

ARCHEOLOGICAL INVESTIGATION OF THE

GILBERT TRAILHEAD

BUFFALO NATIONAL RIVER, ARKANSAS

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MANAGEMENT SUMMARY

Archeological investigations were conducted over a five day period on August 28, 1987; February 1 and 3, 1988; and from February 22 to 23, 1988, for the proposed Gilbert Trailhead at Buffalo National River. These investigations were required by Federal legislation that mandates the protection and preservation of cultural resources, including the Act of 1972 establishing Buffalo National River; the National Environmental Policy Act of 1969; Section 106 of the National Historic Preservation Act of 1966 as amended; Executive Order 11593; the National Park Service Act of 1916; and the Antiquities Act of 1906. The fieldwork undertaken here complies with cultural resource legislation by: 1) locating cultural resources endangered by proposed construction; 2) assessing the degree of impact; 3) determining the significance of affected cultural resources relative to criteria of the National Register of Historic Places, if significant, and 4) offering recommendations to mitigate adverse impacts.

On-site investigations included intensive surface survey and test excavation. Sixteen shovel tests and five one-meter-square control columns were excavated to demarcate site boundaries and to verify site contents. This investigation produced 1,524 artifacts from 19 proveniences.

The proposed Gilbert Trailhead occurs within the boundaries of 3SE66, an early-to-late Archaic site dominated by broken preforms and production debitage. Over five square meters of site area were exposed during this investigation and cultural features were not detected. Although prehistoric artifacts are common at 3SE66, they are intermixed with late historic objects in a disturbed 11 cm deep AP horizon. Site 3SE66 displays no integrity and, therefore, fails to meet the criteria for nomination to the National Register of Historic Places.

Significant cultural resources will not be adversely affected by proposed trailhead construction. Since archeological testing has adequately sampled site deposits, this investigation should constitute adequate mitigation of project impacts. Archeological clearance for construction of the proposed Gilbert Trailhead is recommended.

ACKNOWLEDGEMENT

Several people assisted in this undertaking. The writer is indebted to Myra Dec, Buffalo National River Interpreter; Jim Rancier, National Park Service Archeologist from the Southwest Regional Office; and Joe Lytle, Student Volunteer from Arkansas Tech University, for participating in the field investigation. Jim Bradford, National Park Service Archeologist from the Southwest Regional Office, coordinated the project. Rose Ortiz, from the Southwest Regional Office, typed the report.

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INTRODUCTION

The following discussion describes an archeological investigation for a proposed trailhead site near the town of Gilbert at Buffalo National River, Arkansas. Construction of the "Gilbert Trailhead" is recommended in the Buffalo National River Trail Plan (NPS 1987:10) to provide access to the "Buffalo River Trail" (NPS 1987:16). The Buffalo River Trail is a river-long corridor that, for a portion of its course, follows a former railroad embankment south of the village of Gilbert. The trailhead will be a 100 x 100-foot prepared gravel surface which will accommodate five cars.

Fieldwork was conducted over a five day period on August 28, 1987; February 1 and 3, 1988; and from February 22 to 23, 1988. The purpose of this investigation was to identify cultural resources affected by proposed construction, assess the significance of remains encountered and, if significant, to offer recommendations to mitigate adverse impacts. Fieldwork combined surface survey, shovel testing, and controlled excavation within the proposed development area. Although scant historic evidence is present, lithic remains are common, indicating that the proposed trailhead occurs within the boundaries of a previously recorded prehistoric site (3SE66). Data recovered during this investigation makes an accurate assessment and interpretation of the site possible.

