysis	Florida
UNC Dissertations	2001	Elizabeth M. Driscoll	nondestructive	biological profile, pathological analysis	North Carolina
Southeastern Archaeological Bulletin	2001	Elizabeth M. Driscoll	nondestructive	biological profile, pathological analysis	North Carolina
Southeastern Archaeological Bulletin	2001	Donna Freid	nondestructive	biological profile, osteometrics	Florida
Southeastern Archaeological Bulletin	2001	Mary C. Hill	nondestructive	pathological analysis	Georgia
Southeastern Archaeological Bulletin	2001	Dale L. Hutchinson	nondestructive	pathological analysis	Florida

Southeastern Archaeological Bulletin	2001	Keith Jacobi, David Dye	nondestructive	pathological analysis	Alabama
Southeastern Archaeological Bulletin	2001	Keith P. Jacobi	nondestructive	biological profile, pathological analysis, osteometrics	Mississippi
Southeastern Archaeological Bulletin	2001	Nicole Kuemin Drews	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	2001	Nancy A. Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2001	Maria O. Smith	nondestructive	pathological analysis	Tennessee
Southeastern Archaeological Bulletin	2001	Maria O. Smith, Susan Smorynski	nondestructive	pathological analysis	Tennessee
Southeastern Archaeological Bulletin	2001	Heather Walsh-Haney	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeology	2002	Patricia M. Lambert	nondestructive	biological profile, pathological analysis	North Carolina
Southeastern Archaeological Bulletin	2002	Marie Danforth	nondestructive	biological profile, pathological analysis, osteometrics	Mississippi
Southeastern Archaeological Bulletin	2002	Mary C. Hill	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeological Bulletin	2002	Dale Norton	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	2002	Nancy A. Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2002	Ben M. Shields	nondestructive	pathological analysis	Alabama
Southeastern Archaeological Bulletin	2002	Christina Twing	nondestructive	biological profile, osteometrics	Alabama
UNC Dissertations	2003	Ann Kakaliouras	nondestructive	biological profile	North Carolina
Southeastern Archaeological Bulletin	2003	Mary Theresa Bonhage-Freund , David Reed	destructive	pathological analysis, trace element analysis	Georgia
Southeastern Archaeological Bulletin	2003	Michaelyn S. Harle , Lynne P. Sullivan	nondestructive	biological profile, pathological analysis	Tennessee

Southeastern Archaeological Bulletin	2003	Nicholas Herrman	nondestructive	biological profile, pathological analysis	Kentucky
Southeastern Archaeological Bulletin	2003	S. Homes Hogue	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	2003	Dale L. Hutchinson, Lynette Norr, Mark Teaford	destructive	biological profile, pathological analysis. Trace element analysis	North Carolina
Southeastern Archaeological Bulletin	2003	Dale L. Hutchinson, Rebecca Richman	nondestructive	biological profile, pathological analysis	Alabama, Tennessee, Florida, North Carolina
Southeastern Archaeological Bulletin	2003	Hunter Johnson, Mary C. Hill	nondestructive	biological profile, unspecified	Alabama
Southeastern Archaeological Bulletin	2003	David Reed	destructive	biological profile, trace element analysis	Georgia
Southeastern Archaeological Bulletin	2003	Ben M. Shields	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	2003	Sara Simon	nondestructive	biological profile, pathological analysis	Maryland
Southeastern Archaeology	2004	David J. Hally	nondestructive	biological profile	Georgia
Southeastern Archaeological Bulletin	2004	Michaelyn S. Harle , Kathryn King	nondestructive	biological analysis, osteometrics	Tennessee
Southeastern Archaeological Bulletin	2004	Bryan Tucker	destructive	biological analysis, trace element analysis	Georgia
Southeastern Archaeology	2005	Christopher Michael Stojanowski	nondestructive	biological profile, osteometrics	Florida
Southeastern Archaeology	2005	Bethany L. Turner, John D. Kingston, Jerald T. Milanich	destructive	biological profile, trace element analysis	Florida
Southeastern Archaeology	2005	Rob Mann	nondestructive	biological profile, pathological analysis	Ohio
Southeastern Archaeological Bulletin	2005	Jamie Allison, Dawnie W. Steadman	destructive	biological profile, histological samples	Illinois

