THE BUZZARD ROCK SITE (44RN2):
A LATE WOODLAND DISPERSED VILLAGE

Virginia Department of Historic Resources

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ABSTRACT

This report presents the results of the archaeological investigations of that portion of the Buzzard Rock site (44RN2), in Roanoke, Virginia, affected by construction of the 13th Street extension in 1977 and the grading for new warehouses in 1984. The western half of the site was occupied sporadically throughout the Archaic period (7000–1200 BC) and Early and Middle Woodland periods (1200 BC–AD 900). However, the site was extensively occupied during the Dan River phase of the Late Woodland period. A series of radiocarbon dates from the site indicates periodic reoccupations between AD 1040 and AD 1430 by families living in a dispersed village pattern.

Two distinct circular house patterns, a probable long house pattern, and a possible sweat lodge feature are discussed. The configuration of features within the distinct house patterns established the basis for inferring the possible presence of other house areas. The circular house patterns were associated with storage pits which yielded, among other things, corn, bean, walnut, hickory, acorn, butternut, and charred wood remains. The location of these house patterns correlated closely with the distribution of alkaline and high phosphorus soil readings and the distribution of various classes of artifacts. These distributions enabled the isolation of two butchering and hide preparation areas associated with house patterns.

The storage pits and shallow basins associated with the house patterns yielded 13 species of fish. The study of the fish remains provides useful insights into the season of occupation, method of capture and cooking, and comparison to other Dan River sites in the region. The remaining faunal assemblage from the Buzzard Rock site yielded 18 species with documented preference for deer, turkey, and turtle and a noticeable absence of black bear. The Buzzard Rock site serves as a type site for understanding the semi-sedentary, periodically abandoned and reoccupied horticultural, hunting, fishing, and gathering hamlets along major floodplains of the Ridge and Valley province.
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Introduction

Many archaeological reports are published years after the field work was completed. This report is no exception. The initial rescue excavation was conducted in 1977, under the direction of Wayne Clark, of the then Virginia Research Center for Archaeology. He employed the innovative field methods of controlled surface collecting and soil sampling, and analyzed the artifacts to define activity areas. In 1984 Joey Moldenhauer, a member of the Roanoke Chapter of the Archeological Society of Virginia (ASV), excavated eleven more important features from the site. Throughout the years various specialists analyzed the artifacts from the 1977 and 1984 excavations.

The result of their work, coupled with subsequent research from other sites, has contributed greatly to an understanding of Siouan society. This publication is an attempt to weave together everything that is known about the Buzzard Rock site and the surrounding site complex. The artifacts, field notes and photographic negatives from the 1977 excavation are curated at the Virginia Department of Historic Resources (VDHR), Richmond. The artifacts and the field notes from the 1984 work are held by the ASV, Roanoke Chapter.
The Buzzard Rock Complex of sites refers to the clustering of prehistoric sites which occur on both sides of the Roanoke River along that stretch of river historically known as “The Bottoms.” At the very downstream end of this floodplain, the river bends sharply to the east where it abuts a high rocky bluff, which serves as a nesting place for buzzards (Figure 1). The first reference to this area as “Buzzard Rock” was made in the surveyor notebooks from the 1837 Roanoke Navigational Field Notes (Board of Public Works Records, Virginia State Library). The name aptly fits the archaeological complex which has been picked apart by highways, railroads, a sludge lagoon, quarries, industries, and collectors.

The Buzzard Rock Complex of sites, recorded in large part by Moldenhauer, is on file at the VDHR. Eighteen sites help form the complex (44RN2, 44RN5, 44RN6, 44RN8, 44RN68-44RN80, 44RN219, and 44RN220). Artifacts from the complex date back to the Palmer horizon, but most of the archaeological investigations have dealt with the large Late Woodland dispersed village, 44RN2, situated at the juncture of a spring drainage and the river. It is this site, more commonly known as the Buzzard Rock site (44RN2), that is the focus of this report.

44RN5. The Jamestown Plaza site is a small Woodland hamlet with intact features, one burial, ceramics, and triangular points. The eastern edge of the site was preserved by being covered over by the parking lot for the shopping center. The site was partially salvaged in 1972 (Klatka 2002).

44RN6. This is a ridgetop Woodland hamlet that produced surface debris including periwinkle shells, ceramics, and points dating back to the Archaic period. The shells suggest subsurface features. A controlled surface collection was obtained in 1991 by the Roanoke Chapter of the ASV under the direction of Tom Klatka of the VDHR.

44RN8. A very prolific Archaic site revealing hundreds of points, grooved axes, and large quantities of cores and lithic debitage. No soapstone bowls fragments have been found even though one sand-tempered ceramic sherd was recovered.

44RN68. The possible eastern edge of 44RN2, the site was situated on a slight rise with Archaic points eroding from the slope. A test square in 1977 showed a ceramic and preceramic horizon, containing predominately quartzite artifacts, separated by a sterile level.

44RN69. Ceramics, triangular points, celts, and gorgets have come from this possible linear hamlet. The site seems to parallel a back area swamp drainage.

44RN70. Another possible linear hamlet but separate from 44RN69, the site is closer to and parallel to the river. The site contains ceramics, celts, adzes, and triangular and Archaic points.

44RN71. Located just east of the swampy area, the site yields sand-tempered pottery as well as points ranging from the Early Archaic to Late Woodland periods.

44RN72. Archaic points but no ceramics have been found at this site. A cache of two ferruginous quartzite points were recovered here.

44RN73. The site is located south of a large chemical lagoon. Late Woodland ceramics and high quality chert Archaic points were found.

44RN74. Many small Clarksville triangular points have been recovered from this Late Woodland site. The area could represent the northern edge of a village.

44RN75. Known as the Taylor-Kelly site, this Archaic site is located on a ridge to the northeast of Muse Spring. The site is more oriented to the spring than the river.

44RN76. Known as the Webb site, this Archaic site is expected to extend to the east underneath the
Environmental Setting

The Buzzard Rock Complex is ideally situated for the exploitation of a variety of microhabitats resulting from vertical and horizontal zonation between the Blue Ridge and the Appalachian Highlands. The crest of the Blue Ridge Mountains, often exceeding elevations of 2000 feet, lies four miles to the east, and the Appalachian Highlands run in a northeast-southwest direction seven miles to the northwest. The Buzzard Rock Complex occurs at an elevation of 900 feet above see level (see Figure I).

The Appalachian Highlands share a warm-temperate, rainy climate with few extreme drought periods. The average rainfall is thirty to forty inches per year with an average annual temperature range between 0 and 22 degrees centigrade (Platt 1951).

Within the Great Valley, four major topographic zones are discernible: floodplain, terraces, foothills, and mountains. The first terrace above the floodplain of the Roanoke River is broad and dissected by first through fourth order streams. Older terraces rise in elevation until the foothills are reached approximately one mile east of the site, and continue eastward until merging into the Blue Ridge. The Great Valley exhibits a well-developed drainage pattern with the major stream in the valley, Tinker Creek, draining into the Roanoke River within the complex.

The extensive floodplain and terraces upon which the sites rest are underlain by the lithology of the Rome formation. Within the floodplain the vegetation can vary with the soil and moisture conditions of the various locales. Oak may appear on the floodplain while sycamore, cottonwood, and white maple may be found on the levee (Gardner 1977:12).

The tulip-oak association is also found in the foothill portion of the Appalachian Highlands between the elevations of 1000 to 1500 feet. The oak-chestnut fasciation defined by Shelford (1963:39) occurs above the tulip-oak association and extends to 2500 feet. The maple-beech-basswood forest association then occurs above the oak-chestnut association in areas from 2500 to 3500 feet.

This diversity of vegetation in the Appalachian Highlands supported one of the richest faunal populations in the eastern woodlands. Sixty-six species of mammals are known in the Virginia portion of the province (Handley 1971:265). Deer and wapiti were once abundant in the oak-chestnut and the maple-beech-basswood associations. The finding of numerous deer bones in the features at Buzzard Rock site indicates that this resource was being actively exploited during the Dan phase. Smaller mammals and riverine species were also recovered.

The Roanoke River provided mollusks, freshwater mussels, and fish, whose remains were recovered through wet-screening of feature fill. The Roanoke drainage has the most diverse fish fauna on the Atlantic slope of the United States, with six species endemic to the Roanoke River proper. Detailed listings of the species present in the area are provided by Jenkins, Lochener, and Schwartz (1970).

Thus, the location of the Buzzard Rock site provided easy access to one of the richest assemblages of mammal and fish fauna within the eastern Appalachian Highlands. The broad floodplain and terraces surrounding the site provided rich soils for the plant-
Historical Background

Local historians (Kegley 1938; Barnes 1968) have suggested that the Buzzard Rock Complex area contains the historic contact village of Totera Town which was visited by the frontier expedition of Thomas Batts and Robert Fallam on September 4, 1671. In *Kegley's Virginia Frontier* the author writes that its probable location is at the juncture of Tinker Creek and the Roanoke River about a half mile downstream from 44RN2. This suggestion was not based on any sound archeological evidence. Additionally, the description of Totera Town as taken from Batts and Fallam’s diary doesn’t match the general topography at the Buzzard Rock site.

The Dan River phase occupation of the Buzzard Rock site is certainly not the archaeological remains of the 1671 Totera Town described by Batts and Fallam. Yet could the site fall within the territory of the historic Totera Indians? Could Totera Town actually be two Contact period Indian sites located ten miles up the Roanoke River in Salem, Virginia? Can the Siouan Indians who produced Dan River series pottery in the seventeenth-century be linked archeologically to the Dan River phase sites like the Buzzard Rock site?

Recent work by Trawick Ward and Stephen Davis (1993) has placed the Dan River phase within the framework of a larger Siouan culture in the Piedmont areas of North Carolina and southern Virginia. They define the Dan River phase as extending from AD 1100 to AD 1450 and followed by the Saratown phase from AD 1450 to 1710. In historic times, the Saratown phase is associated with the Sara Indians of North Carolina. A Siouan speaking people, the Sara Indians continued to manufacture Dan River series ceramics well into the seventeenth century.

The Piedmont Siouan societies were recognized by seventeenth-century European traders as being politically distinct from each other yet were culturally similar horticultural societies. Based on recent discoveries of Contact period materials found at two sites in nearby Salem, Virginia, a distinct possibility exists that the Totera Indians, at least during the latter half of the seventeenth century, controlled the territory which included the area of the Buzzard Rock site.

In 1671, Batts and Fallam expedition visited Totera Town for three days, inevitably exchanging trade goods as was customary when following Siouan tradition. But no such trade goods were found during the excavations of the Buzzard Rock site, nor were any recovered in previous investigations of the larger site complex. Both the radiocarbon dates and the artifact types from Buzzard Rock provide site dates of AD 1040 to AD 1430, temporally placing it during the earlier Dan River phase.

However, trade goods have been documented in solid archaeological context associated with Dan River phase artifacts at two sites located in south Salem, ten miles up the Roanoke River from the Buzzard Rock site. The sites are Thomas-Sawyer (44RN39b) excavated by Mike Barber (1988) and the Graham-White (44RN21) excavated by Tom Klatka (Klatka and Klein 1993). They may very well represent a series of small hamlets along a mile of Roanoke River that represents the historic occupation of the Totera Indians.

The Buzzard Rock site was, in historic times, located several miles away from the projected location of the Iroquois Warrior Path that the northern Iroquois groups used on their war parties to attack Siouan and Cherokee groups. The historical records are clear that the Siouan groups were subjected to raids by northern Iroquois war parties (Davis and Ward 1991:40) and may have been similarly affected by Cherokee war parties (Palmer 1994:44). However, these Iroquois vs. Siouan conflicts postdate the period when the Buzzard Rock site was occupied.

Because of the potential disruptions, depopulation, and dislocations associated with both the prehistoric
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The storage pits and shallow basins associated with the house patterns yielded 13 species of fish. The study of the fish remains provides useful insights into the season of occupation, method of capture and cooking, and comparison to other Dan River sites in the region. The remaining faunal assemblage from the Buzzard Rock site yielded 18 species with documented preference for deer, turkey, and turtle and a noticeable absence of black bear. The Buzzard Rock site serves as a type site for understanding the semi-sedentary, periodically abandoned and reoccupied horticultural, hunting, fishing, and gathering hamlets along major floodplains of the Ridge and Valley province.
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44RN76. Known as the Webb site, this Archaic site is expected to extend to the east underneath the
APCO electric substation and to Garnand Branch. Sites at the juncture of such small creeks and rivers are frequently silted in and, therefore, a stratified site could be expected in the area.

44RN77. This site was reported by John Hildebrand who was a map maker for the City of Roanoke and who did the maps for Kegley's Virginia Frontier. On his map in the book he describes this site as the location of Totera Town, the Late Woodland village visited by the Batts and Fallam expedition in 1671. This has never been documented archaeologically and is very much in doubt with the recent discovery of contact villages ten miles upstream in Salem. In fact, it was not even documented that this was a site until 1991 when GAI Consultant archeologists discovered ceramics in test squares along the river's edge.

44RN78. This location was reported in the same Kegley's Virginia Frontier as the site for Totera Town. Therefore, in the same text, we have two separate locations for the village. The site is situated at the juncture of Tinker Creek with the north bank of the Roanoke River. This site was covered over by a City of Roanoke landfill and may have extended to the west under present Hooker Furniture. A cave was reported to the north of the site at the base of a limestone bluff and adjacent to a spring branch. The cave was also filled but would have been an ideal site location.

44RN80. This location was a reported Archaic site which has now been completely covered in residential development.

44RN219. This site was discovered in 1991 by GAI Consultants and was called the APCO site since it was located in front of the APCO Service Center. The site is interpreted as a Woodland site since 31 ceramics sherds were discovered in 37 shovel tests. The western end of the site was less disturbed from landscaping activities and may contain undisturbed deposits.

44RN220. This site was also discovered by GAI Consultants in an area suggested by this author to possibly contain buried cultural deposits. The site is across the Garnand Creek from 44RN5. Although the site produced only flakes, the location has an 'over thickened' A horizon making the case for possible buried deposits at the site.

Figure 1. Buzzard Rock Complex.
Environmental Setting

The Buzzard Rock Complex is ideally situated for the exploitation of a variety of microhabitats resulting from vertical and horizontal zonation between the Blue Ridge and the Appalachian Highlands. The crest of the Blue Ridge Mountains, often exceeding elevations of 2000 feet, lies four miles to the east, and the Appalachian Highlands run in a northeast-southwest direction seven miles to the northwest. The Buzzard Rock Complex occurs at an elevation of 900 feet above sea level (see Figure 1).

The Appalachian Highlands share a warm-temperate, rainy climate with few extreme drought periods. The average rainfall is thirty to forty inches per year with an average annual temperature range between 0 and 22 degrees centigrade (Platt 1951).

Within the Great Valley, four major topographic zones are discernible: floodplain, terraces, foothills, and mountains. The first terrace above the floodplain of the Roanoke River is broad and dissected by first through fourth order streams. Older terraces rise in elevation until the foothills are reached approximately one mile east of the site, and continue eastward until merging into the Blue Ridge. The Great Valley exhibits a well-developed drainage pattern with the major stream in the valley, Tinker Creek, draining into the Roanoke River within the complex.

The extensive floodplain and terraces upon which the sites rest are underlain by the lithology of the Rome formation. Within the floodplain the vegetation can vary with the soil and moisture conditions of the various locales. Oak may appear on the floodplain while sycamore, cottonwood, and white maple may be found on the levee (Gardner 1978:12).

The tulip-oak association is also found in the foothill portion of the Appalachian Highlands between the elevations of 1000 to 1500 feet. The oak-chestnut fasciation defined by Shelford (1963:39) occurs above the tulip-oak association and extends to 2500 feet. The maple-beech-basswood forest association then occurs above the oak-chestnut association in areas from 2500 to 3500 feet.

This diversity of vegetation in the Appalachian Highlands supported one of the richest faunal populations in the eastern woodlands. Sixty-six species of mammals are known in the Virginia portion of the province (Handley 1971:265). Deer and wapiti were once abundant in the oak-chestnut and the maple-beech-basswood associations. The finding of numerous deer bones in the features at Buzzard Rock site indicates that this resource was being actively exploited during the Danaver phase. Smaller mammals and riverine species were also recovered.

The Roanoke River provided mollusks, freshwater mussels, and fish, whose remains were recovered through wet-screening of feature fill. The Roanoke drainage has the most diverse fish fauna on the Atlantic slope of the United States, with six species endemic to the Roanoke River proper. Detailed listings of the species present in the area are provided by Jenkins, Lochener, and Schwartz (1970).

Thus, the location of the Buzzard Rock site provided easy access to one of the richest assemblages of mammal and fish fauna within the eastern Appalachian Highlands. The broad floodplain and terraces surrounding the site provided rich soils for the plant-
ing of crops. Salt deposits found one mile north of the site possibly provided salt for local consumption and trade. Additionally, the diversity of forest associations encountered within a short distance of the site yielded abundant nut and plant resources. These factors combined to make the locale of the Buzzard Rock Complex a most desirable place to settle.
Historical Background

Local historians (Kegley 1938; Barnes 1968) have suggested that the Buzzard Rock Complex area contains the historic contact village of Totera Town which was visited by the frontier expedition of Thomas Batts and Robert Fallam on September 4, 1671. In Kegley’s Virginia Frontier the author writes that its probable location is at the juncture of Tinker Creek and the Roanoke River about a half mile downstream from 44RN2. This suggestion was not based on any sound archeological evidence. Additionally, the description of Totera Town as taken from Batts and Fallam’s diary doesn’t match the general topography at the Buzzard Rock site.

The Dan River phase occupation of the Buzzard Rock site is certainly not the archaeological remains of the 1671 Totera Town described by Batts and Fallam. Yet could the site fall within the territory of the historic Totera Indians? Could Totera Town actually be two Contact period Indian sites located ten miles up the Roanoke River in Salem, Virginia? Can the Siouan Indians who produced Dan River series pottery in the seventeenth-century be linked archaeologically to the Dan River phase sites like the Buzzard Rock site?