ENVIRONMENTAL BACKGROUND

Location

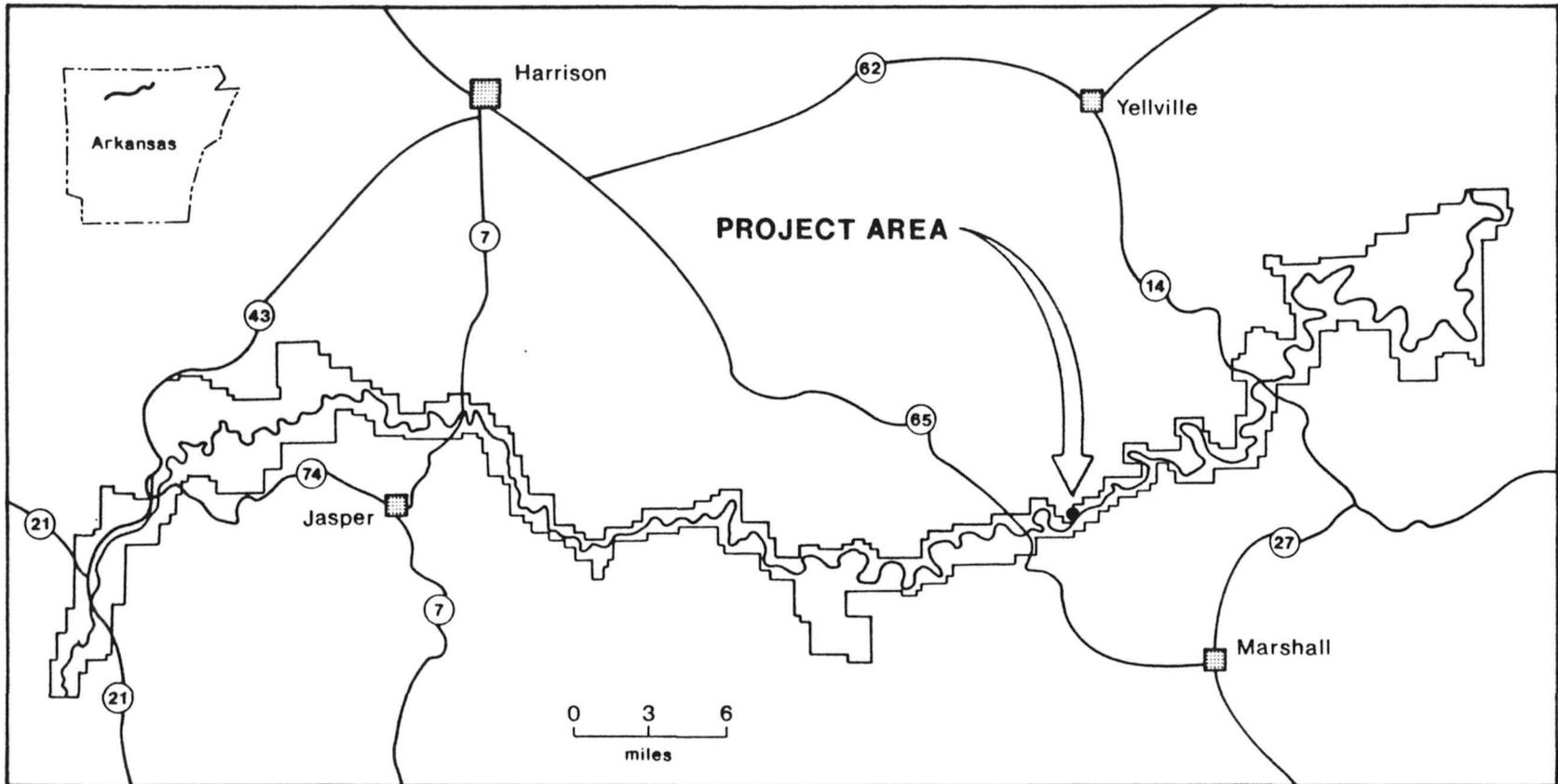
The project area is Buffalo National River, a 132 mile long, 94,000 acre park in Newton, Searcy, and Marion counties of northern Arkansas (NPS 1985:6). The proposed Gilbert Trailhead is on the middle section of Buffalo River in Searcy County, south of the Village of Gilbert (Figures 1 and 2).

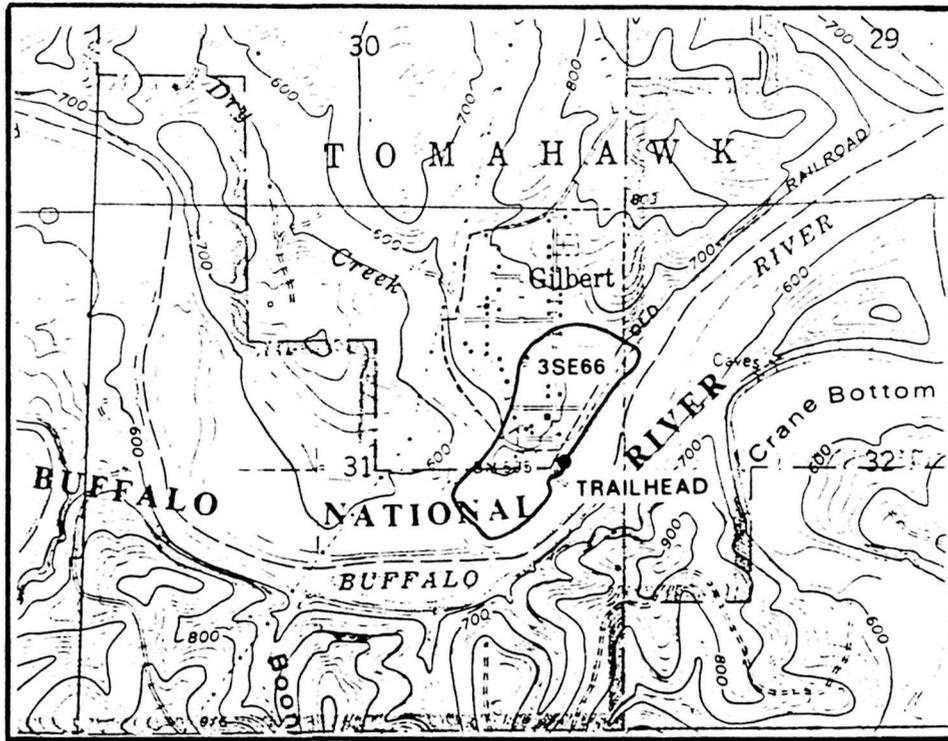
Hydrology

Buffalo River originates in the Ozark Mountains at an elevation of 2,400 feet ASL and follows a 148 mile long winding course eastward to join the White River at an elevation less than 400 feet ASL (NPS 1977:9). Predictably, the river has a relatively steep gradient, falling an average of 6.5 feet per mile (NPS 1986:12; 1985:38). The Buffalo River watershed covers approximately 1,400 miles and contains over 64 tributaries (NPS 1986:12; 1985:38).

Physiography

Buffalo River courses through the Ozark Mountains. The Ozarks are composed of three plateaus, each uplifted as a separate unit. The highest and most dissected plateau is represented by the Boston Mountains with the Springfield and Salem Plateaus following in decreasing elevation along a south/north





gradient. The Boston and Springfield Plateaus are separated by a steep escarpment known as the Boston Mountain Front. Buffalo National River occurs entirely in the intermediate Springfield Plateau that is characterized by rolling hills and occasional prominent ridges, outliers of the Boston Mountains. Buffalo River itself is deeply entrenched in the Springfield Plateau and creates a pattern of alternating ridges and valleys.