Southeastern Archaeological Bulletin	2005	Jennifer M. Bauder	nondestructive	biological profile, pathological analysis	Illinois
Southeastern Archaeological Bulletin	2005	Bretton T. Giles, Jennifer M. Bauder, Marta Alfonso	nondestructive	biological profile, pathological analysis	Arkansas
Southeastern Archaeological Bulletin	2005	Ann M. Kakaliouras	nondestructive	biological profile, pathological analysis	North Carolina
Southeastern Archaeological Bulletin	2005	Jennifer A. Kelly, Robert H. Tykot	destructive	biological profile, trace element analysis	Florida
Southeastern Archaeological Bulletin	2005	Charles E. Minton	nondestructive	biological profile	Illinois
Southeastern Archaeological Bulletin	2005	Dawnie W. Steadman	nondestructive	biological profile, pathological analysis	Illinois
Southeastern Archaeological Bulletin	2005	Malinda Strange	destructive	biological profile, pathological analysis, trace element analysis	Illinois
Southeastern Archaeological Bulletin	2005	Bryan D. Tucker, John Kirgbaum	destructive	biological profile, trace element analysis	Florida
Southeastern Archaeological Bulletin	2005	Rachel K. Wentz	nondestructive	biological profile, pathological analysis	Florida
Southeastern Archaeological Bulletin	2005	Jeremy J. Wilson	nondestructive	biological profile, pathological analysis	Illinois
Southeastern Archaeological Bulletin	2005	Heather Worne	destructive	biological profile, osteometrics	Illinois
Southeastern Archaeology	2006	Kristin M. Hedman	destructive	biological profile, pathological analysis, trace element analysis	Illinois
Southeastern Archaeological Bulletin	2006	David J. Hally	destructive	biological analysis, pathological analysis, DNA analysis	Georgia
Southeastern Archaeology	2006	Michael C. Moore, Emanuel Breitburg, Kevin E. Smith, Mary Beth Trubitt	nondestructive	biological profile, pathological analysis	Tennessee

Southeastern Archaeological Bulletin	2006	Nancy A. Ross-Stallings	nondestructive	pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2006	Bryan Tucker, John Krigbaum, Glen Doran, Rachael Wentz	destructive	biological profile, trace element analysis	Florida
Southeastern Archaeological Bulletin	2006	Juliette Vogel, Bobby Braly	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeology	2007	Rachel K. Wentz , John A. Gifford	nondestructive	biological profile, pathological analysis, osteometrics	Florida
Southeastern Archaeology	2007	Jerry E. Hilliard, Robert C. Mainfort, Jr.	nondestructive	biological profile, pathological analysis	Arkansas
Southeastern Archaeology	2007	S. Homes Hogue	destructive	biological profile, pathological analysis, trace element analysis	Mississippi
Southeastern Archaeology	2007	Bryan D. Tucker	destructive	biological profile, pathological analysis, trace element analysis	Georgia
Southeastern Archaeological Bulletin	2007	Cliff Boyd, Donna C. Boyd	nondestructive	biological profile, pathological analysis	Virginia
Southeastern Archaeological Bulletin	2007	Shannon Chappell Hodge	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	2007	Alicja Kutyla, Shannon Chapell Hodge, Kevin E. Smith	nondestructive	dating	unknown
Southeastern Archaeological Bulletin	2007	Nancy A. Ross-Stallings	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2007	Ashley Schubert	nondestructive	biological profile, pathological analysis	North Carolina
Southeastern Archaeological Bulletin	2007	Andrew Thompson	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2007	Bryan Tucker , John Krigbaum	destructive	biological profile, trace element analysis	Florida

Southeastern Archaeological Bulletin	2007	Giovanna M. Vidoli, Heather Worne, Dawnie W. Steadman	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	2007	Juliette R. Vogel	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	2008	Christina Breeden , Claire Dansereau	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2008	Danielle Cook	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2008	Mary C. Hill	nondestructive	biological profile, unspecified	Georgia
Southeastern Archaeological Bulletin	2008	Ginesse Listi	nondestructive	biological profile, pathological analysis	Lower Mississippi Valley
Southeastern Archaeological Bulletin	2008	Phyllis A. Morse	destructive	trace element analysis	Arkansas
Southeastern Archaeological Bulletin	2008	Sean Norris, Catie Snider	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	2008	Erik Porth, Shannon Chappell Hodge	nondestructive	biological profile, pathological analysis	Kentucky
Southeastern Archaeological Bulletin	2008	Nancy A. Ross-Stallings	nondestructive	biological profile, pathological analysis	Lower Mississippi Valley
Southeastern Archaeological Bulletin	2008	Simone Rowe	nondestructive	biological profile, pathological analysis	Oklahoma
Southeastern Archaeological Bulletin	2008	Margaret J. Schoeninger , David Hurst Thomas	destructive	biological profile, trace element analysis, dating	Georgia
Southeastern Archaeological Bulletin	2008	Kristrina Shuler	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2008	Heather Smith	nondestructive	pathological analysis	Florida
Southeastern Archaeological Bulletin	2008	Bryan Tucker	destructive	biological analysis, trace element analysis	Florida