Recent work by Trawick Ward and Stephen Davis (1993) has placed the Dan River phase within the framework of a larger Siouan culture in the Piedmont areas of North Carolina and southern Virginia. They define the Dan River phase as extending from AD 1100 to AD 1450 and followed by the Saratown phase from AD 1450 to 1710. In historic times, the Saratown phase is associated with the Sara Indians of North Carolina. A Siouan speaking people, the Sara Indians continued to manufacture Dan River series ceramics well into the seventeenth century.

The Piedmont Siouan societies were recognized by seventeenth-century European traders as being politically distinct from each other yet were culturally similar horticultural societies. Based on recent discoveries of Contact period materials found at two sites in nearby Salem, Virginia, a distinct possibility exists that the Totera Indians, at least during the latter half of the seventeenth century, controlled the territory which included the area of the Buzzard Rock site.

In 1671, Batts and Fallam expedition visited Totera Town for three days, inevitably exchanging trade goods as was customary when following Siouan tradition. But no such trade goods were found during the excavations of the Buzzard Rock site, nor were any recovered in previous investigations of the larger site complex. Both the radiocarbon dates and the artifact types from Buzzard Rock provide site dates of AD 1040 to AD 1430, temporally placing it during the earlier Dan River phase.

However, trade goods have been documented in solid archaeological context associated with Dan River phase artifacts at two sites located in south Salem, ten miles up the Roanoke River from the Buzzard Rock site. The sites are Thomas-Sawyer (44RN39b) excavated by Mike Barber (1988) and the Graham-White (44RN21) excavated by Tom Klatka (Klatka and Klein 1993). They may very well represent a series of small hamlets along a mile of Roanoke River that represents the historic occupation of the Totera Indians.

The Buzzard Rock site was, in historic times, located several miles away from the projected location of the Iroquois Warrior Path that the northern Iroquois groups used on their war parties to attack Siouan and Cherokee groups. The historical records are clear that the Siouan groups were subjected to raids by northern Iroquois war parties (Davis and Ward 1991:40) and may have been similarly affected by Cherokee war parties (Palmer 1994:44). However, these Iroquois vs. Siouan conflicts postdate the period when the Buzzard Rock site was occupied.

Because of the potential disruptions, depopulation, and dislocations associated with both the prehistoric
Iroquois-Siouan conflicts and the historic Siouan-European contacts, we can not say with certainty that the Totera of 1671 are the descendants of the Dan River phase Indians who created the Buzzard Rock site hundreds of years earlier. We can be fairly certain that the documented association of Saratown phase artifacts with the Totera Indians, provides clear evidence that the preceding Dan River phase was correlated with Siouan societies in the western Piedmont.

Although trade goods have been found at two Saratown phase sites in Salem, Virginia, historians and archaeologists have not reached a consensus on the location of Totera Town based on the historic record. Allen Briceland (1987:133) believes that the Batts and Fallam Expedition encountered Totera Town in western Montgomery County, postulating the Trigg site (44MY3) as the town.

The Saratown and Dan River phases archaeological sites are the primary data source for advancing our knowledge about these American Indian societies, due to the sparsity of ethnographic data in the historic record about the Sara and Totera Indians. The Buzzard Rock site remains an excellent example of an early farming, semi-sedentary hamlet during a period of the Dan River phase prior to village consolidation in response to possible increased intertribal conflicts during the subsequent Saratown phase.
The City of Roanoke is a rapidly expanding urban center surrounded by the peaks of the Blue Ridge and drained by the Roanoke River. This area has attracted people for over 11,000 years, but most of our knowledge of the prehistoric period of the area is based on the data collected from the surface of cultivated sites and from data salvaged by avocational archaeologists working between the sweeps of construction equipment. Sites formerly under cultivation are rapidly being divided into housing lots, destroyed by industrial or commercial development, or disrupted by expanding public service facilities.

Oral tradition suggests that the Buzzard Rock Complex has been actively collected throughout the twentieth century. The area was reportedly collected in 1912 by Robert Wainwright, who lived in Roanoke and made extensive collections across southwest Virginia.

Construction of the American Viscose Corporation plant on the western end of the floodplain in 1917 destroyed a large Late Woodland period village. Some suggests this location for Totera Town (Swanton 1952:73). The Roanoke City Library was donated a collection of artifacts in 1938 by Leroy Smith who was the manager of the American Viscose Plant. This collection included the remains of one burial which appears to be a male 18–25 years old as well as a shell gorget, tubular and marginella shell beads, two steatite beads, periwinkle shells, cordmarked pottery which appears to be from the same pot, a celt like abrader, two quartzite adzes, and three celts. Most of these artifacts were photographed in Kegley’s Virginia Frontier to which he refers to them as being from Totera Town. These artifacts have most recently been donated to the Roanoke Valley History Museum.

Due to the large floodplain in this bend of the river, it has offered a large area for cultivation and surface collecting. Other collections known from the Buzzard Rock site have been retained by Chester Cooley, Gene Whitlow, Horace Hood, Mary Copenhaver, Patrick Trout, Larry Fagg, and J. T. Moldenhauer.

Construction of the Norfolk and Western Railroad in 1916 divided the Buzzard Rock site into an eastern and western portion (see Figure 1). During the summer of 1974, the City of Roanoke performed earth moving activities on a large number of the sites in the complex east of the railroad tracks. In preparing for a temporary sludge lagoon the graders panned the 40–50 acres south of 13th Street, building a 3–4 foot dike along the rivers edge to prevent the pollutants from entering the river. It is likely that some of the sites received little impact if they had deep features. Also, the northern end of the complex was actually built up with as much as two to three feet of fill protecting the area. This construction destroyed most of the eastern portion of the Buzzard Rock site, except for a small triangular-shaped section.

Directly underneath where 13th Street was to be subsequently located, four features including one burial was uncovered in 1974. Little, if any, data recovery was performed on these features. The burial was flexed in a semi-round pit. It did have an eastern orientation and was poorly preserved. Another feature was of the shallow-basin type, and the others were round, straight-wall storage pits.

In 1975, initial testing of the Buzzard Rock site by William Buchanan (then of the Virginia State Library) failed to reveal significant archaeological remains. In 1976, Chester Cooley placed 12 shovel test pits within the area excavated in 1977 but artifacts were not found. Therefore, the Highway Department and the contractor were unaware of the presence of significant remains.

During the week of June 3 to June 9, 1977 Moldenhauer excavated Test Squares A and B (see Figure 19 below). Test Square A was the most interesting and was dug to a depth of 57 inches. This square went through a seven inch level of new plowzone, 11 inches
of added lagoon fill, 10 inches of old plowzone, six inches of cultural debris which included pottery and flakes, 11 inches of sterile soil, and a five-inch preceramic level with fire-cracked rock, green-quartzite flakes, and a corner-notched point.

Test Square B was less productive than the first square, but did contain small sherds of pottery and, therefore, suggested that the village extended to the southwest which was later proven by the 1984 excavation.

Moldenhauer, realizing that construction activity was imminent on the 13th Street Bridge, contacted Horace Hood of the Roanoke Chapter of the ASV and asked him to watch the site. Through his careful monitoring, he found a feature being exposed and contacted Mike Cochran, archaelogist with the Wilmington District of the Army Corps of Engineers. They contacted Wayne Clark of the then Virginia Research Center for Archaeology (VRCA). Following a visit to the site, Clark determined that significant prehistoric remains would be affected. The VRCA entered into a memorandum of agreement with the Virginia Department of Highways and Transportation to salvage the portion of the site directly affected. The investigations were conducted from July 26 to August 15, 1977 and represented the first professionally directed excavation in the Roanoke Valley.

A preliminary report was completed in June 1978 and is on file at the VDHR (Clark et al. 1978). Most significantly, these results were brought to the public’s attention with a news conference on November 15, 1978 at the Patrick Henry Hotel in Roanoke. Articles appeared in the newspaper accompanied by renderings of the site by ASV artist Michele Moldenhauer (Figure 2).

Again, the Buzzard Rock site was impacted in the summer of 1984 with earth moving activity. The Wiley N. Jackson Construction Company was preparing the southwestern portion of the site for future deposition of 12 to 15 feet of fill dirt. The land was later sold to the H. L. Lawson Storage Company for warehouses. The site impact was reported by Moldenhauer’s mother, Hazel Baker, and upon field inspection it was found that most of the site had been graded and filled already except for a small 45 foot strip parallel to 13th Street. This area revealed a prehistoric midden, and Feature 66 was immediately recognized. When shown this feature, the bulldozer operator said that he had previously exposed many of these “dark circles” all over the area that had already been bulldozed away or covered over with fill. However, he said he could find some more and immediately jumped back on the bulldozer and uncovered Feature 67.

The testing of the Buzzard Rock Complex in 1991 by GAI Consultants of Pittsburgh, Pennsylvania for the Army Corps of Engineers has resulted in additional collections. They uncovered an undisturbed horizon containing ceramics underlying the eastern portion of the site.

In the 1980s, the Roanoke Historical Society at the Center on the Square Museum, created an indoor, partial reconstruction of the circular Buzzard Rock house. This proved very popular with visitors and school children. Virginia Explore Park in eastern Roanoke County constructed, in consultation with Errett Callahan and to scale, an outdoor replica of the Buzzard Rock circular house type. This excellent replica, built under the direction of Daniel Abbott, provided a greater understanding of the height and volume of space for the domed shaped structure. As a result of all these interpretive efforts, the educational and the scientific value of these salvage excavations have far exceeded our initial expectations. We hope that this condensed publication of the more detailed 1977 and 1984 reports will further enhance research and public education about the Siouan Indians of southwest and southern Virginia.
Figure 2. Artist Rendering of houses at the Buzzard Rock Site.
1977 Excavation

INTRODUCTION

Most archaeologists are no longer content to simply describe; they also strive to explain. But explanation can only be achieved at a price. That price is time—time to plan the investigations; time to determine the field methodologies; time to implement those methodologies; time to analyze the resultant data, to compare the data from the site to the surrounding region, and to develop regional syntheses.

The failure to adequately assess the presence of significant archaeological remains during the early planning stages of the 13th Street extension resulted in insufficient time to completely execute all of the excavation procedures warranted at such a site. Controlled surface collecting, soil sampling, test pitting, and extensive excavations had to be compacted into the short time period of three weeks. Scientifically rigorous testing of the plowzone, midden, and subsurface features was not possible. The resultant excavations, while adequate, would have benefitted from the results of Phase I and Phase II testing and additional time for excavation.

Despite the time-limited factors of the excavations, the sampling approaches employed yielded significant scientific data. They provide useful intrasite settlement pattern data for understanding the development of the Dan River phase.

EXCAVATION PROCEDURES

The excavation procedures employed at the site were dictated by the limited amount of time available for excavation. The methodologies employed were developed to sample a representative portion of the plowzone, midden, subsurface features, and stratified remains encountered during the excavations.

Initial Excavations

Members of the Roanoke Chapter of the ASV conducted preliminary excavations from July 23 to July 27, 1977. The removal of the plowzone from the eastbound lane of the 13th Street extension revealed three features on July 23rd. These features were subsequently covered with fill. In an attempt to relocate these features, three additional features were encountered, but removal of the upper portion of the subsoil in the eastern section of this area destroyed the upper level of at least one feature.

The general locations of the features were plotted by using a tape and compass, and are presented in Figures 3 and 4. The feature fill was troweled but not screened, and all artifacts and sizable bone fragments were retained and bagged separately according to feature. The material from the feature was donated to the VRCA by Chester Cooley and Bobby Mize. Attributes of these features may be found in Table 1. Excavation of the features was terminated by roadbed filling activities after the features had been partially excavated.

When the author arrived at the site, these features were covered with several feet of compacted roadbed fill. In consideration of the disturbed nature of this portion of the site, the cost of removing the compacted fill and delaying work, a decision was made to concentrate the remaining salvage excavations to the westbound lane or northern half of the right-of-way (see Figure 3).

Strata Cuts

Excavations of deep strata test squares were not necessary as examinations of various soil profiles exposed during construction were sufficient to interpret the stratigraphy of the site. The construction trenches were
Figure 3. General site plan of 1977 excavations.

Figure 4. Features discovered during initial excavation.
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Measurements are in meters

Table 1. Features from 1977 excavations.
assigned strata cut unit designations and are discussed separately.

Strata Cut 1 was located in the southern portion of the site (see Figure 3). The plowzone was removed during topsoil stockpiling operations. A compact, homogenous, yellow silty-clay layer composed the first 1.12 meters of subsoil. From 1.12 meters to the base of the strata cut at 1.52 meters, the soil became progressively grayer and mottled in color. This gley deposit may represent a floodchute swamp or bog environment.

Strata Cuts 2 and 3 were located beneath the roadbed of the Norfolk and Western Railroad (see Figure 3). Artifact-bearing levels in Strata Cut 3 were destroyed during construction of the railroad. The yellow silty-clay subsoil layer of Strata Cut 3 was sterile, but the soil profile of the east wall of Strata Cut 2 displayed in situ artifacts, midden, and features as presented in Figure 5. The western wall of Strata Cut 2 revealed a continuous midden across the entire profile and an absence of artifacts or features below the midden.

The in situ yellow silty-clay level above the midden on the east wall of Strata Cut 2 revealed Dan River phase ceramics and debitage. The midden and features also contained Dan River phase artifacts. Gleyed soils were not encountered in Strata Cuts 2 and 3 as the lower yellow silty-clay level became progressively lighter with depth. Subsequent placement of the bridge supports in Strata Cut 2 revealed over 50 meters of floodplain sediments overlying the baserock.

**Controlled Surface Collection**

Controlled surface collection of ten meter squares across the northern section of the site was conducted to obtain a representative sample of the horizontal distribution of artifacts in the plowzone. A loose roadbed fill and approximately five centimeters of plowzone were removed to expose a fresh surface. A subsequent rain was sufficient to expose artifacts lying directly on the surface. Each square was assigned a number and collected accordingly (see Figure 3).

Ten surveyors were placed across the square so that each person was responsible for a strip one meter wide. Each person collected all surface material, including fire-cracked rock and cobbles. The surveyors were active avocational and professional archaeologists familiar with prehistoric artifacts of the region.

Upon completion of each 10-meter square, all collected material was examined. Modern historic material and unmodified cobbles were discarded in the field. Fire-cracked rocks were counted, noted on the site plan, and discarded. Only 20% of Square 20, 25% of Square 19 and 50% of Square 17 were exposed. To derive comparable density estimates for the plotting of artifact distributions, the number of artifacts for each category recovered from Squares 20, 19, and 17 were multiplied by a factor of 5, 4, and 2 respectively.

To construct contour maps for the distribution of artifacts across the site, the number of items from each square was plotted in the center of the square. For Squares 17, 19, and 20, the mathematically derived multiples were plotted. The number of items per contour interval was determined on the basis of the sample size of the category under study.

**Soil Sampling**

Systematic sampling of soil can reveal the location of patterned human activities by plotting the highest frequency of phosphorus, calcium, nitrogen, carbon, and certain trace substances such as copper and zinc (Cook and Heizer 1965).

To determine the boundaries of the site, the grid system was extended to the north to include a sample of soil located outside the right-of-way (see Figure 3). Soil samples were collected at the corner and center of each 10-meter square. Sixty plowzone soil samples were taken from the base of 15-centimeter-deep shovel test pits. The sample locales may be seen in Figure 6 as minute mounds of dirt in the cleared area to the left.

Following removal of the plowzone by earthmoving equipment, 25 soil samples were taken from the exposed subsoil and midden. As was expected, comparison of the subsoil and plowzone chemical values from the same locations revealed that the subsoil samples better defined the actual areas of the residence units.

Throughout the course of the excavation, soil samples were taken from significant features. All soil samples were submitted to the Cooperative Extension Service of VPISU for testing.
Figure 5. East profile of Strata Cut 2.

Figure 6. View of Buzzard Rock Site.
**Plowzone Sampling**

Lack of time combined with baked soil conditions prevented the excavation of a systematic sample of 1-meter squares across the site. However, two 2-meter squares were placed on the northeastern corner of the site to sample the plowzone in an area of high shell density (Figure 7).

Initial efforts to dry-screen the plowzone from these squares proved slow and tedious. Square N86W20 was abandoned at a depth of 15 centimeters. Excavations continued in square N86W12, but only after it was drenched with water. All soil was pushed through 1/4-inch mesh screen.

Square N86W12 revealed a plowzone from 22 to 29 centimeters beneath the surface. Only the southeast 1-meter quadrant of the square was excavated through the midden. The yellow-brown midden contained an abundance of shell but no features.

Comparison of the 317 artifacts recovered from Square N86W12 to the 37 artifacts recovered from control surface Square 4, which encompassed the area of the test square, suggests that only a small percentage of artifacts in the plowzone were recovered by the surface collection. But this small percentage was found to be significant when plotted.

Following completion of the test square excavations, the plowzone was removed with the aid of a pan and grader. The removal of the plowzone revealed an in situ midden in the center of the exposed area (see Figure 7).

**Midden Sampling**

Three rectangular units 1-by-2 meters in dimension and one rectangular unit 1-by-3 meters was laid out to provide an east-west and north-south sample of material from the midden (see Figure 7). All soil was sifted through a 1/4-inch mesh screen. Features 16, 18, and 21 (a deer antler cluster, a shallow basin, and a rock hearth respectively) were excavated before the midden was stripped.

The midden ranged in thickness from five to 15 centimeters with fire hearths, fire-cracked-rock hearths, pit features, and post molds originating on the surface and within the midden. Mechanical removal of the midden resulted in the loss of the upper portions of some of these features as well as any artifact clusters and fire-cracked-rock hearths.

Chemical analysis of the midden in Strata Cut 2 revealed very high readings of phosphorus and potash. The high alkaline soil conditions of 8.3 pH contributed to organic preservation. The high levels of these elements in the soil samples correlate closely to the visual limits of the midden (see Figures 7, 15, 16).

**Sub-midden Sampling**

Following the mechanical removal of the midden, features were marked for excavation. The dry soil conditions hindered feature identification, but watering of the site with the aid of a water truck from the Roanoke Fire Department alleviated this difficulty. All artifact clusters, fire-cracked-rock hearths, storage pits, and shallow-basin pits were completely excavated. A sample of the postmolds were excavated.

The storage and shallow-basin pits and fired-clay hearths were drawn in plan view after the first half was removed as a unit. Following photographing, drawing of the profile, and soil sample collecting, the remaining half was excavated by natural level. The soil was either screened through 1/4-inch mesh or wet screened. The material recovered from the 1/16-inch mesh wet screen was later floated in a water solution with the light and heavy fractions catalogued separately.