The upper Buffalo River, near the Boston Mountain Front, is characterized by relief as great as 900 feet while along the lower river maximum relief approaches 700 feet (Foti 1974:12).

Geology/Pedology

Lithology of the Buffalo River is composed of alternating bands of limestone, dolomite, sandstone, and shale. The Everton and Saint Peter formations are found on the valley floor, the lower Mississippian-age Boone formation in the mid-range elevations, and undifferentiated upper Mississippian rocks, Cane Hill, Boyd Shale, and Atoka formations on mountain summits (NPS 1985:17). In restricted locations, the Pitkin formation caps Atoka sandstone (Easton 1942). The predominant surface formation of the area is the lower Mississippian Boone formation composed of limestone and chert. Weathering of softer limestone matrix has littered valley slopes with more resistant cherts of the Boone formation.

Soils of the Springfield Plateau are predominantly limestone derived and developed chiefly under deciduous forest (Foti 1974:22). In mountainous areas soils tend to vary greatly within short distances and vertical zonation is common. Generally, higher elevation soils tend to be acidic, thin cherty loams and clays while medium textured sandy and silty loams predominate in valley bottoms (NPS 1985:19).

The proposed Gilbert Trailhead site occurs on healing silt loam soil, a deep, well drained soil on low stream terraces with slopes not exceeding three percent. A typical healing silt loam solum exhibits a six inch thick, dark brown silty loam A1 horizon over an eight inch thick A2 horizon of the same description. Subsoils include a 28 inch thick dark yellowish brown, silty clay loam B1 horizon over a 30 inch thick dark brown silty clay loam B2 horizon. Occasionally, small areas of sandy overwash occur in healing silt loam soils (USDA:109-111).

Climate

According to the Koppen-Geiger system of climate classification, northwest Arkansas is characterized by a mild humid or mesothermal climate (Cfa). The mesothermal climate has at least one month with an average temperature under 64.4 degrees Fahrenheit. Precipitation is sufficient during all months with no clearly defined dry season (Strahler and Strahler 1978:144). At least four distinct seasons, however, are evident in northwest Arkansas: a hot summer, mild winter, and a definite spring and fall.

At Buffalo National River, the average annual temperature is 58 degrees Fahrenheit. January is the coldest month of the year with an average temperature of 40 degrees Fahrenheit. July, the warmest month, has an average temperature of 80 degrees Fahrenheit. Temperature extremes of 114 to -23 degrees Fahrenheit, however, have been recorded. The average annual precipitation is 49 inches. Average snow fall is 12 inches per year and occurs from November through March (NPS 1983:12).

Vegetation

Buffalo River is included in the oak-hickory region of the eastern deciduous forest (Braun 1950). Although six oak and three hickory tree species predominate, more than 40 tree species occur in the Buffalo River Valley (NPS 1975:46, 1977:16, 1983:14). The rugged topography of Buffalo National River provides numerous microenvironments that account for a remarkable plant diversity. Over 1,500 plant species, including many relict forms, are known to exist along the river (NPS 1983:14, 1975:46). The majority of upland sites in Buffalo National River are forested, while relatively level upland benches and productive valley bottoms have been cleared for pasture or cultivation.

Forest composition varies with specific site conditions. At least five different forest associations or communities have been documented along Buffalo River. The typical climax community of the area is a red oak-white oak-hickory association with shortleaf pine and post oak present on the driest sites. Shortleaf pine constitutes 10 to 40 percent of total species composition. A mixed hardwood community is found on intermediate slopes above the river and includes silver maple, American elm, green ash, sweetgum, white ash, bitternut hickory, hackberry, black gum, black walnut, shumard oak, and white oak. Floodplains contain American elm, green ash, silver maple, and boxelder. Sycamore, cottonwood, black willow, and black river birch occupy streamside settings. Smaller, areally restricted forest types include the beech-sugar maple-cove forest, a relict community occupying the best soils in cool, moist, north-facing ravines in the uplands. White oak, northern red oak, and umbrella magnolia are subdominants. Cedar glades are found on xeric upland sites such as limestone or dolomite bluffs and contain red and white cedar and prairie grasses (Foti 1974:24; NPS 1986:13).

CULTURAL BACKGROUND

Prehistory of the Buffalo National River has been summarized by Wolfman (1979). More extensive overviews of regional prehistory may be found in Raab et al. (1982) and Sabo et al. (1982). A general history of the river is available in Pitcaithley (1978, 1987); while specific treatments of the Tyler Bend and Rush areas of the river are dealt with by Rogers (1986, 1987). For a detailed understanding, the reader is referred to these sources. For the purposes of this study, the cultural chronology has, with minor changes, been extracted from Sabo et al. (1982:49) and presented in Table 1.

TABLE 1

Cultural Chronology of the Ozarks		
Cultural Period	Phase	Date Range
Paleo Indian	Paleo Indian	12000-10500 B.P.
Transitional	Dalton	10500-9500 B.P.
Archaic	Early Archaic	9500-8000 B.P.
	Middle Archaic	8000-5000 B.P.
	Late Archaic	5000-2500 B.P.
Woodland	Early Woodland	2500-1800 B.P.
	Middle Woodland	1800-1350 B.P.
	Late Woodland	1350-1100 B.P.
Mississippi	Caddo	1100-450 B.P.
	Neosho	450-300 B.P.
Proto-Historic	Proto-Historic	300-223 B.P.
Historic	Osage	1763-1804 A.D.
	Cherokee	1794-1828 A.D.
	French	1673-1762 A.D.
	Spanish	1763-1802 A.D.
	American	1803+ A.D.