Southeastern Archaeological Bulletin	2008	Rachel K. Wentz	destructive	biological analysis, trace element analysis	Florida
Southeastern Archaeological Bulletin	2008	Kimberly Wren	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	2009	Tracy K. Betsinger	nondestructive	biological profile, pathological analysis	Tennessee
Southeastern Archaeological Bulletin	2009	Della Collins Cook	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2009	J. Lynn Funkhouser	nondestructive	Osteometrics	Mississippi, Alabama
Southeastern Archaeological Bulletin	2009	Michaelyn S. Harle , Lynne P. Sullivan	nondestructive	biological profile, unspecified	Tennessee, Georgia
Southeastern Archaeological Bulletin	2009	Kelly Hockersmith, Sean Norris	nondestructive	biological profile, pathological analysis	Alabama
Southeastern Archaeological Bulletin	2009	Jenna James	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2009	Ginesse Listi	nondestructive	biological profile, pathological analysis	Lower Mississippi Valley
Southeastern Archaeological Bulletin	2009	Sean Norris, Kelly Hockersmith	nondestructive	pathological analysis	Alabama
Southeastern Archaeological Bulletin	2009	Stacy Ann Scott	nondestructive	biological profile, pathological analysis	Mississippi
Southeastern Archaeological Bulletin	2009	Natasha Vang	nondestructive	biological profile, osteometrics	Tennessee
Southeastern Archaeological Bulletin	2009	Matthew A. Williamson, Stephen A. Hammack	nondestructive	biological profile, pathological analysis	Georgia
Southeastern Archaeology	2009	Kristina Killgrove	nondestructive	biological profile, osteometrics	North Carolina

APPENDIX B. INTERVIEW QUESTIONS.

1) Has the amount of bioarchaeological research involving Native American skeletal remains from the Southeast and North Carolina changed since the passage of NAGPRA? Why do you think this is? Is there a noticeable difference before and after NAGPRA?

2) Do you view these changes as having a positive, negative, or neutral affect on the field of archaeology and bioarchaeology in North Carolina? Why?

3) Do you view these changes as having a positive, negative or neutral affect on the Native American community in the Southeast and North Carolina? Why?

4) What effects do you think NAPGRA has had on the relationship between Native Americans and bioarchaeologists/archaeologists?

5) Did you participate in any consultation between Native Americans and archaeologists before NAGPRA? After NAGPRA?

6) What changes, if any do you think should be made to the law?

APPENDIX C. IRB APPROVAL FORM.

University and Medical Center Institutional Review Board
East Carolina University • Brody School of Medicine
600 Moye Boulevard • Old Health Sciences Library, Room 1L-09 • Greenville, NC 27834
Office **252-744-2914** • Fax **252-744-2284** • **www.ecu.edu/irb**
Chair and Director of Biomedical IRB: L. Wiley Nifong, MD
Chair and Director of Behavioral and Social Science IRB: Susan L. McCammon, PhD

TO: William C. Broughton, Dept. of Anthropology, ECU

FROM UMCIRB KT

DATE: August 25, 2009

RE: Human Research Activities Determined to Meet Exempt Criteria

TITLE: "NAGPRA's Impact on Archaeology in the Tar Heel State: A Qualitative and Quantitative Approach"

UMCIRB #09-0629

This research study has undergone IRB review on 8.20.09. It is the determination of the IRB Chairperson (or designee) that these activities meet the criteria set forth in the federal regulations for exemption from 45 CFR 46 Subpart A. This human research activity meets the criteria for an exempt status because it is research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects and any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.. The Chairperson (or designee) deemed this **Department of Anthropology** funded study **no more than minimal risk.** This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any changes must be submitted to the UMCIRB for review prior to implementation to allow determination that proposed changes do not impact the activities eligibility for exempt status. Should it found that a proposed change does require more substantive review, you will be notified in writing within five business days.

The following items were reviewed in determination exempt certification:
- Internal Processing Form – Exempt Application (dated 5.31.09)
- Consent Document

It was furthermore determined that the reviewer does not have a potential for conflict of interest on this study.

The UMCIRB applies 45 CFR 46, Subparts A-D, to all research reviewed by the UMCIRB regardless of the funding source. 21 CFR 50 and 21 CFR 56 are applied to all research studies that fall under the purview of Food and Drug Administration regulations. The UMCIRB follows applicable International Conference on Harmonisation Good Clinical Practice guidelines.