The north-south and east-west horizontal dimensions of all postmolds were recorded as part of the mapping procedure. Due to a lack of time and the compact soil conditions, only a sample of the postmolds was cross-sectioned. Cross-sectioning of the postmolds entailed the removal of half of the postmold and a portion of the adjacent matrix, then the profile was drawn, soil samples were taken, and all artifacts encountered were saved.

Excessive precipitation during the final week of excavations prevented the location of all features which may have been present between grid coordinates 20 to 28 west (see Figure 7). This area was five centimeters deeper than the surrounding area which resulted in the creation of a shallow lake. Instead of attempting to locate features under water, it was decided to completely explore the areas of the known house patterns.
Figure 7. Plan of principal 1977 excavations.
FEATURES

The excavations revealed 44 features. Except for shallow-basin Features 28 and 29, which yielded primarily New River Ware pottery, the contents of the features suggest a Dan River phase association. The dimensions and styles of the features are listed in Table 1.

The features are combined into 13 types based on shape, dimension, content, context, and inferred function: (a) artifact cluster; (b) rock hearth; (c) deep basin; (d) shallow-basin Type 1; (e) shallow-basin Type 2; (f) rectangular postmold pattern; (g) circular house postmold pattern; (h) long house postmold pattern; (i) linear postmold pattern; (j) shallow-basin Type 3; (k) fired-clay hearth; (l) parallel-wall storage pit; (m) bell-bottom storage pit.

Artifact Clusters (Features 10, 12, 15, 16)

Bone or pottery clusters located on the surface of the yellow-clay subsoil or in the midden constitute this type. Features 10 and 12 were located on top of the yellow-clay subsoil while Features 15 and 16 originated within the midden (see Figure 7). With the exception of one Grayson Cord Impressed sherd from Feature 12, Features 10, 12, and 15 consisted of clusters of Dan River pottery. Composed of a concentration of deer bone and a single turtle shell fragment, Feature 16 rested in the midden within the circular postmold pattern of Feature 32.

Rock Hearths (Features 8, 11, 21, 23)

These shallow, irregularly-shaped features were filled with brown midden soil and charcoal (Figure 8). Burnt-orange soil flecks were interspersed between the fire-cracked rocks. Only Feature 8 was associated with a fired-clay hearth. The remaining hearths were insufficiently fired to uniformly discolor the underlying subsoil. The presence of Dan River pottery in Feature 8 and in the location of Feature 21 and 23 within the Dan River phase midden evidenced a Dan River association.

Deep Basin (Feature 30)

This slightly oval-shaped feature was 2.5-by-2.1 meters in diameter and 25 centimeters deep. Excavation of two opposing quadrants revealed a pit with straight walls and a slightly concave base. A cluster of fire-cracked rocks was noted in the center at the base of the brown silty-clay fill. While some New River Ware and shell-and-grit-tempered pottery were recovered in it, this feature was assigned to the Dan River phase because the predominance of the recovered sherds were of the Dan River Ware. This feature is thought to be the remains of a sweat lodge, an inference supported by John Fontaine’s description of Piedmont Siouan Indian sweat houses at Fort Christanna (Alexander 1972:97).

Shallow Basin Type 1
(Features 1, 18, 25, 34)

These were moderate-sized shallow depressions filled with midden soil, charcoal specks, shell fragments, and artifacts. The features had a mean length of 1.55 meters, a mean width of 1.15 meters, and a mean thickness of 12 centimeters (see Table 1). They originated either within the midden or at the top of the yellow-clay matrix in areas lacking a midden. The recovery of primarily Dan River pottery from the fill suggested a Dan River phase association. Feature 18, which predates Circular House Pattern Number 1 (Figure 9), has the greatest diversity of fish remains from this portion of the site (see Table 10 below).
Analysis of the method of preparation for fish remains from throughout the site indicates roasting or boiling. Roasting did not result in much burning of bones. Feature 18 and the other similar shallow Basin Type 1 features are interpreted as earth ovens. The shallow basins would have had heated rocks placed on the floor; covered by wetted vegetation; the layer of fish, shellfish, and other foods placed next; this covered by vegetation; and the basin sealed with earth for a prescribed time to allow the food contents to steam. Afterward, remains from the feast were thrown back into Feature 18 while the other shallow basins, with lesser fish remains, would have simply received general soil from the site.

**Shallow Basin Type 2**
*(Features 28, 29, 40)*

Based on the contents of the feature fill, these small, circular, shallow-basin features were inferred to be associated with the manufacture of pottery as each contained a medium-brown silty-clay fill mixed with charcoal specks, lumps of orange-red fired clay, and unfired and untempered lumps of potter's clay. The features were an average of 44 centimeters in diameter and nine centimeters deep (see Table 1). With the exception of four Dan River sherds possibly associated with an intrusive postmold, Features 28 and 29 yielded exclusively New River pottery. Feature 40 contained primarily Dan River pottery. The above data suggest that both New River and Dan River pottery was being manufactured at the site.

**Rectangular Postmold Pattern**
*(Feature 14)*

A rectangular pattern, 1.15 meters long by 70 centimeters wide, of four postmolds was believed to represent a drying rack or other type of stand (see Figure 7). Postmold diameters varied from 11 to 17 centimeters while depths varied from three to 13 centimeters. The Dan River pottery recovered from several of the postmolds suggests a Dan River phase association.

**Circular House Postmold Pattern**
*(Features 32, 64)*

The complete and partial postmold patterns of Features 32 (Circular House Area 1) and 64 (Circular House Area 3) were associated with several other types of features cumulatively defining the circular house pattern of the Dan River component (Figure 10; see Figure 9). The circular-house-pattern type consisted of a circular pattern of postmolds which was six meters in diameter. It had a central fire hearth located approximately 2.4 meters from two storage pits, situated inside the house on either side of a 1.4 meter wide entranceway. The entranceway faced toward the southeast in the direction of the river and the morning sun (see Figures 7–9). Feature 32 contained a depressed midden (shallow-basin Type 3) in the inferred entranceway.

The presence of two or more of these feature types in the proper contextual relationship suggests the possible location of a circular house pattern. Three possible circular-house-pattern areas features were noted. Each association of features inferred to possibly represent a circular house pattern was assigned a number (Table 2, Inferred Circular House Area 2, 4, and 5).

**Long House Postmold Pattern**
*(Feature 62)*

The presence of a long house at the Buzzard Rock site was tentatively suggested by the incomplete linear pattern of postmolds with a curved end which terminates at a shallow-basin Type 3 feature (Feature 31) or entranceway. One definite (Feature 63) and another probable (Feature 9) fire hearth were found near the middle of the length of the linear walls (see Figure 7). The entranceway was located in the southeast corner of the postmold pattern. The absence of storage pits and the linear nature of Feature 62 did not fit the configuration of features associated with the circular houses at the site. The patterning of interior posts suggested: (1) construction of a bench along the eastern end of the house, (2) an interior partition which divided the entranceway from the fired-clay hearth and the interior bench, and (3) a possible central partition which may have divided the house in half. This house was six meters wide. Although the absence of postmolds on the west end of the pattern prevented positive assessment of the long house length, the length was inferred to be approximately 14 meters based on the configuration of features. The recovery of Dan River sherds and three New River sherds from Feature 31 indicated that the long house dated to the Dan River phase.
Figure 9. Plan of House Patterns 1 and 2.

Figure 10. Plan of House Pattern 3.
Linear Postmold Pattern (Feature 38)

The function of this single linear pattern of postmolds is inferred to be a combination windbreak and security screen. The straight line of 33 postmolds began on the eastern edge of the excavations and continued nine meters until disappearing to the northeast (see Figure 7). Cross-sectioning of 17 of the round-bottom postmolds revealed a depth ranging from two to 16 centimeters with a mean of nine centimeters. The top diameters averaged 14 centimeters, and posts were spaced an average distance of 30 centimeters apart.

The average separation of 30 centimeters is sufficient to allow weaving of wattle to form a solid wall between the posts. The wall extended from the side of House Pattern One in front of the southeast entrance to the house. To the east of the wattle and post wall was a shallow basin Type 3 feature (Feature 37) which extended parallel to the wattle and post wall. This shallow trench and the post molds contained Dan River pottery. They are inferred to have been constructed at the same time. The feature was eight centimeters deep with a width of 1.3 meters. The extension of the five meter long exposed section of the clay borrow trench beyond the excavation area indicates that the wall also continued for an additional unknown distance. The data suggest that this was a clay borrow trench used to provide daub for the wattle and post wall.

Since neither the clay borrow trench nor the wattle and daub wall was present to the north of the house, this feature does not represent part of a palisade for the village. Rather it is probably the remains of a solid wattle and daub windbreak which, by its configuration in relation to the entrance of the house, could also be an effective security screen in case of an attack. Feature 18, intersected by House Pattern 1, produced one daub fragment. Feature 4, in the area of the site inferred to be occupied later in time, produced several samples of daub.

Similar postmold and parallel shallow borrow basins have been reported for tidewater Algonquian palisaded villages of the terminal Late Woodland period in both Virginia and Maryland (Schmitt 1965). Palisaded villages of the Saratown phase do not have evidence of clay borrow trenches (Ward and Davis 1993). So at this time, the proposed wattle and daub windbreak wall for the circular house pattern at Buzzard Rock is a unique feature to the Dan River phase.

Shallow Basin Type 3 (Features 31, 33, 37)

With the exception of Feature 37, the suggested clay borrow trench discussed above, these features probably represent depressed midden deposits located at the entranceway to one circular and one long house patterns (see Figure 7). The postmolds of these house patterns did not cross the shallow basins. The mean widths of the basins ranged from 1.3 to 1.4 meters with depths from seven to 12 centimeters. The shapes were slightly elongated and irregular. The recovery of Dan River ceramics from the fill and the association of these features with Dan River phase house patterns indicate a Dan River phase origin.
Fired Clay Hearth
(Features 9, 17, 20, 22, 27, 41, 63)

Seven areas exhibited an orange-red discoloration of the soil and a baked compactness resulting from repeated firing. The fired areas were oval in plan view, lengths ranging from .47 to 1.83 meters with a mean of .94 meters and widths ranging from .43 to 1.22 meters with a mean of .72 meters, and depths between five and ten centimeters (see Table 1). Cross-sectioning of Features 17 and 20 revealed a shallow basin filled with a layer of brown or orange-brown mottled midden which surrounded a core of fired orange-red silty-clay. The fill contained charcoal flecks, calcined bone, and shell, debitage, and an occasional Dan River sherd. Ash and large quantities of charcoal were absent. Features 17, 20, and 22 were located in the center of inferred circular house patterns. Situated in the center of the inferred long house pattern associated with Feature 62, Features 9 and 63 were not as intensely fired as the hearths in the circular house patterns.

Parallel Wall Storage Pits
(Features 2, 7, 19, 24, 26, 39, 42)

The association of Features 24 and 26 with the circular postmold pattern of Feature 64, and of Features 19 and 39 with the circular house pattern of Feature 32 suggests that parallel wall pits were used for storage inside the Dan River phase circular house patterns (see Figures 9 and 10). The pits were round to slightly oval in plan view with parallel to converging sides and flat bottoms (Figures 11 and 12). The lengths ranged from .70 to 1.83 meters with a mean of 1.0 meter, widths from .90 to 1.48 meters with a mean of .90 meters, and depth from ten to 60 centimeters with a mean of 32 centimeters (see Table 1). All of the features yielded primarily Dan River sherds and Caraway Triangular points.

Bell-Bottom Storage Pit (Feature 4)

One bell-bottom storage pit was uncovered during initial excavations in the southern section of the site (see Figure 4). The pit had a surface diameter of 1.07 by .91 meters and a depth of .72 meters, and the widest portion of the incurvate walls was 1.37 by 1.22 meters. Feature 4 was 1.4 meters from Feature 7, a parallel-sided storage pit. This was approximately the average distance noted for paired storage pits within circular house structures at the site. Therefore, Features 4 and 7 seemed to represent the location of a house structure on the southern portion of the site. Both features contained Dan River ceramics which were later in style than those found on the northern section of the site. As Feature 4 was the only bell-bottom storage pit noted at the site, the possibility exists that this style of storage pit was a later development during the Dan River phase.
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Abbreviations: CR=Cord, N=Net, S=Smoothed, B=Burnished, C=Corncob, U=Unidentifiable, ST=Subtotal

*Table 3. Distribution of pottery ware/surface treatment by feature (from Gardner 1980).*
The ceramic collection from the Buzzard Rock site was analyzed at two different times with the goal of discerning the relationships between recognized ceramic wares and developmental phases within these wares. The first analysis was conducted by Mary Ellen Norrissey Hodges in 1978 and the second by Paul Gardner in 1980. This analysis is the result of Hodges’ original 1978 work (see Gardner 1980 and Table 3 for his reanalysis of the same assemblage with similar results).

A total of 2,574 sherds were examined by Hodges, excluding those gathered in the controlled surface collection and those measuring less than two centimeters in size. Ceramic wares were identified on the basis of temper and surface treatment. Crossmending between features was attempted with minimal success. Decorative techniques were also examined. The attributes of temper, surface treatment, vessel shape, and decoration were considered to determine the variability within ceramic wares. Four recognized wares were identified in the collection: Grayson, Dan River, New River, and Radford.

**Grayson Wares**

Grayson Wares (Holland 1970) represented the earliest identifiable ceramic tradition at Buzzard Rock. This coarse crushed-quartz or quartzite tempered ware constituted 3.6% of the analyzed ceramic collection, or 92 sherds. In order of preference, surface treatments were Net and Knot Roughened (46.7%), Cordmarked (34.8%), Plain (13.0%), and unidentifiable (12.4%). Undecorated rims were generally straight. No decoration appeared on body sherds (Figure 13).

Based on his seriation analysis, Holland (1970:49–58) clearly places the Grayson series before the Dan River series in southwest Virginia. Holland and subsequent authors believe that the Dan River phase evolved from the Grayson phase. The only radiocarbon date associated with Grayson Net Impressed pottery, AD 1015 +/- 55 uncorrected, was obtained from charcoal from a circular storage pit at the Clark site in Patrick County, Virginia (Clark 2001). When compared to Holland’s seriation chronology table (Holland 1970:53) for Dan River and Grayson type wares, the few Grayson sherds present at the Buzzard Rock

![Figure 13. Ceramics from Buzzard Rock Site.](image-url)
site indicate that the Grayson occupation occurred before the principal Dan River phase occupation.

**Dan River Ware**

The majority of sherds from the Buzzard Rock site (2,318, or 90%) belong to Dan River Ware, a sand-tempered pottery with distinct rim and vessel shapes (Coe and Lewis 1952). Coe suggests that for the Carolina Piedmont the Dan River pottery represents a transition from the earlier Uwharrie (a tradition employing coarse crushed-quartz temper) to the later Catawba-Lamar styles, employing a finer grit temper. The Grayson and Dan River wares in Virginia are very similar respectively to Coe's Uwharrie and Dan River wares in the Carolina Piedmont.

The most popular type of Dan River pottery at Buzzard Rock was Net Impressed (87.8%). Netting was generally made by a looped stitch; knotted nets were used occasionally.

In order of preference, sherds were also Plain (5.8%), Cord Marked (3.9%), Fabric Impressed (0.9%), Corncob Impressed (0.7%), and unidentifiable (0.9%). The classification "Fabric Impressed" was added to Coe's definition to describe impressions of a tightly woven fabric.

The majority of Dan River vessels at Buzzard Rock were conical based jars with recurved flaring rims. Orifice diameters ranged from 19 to 38 centimeters. The few sherds that could be measured indicate neck diameters ranging from 13 to 29 centimeters and body diameters ranging from 21 to 37 centimeters. Less frequent were smaller, incurving bowls with orifice diameters ranging from seven to 27 centimeters.

Rim profiles, in order of preference, were flaring (60.2%), straight (26.1%), and incurved (13.6%). Lips on all three types were both squared and rounded; tapering was also common on incurved rims. Only four rims, two Net Impressed, one Plain, and one Cord Marked, were folded over the exterior vessel wall. Rim decoration, usually in the form of diagonal slashes along the top face of the lip or below the lip on the exterior of the vessel, was quite common.

The most frequent types of decoration were finger-pinching and fingernail incising in single, and occasionally double, row aligned parallel to the rim and located at the base of the neck. Variations included a double row of staggered incisions and single or double rows of fingernail incisions running diagonally from rim to neck. Occasionally, stick or thong impressions were scattered over a roughened surface. A row of circular impressions decorated one Plain sherd. Only one sherd had any interior decoration.

Other decorative techniques included a series of incised lines parallel to and just below the rim encircling the neck. One Plain sherd had a series of five such lines visible. Another sherd, Net Impressed, had a series of three lines topped by a parallel line or diagonal ovoid impressions. This type of parallel incised line decoration may indicate influence in the Roanoke River area from the Uwharrie culture in the Carolina Piedmont (Coe 1952).

There were indications that strap handles were made, although rarely. One sherd had a layer of clay, the base of a handle, applied to the exterior of the vessel. The exterior surface across the handle is decorated with a cluster of punctations.

Dan River Corncob Impressed pottery was scattered in small amounts throughout the site, yet it was most abundant in Features 4–8 where five sherds were found out of a site total of 16.

The Dan River Plain most clearly manifests later developments. Twenty-nine sherds of this type can be developmentally arranged to show the transition from the Dan River to the beginning of a new ware comparable to Coe's Hillsboro types in North Carolina (Coe 1964:33-34, and 1952).