A discussion of Gilbert area history may be found in Let the River Be (Pitcaithley 1987:61, 83-84). According to Pitcaithley, the village of Gilbert was founded in 1902 as a construction camp for the Missouri and North Arkansas Railroad. The tiny settlement became a major departure point for investors and prospectors traveling downstream to the Rush mining district and became a shipping point for Buffalo River zinc and lumber. In 1920, the village of Gilbert experienced an influx of newcomers when Illinois minister John A. Battenfield relocated his millennialist congregation at the settlement. Population swelled and the former construction camp now exuded an air of permanence. By 1925, however, Battenfield's bold communal experiment ended in failure and his millennialist flock dissolved. Other problems afflicted the village. The financially unstable Missouri and North Arkansas Railroad was finally abandoned in 1946. Today, the village of Gilbert is a sleepy hamlet of about 35 houses, a general store/post office, and a church.

The proposed Gilbert Trailhead is situated in close proximity to notable cultural and natural landscape features (Figure 2). To the north, the Gilbert general store/post office, marking the southernmost boundary of the village is 152 meters distant. The embankment of the former Missouri and North Arkansas Railroad that the Buffalo River trail follows passes only 30 meters north. Buffalo River courses 122 meters south of the proposed trailhead and harbors over 135,635 square meters of exposed river gravels, a potentially important local source of lithic materials throughout prehistory.

PREVIOUS INVESTIGATIONS

Perhaps the first recorded description of prehistoric remains along Buffalo River was made by geologist David Dale Owen who observed artifacts in Cave Creek cave (Owen 1858:85). Scientific investigation along Buffalo River began in the early years of the twentieth century and has been summarized by Wolfman (1979). In 1972, Buffalo River was incorporated as a unit of the National Park system. An archeological assessment of the park conducted in the same year by the Arkansas Archeological Survey documented 254 prehistoric sites along the river (Wolfman 1979). Over the past 16 years, the National Park Service has conducted or contracted over 23 archeological investigations in conjunction with planned park development (Appendix 1).

The Gilbert Site (3SE66) was originally recorded by John Newton, an amateur archeologist from Harrison, Arkansas. In August 1967, Newton observed "numerous pieces of worked flint and cobble stones" over much of the Buffalo River terrace south of Gilbert and west of the river access road. Two years later, 3SE66 was visited by another amateur archeologist. On January 15, 1969, James J. Johnston of Alexandria, Virginia observed that 3SE66 extended to the north through the town of Gilbert and east of the river access road. Johnston commented that the barnyard east of the Gilbert general store and river access road contained "many flint chips." Their

site forms suggest that 3SE66 is coextensive with the Buffalo River terrace upon which the village of Gilbert is partially situated (Figure 2). The western boundary of the site extends at least as far as Dry Creek, indicating a site area of approximately 130,000 square meters. Beyond a "possible" affiliation with the Archaic period, however, site function and cultural affiliation was not established.

METHODS AND PROCEDURES

Survey and Testing

For procedures of survey and testing, A State Plan for the Conservation of Archeological Resources in Arkansas (Davis 1982) was consulted. To establish site boundaries, the plan recommends that shovel tests should be placed from five to ten meters apart. Test dimensions should be approximately 30 cm square and from 30 to 50 cm deep. For investigating subsurface deposits, the plan further recommends the controlled excavation of one meter square units. One such test is usually adequate for a small site and can yield information on site deposits, their integrity, the potential for subsurface features; and can provide samples of artifacts. The approach recommended in the State Plan is efficient and minimizes unnecessary disturbance to cultural deposits.

Prior to initiating fieldwork, National Park Service site locational maps were examined to determine if previously recorded archeological sites would be impacted by proposed construction. The projected trailhead was intensively surveyed for surface evidence of cultural remains. Artifacts were flagged and temporarily left in-situ. Shovel testing, as recommended in the State Plan, was employed to determine or verify site boundaries. For the purposes of this investigation, shovel tests were spaced every three meters along two perpendicular transects to delimit the site. Fill from each test was troweled through and all artifacts were retained. To assess site integrity and collect a representative sample of artifacts, however, one meter square controlled units were excavated. To provide vertical control, soil was removed by 10 cm increments. Fill from each controlled unit was dry screened through 1/4 inch hardware cloth and all artifacts were collected.

Artifact Identification

Lithic material derived from local formations is abundant throughout Buffalo National River. Potentially, the occurrence of chert could be attributed to a cultural origin. The ubiquity of this material, however, makes the identification of all but the most altered specimens exceedingly difficult. To further compound the problem, evidence of thermal alteration or burning may not be used as the sole indicator of prehistoric modification. Burned or discolored chert is quite common in off-site contexts throughout the Ozarks and probably originated from the practice of burning brush and stumps

in this once heavily logged region. Unless found in a context suggesting cultural origin or definitely displaying intentional alteration, chert--thermally altered or otherwise--was ignored.

Lithic debris recovered during this investigation has been organized after the categories used by Coleman et al. (1984).

(1) Primary decortication.