These later Dan River sherds exhibited a preference for a finer grit temper. Surface treatment progressed from a scraped exterior, to a more smoothed surface, culminating in an even smoother, sometimes burnished surface (see Figure 13). At this last stage distinctive incised decorations appear which, although still quite simple, were more complex than incising found on other sherds. A change in vessel shape could also be discerned in these Plain sherds. The shape of the scraped vessels seemed to be consistent with the standard Dan River flared rim, conical based jar. From the burnished sherds one could envision a vessel similar to the form Coe describes for the Hillsboro Focus (Coe 1952): a jar of complex contour similar to the casuela bowl type, but with flared rim extending from what would be the lip of the bowl. These later variations of Dan River Plain support the idea that the southeastern portion of the site represented the locus of the latest Dan River occupation of the site. Of a total of 20 such sherds, 13 came from Feature 4–8.
The ceramic data, when combined with the radiocarbon dates as reported later in this report, indicate multiple occupations of the Buzzard Rock site during the early, middle, and late portions of the Dan River phase. The early occupation is best associated with the two circular and one long house pattern discovered in the northern portion of the site. This occupation is estimated to date from AD 1100 to AD 1200. Both middle (AD 1200–1300) and late (AD 1300–1450) Dan River phase occupations are noted by the ceramic types and radiocarbon dates from the southeastern portions of the site. Some ceramics popular in the beginning of the Early Saratown phase (AD 1450–1620) are present in this southern cluster of features (Davis and Ward 1991: 48–51). The middle and late Saratown phases (AD 1620–1710) are not represented at Buzzard Rock, but are represented at Saratown phase sites located ten miles to the west in Salem, Virginia.

New River Ware

New River Ware (Evans 1955) was also represented at Buzzard Rock. Eighty-nine (3.5%) shell-tempered sherds were found (see Figure 13). The majority of New River pottery was Cord Marked (70.8%) with lesser amounts of Net Impressed (9.0%) and Plain (7.9%). On 12.4% of the sherds, surface treatment was unidentifiable. A group of well preserved sherds from Features 28 and 29 were marked with crosshatching. Of three rims, all were straight with somewhat rounded lips; two were decorated with diagonal slashing below the lip.

It was difficult to determine the chronological relationship of New River Ware to Dan River Ware at Buzzard Rock. New River sherds were scattered sparsely throughout the site in association with Dan River sherds. Feature 28 was the only feature to yield New River pottery exclusively. Since the feature also contained charcoal, unfired clay lumps, and lumps of orange-red fired clay, the New River pottery found in the pit is inferred to have been made at the site. New River and Dan River pottery types were also found together in Feature 29 (another inferred pottery firing pit) and Feature 30 located in the area of Circular House Pattern 2 (see Figure 10). One post from the house pattern intrudes into Feature 29. But the hearth and post mold patterns of the circular house pattern suggest a rebuilding of the house in almost nearly the same location. While the data suggests that New River pottery was being made at the site, we cannot say that it was being made by the occupants of the Dan River phase houses.

The presence of New River sherds at the Buzzard Rock site might have resulted from the exchanges between the two cultures. Mixed New River and Dan River assemblages have been found on sites to the south along the Mayo and Smith Rivers and to the west along the New River (Holland 1970:63). Some New River series sherds were also found at the Dan River phase (circa AD 1300–1400) Koehler site on the Smith River (Coleman and Gravely 1992). At the Buzzard Rock site, a substantial number of sherds, thirty nine Cord Marked and two Plain types, contained equal amounts of shell and grit temper. This suggests experimentation by Dan River potters with New River ceramic traditions. The same Dan River potters could have made the New River pottery in Features 28 and 29. An alternate hypothesis is that this pottery was made by New River phase potters at the site as visitors, captives, or marriage partners. Least probable, given the regional distribution of New River phase sites and limited evidence of occupation at Buzzard Rock, is the existence of a pure New River component at the site.

Three unclassified shell-tempered sherds differed from New River Ware. These sherds may reflect influences or trade from Fort Ancient or Mississippian cultures as indicated by their elaborate decoration.

Radford Ware

Eighty sherds (0.3%) of Radford Ware (Evans 1955), a limestone-tempered pottery from Southwest Virginia, were also found (see Figure 13). Seven of these were Cord Marked, including one rim which was folded over and decorated with long slashes below the lip. One Plain and one unidentified sherd were included in the series. Three limestone-tempered sherds, one Net Impressed and two Cord Marked, contained significant amounts of grit temper. The ware at Buzzard Rock may represent trade relations to the west.

Miscellaneous Ware

Two miscellaneous ceramic types were included in the collection. One was a light gray ware tempered with mica, giving the sherd an overall glittery appearance.
and containing occasional particles of medium-sized quartzite grit. Minor amounts of very fine shell may have been leached out. The three sherds representing this ware averaged about 12 millimeters in thickness.

The final prehistoric ceramic type at Buzzard Rock was a low fired ware whose interior and exterior surfaces were orange in color with a gray core. The ware was seemingly untempered, although again, very fine shell may have been leached out. Of the eight sherds of this ware, two rims indicated a small bowl-shaped vessel.

**Miscellaneous Ceramic Artifacts**

Four certain, and two possible, pipe bowl fragments and two pipe stem fragments were found at Buzzard Rock. Pipe bowl exteriors were generally very smooth; one was burnished. The interiors of the bowls were occasionally incised just below the rim. One very delicate bowl was notched along the rim with a row of thin dashes. Exteriors of pipe stems were highly smoothed and sometimes a raised edge was formed on the mouthpiece.

Two ceramic spoons were collected, both with fine-grit temper (see Figure 13). The most complete of these had a bowl diameter of about 1.5 centimeters, a bowl height of 1.8 centimeters, and an interior depth of 1.4 centimeters. The bowl had been shaped by finger-pinning, the impressions of which remain.

Daubing material was found in Features 4 and 18. The paste was tan in color although many fragments were blackened (see Figure 13). One face of these daub fragments was often flattened or bore the impression of a cylindrical form; the opposite face was covered with haphazard impressions of a thick fiber or stick. All but one of the daub fragments came from Feature 4 of Inferred Circular House Pattern 5. Use of the wattle and daub technique of house construction for the later Dan River phase occupation is possible.

**LITHICS**

The Buzzard Rock investigations yielded a total of 326 chipped-stone tools, 43 ground-stone tools, 1,728 pieces of debitage, and 390 fire-cracked rocks and unmodified cobbles. The total assemblage spanned a 9,000 year time period, but dated primarily to the Grayson and Dan River phases of the Late Woodland period (AD 900-1450). Each item was examined for indications of use. Specimens exhibiting wear or secondary retouching were examined under a binocular microscope with a maximum magnification of 30X. The standard terminology developed for wear pattern studies by Ahler (1971) and Semenov (1973) was used to describe the types of wear present on the specimens from the Buzzard Rock site. In addition, edge angles, edge shapes, and dimensional extent of use on each functional artifact were recorded. This detailed functional and technical analysis of all lithics resulted in the identification of a variety of tool types. Without this detailed analysis, the quantity of tools identified would have been considerably less. The greater variety and quantity of tools allowed for more insightful analysis of activity areas. A copy of the original detailed analysis is available at the VDHR.

Chipped-stone specimens lacking evidence of wear were assigned to various classes of debitage. All debitage from the controlled surface collection was measured for striking platform dimensions as well as flake length and width. This analysis indicated that the artifacts made from chert and chalcedony originated from nodules less than 30 mm in length. Most of the debitage in excess of 30 mm was struck from quartzite cobbles which would have been easily procured from the Roanoke River. Cobble quartz would have been easily obtained from the Roanoke River or nearby bedrock deposits in the region. The sources of the chert, chalcedony, and tuffs debitage have not been identified.

**Projectile Points**

The analysis of projectile points demonstrated that the majority of the Archaic occupation of the site was located adjacent to the river. The western portion of the site was utilized primarily for extractive purposes during this early period (7000 to 1200 BC). Most numerous of the Archaic period point types were six Morrow Mountain points, suggesting only a limited occupation of this part of the site during the Archaic period. Early and Middle Woodland occupations are represented by only a few isolated finds of point types from these periods (Clark et al. 1978:58–59).

Seven Clarksville Small Triangular, one Pee Dee Pentagonal, and ten Pee Dee Triangular, and 32 Caraway Triangular points solidly place the major occupation of the site in the Late Woodland period (Figure 14). In order of preference, quartz, chalcedony, chert,
Figure 14. Lithics from Buzzard Rock Site. Top row: chunk/core sidescraper, flake sidescraper, graver, drill. Middle row: core endscraper, flake knife, curved flake endscraper. Bottom row: bifacial knife, Kirk Corner Notched, Morrow Mountain II, Pee Dee Triangular, Clarksville Triangular.

and Carolina tuff were used for the triangular points. The high density of quartz and chalcedony debitage occurring around the circular house patterns supports this lithic preference statement for the Dan River phase occupation of the site.

Clarksville points were found across the surface of the site and in Feature 1 located in the late Dan River phase portion of the site. Coe (1964:49,112) associates this point type with the Saratown phase of the Saponi and Occanneechi Indians in North Carolina. Clarksville points occur throughout the Late Woodland period at Clarksville sites in the eastern Piedmont of Virginia (Coleman and Gravely 1992). At Buzzard Rock, Pee Dee and Caraway Triangular type points were found in the features and clustered around the house patterns in clear association with the earlier Dan River phase occupation. Coe (1964:69) assigned the Caraway Triangular type to the historic Sara and Keyauwee Indians of North Carolina while Benthall (1969) associated this type point with the AD 1550 to AD 1600 Shannon site. The solid feature context of both Pee Dee and Caraway points at Buzzard Rock indicate that these point types developed during the Dan River phase and their use continued into the historic period.

Knives

A total of 18 complete and seven fragmentary bifacial knives of various forms and materials were found (see Figure 14). A number of the bifacial knives indicate dual uses as both knives and scrapers. As a general observation, use-wear evidence suggestive of cutting use occurred along edge angles of 65 degrees or less while evidence for scraper was most prevalent along edges of 75 degrees or greater.

Fifty-five flake knives of various materials were recovered. Of these, 29 could be classified as parallel backed (with a flat edge opposite the cutting edge), ten as perpendicularly backed, and 16 as unbacked or made on unmodified flakes. For all flake knife types, the edge angles have different ranges but average 40
degrees, suggesting use primarily for cutting. This inference is supported by the types of use-wear present on the flake knives as well. The distribution of parallel backed knives from the controlled surface collection and the excavated squares cluster in the area of circular house patterns. Perpendicular-backed knives exhibited a similar distribution around the Dan River phase house patterns. Others were recovered from Dan River phase features or midden and are assigned to that phase.

Scrapers

A variety of scrapers were found in the excavations, including endscrapers, sidescrapers, flake scrapers, spokeshaves, and various chunks and cores employed in scraping activities.

Endscrapers (see Figure 14) accounted for a total of 49 or 44.5% of the 109 recovered scraping instruments. The range and mean of the edge angles for the endscrapers varies based on the type of debrisage used to make the tool. The mean edge angle for the use-areas of flakes was 60 degrees in comparison to a mean of 82 degrees for core endscrapers. Edge damage and wear patterns exhibited use on a wide variety of materials, e.g. hides, wood, and bone. By far the greatest concentration of endscrapers was recovered from storage pits and the general areas of the Dan River house patterns.

A total of 51 sidescrapers, or 47.7% of the total scraping tools, was found. Blades of two broken projectile points were reworked and used as sidescrapers. Flake sidescrapers accounted for 35 of the total, and chunks/cores exhibiting wear indicative of expedient scraping accounted for an additional dozen. Edge wear indicative of having worked wood, bone and softer materials was evident. Edge angles have various ranges and a mean of 60 degrees for flakes and 77 degrees for chunks and cores. Again, the majority of the sidescraper sample was found either in Dan River phase features or in the area of Dan River house patterns.

Nine spokeshaves were found in storage pits and shallow-basin features around the aforementioned house patterns.

Gravers

Seven of the 12 gravers found were multifunctional tools in combination with sidescrapers (3), knives (2), a sidescraper/knife, and a spokeshave. The presence of facial rounding and step flaking on most graver points suggest their being used for engraving wood and bone. These tools clustered within the area of the Dan River houses (see Figure 14).

Burins

Five burin edges were noted on two biface tips, two flakes and one chunk. Their distribution in various areas of the site prevents assignment to a particular phase.

Perforators

Five specimens with very delicate points exhibiting little to no wear were distinguishable from gravers on the basis of wear patterns suggesting use for perforation. They were distributed approximately equally across the site.

Drills

Four drills were recovered from within or directly around the Dan River phase houses, and two were found on the surface of the eastern portion of the site (see Figure 14).

Wedges

Eight wedges probably used for splitting bone were recovered within or contiguous to the Dan River phase house patterns.

Choppers

One large biconical core chopper of greenstone was recovered from the Dan River phase midden during grading operations.

Hoes

Six flaked greenstone, slate, and shale hoes exhibiting edge polish and bit striations were found within the Dan River midden and in the vicinity of the house patterns of this phase. Edge rounding and striations on both the blade and the sides of the hoes indicate chopping, digging, and cutting uses.
Hammerstones

Sixteen cobble/pebble or core hammerstones were found scattered on the surface and within, or near, features throughout the site. Six of these were exhausted cores of chalcedony and chert, with the remainder being otherwise unmodified stream materials.

Celts

Two fragmentary, pecked greenstone celts were found on the surface, and one similar fragment was found in control surface square 20.

Adze

One greenstone cobble, found during removal of the topsoil, had a unifacially worked and smoothed bit indicative of an adze.

Grinding Stones/Mullers/Anvilstones

Twenty six stones evidenced use as grinders or anvils. The great majority of these were unmodified stream cobbles of quartzite which had been used as abraders and mullers. Two large quartzite cobbles found in Features 18 and 38 were classified as mortars. Six cobbles were either single or bipitted and two had additionally been used as hammerstones.

Ocher

Four pieces of yellow (limonite) or red (hematite) ocher were found in Feature 26. Three displayed ground and smoothed surfaces, and one had been shaped into a small, bowl-like form.

The above lithic tool types were identified following a detailed functional and technical analysis of all lithics recovered from the site. The remaining 1,728 pieces of debitage and 390 fire cracked rocks did not contain evidence of use-wear or modification for use. The debitage analysis indicates that all stages of lithic manufacture and maintenance occurred at the site. Controlled surface collection and feature data, combined with a detailed lithic analysis, shed new insights into intrasite variation in the manufacture, use and maintenance activities of stone tools during the Dan River phase (see Intrasite Comparison section).

Bone Tools

Wayne Clark examined the entire bone assemblage, isolating 39 specimens which exhibited modification. The specimens were examined under 30X magnification to ascertain the nature and validity of the modification.

Twenty two specimens of modified bone were from deer, 10 of those were either scavenged or waste from tool production. The tools made from deer bone included ulna awls (4), a vertebra awl, metatarsal scrapers (3), a pelvic scraper, an innominate scraper, a tibia beamer, and a distal metatarsal fish hook.

Wild turkey bones were cut to form one scraper and four beads. All of the specimens were tibia tarsals. One bead had a length of 1.07 centimeters. Another bead was grooved in at least two places. The grooved bead was recovered from Feature 5 which also reportedly produced a bone-bead necklace collected by a vandal.

Shell Tools

Although an abundance of fragmented mussel and gastropod shells were recovered from the features dating to the Dan River phase, only one elliptico mussel shell contained evidence of utilization. As facial wear was not visible, use as a scraper or knife was inferred.

Three marginella beads with holes rubbed through their sides to facilitate binding were recovered from Feature 30. Marginella are a salt water species extensively traded during the Late Woodland period from the Chesapeake Bay and Albemarle Sound.

The trade patterns indicated by the transfer of these marine shell beads during the Dan River phase continued during the subsequent Saratown phase. The near absence of the shell beads found in the refuse of the storage pits, which were subjected to floatation sampling, documents their value and rarity. The historical value of shell beads as status goods as well as their primary archaeological association in burial context for Dan River phase sites, correspond with the sparse findings at the Buzzard Rock site.

Molluscan Remains

The profusion of mussel shells (Elliptico complanata) and three varieties of gastropods (Oxtrema symmet-
rica, Mudalia Carinata variabilis, and M. C. procissa) were recovered. Terrestrial gastropods of unknown species were also recovered.

The distribution of molluscan remains corresponded to the peak phosphorus readings in the plowzone and to the location of house patterns. This was not surprising considering the abundance of shell remains recovered from the storage pits and shallow-basin features within and around the house patterns. The distribution of shell remains would seem to be a predictive tool for locating the presence of Dan River phase houses.

**ETHNOBOTANICAL ANALYSIS**

The use of wet screening contributed to the recovery of 733.3 grams of charred floral material. The wet-screened material was floated using a water solution, and the light and heavy fractions were then picked through to remove all plant material. The material was then examined by Wayne Clark.

Floral material was recovered from 13 features and two excavation units. The preliminary assessment revealed corn (both cobs and kernels), bean, unidentified seeds, and possible squash. These remains were represented by only a few specimens from most of the features. Wood charcoal (species unidentified) accounted for the majority of the charred plant remains.

Hickory nut remains had the second highest weight followed by walnut remains. Acorn remains were rare. Nuts were gathered in the late fall and probably stored throughout the winter and spring. The prevalence of nut remains in the storage features at the Buzzard Rock site suggests occupation of these houses during the late fall, winter, and early spring months. Paul Gardner's ethnobotanical analysis of the remains of Feature 67, as reported in the 1984 section of this report, also notes the recovery of quantities of acorn, hickories, walnuts, and butternut.

The Dan River phase subsistence strategies at the Buzzard Rock site correspond closely to those prevalent at other Dan River phase sites as discussed in greater detail in the faunal and fish remains analysis that follows. Analysis of the 400-year span of reoccupation of the same site area by different Dan River phase generations should yield changes in the proportional dependence on domestic crops, mast and gathered wild plant resources, and upland animals as well as riverine fishes and shellfish. Regional comparisons are also beginning to document differential resource utilization reflective of diversity within the Dan River phase across geographic space. These variations in time and space are important to seek and document to expand on the general subsistence model:

The seasonal round emphasized deer hunting and food storage in winter, small game capture in spring, fishing and wild and domestic plant food harvesting throughout the summer and fall, and nut gathering and turkey hunting during the fall and early winter (Waselkov 1977:130).

**INTRASITE VARIABILITY**

**Site Definition**

Although only a 55-by-45 meter area of the site was actually excavated down to subsoil, we were able to define the focus of this part of the site boundaries based on the results of the controlled surface collecting and soil sampling.

The pH and phosphorus subsoil readings peaked in the area of the house patterns and fell off in all directions (Figures 15 and 16). Secondary peaks of pH occurred in the northwest portion of the site which was devoid of features. Use of this area for hide preparation and butchering may account for these secondary peaks of pH.

The total distribution of artifacts, of pottery and of lithic items, peaked directly in the area of the house patterns and fell off sharply to the north and the south. Other artifact distributions exhibited the same pattern.

**House Related Activities**

Plotting of data from the controlled surface collection revealed a direct correlation between a number of categories of data. One of the most interesting correlations was the overlapping of the distribution of artifacts and house patterns. Another set of associations appeared to represent the location of two hide preparation and butchering areas.

The highest alkaline readings in the sample area exhibited a bimodal distribution with separate peaks falling directly over the two different clusters of house patterns. But the high phosphorus readings around the house patterns and within the central area suggest that the central area was the dump for house refuse
Figure 15. Distribution of pH in the subsoil.
Figure 16. Distribution of phosphorus in the subsoil.
CONTROLLED SURFACE COLLECTION
BUZZARD ROCK SITE 44 Rm 2
DISTRIBUTION OF TOTAL
PREHISTORIC CERAMICS
contour interval: 4 sherd

Figure 17. Control surface distribution of total ceramics.
Figure 18. Control surface distribution of chalcedony artifacts.
A similar distribution was noted for mussel and gastropod remains.

The highest frequency of ceramics occurred in the area of Circular House Patterns 1 and 2. A secondary high was noted directly over Circular House Pattern 3 (Figure 17). Ceramic frequencies dropped off sharply in all directions except to the northeast in the area of hide preparation. New River sherds exhibited a bimodal distribution with the largest peak located in Square 4 in the area of Circular House Patterns 1 and 2. This peak correlated closely with the high percentage of New River sherds recovered from Feature 36 in inferred Circular House Pattern 2. The other New River pottery peak and the Grayson pottery peak occurred in the hide preparation area.

An examination of preferred lithic material revealed that quartz and chalcedony peaked over Circular House Pattern 3 (Figure 18). A secondary peak occurred five meters southwest of Circular House Pattern 1. These distributional data showed a clear association of quartz and chalcedony artifacts with the Dan River phase occupations of the site. The feature data and projectile point analysis provided independent support for this association.

Chert showed a bimodal distribution. The peaks fell in Hide Preparation Area 1 and Hide Preparation Area 2 and the area falling between the house clusters. The occurrence of this material with Grayson and New River clusters in Hide Preparation Area 1 suggests that chert may be related to the Grayson phase occupation of the site. Chert may have been preferred by the Dan River phase inhabitants of the site for activities relating to hide preparation.

The plotting of the distribution of primary and secondary flakes showed independent distributions. Primary flakes clustered in the area of Hide Preparation Areas 1 and 2. Secondary flakes clustered in the area of Circular House Pattern 2, Long House Pattern 6, and Hide Preparation Area 2. Cores peaked directly over Circular House Pattern 3.

The data suggest that primary manufacture and secondary retouch of artifacts occurred at the house sites, but that primary flakes were used and discarded mainly in the hide preparation areas. A second interpretation is that primary flakes were manufactured as the need arose in the hide preparation area and the cores were stored and used around the houses. That secondary flaking of projectile points was conducted within the houses is suggested by the recovery of bifacial fragments and a profusion of quartz debitage from Feature 36, associated with inferred Circular House Pattern 2.

Knives clustered within and between the house patterns and peaked in surface collection Squares 5, 12, and 15. Three knives were recovered from within Hide Preparation Area 1. We would have expected a higher density of knives in this area had they served primarily as butchering areas. The distribution of knives across the site suggested that butchering activities were not confined exclusively to one area, and may also reflect the multifunctional nature of this tool type. Gravers, burins, and chisels exhibited a unimodal distribution which peaked at Square 6, located between the two house pattern clusters. This distribution suggests that wood and bone working activities occurred outside, but near the houses.

**Hide Preparation/Butchering Areas**

Plotting of the distribution of functional edges revealed a bimodal distribution with the peaks occurring in surface collecting Squares 14 and 15 and Squares 5 and 19 (see Figure 3). These peak areas dropped off in the area of the house patterns. The area including Square 14 and 15 has been called Hide Preparation Area 1 while the area around Squares 5 and 19 has been called Hide Preparation Area 2. Hide Preparation Area 1 was the inferred location of hide preparation and butchering activities for people living in Circular House Pattern 3 and Long House Pattern 6. Hide Preparation Area 2 is the inferred location of people living in Circular House Patterns 1 and 2.

**Summary**

The analysis focused upon the western section of the Buzzard Rock site which was directly affected by the 13th Street extension, an area which represented only a small portion of the site which once extended several hundred meters to the east. The excavation generated valuable data in discerning the intrasite variability of the Dan River phase occupations of the site. This summary will briefly review the periods of occupation with emphasis placed on the data derived for the Dan River phase.
The sparsity of Early and Middle Archaic remains on the western portion of the site combined with the recovery of these point types from the adjacent site, 44RN8, suggests that people of this period continued to prefer this higher location over the damper, western portion of Buzzard Rock.

By the Late Archaic period the first terrace along the Roanoke River was being more extensively utilized on a permanent basis and diagnostic projectile points were recovered from the eastern portion of the Buzzard Rock site. The sparsity of material from the Early Woodland period suggests that the site was less intensively utilized then.

The Middle Woodland period is represented by three Albemarle-like sherds found on the eastern portion of the site. The latter portion of the Middle Woodland period is represented by the appearance of a small percentage of Grayson pottery.

Over 90% of the ceramics and all but two of the features were produced during the Late Woodland Dan River phase. New River, Radford, and Grayson ceramics comprise less than 10% of the ceramics from the site. The presence of these related ceramic wares at a predominately Dan River phase site is attributed to the participation of the Dan River phase inhabitants in a regional exchange network. Commodities, like marine shell, and technological concepts were exchanged. The evidence at this site of New River series pottery manufacture being associated with Dan River phase house patterns and hide preparation areas also suggests that individual potters from the New River phase either lived among or manufactured their pottery while visiting the Dan River phase occupants.

The excavations on the western portion of the site revealed two distinctly circular and one possible longhouse-type posthole patterns. The distinct feature-house patterns provided the framework for predicting the location of other houses at the site. Five circular houses and one long house were inferred. These houses were not occupied at the same time. A storage pit in Circular House Pattern 3 was radiocarbon dated to AD 1030 +/- 75 and produced ceramics of the early Dan River phase. Circular House Pattern 1 received one radiocarbon date of AD 1110 +/- 75 and, within its confines, yielded ceramics of the Dan River phase.

The later dates for the far southern occupation of the site, excavated in 1984, imply two late Dan River occupations (Table 4). A fire hearth, Feature 68, produced two radiocarbon dates which averaged AD 1410. The four dates from Feature 67, derived from the second bell-bottom storage pit found on the site, yielded an average date of AD 1288. The radiocarbon dates, ceramic analysis, and contextual analysis of features associated with house pattern clusters (Inferred Long House Pattern 7 & 8), suggests a series of occupations of multi-family and multi-dwelling clusters at different times during the Dan River phase (see Table 2).

One cluster of the early Dan River phase is represented by the association of Circular House Patterns 1, 2, and 3, and Long House Pattern 6 in the 1977 controlled surface collection area. This cluster may represent contemporary houses showing evidence of periodic rebuilding. A second cluster of circular and long houses dating to a later Dan River phase (AD 1200–1400) may be located on the southern part of the excavations. Feature data from this cluster indicates circular house patterns based on storage and fire hearth configurations (Circular House Patterns 4 and 5). Inferred Long House Pattern 7, of approximately 40 feet by 12 feet, divided by a central wall, is also inferred (Features 69, 70, 74, and 75). These data imply the possibility of contemporary occupation of different houses, but are insufficient to resolve this question.

The functional and contextual analysis of artifacts revealed that activities limited primarily to the area of the houses included: secondary flaking of projectile points and other tools, work requiring use of awls such as sewing or weaving, use of paint stones for decoration, splitting and scraping of wood and bone tools, scraping of hides with curved flake endscrapers, cooking of a variety of subsistence, and storage of food stuffs.

Each house was apparently associated with a butchering and hide preparation area consisting of a predominance of scrapers, chert and quartz artifacts, primary flakes, and broken or complete projectile points. The butchering and hide preparation areas were located ten meters northwest of the houses.

The possible Long House Pattern 6 was located adjacent to Circular House Pattern 3. Long House Pattern 6 shared many of the attributes first recognized for the circular houses. Both were six meters wide. Both types had an entranceway, 1.4 meters wide, located at the southeast portion of the house. The posts
were placed in prepared holes set an average distance of 40 centimeters apart (Circular House Pattern 1 was constructed by driving the posts directly into the ground).

The Long House Pattern 6 differed in that it lacked storage pits and was made longer simply by taking the basic circle of the circular house and extending the sides for a distance of 14 meters. The ends were still round but the sides were parallel and straight. Two fire hearths were present instead of one, but the fire hearths were three meters from the end and side walls and four meters from the central division and rafter support post. The fires appeared to be less intensely used than those in the circular houses. A windbreak was located between the entranceway and the first fire hearth and probably extended to the eastern wall to close off this living area to both wind and the view from the entranceway. A bench one meter wide extended along the eastern end and probably the western end of the long house.

The presence of two house types at the same site occupied primarily by the same culture raised the problem of purpose. The different sizes may simply reflect the need for larger houses for larger family groups (Hunter-Anderson 1977:312-314). The long house is essentially the same as two circular houses connected by a continuous wall and divided by a central partition.

The circular houses could have served nuclear families during the late fall-winter-early spring season when deer hunting and nut gathering were of primary importance. The dome-shaped structure of these circular huts would have been conducive to the preservation of heat during the cold and bitter winter months in the Roanoke valley (Hunter-Anderson 1977:307). The intensity of the firing in the central hearth areas of the circular houses and the recovery of an abundance of charcoal from the storage pits suggest that the fires were constantly kept burning in these houses. The recovery of deer and turkey bones and of hickory and walnut remains from the storage pits is further evidence of a fall-winter occupation. Corn and beans were also recovered but could have been stored in the storage pits or rafters of the house during these colder seasons. All of these data indicate that the circular houses were occupied during the late fall-winter and early spring, but permanent occupation of the circular houses cannot be positively disputed.

The absence of storage pits, the lesser intensity of the firing in the two hearths, and the inferred greater heat loss due to the shape of the long house suggests a summer occupation. Family groups, separated during the winter months may have joined together during the late spring-summer and early fall at the horticultural base camps. While the crops were growing, the extended family members would have subsisted primarily on fish, shellfish, wild plant, and small mammal resources.

The excavations of the Buzzard Rock site in 1977 raised more questions than the data could answer. Many of the hypotheses concerning intrasite patterns require extensive testing and probable revision. It is to be hoped that future analysis of materials from this and other sites will provide more knowledge of the lifestyles of the Woodland period inhabitants of the present Roanoke area.
**1984 Excavation**

**INTRODUCTION**

This portion of the report addresses the 1984 excavation of the southwestern edge of the Buzzard Rock site which was impacted by grading activities for new warehouses by the Wiley Jackson Construction Company in August 1984. The grading and filling was almost completed before it was recognized, and field investigation revealed only a small strip of original topsoil about 45 feet wide which paralleled 13th Street. In this area 11 features were exposed which occurred primarily in two clusters, suggesting two possible house areas. Excavation of features began on August 22, 1984 and continued until the area was completely consumed by the fill dirt on September 16. All feature remains were removed with four of the features being interpreted as storage/trash pits and four as fire hearths. Two features (postmold patterns) are interpreted as being part of houses. Ethnobotanical remains were analyzed with five food plant seeds recognized: maize, acorn, hickory, walnut, and butternut. The artifact remains were primarily ceramic with few diagnostic tools, little lithic debitage, and even less faunal remains.

**METHOD**

An immediate salvage excavation was engaged upon until the area was completely covered by fill dirt. It is interesting to note that this fill was mostly historic midden (late nineteenth century) taken from a historic section along Shenandoah Avenue in the northwest section of Roanoke City which was being prepared for the new Coca-Cola plant. Simultaneous destruction of both historic and prehistoric sites was accomplished. The salvaging of the remaining features of this section of 44RN2 was done in the “dig like hell” manner dictated, but the methods did improve somewhat with time. Members of the New River Chapter of the ASV joined the members of the Roanoke Chapter during the excavation and aided in the establishment of a baseline. Relationship of the salvage area in 1984 with those in 1977 is shown in Figure 19. Features were numbered in accordance with the sequence established in 1977. It should be pointed out that exposed midden extended back under the highway and eastward toward the railroad tracks, suggesting intact features remain under these modern intrusions.

**FEATURES**

The exposed features from the 1984 excavation were cleaned and photographed with horizontal drawings completed on each one. After cross-sectioning all the features, the vertical profiles were drawn and measurements were taken. Contents of the features were screened through 1/4 inch mesh screen, but only Feature 67 had its contents water screened with the ethnobotanical remains ultimately analyzed by Paul Gardner. The results of this study is presented below, along with other analytical techniques which were performed on feature remains that included carbon dating, archaeomagnetic testing, and tobacco residue analysis. Eleven features occurred in two clusters: most features (66, 69, 70, 71, 74, 75, and 76) in one cluster and three (67, 72, and 73) in the other. This suggests two separate house areas (see Figure 19). Of these features, four were interpreted as being storage pits (66, 67, 75, and 76) and four considered to be used as fire hearths (68, 69, 70, and 71). Two features (73 and 74) were postmold patterns, interpreted as parts of houses. The last feature (72) is thought to be the living floor associated with Feature 73 (Table 4).

**Feature 67**

Feature 67 was the largest pit uncovered and produced more artifacts than all the other features combined. It
Figure 19. General site plan of 1984 excavation.
was interpreted to be a bell-shaped storage pit (Figure 20). The feature had so much charcoal it was first thought to be a burned tree trunk. On the eastern rim of the feature was a red clay cake which measured 10.5 inches in diameter and was two inches thick. The clay was a different color and consistency from the surrounding subsoil clay and may have been used in pottery making even though it had no tempering agent. On the bottom of the pit were six large quartzite river cobbles which appeared to be purposely placed opposite each other to act as piers to possibly support wooden beams creating a false bottom which would have been 6 to 7 inches thick. The pottery assemblage included 424 total sherds. The ethnobotanical remains were analyzed by Garden and are discussed below. Also recovered from the feature were 14 clay droplets which could possibly be wasp daub. One pipe bowl, made from a fine grain sand with mica inclusions, was found in this feature. The tobacco residue in the bowl was analyzed by M. Dale Kerby and is discussed below.

**Feature 68**

Feature 68 was a classic circular fire hearth with the bottom lined with 59 quartzite river cobbles. An almost pure charcoal layer one to two and a half inches thick lay underneath the rock. The heat from the fire had turned the surrounding clay a baked red color. Scott Shumate and Anna Gruber from the Monticello Archeological lab came and retrieved archaeomagnetic samples which were sent to the University of Oklahomna for dating analysis. The results of this test has never been returned if it was completed.

**Feature 69**

Feature 69 was a dark midden stain area that was oval shaped. This feature resembled the fired-clay hearths uncovered during the 1977 excavation, revealing burnt orange red specks in the dark fill. The feature was never completely excavated prior to being covered over by construction activities.

**Feature 70**

Another oval shaped feature, Feature 70, was interpreted as a fired-clay hearth. The feature, again, contained the burned red clay specks intermixed with ceramic artifacts within the fill. No carbon sample was retained.

**Feature 71**

Feature 71, appearing as a dark circular stain, contained periwinkles, mussel shell, and fire-cracked rock. The shallow feature was similar to the rock hearth features classified in the 1977 excavation.

**Feature 72**

This compacted irregularly-shaped feature is interpreted to be a dark midden living floor. This interpretation is enhanced by proximity to Feature 73, a cluster of postmolds just to the southwest.
Feature 73

This feature consists of a group of seven postmolds that was situated just southwest of Feature 72 suggesting that this was a possible house structure or possibly the southern edge of a palisade around the village. No palisade has ever been established for the Buzzard Rock site. However, if this is a palisade along the southern edge of the village, then the 1977 and 1984 excavations and the 1988 exposure of cultural debris by the Bandy Construction Company (who now owns the north end of the site) indicate the site to be at least 300 feet across.

Feature 74

This feature is a set of ten postmolds spaced about a foot apart. These postmolds were three to four inches in diameter. Just ten feet to the west of these postmolds was a large postmold 11 inches in diameter. Eleven feet southeast of this postmold was another large postmold the same diameter both of which could have been center posts for a large structure. The line of smaller postmolds could have been the eastern wall to a longhouse similar to the one exposed in the 1977 excavation. The concentration of features, postmolds, and midden in this area also gives support to this feature being a house, but this will never be documented since construction activity halted excavation before the remainder could be exposed.

Feature 75

This was an oval bowl-shaped feature that was skewed in its depth to the southeast portion of the pit. If Feature 74 was a house structure then Feature 75 could have been a shallow basin storage pit within the house.

Feature 76

An extremely long oval, bowl-shaped feature which produced an abundance of floral and faunal material, pottery, lithic artifacts, and a charred wood sample (Figure 21). There was a definite zone of pottery and charred wood in the core of the pit. The feature is interpreted as a shallow-basin pit used for trash which may have initially been used for storage.

Ethnobotanical Remains

The only feature to contain a significant amount of seed remains was Feature 67, the large storage pit. Paul S. Gardner of University of North Carolina, Chapel Hill, identified five food plant seeds which were maize, acorn, hickory, walnut, and butternut. Also included were two commensal weeds, bedstraw and knorweed. The condensed results of Gardner's (1986) analysis are presented below.

Three samples of plant remains were analyzed. One comprised approximately 15 grams of material hand-picked by Moldenhauer from a larger (approximately one liter) flotation sample. The second comprised approximately 30 grams of material randomly drawn from the flotation sample. The third represented about 40 grams of carbonized plant remains recovered by waterscreening.

Only one cultigen, maize or Indian corn (Zea mays), was recovered from Feature 67. Maize, of course, was the most important crop plant in North America during historical times and is frequently recovered archaeologically. Although it apparently was present in the Eastern Woodlands by AD 500 it does
Figure 21. Dan River rim sherds from Feature 76.