Primary decortication flakes represent the first flake removals on a nodule or core with the main purpose being the removal of unsuitable outer cortex and the creation of a striking platform. Primary decortication flakes are characteristically thick with a pronounced bulb of percussion resulting from direct hard hammer percussion flaking. The striking platform may or may not be covered with cortex while the dorsal surface is completely covered.

(2) Secondary decortication.

Secondary decortication flakes result from continued preparation and shaping of the core. Flakes are thick with pronounced bulbs of percussion. Platforms are usually free of cortex and the dorsal surface exhibits at least one scar from a previous flake removal. Thus, the dorsal surface is only partially covered with cortex.

(3) Interior flakes.

Interior flakes are created by further hard hammer reduction of the core and are intended to serve as specialized flake tools or with further alteration, as bifacial implements. These flakes are relatively large with pronounced bulbs of percussion, unprepared striking platforms, and normally lack cortex. Interior flakes removed from small chert nodules may exhibit cortex on edge margins, but the dorsal surface is entirely cortex free.

(4) Thinning flakes.

Thinning flakes are usually produced by soft hammer percussion flaking during the final shaping and thinning phase of biface reduction. These flakes exhibit previous flake scar removals on the dorsal surface, a prepared platform with intentional grinding, lipping on the platform edge, and a diffuse bulb of percussion.

(5) Tertiary flakes.

This category includes small, thin flakes with well prepared platforms. Tertiary flakes are removed by a hand held pressure tool in the final phase of biface reduction and may result from either intentional thinning in some industries, sharpening of lateral biface edges, or notching a preform. It is virtually impossible, on the basis of macroscopic analysis, to distinguish between unintentional, low intensity percussion flakes inadvertently produced

throughout the reduction sequence and pressure flakes with crushed platforms. Both varieties will be included in the tertiary flake category.

(6) Shatter.

This category includes thick, angular fragments of chert without thin edges or bulbs of percussion. Shatter is the result of hard hammer percussion blows that terminate along old fracture planes in the raw material. Shatter may also be produced from intense but uneven heat.

Additionally, the presence or absence of thermal alteration as defined by Streuver (1973:63) has been noted. Chert is considered thermally altered if it displays 1) a pink-to-reddish coloration, 2) lustrous texture, 3) gray or smoked appearance on remnant cortex surfaces, or 4) evidence of burning indicated by crazing lines, hackling, pot-lid fractures, and deep red-to-dark blue or gray-to-black colors. The identification of raw material is based on the classification of Spears et al. (1986:32-33) for the Buffalo River area and includes grey/green chert, Boone chert, Jasper chert, Pitkin chert, Cotter chert, and orthoquartzite.

A variety of sources were consulted to identify and date historic artifacts. Most prominent among these were Deiss (1981), Wilson (1981), and McKearin and McKearin (1948) for glass; and Price (1982), Wetherbee (1980), Kovel and Kovel (1953, 1986), Gaston (1983), and Cunningham (1982) for ceramics.

DISCUSSION AND RESULTS

Site Area

Construction for the proposed Gilbert Trailhead will occur on a small area of approximately 254 square meters (0.063 acre) of Buffalo River terrace within the park boundary. The site is bounded on the north and west by private property. The western edge is marked by a gravel surface road that provides access to the Buffalo River. This road is accommodated by a two foot high cut that permits vehicles to descend the terrace to the river bottom. To the south and east, the Buffalo River floodplain surrounds the proposed construction site approximately 20 feet below the terrace. Elevations of the terrace and floodplain are 580 feet ASL and 560 feet ASL, respectively (Figure 2).

The proposed Gilbert Trailhead site was initially visited on August 27, 1987. At the time of this visit, a profuse tangle of black locust trees and honeysuckle vines covered the site and prevented an adequate assessment. A biface and several flakes were observed in an adjacent road cut, however, and revealed that proposed construction would impact prehistoric remains. Lithic materials observed on private property to the north and west of the proposed trailhead indicated that cultural remains extend over a larger area and confirmed that the proposed trailhead on National Park Service lands is

part of 3SE66, a previously recorded prehistoric site. By memorandum of September 3 (Coleman 1987), it was recommended that the proposed trailhead site be cleared of vegetation to make an accurate assessment possible.

Park personnel brushed the proposed trailhead site in January 1988, allowing additional investigations to be undertaken (Figure 3). Surface survey and shovel testing were conducted on February 1 and 3, 1988. Although the proposed trailhead had been cleared of vegetation, a thick mat of honeysuckle vines continued to obscure the ground surface. Visibility was less than 10 percent and the surface inspection suggested a circumscribed and sparsely represented site less than 10 meters in diameter. Shovel testing to delimit the site area, however, failed to substantiate this observation. Sixteen shovel tests placed along two perpendicular transects revealed a moderate to dense lithic concentration coterminous with the Buffalo River terrace (Figure 4). The total area of site 3SE66 in the National Park Service boundary is approximately 254 square meters, less than 0.2 percent of the estimated total site area. A distinct concentration of lithic debris, about six meters in diameter, is evident at the west-central boundary of the proposed trailhead (Figure 4) and represents the densest artifact distribution encountered.