Figure 22. Celts from the surface of the Buzzard Rock Site.
Figure 23. Stone tools from the surface of the Buzzard Rock Site.

not seem to have been particularly common for at least another 500 years.

Acorn (Quercus sp.), hickories (Carya sp.), and walnuts (Juglans nigra) are well represented in the samples. All were important Native American plant foods in the Historic period, and all are frequent finds on prehistoric sites. The recovery of butternut (Juglans cinerea) from Buzzard Rock is somewhat more surprising, as Roanoke County lies on the extreme eastern edge of its natural range, and nowhere is butternut a common tree. It is occasionally recovered archaeologically but rarely in large quantities. Its exploitation was likely to have been incidental to the exploitation of walnuts, hickories, and acorns.

Two seeds were identified from the samples, knotweed (Polygonum sp.) and bedstraw (Galium sp.), and two minute unidentifiable seeds were recovered as well. All are likely to be commensal weeds inhabiting the disturbed environs of the village and not economic plants. Although one species of knotweed—Polygonum erectum—was exploited in quantities in the Midwest it does not seem to have been important in the east. Further, the Buzzard Rock knotweed is not P. erectum, but is a small (1.7 mm x 1.2 mm), trigonous variety that is quite symmetrical. Bedstraw is something of an ethnobotanical enigma. It is not reported as an economic plant of Native Americans, but it is a fairly common find archaeologically, sometimes in large numbers. It is possible that the plant was exploited for bedding or thatch, but one seed is hardly convincing evidence of this. In addition, some bedstraw seeds have bristy fruits which adhere to clothing and hair, hence it may have been accidentally carried to the Buzzard Rock site.

In summation, it can be stated that the Feature 67 plant remains from the Buzzard Rock site are typical of small samples from Late Woodland Period sites in the East. The plants most likely to have been of great-
est importance—maize and the various native nuts—are well represented, but other food plants such as squash, sunflower, sumpweed, maygrass, chenopod and various fleshy fruits that are likely to have been utilized are absent. A larger body of plant remains would almost surely indicate a much wider range of economic plants.

Clay Pipes/Tobacco

The 1984 excavation revealed several pipe fragments indicating an established use of tobacco by the village inhabitants and the cultivation thereof. Feature 67 contained a well preserved pipe bowl with the tobacco contents still intact which were sealed and forwarded to the late M. Dale Kerby, retired chemist and former ASV President, for his examination (Figure 24). His analysis follows:

Figure 24. Sand-tempered pipe stem and bowl from 1984 excavation.

Alkaloid Determination of the Contents of the Clay Pipe:
Total Alkaloid 0.22%
Nicotine 0.20%
Nornicotine 0.02%

Ratio Nornicotine/Total 0.10

The significant value is the ratio of Nornicotine/Total Alkaloid rather than the actual residual alkaloid content. It is assumed that loss of alkaloid from the char in the pipe proceeds at the same rate for both secondary and tertiary alkaloids, therefore the ratio found is the ratio for the original tobacco content.

The Nornicotine/Total Alkaloid ratio of 0.10 is in the range for modern-day Nicotiana tabacum, or domestic tobacco. N. rustica, the native wild North American tobacco, has Nornicotine/Total Alkaloid ratios from 0.50 to 1.00 and higher.

I would interpret these data as suggesting use of the pipe in your site at a time later than the introduction of Caribbean tobacco into the Indian trade routes, or post John Rolfe. If the site context indicates an earlier date, then the analysis is probably in error and can be attributed possibly to the soil pH. Alkaloids are more mobile in alkaline conditions, but will combine and solubilize with acids, and I don't know yet which factor is the more effective.

The chemical test confirms the use of the pipes for smoking of tobacco. The type of tobacco used is inferred to be N. rustica given the AD 1200–1400 radiocarbon date for this portion of the site. The misleading chemical readings are interpreted as stemming from the soil pH affecting the alkaloids upon which a species identification was based.
Radiocarbon Discussion

Ten radiocarbon dates have been submitted from the Buzzard Rock site (Table 5). The radiocarbon dates were calibrated using the University of Washington Quaternary Isotope Lab, Radiocarbon Calibration Program 1999, Revision 4.1.2.

Three were submitted by Wayne Clark in 1978. These dates represent the earliest grouping of dates from the site with a one sigma range of AD 983 to AD 1276. In 1985 Keith Egloff submitted two dates from Feature 68 excavated by Moldenhauer in 1984. These dates were later with a one sigma range of AD 1297 to AD 1449. David Hazzard submitted a date in 1988 from Moldenhauer’s Feature 67 and received a date with a one sigma range of AD 1297 to AD 1406. The ASV submitted a second sample from the same feature and received a questionable date. Following discussion by Moldenhauer with the lab, Beta Analytic decided to run three additional dates on the remaining portion of the sample. The resulting dates are credible with a one sigma range of AD 1215 to AD 1409.

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<th>One Sigma Calibration</th>
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<td>AD 1403-1449</td>
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<td>Beta-12219</td>
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Table 5. Radiocarbon dates from the Buzzard Rock Site.
Faunal Analysis

Fauna

The analysis of recovered animals bone from the Buzzard Rock site followed normal procedures with the identification of each fragment to the most precise taxon possible with the concomitant recordation of the number of elements per taxon and the minimum number of individual animals which could account for that number. The major departure from current zooarchaeological methodology was the failure to calculate biomass based on relative bone weights. Due to the relative small size of the individual bones identified (NISP = 428) and the minimum number of individuals calculated (MNI = 38), biomass estimates would prove tenuous at best.

A minimum of 18 species are represented by specimens recovered during the excavations at the Buzzard Rock site. Of that total, nine (50%) are mammals, four (22.22%) are birds, two (11.11%) are amphibians, and three (16.67%) are reptiles (Table 6).

Mammals made up 40.60% of the identified bones. *Odocoileus virginianus* (white-tailed deer) dominate the class accounting for 29.67% of the overall sample; *Sciurus* sp. (squirrel) and *Sylvilagus floridanus* (Eastern cottontail rabbit) made up 3.50% each with *Procyon lotor* (raccoon) and *Castor canadensis* (beaver) with 1.40% respectively. *Canis familiaris* (dog) and *Marmota monax* (woodchuck) were also represented in small numbers. One element of *Cervus canadensis* was also recovered.

The dominance of *Odocoileus virginianus* within the sample is not surprising given the preeminence of the species at other Roanoke River sites such as the Shannon site (Barber and Baroody 1977), Hall Site (Barber 1989), Thomas-Sawyer site (Barber and Barber 2004), Graham-White site (Moore and Lapham 1997), the Booth Farm site (Waselkov 1977), the Hales Ford site (Waselkov 1977), the Onion Field site (Williams and Barber 1986), and the Hurt Power Plant site (Barber et al. 1994). While the percentages vary greatly from site to site as well as time period, the white-tailed deer was the most important animal hunted in the region. As is often noted, the deer provided, in addition to protein in the form of meat, hides for clothing, brains for tanning, sinew for hafting, bones for tools, hoofs for glue, and marrow for grease. It is obvious that the deer was fundamental to a plethora of aboriginal needs and was the most frequent species sought. In this case, 127 or 29.19% of the 435 bones/bone fragments identified were those of white-tailed deer. Three mandibles were recovered which could be aged after Severinghaus (1949) with two right mandibles and one left mandible aged to 2.5 years. As one right and the left mandible might be from the same individual, the number of possible individuals could be two. While most of the population of deer harvested at Buzzard Rock were mature individuals, younger animals were present as evidenced by the unfused epiphyses of distal humeri, distal radii, proximal femora, distal tibiae, and proximal phalanges. The only diseased deer bone recovered was a thoracic vertebra which contained osteoporotic bone growth.

Postmortem alterations include carnivore scavenging, rodent scavenging, butchering marks, tool production, and burning. Carnivore scavenging was noted on a number of deer long bone shaft epiphyses and other elements where softer bone and gristle was chewed on by meat-eaters, probably dogs. These included proximal ulnae, a proximal metatarsal, a distal humerus, and a cervical vertebra. Rodent gnawing for calcium intake was at a minimum. Butcher marks were present on a number of deer bones articulations in the form of narrow cut marks including distal humeri, proximal ulnae, distal tibiae, proximal femora, and mandibular condyles. All long bones had been shattered for marrow extraction and/or bone grease production. As only two deer bones were burned, a
first phalange and a vertebral fragment, the direct exposure of bone to fire is likely commensal.

Bone tools include two ulnar awls, one ulnar awl fragment, and one antler awl. Awls have traditionally been interpreted as being used for the perforation of softer materials, likely hides. One refuse filled feature, Feature 8, contained a distal metacarpal and shaft where the surface of the shaft showed polish wear through use. Four phalanges were recovered from the same feature which articulate with the metapodial. This may be indicative of the use of the lower leg, with hoof, as a handle or tool.

Remaining mammals were hunted from surrounding forest (grey squirrel), forest edge (squirrel, raccoon, woodchuck, and cotton-tailed rabbit), and river/stream (beaver). The domesticated dog likely contributed to this activity as opposed to being part of it and the two dog bones recovered showing no evidence of butchering or skinning.

Four species of birds were harvested including *Meleagris gallopavo* (wild turkey), *Ectopistes migratorius* (passenger pigeon), *Colinus virginianus* (bobwhite quail), and *Bonasa umbellus* (ruffed grouse). Although the turkey is usually the most important bird recovered on Late Woodland sites in the mountain context of Virginia (Barfield and Barber 1992), the smaller species of passenger pigeon and quail are of higher frequency at 44RN2.

Amphibians did not play a key role in subsistence and only three bones from an unidentified frog and 21 from an unspecified toad were identified. Reptiles were present in higher numbers and included two species of turtle and one single vertebra from a non-poisonous snake. As expected, *Terrapene carolina* (eastern

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<td><strong>Total</strong></td>
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<td>99.97</td>
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NISP = number of identified specimens; MNI = minimum number of individuals

*Table 6. The Buzzard Rock Site overall faunal list.*
box turtle) was present with 32 identified elements and an MNI of four. Of interest, was the relatively high frequency of *Sternotherus odoratus* (stinkpot) with 124 elements and a minimum of five individuals. A musk turtle of wide distribution, the stinkpot prefers clear, still water whether river, pond, or lake (Conant 1975:40–41). Its presence at Buzzard Rock suggests a clean slow moving portion of the Roanoke nearby. The fish remains are reported on by Whyte (this volume).

The subsistence economy as practiced at the Buzzard Rock site utilized numerous ecological niches in and around the Roanoke River. Probably the most productive was the deciduous forest edge which supported white-tailed deer, rabbit, quail, and, to a lesser degree raccoon, woodchuck, turkey, and grouse. Obvious riverine species include the fish (this report), aquatic turtle, and beaver. Elk, although not represented in large numbers, is indicative of an open terrain environment. With the absence of black bear, the deep forest included primarily the grey squirrel although this species is often quite successful in an edge environment.

The basic model of faunal exploitation for the mountains can be seen in the analysis of the Shannon site material (Barber and Baroody 1977) recovered from a Late Woodland palisaded village in Montgomery County, Virginia. This vertebrate faunal collection was dominated by white-tailed deer with a substantial amount of meat supplied by wapiti or elk and black bear. Mountain lion, turkey, beaver, and box turtle are also important. The general pattern then differs from that of the Piedmont through the addition of large mammals, black bear and elk, while continuing to focus on deer, turkey, and box turtle. As one moves farther west into the mountains (and beyond Virginia), the pattern is generally mirrored by the vertebrate fauna recovered from the Buffalo site (Guilday 1971), the Snidow site (Barber 1990), and the Pancake Island site (Barber 1988) in this late prehistoric context.

In the Late Woodland of Virginia, white-tailed deer was by far the dominant game animal. A second taxon highly sought after was the lowly box turtle. In a Roanoke Island watercolor (Hariot 1588), John White wrote above a box turtle “A land Tort wch the sauages esteem above all other Torts.” Although his reference was to the Native American groups along coastal North Carolina, his statement rings true across the entire state of Virginia. The remainder of the subsistence pattern varies in emphasis on a regional basis. On the coastal plain, cultures focused on deer, fish, box turtle, and raccoon. In the Piedmont, deer, turkey, box turtle, raccoon, and beaver were taken. In the mountains west of the Blue Ridge, deer, elk, black bear, turkey, and box turtle were harvested. This is not to say that other taxa such as squirrels, rabbits, turtles, passenger pigeon, ducks, geese, various fish, etc. were ignored, only that they provided dietary variety as opposed to substantial subsistence input.

The models developed for the Commonwealth of Virginia are of value when considered at a general, regional level of abstraction, the implicit corollary indicating that all sites dating to the Late Woodland time period will exhibit these isolated attributes. Such an approach contains two major flaws. First, an obvious leveling of site data is necessary. Much as Feinman and Neitzel (1987) found in their discussion concerning social system organization above bands and below that of the state, the search for common attributes results in a neglect of cultural variation. With regard to faunal analyses, such a theoretical leveling of historic subsistence utilization patterns in Virginia has been recognized as overly simplified (Barber 1996).

The second major flaw rests with the synchronic nature of the model with no recognition of cultural change through time. As cultures and their effects on the environment are dynamic in nature, it is unlikely that the ca. 750 years time span of the Late Woodland period would be devoid of culture change. This shortcoming is of particular consequence as the vast majority of the vertebrate faunal data utilized in model building dates to the late Late Woodland and, hence, does not address the earlier time frame. In order to better understand the regional implications of the Buzzard Rock fauna, it will be compared with two other analyzed sites in proximity: the Hall site (44MY33) in Montgomery County which dates before it and the Sawyer site (44RN39) in Roanoke County which dates after it. The Sawyer and Hall sites are located along the Roanoke River in similar settings with the major difference being the time of occupation with the Hall site inhabited at ca. AD 1270 and the Sawyer site at ca. AD 1615 and, hence, a 345
year window through which to view culture change within the faunal utilization system with the Buzzard Rock site roughly in the middle chronology.

**Sawyer Site Comparison**

The Sawyer site is actually a series of Late Woodland occupations along a terrace system of the Roanoke River in Salem, Virginia. The component which will be discussed here was an isolated cultural area consisting of ten pit features and a series of post molds. Excavation was implemented in the winter of 1987 when the area was stripped of top soil by the developer and the features exposed. Time was granted for limited study and the Roanoke Chapter of the ASV along with the author (through a VDHR threatened sites grant) salvaged as much of the site as possible before freezing temperatures and site back filling occurred. Ceramics were primarily of the Dan fiver sand tempered series and the pit debris included a small assemblage of European trade goods made up of a few pieces of copper, one glass seed bead, an iron pin, and six small pieces of iron wire. Two radiocarbon samples were run and dates of AD 1600 ± 90 and AD 1630 ± 90 obtained.

The non-human skeletal assemblage from the protohistoric features at Sawyer mirror the faunal utilization system developed for the mountains (Table 7) (Barber and Barber 2004). At least 15 species were identified. Although only 235 of the 1,370 bones or bone fragments could be identified to a more refined level than class, the identified sample contained the expected species. White-tailed deer, black bear, and elk would have provided the majority of calculated meat with turkey and box turtle also of major importance. Sunfish or bass elements were well represented although size suggests little impact on subsistence. Likewise, toad bones were relatively abundant but likely incidental as opposed to a food source.

**Hall Site Comparison**

The Hall site (44MY33) lies 20 miles upriver from the Sawyer site at the confluence of the South Fork of the Roanoke River and Elliot Creek on low terrace and flood plain. Buchanan (1980:72) noted that the site was subject to erosional damage and, in the major 1985 flood, the site was severely impacted. The exposure of much cultural material and soil discolorations was noted by the New River and Roanoke Chapters of the ASV, and they carried out salvage excavations through the fall and winter of 1985/86. Radiocarbon dates were run on charcoal from site features which clustered at ca. AD 1270. Ceramics from the site were comprised of roughly 64% Dan River sand tempered and 20% Radford limestone tempered (Boyd 1989; Rotenizer 1991).

Among the cultural debris recovered were 6,639 bones or bone fragments of which 812 from an undisturbed context could be identified to a lower taxon than class (Table 8) (Barber 1989). A minimum of 33 species were present. Dominating the assemblage were white-tailed deer, turkey, and box turtle. Conspicuous in their absence were *Ursus americanus* (black bear) and *Cervus canadensis* (wapiti or elk) (although one elk canine tooth bead was recovered in a disturbed context) the prime species expected in a mountain oriented Late Woodland assemblage. It would appear that the Hall site vertebrate fauna does not neatly fit predictions.

What explanations can be offered for this aberration? One hypothesis could relate to ethnicity. The ceramics recovered (Boyd 1989; Rotenizer 1991) included a large minor assemblage of the Radford limestone tempered series, a type more common to the west. In addition, among the utilized bone were several perforated *Sciurus* (grey and fox squirrel) mandibles, fashioned into beads. The only other site in Virginia known to contain such beads is the Bonham site (44SM7) to the far southwest in Smyth County. However, even with perceived influences from non-Dan River cultures, the faunal utilization pattern at sites to the west (e.g., the Snidow site [Barber 1990]) adhere to the predicted subsistence model. It would seem that influences from further west should maintain, not alter, the model.

A more plausible explanation can be found in certain aspects of the faunal assemblage. The first aspect relates to the age of recovered white-tailed deer mandibles where four of six were aged to one to two years. Such a young age could be indicative of an expanding population due to the creation of increased deciduous forest edge. A second aspect of interest is the large size of the *Meleagris gallopavo* (turkey) elements recovered. Identified long bones were one-quarter larger than those from other Late Woodland sites. This, in
<table>
<thead>
<tr>
<th>Taxon</th>
<th>NISP</th>
<th></th>
<th>MNI</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td><strong>Mammalia</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
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<td><em>Ursus americanus</em> (black bear)</td>
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<td>1.70</td>
<td>1</td>
<td>3.57</td>
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<td>1</td>
<td>3.57</td>
</tr>
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<td>10.71</td>
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<td>1.28</td>
<td>1</td>
<td>3.57</td>
</tr>
<tr>
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<td>0.43</td>
<td>1</td>
<td>3.57</td>
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</tr>
<tr>
<td><em>Meleagris gallopavo</em> (turkey)</td>
<td>7</td>
<td>2.98</td>
<td>2</td>
<td>7.14</td>
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<td><strong>Amphibia</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td><em>Terrapene carolina</em> (E. box turtle)</td>
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<td>31.91</td>
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<td>0.43</td>
<td>1</td>
<td>3.57</td>
</tr>
<tr>
<td><strong>Pisces</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambloplites caynifrons</em> (Roanoke bass)</td>
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<td>1</td>
<td>3.57</td>
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<td>1</td>
<td>3.57</td>
</tr>
<tr>
<td>Catostomidae (sucker)</td>
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<td>0.43</td>
<td>1</td>
<td>3.57</td>
</tr>
<tr>
<td>Centrarchidae (bass / sunfish)</td>
<td>17</td>
<td>7.23</td>
<td>1</td>
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<tr>
<td><strong>Total</strong></td>
<td>235</td>
<td>100.02</td>
<td>28</td>
<td>99.98</td>
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</table>

NISP = number of identified specimens; MNI = minimum number of individuals

*Table 7. The Sawyer Site overall faunal list.*
<table>
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<tr>
<th>Taxon</th>
<th>NISP</th>
<th>MNI</th>
</tr>
</thead>
<tbody>
<tr>
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<td>n</td>
<td>%</td>
</tr>
<tr>
<td><strong>Mammalia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Canis familiaris</em> (dog)</td>
<td>3</td>
<td>0.37</td>
</tr>
<tr>
<td><em>Procyon lotor</em> (raccoon)</td>
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<td>0.37</td>
</tr>
<tr>
<td><em>Sciurus carolinensis</em> (grey squirrel)</td>
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<td>1.36</td>
</tr>
<tr>
<td><em>Sciurus niger</em> (fox squirrel)</td>
<td>6</td>
<td>0.74</td>
</tr>
<tr>
<td><em>Sciurus</em> sp. (squirrel)</td>
<td>18</td>
<td>2.22</td>
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<tr>
<td><em>Neotoma floridana</em> (woodrat)</td>
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<td>0.12</td>
</tr>
<tr>
<td><em>Peromyscus</em> sp. (mouse)</td>
<td>38</td>
<td>4.69</td>
</tr>
<tr>
<td><em>Marmota monax</em> (woodchuck)</td>
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<td>0.12</td>
</tr>
<tr>
<td><em>Sylvilagus floridanus</em> (E. cottontail rabbit)</td>
<td>5</td>
<td>0.62</td>
</tr>
<tr>
<td><em>Odocoileus virginianus</em> (white-tailed deer)</td>
<td>288</td>
<td>35.51</td>
</tr>
<tr>
<td><strong>Aves</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Meleagris gallopavo</em> (turkey)</td>
<td>127</td>
<td>15.66</td>
</tr>
<tr>
<td><em>Ectopistes migratorius</em> (passenger pigeon)</td>
<td>23</td>
<td>2.84</td>
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<tr>
<td><em>Bonasa umbellus</em> (bobwhite quail)</td>
<td>9</td>
<td>1.11</td>
</tr>
<tr>
<td><strong>Amphibia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Rana catesbiana</em> (bullfrog)</td>
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<td>0.25</td>
</tr>
<tr>
<td><em>Rana</em> sp. (frog)</td>
<td>8</td>
<td>0.99</td>
</tr>
<tr>
<td><em>Bufo</em> sp. (toad)</td>
<td>2</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>Reptilia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Terrapene carolina</em> (E. box turtle)</td>
<td>227</td>
<td>27.99</td>
</tr>
<tr>
<td><em>Chelydra serpentina</em> (snapping turtle)</td>
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<td>0.37</td>
</tr>
<tr>
<td><em>Sternotherus odoratus</em> (stinkpot)</td>
<td>1</td>
<td>0.12</td>
</tr>
<tr>
<td><em>Colubridae</em> (non-poisonous snake)</td>
<td>1</td>
<td>0.12</td>
</tr>
<tr>
<td><strong>Pisces</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Anguilla rostrata</em> (American eel)</td>
<td>4</td>
<td>0.49</td>
</tr>
<tr>
<td><em>Notomis micropogon</em> (river chub)</td>
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<td>0.12</td>
</tr>
<tr>
<td><em>Noturus cf. insignis</em> (margined madtom)</td>
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<td>0.25</td>
</tr>
<tr>
<td><em>Pylodictus cf. oliviorus</em> (flathead catfish)</td>
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<td>0.12</td>
</tr>
<tr>
<td><em>Ambloplitus cavinbrons</em> (Roanoke bass)</td>
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<td>0.49</td>
</tr>
<tr>
<td><em>Catostomus commersonii</em> (white sucker)</td>
<td>8</td>
<td>0.99</td>
</tr>
<tr>
<td><em>Catostomidae</em> (sucker)</td>
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<td>0.49</td>
</tr>
<tr>
<td><em>Moxostoma</em> sp. (redhorse)</td>
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<td>0.25</td>
</tr>
<tr>
<td><em>Moxostoma cf. macrolepidotum</em> (shorthead redhorse)</td>
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<td>0.25</td>
</tr>
<tr>
<td><em>Moxostoma cf. rhodoecum</em> (torrent sucker)</td>
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<td>0.12</td>
</tr>
<tr>
<td><em>Amieturus</em> (Ictalurus) sp. (channel catfish)</td>
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<td>0.37</td>
</tr>
<tr>
<td><em>Centrarchidae</em> (bass / sunfish)</td>
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<td>0.25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>811</td>
<td>100.01</td>
</tr>
</tbody>
</table>

NISP = number of identified specimens; MNI = minimum number of individuals

*Table 8. The Hall Site overall faunal list.*
turn, might suggest availability and selective hunting of larger birds in an unexploited turkey population. And third, the recovery of a large number and variety of personal ornamental items include beads from turkey radii and ulnae, turkey wing digits, rabbit innomina- nates, squirrel mandibles, and box turtle femora and humeri. All examples were recovered as incidental inclusions in refuse filled pits as opposed to grave good inclusions. This personal adornment industry suggest a fair amount of leisure time, time not necessary for subsistence activities. This is in direct contrast with the Sawyer site where modified bones were primarily tools, the vast majority of which were involved in weaving.

Taken together, these aspects could suggest the colonization of a new geographic area by a Late Woodland group. As such, the incursion into an unexploited (at least by humans) environment would have been free of the pressures of human utilization systems and accompanying degradation. Abundant subsistence resources would have lessened pressure to attempt the harvesting of relatively small numbered, difficult to assassinate, and dangerous populations of elk and black bear.

**BUZZARD ROCK SITE COMPARISON**

The occupation of the Buzzard Rock site falls chronological between the Hall site and the Sawyer site. The fauna harvested seems to form an adequate fit with that predicted by Barber with white-tailed deer, turkey, and box turtle dominating but with elk also present. The major exception is that of the black bear which has not been identified for the Buzzard Rock site. While this may be the result of sampling error, the canines and incisors of bear are usually highly regarded and heavily curated by the Late Woodland peoples of western Virginia. Another aberration, although minor compared to the bear was the frequent harvest of the stinkpot turtle, apparently in higher numbers than the eastern box turtle. The remaining faunal utilization pattern more closely mirrors that of the early seventeenth-century Sawyer site. As the Sawyer site is seen as well within the continuum of an evolved subsistence/utilization pattern of the Late Woodland prior to European related cultural disintegration, the basic way with which the Native Americans viewed and harvested the local fauna was in place by the Buzzard Rock occupation.

**CONCLUSION**

A total of 428 bones and fragments were identified from the Buzzard Rock site. A minimum of 18 species (excluding fish) were present. All were of a local nature found at the deciduous forest edge, deep forest, open field, or riverine environments. The faunal material recovered from the Buzzard Rock site along the Roanoke River attests to the development of the Late Woodland mountain paradigm of prehistoric subsistence by the thirteenth century. Focusing on *Odocoileus virginianus* (white-tailed deer), *Meleagris gallopavo* (turkey), and *Terrapene carolina* (box turtle), the pattern includes the secondary harvesting of *Cervus canadensis* (wapiti) but lacks *Ursus americanus* (black bear), a expected species. While demonstrating site specific variability, the overall pattern falls within that as expected in southwestern Virginia.
Fish Bone Analysis

Introduction

The animal remains recovered from ten distinct features on the Buzzard Rock site include 2,750 ichthyofaunal specimens. These were first identified with reference to the comparative collections of the Appalachian State University Department of Anthropology. These collections are nearly comprehensive for the contemporary ichthyofauna of the Roanoke River. No specimens were evidently unidentifiable due to comparative collection deficiencies. Specimens were identified as to skeletal element, side, element portion, and to the smallest possible taxonomic division. In addition, observations of evidence of burning or other artificial modifications were recorded.

In most instances, no attempt was made to identify the species represented by postcranial bones (vertebrae, spines, pterygiophores, etc.). Certain fishes, however, such as the gars (Lepisosteidae) and eels (Anguillidae) were identified by their distinctive vertebrae, while catfishes (Ictaluridae) were frequently identified on the basis of their distinctive dorsal and pectoral fin spines, and scales of suckers (Catostomidae) were distinctive because of their morphology (cycloid) and size. These discrepancies in the identification process are considered in discussions of relative taxonomic abundance.

Analysis

The 2,750 specimens include only 395 (14%) identified to the species, genus, or family of fishes represented (Table 9). The remainder were identified only as representing the bony fishes (class Osteichthyes). Although fragmentation due to food processing, post-depositional processes, and recovery and handling account for a portion of the non-identified remains, the expedition of the identification process mentioned above is largely responsible. It was observed, however, that both cranial and postcranial elements were present in expected proportions, suggesting that the resulting NISP (number of identified specimens) figures for each taxon are fairly representative. A minimum of 13 species and six families including gars (Lepisosteidae), eels (Anguillidae), minnows (Cyprinidae), suckers (Catostomidae), catfishes (Ictaluridae), and sunfishes (Centrarchidae) are represented in the assemblage (Table 9).

Family Lepisosteidae (Gars)

One vertebra and one scale of the longnose gar (Lepisosteus osseus) were recovered, the vertebra from Feature 2 and the scale from Feature 18. Considering that a single individual gar yields about 60 vertebrae and over a thousand scales, it at first seems a surprise that only one of each was recovered. On the other hand, because gars probably did not occur above the fall zone of the Atlantic Slope in prehistoric times, it is remarkable that any gar remains were found on the site. The two small bones recovered may have arrived at the site not in the form of food captured in the adjacent stretch of the Roanoke River, but perhaps as part of a gar’s skin or as parts of tools, weapons, or ornaments.

Family Anguillidae (Eels)

The American eel (Anguilla rostrata) is represented by 12 specimens recovered from three different features. In pre-impoundment times, the American eel was abundant in the Roanoke Headwaters (Jenkins and Burkhead 1994). The individuals represented were of varying sizes and are assumed to have served as food.

Family Cyprinidae (Minnows)

At least two species of minnows are represented among the 41 Cyprinid specimens identified (see Table 9). These include the bull chub (Nocomis raneyi) and the...
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>NISP</th>
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<tbody>
<tr>
<td>Lepisosteus osseus</td>
<td>longnose gar</td>
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<tr>
<td>Anguilla rostrata</td>
<td>American eel</td>
<td>12</td>
</tr>
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<td>Nocomis raneyi</td>
<td>bull chub</td>
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<td>Nocomis sp.</td>
<td>chub</td>
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<td>Semotilus astromaculatus</td>
<td>creek chub</td>
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</tr>
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<td>Cyprinidae</td>
<td>minnow</td>
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<td>Hypentelium sp.</td>
<td>hog nose sucker</td>
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<td>Ambloplites cavifrons</td>
<td>Roanoke bass</td>
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<td>Lepomis auritus</td>
<td>redbreast sunfish</td>
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<td>Lepomis sp.</td>
<td>sunfish</td>
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<td>Micropterus salmoides</td>
<td>largemouth bass</td>
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</tr>
<tr>
<td>Centrarchidae</td>
<td>bass/sunfish</td>
<td>24</td>
</tr>
<tr>
<td>Osteichthyes</td>
<td>bony fish</td>
<td>2356</td>
</tr>
<tr>
<td><strong>Total NISP:</strong></td>
<td></td>
<td><strong>2750</strong></td>
</tr>
</tbody>
</table>

NISP = number of identified specimens

Table 9. Taxa represented among the ichthyofaunal remains from the Buzzard Rock Site, Roanoke, Virginia.

creek chub (*Semotilus corporalis*). The five bull chub specimens were recovered from three features (Table 10). *Semotilus* was represented by three specimens in Features 2 and 26. Minnows remain abundant in the upper reaches of the Roanoke and include approximately 20 native species. The two species represented tend to be larger and may have been more eagerly sought as food. Smaller individuals, however, may be poorly represented because of archaeological recovery bias. Several tiny pharyngeal arches identified only as representing the family Cyprinidae, in fact, were recovered, indicating the collection of very small individuals.

Family *Catostomidae* (Suckers)

Suckers are represented by 90 of the identified specimens and a minimum of three species (see Table 9). They were recovered from eight different features on the site (see Table 10). As 71% of the sucker remains identified are the distinctive large cycloid scales, their representation in the assemblage is inflated relative to other families of fishes (scales were only routinely used in the identification of Catostomidae and Lepisosteidae). The species represented include the white sucker (*Catostomus commersoni*), hog nose sucker (*Hypentelium nigricans* or roanokense), and golden redhorse (*Moxostoma erythrurum*). At least 10 species of catostomids occupy the upper Roanoke River.

**Family Ictaluridae** (Catfishes)

Catfish remains, numbering 143, were assignable to three species: the yellow bullhead (*Ameiurus natalis*), the brown bullhead (*A. nebulosus*), and the margined madtom (*Noturus insignis*). Represented by an NISP
of 49, the margined madtom probably accounts for the most individual fish in the assemblage (see Table 9). As only one other species of madtom (N. gilberti) is native to the upper Roanoke, and it is osteologically distinct from N. insignis, it is probable that all specimens identified as Noturus sp. are actually representative of N. insignis. Remains of madtoms were recovered from most of the features containing any faunal remains (see Table 10).

The yellow bullhead (A. nebulosus) was identified on the basis of an articulated right dentary and articular bone from Feature 2. These specimens were also compared to A. nebulosus and A. catus, which are native to the Roanoke. The identification of A. natalis in the assemblage supports the conclusion by Jenkins and Burkhead (1994:546) that:

localization of A. natalis in the upper Roanoke indicates that it was introduced, but we are reluctant to accept this because the verified Dan system (Banister River) record may indicate normal (but limited) extension upriver from lowland centers of abundance.

**Family Centrarchidae (Sunfishes)**

Three species were identified among the 106 centrarchid specimens (see Table 9). These include the Roanoke bass (Ambloplites cavifrons), redbreast sunfish (Lepomis auritus), and largemouth bass (Micropterus salmoides). The Roanoke bass was once widespread in the Roanoke system but, perhaps because of competition with its introduced congener, A. rupestris, populations are now localized and apparently extirpated from within the city of Roanoke and
upstream (Jenkins and Burkhead 1994). It is well represented in prehistoric archaeofaunal assemblages from other sites along the upper Roanoke and Dan rivers (Whyte 1994).

The redbreast sunfish is the most abundant *Lepomis* in upland streams. The pumpkinseed sunfish (*L. gibbosus*) is also native to the upper Roanoke but is far less common (Jenkins and Burkhead 1994).

The four largemouth bass (*M. salmoides*) bones identified include a basioccipital and right ceratohyal from medium to large individuals and two right premaxillaries from juvenile individuals (Figure 25). These were recovered from Features 18, 19, and 26 (see Table 10). These identifications came as a surprise as they represent the first remains of *M. salmoides* identified from prehistoric sites along the upper Roanoke. Moreover, Whyte (1994:79) in examining samples of archaeological fish remains from Buzzard Rock and three other sites on the upper Roanoke and Dan rivers, suggested that the largemouth bass is “probably not native to the Roanoke, Chowan, or drainages north of North Carolina.” The three specimens recovered from prehistoric archaeological features on the Buzzard Rock site, now clearly establish the native status of *M. salmoides* for the Roanoke drainage.

**Discussion**

The fish remains recovered from the Buzzard Rock site excavations provide potentially important insights into late prehistoric Dan River phase human diet, seasonality, food procurement, and culinary and refuse-disposal practices. Furthermore, when considered with ichthyofaunal data from other sites on the upper Roanoke and James rivers (Whyte 1988, 1990, 1994), they offer a unique opportunity to reevaluate regional zoogeography.

**Fish in the Diet**

It is not certain that all of the species represented in the assemblage were considered as food to the human occupants of Buzzard Rock, but it is likely, considering the fact that some species are represented by remains in several distinct features (see Table 10) and the bones occasionally exhibit evidence of burning (Table 11). A possible exception is the longnose gar (*Lepisosteus osseus*) represented by only one scale and one vertebra. Gar scales, being extremely durable and conveniently pointed, were used as implements by native peoples of the Southeast (Swanton 1946). Furthermore, the lack of other gar skeletal remains, excepting one vertebra, if the fishes were taken on the upper Roanoke for food, is at least suspicious.

The inclusion of nearly every major family and of very small individuals of native fishes in the assemblage indicates that any fish caught in the adjacent river and streams was eligible for consumption. The failure of other families to turn up in the assemblage
may be due to small sizes of individuals (Cottidae and Percidae) or decomposition of less dense bones (Clupeidae and Salmonidae).

Seasonality as Indicated by Fish Remains

The fishes represented by archaeofaunal remains from Buzzard Rock may have been obtained at any time of the year, but more conveniently and in greater numbers during the warmer months and especially in spring, when most spawning takes place. Female American eels begin their spawning migration downstream in the fall, at which time they may be readily captured in traps and nets. However, some individuals remain in their upland freshwater habitats until they are as much as 20 years of age (Pflieger 1975). Considering that the fish remains recovered from the Buzzard Rock site were components of secondary refuse in subterranean pits, they likely represent several seasons of capture and consumption. Had remains of herrings such as the American shad (Alosa americana) been identified in this assemblage as they have in other prehistoric assemblages in western Virginia (Egloff et al. 1994; Whyte 1989), an early spring seasonality of capture, when anadromous spawning occurs, would be indicated.