Site Deposits

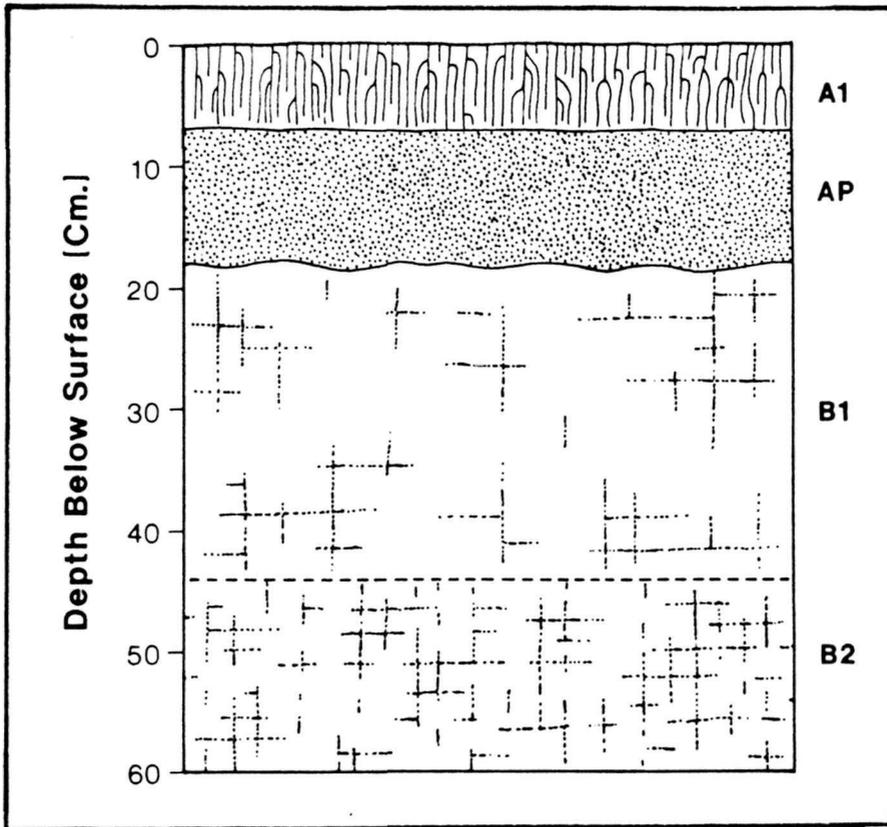
The proposed construction site is disturbed. The black locust and honeysuckle vegetation indicate regrowth in a formerly disturbed area. Site topography substantiates this observation. The surface of the proposed trailhead site is broken or undulating. A noticeably high ridge of soil parallels a former fence line on the west edge of the site, suggesting that the remaining area has been deflated. To reveal subsurface deposits, their degree of disturbance, and the potential for cultural features, five one-meter-square controlled units were excavated. These were positioned within the site to sample areas of high and low artifact density (Figure 4). Three controlled excavation units were placed as a block within the densest artifact concentration to assure recognition of any features.

The soil solum at the proposed construction site is simple. All tests are uniform and reveal the presence of four different soil zones (Figure 5). The lowermost soil (Zone 4) is an in-situ B2 horizon, a dark yellowish brown (10YR4/6) silty clay soil between 44 to 60+ cm below surface. Zone 3 is a natural B1 horizon and is a brown to dark brown (10YR4/3) clayey silt loam between 18 to 44 cm below surface. The boundary between Zones 3 and 4 is wavy but distinct. The uppermost soil in this sequence is a natural, albeit recent A1 horizon that is a 7 cm thick silty loam soil, very dark greyish brown (10YR3/2) in color. Zone 1 contains a heavy root mass and is devoid of artifacts.

The AP horizon is the only artifact bearing layer on the site. Controlled test units reveal an artifact recovery rate of five historic artifacts and 278 prehistoric artifacts for every square meter of site area. Historic



**Map removed in an effort to
protect sensitive cultural resources.**



and prehistoric objects are intermixed throughout the AP horizon and one 1943 Mercury dime from Test 17 was recovered as deep as 17 cm below surface. Plow scars, however, were not observed in any of the test units, suggesting that another activity is responsible for the disturbance--probably use as a barnyard. In 1969, amateur archeologist James D. Johnson commented that flakes were evident in a barnyard east of the Gilbert general store. The proposed trailhead, scarcely 152 meters south of the store, was probably once part of this barnyard.

Cultural Remains

Archeological investigation revealed evidence of both historic and prehistoric occupation within the boundaries of the proposed trailhead. The surface survey and test excavation produced 1,524 artifacts that allow for a relatively detailed interpretation and assessment of this particular area of the site.

Historic Occupation

Evidence of historic occupation in the area investigated is sparse. The surface survey and test excavation produced only 37 historic artifacts, including: eight pieces of coal, two railroad spikes, six amethyst tinted bottle sherds, two clear bottle sherds, one milk glass sherd, one crown bottle lip, eight ironstone tableware sherds, and a 1942 Mercury dime (Appendix 2). These objects indicate a general date of deposition during the first half of the twentieth century. The crown bottle lip exhibits an improved tooled finish and dates from 1892 to ca. 1915 and the amethyst tinted glass was manufactured from ca. 1880 to 1918 (Deiss 1981:92-96). The dime provides a terminus ante quem of 1942. The remaining artifacts are largely non-diagnostic. The absence of building hardware suggests that historic artifacts are not associated with a structure but probably accumulated as sheet trash from the adjacent road or from a temporary occupation such as the Gilbert railroad camp that was established ca. 1902. The railroad spikes and possibly the coal are associated with the construction or maintenance of the Missouri and Northern Arkansas Railroad. Because of disturbed deposits, however, a more precise interpretation of historic remains is not possible.

Prehistoric Occupation

In contrast to 37 historic objects recovered, 1,487 prehistoric artifacts were collected during this investigation (Appendix 2). Data from controlled excavation units indicate an average density of 279 prehistoric artifacts per every square meter of site area. One tested pebble, two pebble cores, 71 shatter fragments, 13 potlid spalls, 68 decortication flakes, 447 interior flakes, 519 thinning flakes, 328 tertiary flakes, six blanks, eight preforms, seven projectile points, eight bifacial tools and bifacial tool fragments, five utilized flakes and flake tools, a hammerstone, and one anvil were found. Two mussel valve fragments may also be associated with the

prehistoric occupation. These artifacts allow for a relatively detailed interpretation of 3SE66, or at least that portion of the site affected by proposed trailhead construction.

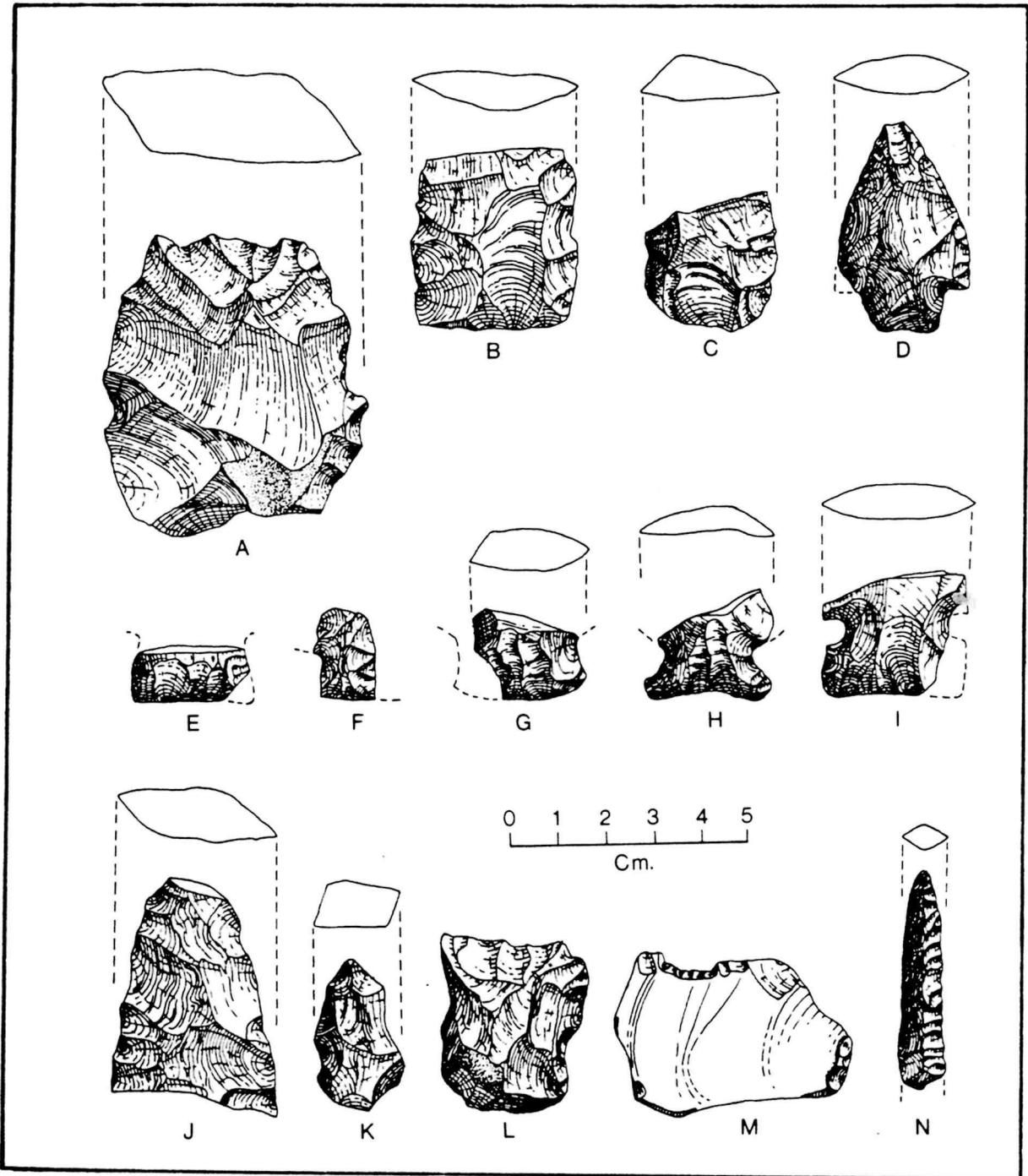
Projectile points recovered from 3SE66 indicate age and cultural affiliation of the site. Among seven projectile points, four are sufficiently intact to be typed. The range of variation in two specimens (Figure 6, D and F) is encompassed by the Stone Square Stemmed projectile point type of southern Missouri and northwest Arkansas as defined by Chapman (1975:257). Stone Square Stemmed points are affiliated with the Late Archaic period and date from ca. 5000 to 1000 B.C. A third projectile point conforms to the Big Sandy type as defined by Bell (1960:8). The Big Sandy point appears as early as 5000 B.C. and may last as late as 1200 B.C. In Missouri the Big Sandy point is believed to occur from 5000 B.C. to 3000 B.C. (Chapman 1975:242), while in Arkansas Sabo et al. (1982:57) place this type in the Early-to-Middle Archaic period of 9500 to 5000 B.P. (ca. 7500 to 3000 B.C.).