Methods of Taking Fish

None of the recovered fish remains exhibits evidence of trauma related to capture techniques. However, it is possible, referring to the behaviors and preferred habitats of the species represented, to infer general methods of capture. For example small, primarily nocturnal fishes such as madtoms (genus Noturus) are not amenable to capture by angling in the daytime but may be taken in abundance by baited traps or netting in the night. In the daytime they are easily captured by poisoning or by overturning rocks and corralling the fish into nets.

Any of the larger carnivorous fishes (eels, catfishes, sunfishes) could have been gotten by angling, netting, trapping, or poisoning. The recovery of one fish hook fashioned from the distal metatarsus of a deer indicates the occasional practice of angling for larger fishes. While no evidence of a fish weir was discovered near the site, one’s employment by the site’s occupants is a strong possibility and would have provided food throughout the warmer months with little human investment.

Fish Preparation, Consumption, and Refuse Disposal

Although fish may have been prepared for consumption in any variety of manners, it is difficult to reconstruct these means strictly from the analysis of the resulting osseus remains. It may be expected, however, that processes such as filleting and decapitating may result in the differential representation and spatial distribution of skeletal parts. Filets of large fish, for example, may have been returned to the site for cooking and consumption while the skeletons may have been returned to the water from which they came. Heads of larger fish may have been separated and prepared in a different manner than the bodies. In some cases, smaller fishes were consumed or boiled whole without any prior preparation.
Both cranial and postcranial remains of fishes are abundant in the Buzzard Rock assemblage, but no attempt was made in the consistent identification of postcranial remains of most families. The abundance of vertebrae, ribs, fin spines, and scales in all contexts yielding sufficient remains, however, indicates a relative parity in the deposition of these and the cranial elements consistently identified. This is the case for the smaller minnows and madtoms as well as the larger suckers and sunfishes. It is suggested, then, that fishes were generally prepared and cooked in a way (roasting/boiling whole) that allowed all or nearly all of their remains to be deposited, and sometimes redeposited, together. No articulated portions of fish skeletons were observed during excavation or analysis.

Experimental and ethnoarchaeological studies of the effects of various cooking methods on bones (Black 1989; Coy 1975; Oliver 1993; Richter 1986; Whyte 1990) reveal that boiling or roasting rarely leave observable evidence on bones contained within the meat. The surfaces of bones exposed to the flames or coals in the process of roasting meats may, however, experience some degree of charring or scorching (Coy 1975; Whyte 1990). Whyte (1989; 1990) observed that the roasting of fish on coals will often result in the charring of unprotected opercular bones and the distal ends of fin spines and rays.

Evidence of burning among the fish remains of the Buzzard Rock site (see Table 11) is slight compared to that for other assemblages from the region (cf. Egloff et al. 1994; Whyte 1989). In order to determine if this burning may have resulted from the roasting of fish, the distribution of evidence of burning among fragments of pectoral fin spines of madtoms (genus *Noturus*) was examined. The relative frequency of evidence of burning (mostly calcination) on the projecting distal ends of the bone is nearly twice that for the protected proximal ends, suggesting that some of these small fishes were roasted in some manner. A similar but more extreme pattern of burning was noted by Whyte (1989) at the Bessemer site (44BO26) on the upper James River in Botetourt County, Virginia. The presence of unburned distal ends in the Buzzard Rock assemblage, however, suggests that either some individual fish were not roasted or that roasting sometimes did not result in the burning of pectoral spines. Moreover, the existence of calcined proximal fragments in the assemblage indicates that some of the burning resulted from the purposeful or accidental burning of garbage.

The boiling of whole fishes was a common practice among eastern North American natives (Swanton 1946) and would have imparted no observable change to the bones. Fish remains resulting from boiling and consumption of the broth may have been dumped as dregs in refuse-disposal areas such as tofts (Hayden and Cannon 1983) and open pits (Whyte 1984). Many of the fishes represented in the Buzzard Rock assemblage were undoubtedly boiled.

**Regional Comparisons**

Several late prehistoric and protohistoric sites explored along the upper Roanoke and its tributaries provide a comparative framework for the ichthyofaunal remains from Buzzard Rock. Two sites are of particular interest because of their proximity. These include the Graham-White site (44RN21) in Salem, about 13 km west of Buzzard Rock (Brown and Atkins 1998), and the Hall site (44MY33), about 60 km further up river in Montgomery County (Whyte 1994). Also of interest is the Leggett site (44HA23), a Dan River phase village on the Dan River, a tributary of the Roanoke River (Egloff et al. 1994; Whyte 1994).

The Graham-White site included both fifteenth- and seventeenth-century village components yielding fish remains (Brown and Atkins 1998). Unfortunately, the accuracy of the species identifications for this site must be questioned, as Brown and Atkins (1998: Tables 3 and 4) report remains of at least two species (*Pomoxis annularis* and *Lepomis macrochirus*) which were introduced to the Roanoke drainage in the twentieth century (Jenkins and Burkhead 1994). Moreover, they refer to the American eel (*Anguilla rostrata*) as an “anadromous fish” (Brown and Atkins 1998:3) and, in their discussion of the minnows of the upper Roanoke, make several erroneous citations: river chub (*Nocomis micropogon*), bigmouth chub (*N. platyrhynchos*), bigeye chub (*Hybopsis ambloplites*), spotfin shiner (*Cyprinella spiloptera*), striped shiner (*Notropis chrysocephalus*), and silver shiner *N. photogenis*. None of these species is native to the Roanoke drainage (Jenkins and Burkhead 1994).

Perhaps the most notable aspect of the Graham-White site ichthyofaunal assemblage is the relative abundance of remains of the Roanoke bass (*Ambloplites caviafrons*). Assuming the identifications for this
species are accurate, the Roanoke bass tops the list for both site components in numbers of identified specimens (Brown and Atkins 1998: Tables 3 and 4). Although possibly outnumbered by the margined madtom (*Noturus insignis*) at Buzzard Rock, this species, as previously mentioned, probably provided more food to the site's residents than any other fish.

The Hall site (44MY33) ichthyofaunal assemblage includes remains of many of the same species represented at Buzzard Rock (Whyte 1994) but includes relatively more remains of eels (*Anguilla rostrata*) and suckers (family Catostomidae), perhaps because the site is located further upstream in the Ridge and Valley province.

**Contributions to Zoogeography**

Most of the fish species represented by the remains recovered from Buzzard Rock are presently abundant in the adjacent Roanoke River and its tributaries. One notable exception is the Roanoke Bass, *Ambloplites cavirostris*, which was once widespread in the Roanoke, but has been extirpated from the upper Roanoke and its tributaries since about 1963 (Jenkins and Cashner 1983). Specimens approaching 2 kg and 360 mm in total length have been reported (Jenkins and Cashner 1983). Considering its size and that it ranks second in abundance (according to the NISP) among the fish represented at Buzzard Rock (see Table 1), the Roanoke bass apparently provided more food than any other species of fish. Furthermore, it is apparent that the species was indeed abundant in the main channel of the Roanoke river in late prehistoric times.

A second point of interest to the study of zoogeography concerns the identification of remains of the largemouth bass, *Micropterus salmoides*, among the ichthyofaunal remains from the site. Fish remains examined from the site in 1989 included no specimens identified as *M. salmoides* (Whyte 1994). But specimens from new contexts submitted for analysis in 1998 include four bones clearly representing the species. Although it may not have been abundant in the Blue Ridge or Ridge and Valley sections of the Roanoke, *M. salmoides* was evidently present in prehistory, thus confirming the species as native to the Roanoke system.

The identification of two bones of the yellow bullhead, *Ameiurus natalis*, settles the question as to its former status in the Upper Roanoke. It was recently thought that the species was introduced to the upper Roanoke because collection sites yielding specimens were extremely localized and isolated from Piedmont populations (Jenkins and Burkhead 1994).

A final record from the site which merits discussion regards one scale and one vertebra of the longnose gar, *Lepisosteus osseus*. It is questionable that a live gar was taken from the Roanoke river above the Piedmont Plateau. Its Atlantic Slope distribution, in fact, is almost restricted to the Coastal Plain (Jenkins and Burkhead 1994). In this case, the possibility of a gar or parts of a gar being transported to the site from downriver or from the headwaters of the Tennessee drainage must be considered.
Conclusion

The Buzzard Rock site excavations of 1977 and 1984, when combined with subsequent research, provide great insights into the evolution of Siouan society in the Ridge and Valley province of Virginia. While the site produced evidence of Archaic and earlier Woodland occupations, it is the Grayson and Dan River phase occupations of the site which have proved to be most informative. Through detailed artifact, spatial, feature, and radiocarbon analyses, the different areas of occupation during the Early, Middle, and Late Dan River phases have been inferred.

Beginning with the Grayson phase (AD 600 to AD 1100) and continuing to the end of the Dan River phase (AD 1100 to AD 1450), the site was the location of a series of semi-sedentary, horticultural hamlets consisting of one or more households dispersed along the Roanoke River floodplain. These settlements depended upon a diversified farming, hunting, gathering, and fishing economy involving the intensive utilization of a wide variety of resources. While only a small percentage of the total site has been excavated, available feature data lack evidence of village nucleation or fortification. The site also fails to reveal Saratoga phase or Contact period occupations. Historic period sites, possibly occupied by the Totera Indians, have been found upriver in nearby Salem, Virginia. The value of the Buzzard Rock site is as a type site for semi-sedentary hamlets of the Dan River phase.

The Buzzard Rock site appears to have been occupied at different times during the Dan River phase. The differences in radiocarbon dates, ceramic styles of Dan River pottery, and changes in storage pit technology over time have demonstrated that the different clusters of features date to different periods of occupation. These data suggest that the 1977 controlled surface collection and intensive excavation area dates to the Early Dan River phase (AD 1100 to AD 1200). The area of the emergency 1977 pit salvage (Features 4–8) dates to the Middle and Late Dan River phase (AD 1200 to AD 1450). And the area of the 1984 feature excavations dates to the Late Dan River phase (AD 1300 to AD 1450). The combined data suggest that these bottomlands were alternately occupied, abandoned, and reoccupied by a series of dispersed Dan River households over a four hundred year period.

Within the three areas addressed in this report, the best data come from the 1977 controlled surface collection and intensive excavation area. Feature analysis of this area is suggestive of two contemporary families living in separate circular houses during the late fall to early summer period. They may have shared a long house during the summer months. Evidence of rebuilding both circular houses, but not the long house, was uncovered. Based on these data, the site was probably occupied year round, with periodic trips away from the site. Data from the Leggett site on the Dan River, support the conclusion that hunting for deer and other woodland mammals occurred throughout the year (Egloff et al. 1994:102–112). But intensive hunting and gathering, involving extended trips from the hamlet, certainly were necessary during the winter-early spring period of greatest food scarcity (Waselkov 1977:130).

It is unlikely that all families members went on these hunting and gathering trips. Some members may have stayed behind, occupying the circular houses whose patterns were found for all three periods of Dan River occupation. During these periods of decreased village population, surplus food was concealed in these circular houses by burial in underground storage pits. Domestic and mast forest plant foods were stored in two circular storage pits located on the inside doorway of the circular house patterns. By consistently finding storage pits in the same location for Circular House Patterns 1 and 3, leads us to believe that the other paired association of pits and fire hearths represent
the location of other circular Dan River phase houses (see Table 2). A total of five circular house patterns and three possible long house patterns are suggested by the feature data.

The storage of a supply of domestic (corn, bean, squash) and wild (acorn, hickory, walnut, butternut) plant foods is concluded from the recovery of these remains from the Buzzard Rock storage pits. They would be filled in late fall following the gathering of such products from forest and fields. While the house was occupied, the bulk of the foodstuffs were probably stored in the rafters. The openly stored food would be taken on hunting and gathering trips and consumed by those who stayed behind in the hamlet. This pattern of seasonal storage pit use is consistent with other sites in the southeastern Piedmont region (Dickens 1985:40-43).

The absence of storage pits associated with the long house patterns at the Buzzard Rock site mirrors findings from other Dan River phase sites. At the Bessemer site, the Dan River phase long house did not have any storage pits inside the house pattern although storage pits were found elsewhere on the site (Geier and Moldenhauer 1977; Whyte and Thompson 1989). The Bessemer site has 14 radiocarbon dates. The calibrated intercepts range from AD 1278-1483 with one at AD 1653. Two circular house patterns with storage pits and two long house patterns were found at the Leatherwood Creek site (Gallivan 1997). A floor feature of one of the long houses was radiocarbon dated to approximately AD 1235-1280, while a feature pit inside a circular house was dated to approximately AD 1405-1450. Two of the circular houses and one of the long houses had been burned and the circular houses were rebuilt. This would suggest an attack or accidental burning during the winter period of occupation of the site. The long house pattern data for the Dan River phase suggests that composite family groups occupied the horticultural hamlets during the period of domestic crop production and protection. The storage pits were depleted during this time as the inhabitants fished, hunted, and gathered to support themselves until the field and forest crops once again began to yield maximum returns. Once the fall harvest had been safely secured, stored, or concealed, part of the population, whether family units or warrior-hunting parties, could more effectively leave the village to pursue other activities.

The use of both circular houses and long houses continued at the Buzzard Rock site throughout the Dan River phase. But this pattern began to shift around AD 1300 at other Dan River phase sites in the region. The Dan River phase Koehler site (44HR6) and Belmont site (44HR3), and Saratown phase Lower Saratown site (31RK1) indicate a different picture (Coleman and Gravely 1992; Davis and Ward 1991:40,51). All these sites consisted of circular, palisaded villages occupying one to two acres. Each contained circular houses with hearths, storage pits, and burials surrounding an open, central plaza. Long house are absent. What caused this shift in settlement patterns?

Historical documentation of sustained tribal warfare among the Indians of the Chesapeake Bay drainage (Rountree 1989:221) indicate warfare as a good reason to abandon, in some cases, the hamlet type occupations. With the advent of intensive agricultural production and food surplus, protection of crops in the field or stored in the houses required increased village population aggregation over time. The burning and rebuilding of the Leatherwood Creek site Dan River phase hamlet could be one example of what might befall smaller, hamlet type settlements.

In the Algonquian Indian chiefdoms of the Coastal Plain, the long house type structure appears to have been used in both hamlets and nucleated villages. But in the Siouan tribal areas, circular house patterns were selected for year around use inside the clustered communities. Along with this house pattern they also retained the storage pit technology, even though the palisaded village, if solidly defended, would have precluded the need to conceal their surplus. These data suggest that a segment of the population of the later Dan River and Saratown phase sites continued to disperse for part of the year for specific purposes. The data also reveal that, once consolidated in larger fortified villages, the Siouan Indians of this period still did not feel secure against attacks by the Iroquois and other surrounding groups. They relied on traditional concealment technologies to give them an advantage against their enemies.

The Buzzard Rock site predates this period of village nucleation and increased warfare. Over the three hundred years the site was periodically settled, interaction with other Dan River phase populations would have regularly occurred. Dan River phase ceramics
represent 90% of the pottery at Buzzard Rock. But it is very difficult to identify variations between Dan River ceramics from different villages due to the near absence of design motifs around the rims of the vessels. While Dan River types change over time, variation of pottery types throughout the region at a given time are less clear. It is premature to attempt to reconstruct possible relationships between the Buzzard Rock and other contemporary Dan River phase sites in the area.

An examination of the minority ceramic types from the site can provide some insight into possible external relationships of the site's inhabitants. Looking at the Dan River phase occupations revealed in the 1977 excavations, this area yielded 3% Radford and 3% New River series ceramics. The Radford ceramics were not associated with any manufacturing evidence nor were mixed attributes of Dan River and Radford series ceramics found at the site. These findings are interpreted as representing trade and exchange relationships.

A more significant association with New River phase potters is suggested by several lines of evidence. The New River ceramics were manufactured at the site, as demonstrated by their association with two pottery firing pits with shell tempered manufacture waste found in the pits. Also, a mixed temper of Dan River and New River series ceramics were also a minority ware found in this area. These data indicate the probable presence of New River potters at the site either as guests, captives, or through marriage. No evidence has been found from the site which suggests possible interaction with Iroquois cultures to the north, south, or east. Nor have ceramic of the Algonquians been found. Marine shell beads recovered from the site suggest indirect, down-the-line exchange through various Piedmont groups to the Algonquians located in the Coastal Plain province.

The Buzzard Rock subsistence information is consistent with other, more detailed studies which document a diverse dependence on both domestic and natural food sources. The corn, bean, and squash horticultural-based use of the Roanoke River bottomlands continued throughout the Dan River phase. During the Dan River occupation, acorns, walnut, hickory, and butternut formed an important part of the plant diet utilized by the site occupants. Remains of both domestic crops and forest nut crops were recovered from the abandoned storage pits. In addition, a wide variety of fish species were obtained from the Roanoke River by fish hook or net methods. This intensive harvesting of fish would have been most important as a food staple during the late spring to early summer period, before the domestic crops began to produce.

Hunting, trapping, or gathering of a wide variety of animal species reflect the practices observed at other Dan River phase sites (Waselkov 1977). While deer, turkey, and turtle were the predominantly exploited species, it appears that animal harvesting was opportunistic, systematic and occurred on a year-round basis. Also, a wide variety of fish were taken opportunistic with nets, traps, and angling all year long, but probably more conveniently in the spring when spawning takes place.

In summary, the small excavation area of the larger Buzzard Rock site has revealed evidence for the periodic occupation and abandonment of the site from AD 1040 to AD 1430 of the Dan River phase. During this period two house types were used: the long house pattern for inferred summer occupation and the circular house pattern for winter occupation. A contingent of the hamlet population would periodically disperse, most probably in late fall and winter, for hunting and resource procurement activities. Surplus plant foods present during these periods of downsized populations were concealed in storage pits located inside the circular houses. Within the village, artifact use-wear and distribution patterns suggest that hide preparation and other meat processing activities occurred in areas away from the houses. The controlled surface collections and soil samples revealed other activity patterns around and within the houses. Flintknapping, woodworking, refuse disposal, and other activities showed variations between, within, and away from the house patterns. These variations should be correlated with future sampling of similar Dan River phase sites. Interactions with surrounding Dan River, Radford, and New River cultures are evidenced by the various pottery types and shell marine beads recovered from the site. The combined data from the Buzzard Rock excavations has resulted in interesting new interpretations of the early settlement and subsistence patterns of the Dan River phase.
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