A fourth identifiable projectile point is an Osceola Side Notched type that also occurs in Early-to-Middle Archaic contexts in Arkansas (Sabo et al. (1982:57). Chapman (1975:248) generally places Graham Cave/Osceola points from 8000 to 5000 B.C. while Bell (1958:68) suggests that the type is affiliated with the Old Copper Culture in Wisconsin and dates from 5000 to 3000 B.C.

Based on diagnostic projectile points, 3SE66 may reflect an Early-to-Late Archaic occupation from ca. 8000 B.C. to 1000 B.C. Because the temporal ranges of these point types overlap, it is unknown whether one occupation or several discrete occupations during the Early-to-Late Archaic period are represented.

The range of functional artifact classes at 3SE66 may indicate a semi-permanent or seasonally occupied habitation site. Several activities are reflected. Two flakes with spokeshave notches, one drill, a perforator, and a gouge may indicate woodworking activities. One beveled biface tip (Figure 6N) probably functioned as a knife and reflects resharpening or maintenance activity. Two flakes exhibit use wear that probably resulted from general cutting tasks, while a third flake displays edge rounding on the distal end and probably functioned as an end scraper. The possible scraper and seven identifiable projectile points indicate that hunting was an important activity and that carcass processing probably occurred at the site. Two mussel valve fragments that may be associated with the prehistoric occupation at 3SE66 could indicate exploitation of a riparian environment during warmer months. The best preserved activity at 3SE66, however, is bifacial tool production.

A complete lithic reduction sequence is evident at 3SE66. One tested pebble, two pebble cores, and 68 decortication flakes display stream rolled cortex and indicate that the exclusive source of raw material at 3SE66 was a riparian gravel deposit, probably the extensive gravel bars on the Buffalo



River only 122 meters from the site. One thousand four hundred fifty-nine flakes identifiable by raw material reveal that the most utilized lithic resource is Boone chert (58.9%). Pitkin chert (8.4%), green variegated chert (2.7%), Jasper chert (1.9%), and orthoquartzite (0.5%) occur in lesser amounts (Table 2). All of these chert types are evident today in local Buffalo River gravels.

First, suitable chert cobbles were selected and evidently transported to the site without prior reduction. Cores and decortication flakes reveal that 44% of raw material was thermally altered before any reduction attempt. Chert nodules were then reduced by the opportunistic removal of flakes. One or more ends of a nodule were first removed by hard hammer percussion flaking to create a suitable striking platform for the subsequent removal of undesirable cortex. Hard hammer percussion flaking was then employed to remove cortex and to generate suitable interior flakes for the production of bifacial tools. Interior flakes were bifacially worked to prepare a platform for the subsequent removal of thinning flakes. The resulting blank was further modified through free-hand soft hammer percussion flaking that resulted in the production of thinning flakes. The refined blank or preform was sharpened and notched with a hand-held pressure flaker resulting in the production of tertiary flakes. Six blanks and eight preforms occur in the sample. Among the preforms, four are identifiable to shape: three are ovoid and one is trianguloid (Figure 6, B and C). All recovered preforms were apparently snapped during the reduction process.

The predominance of lithic debris at 3SE66 indicates the importance of bifacial tool production at the site. At 3SE66, 99.6 percent of all artifacts are related to lithic workshop activity. Comparatively, three upland Middle-to-Late Archaic sites (Coleman and Dec 1988) reveal lower proportions of lithic workshop artifacts ranging from 85% to 90% to 91%. Although the sample of sites is small, the comparison is suggestive: 3SE66 appears to have had more lithic workshop activity than contemporary upland habitation sites. Of course, a larger sample incorporating other floodplain/terrace habitation sites is necessary to adequately measure the relative importance of lithic workshop activity within the complete settlement system.

SIGNIFICANCE OF CULTURAL REMAINS

Site significance may be defined using the study unit approach developed in A State Plan for the Conservation of Archeological Resources in Arkansas (Davis 1982). Evaluations of significance for sites within a study unit are based on the potential of a specific site to address salient research questions.

TABLE 2

Identifiable Raw Material at 3SE66*		
	#	%
1. Boone	860	58.9
2. Green Variegated	40	2.7
3. Grey Variegated	403	27.6
4. Jasper	28	1.9
5. Orthoquartzite	5	0.5
6. Pitkin	123	8.4
Total	1459	100.0

*NOTE: 26 burned flakes were not identifiable to raw material.

Site 3SE66 is included in Study Unit 6, Archaic Sites in the Upland Forest Zone of Northwest Arkansas (Raab et al. 1982:11). In her 'operating plan' for Study Unit 6, Davis (1982:22) defines a significant site as one having "excellent and complete samples of tools...(that)...will aid in defining artifact assemblages and possibly tool functions. Good undisturbed deposits, particularly ones with good faunal and floral preservation, will be particularly important. Both these kinds of sites would be considered eligible for the National Register." Davis (1982:B-13) further states that considerations of significance must take the entire site and its potential to yield information into account. Unfortunately for this investigation, the holistic approach to assessing 3SE66 is not feasible.

It is estimated that 3SE66 covers approximately 130,000 square meters and that the portion of the site on National Park Service property to be affected by proposed construction is only 254 square meters or 0.2 percent of the estimated total site area. Therefore, this investigation has assessed only the potential of that portion of 3SE66 owned by the National Park Service--although, the interpretation and assessment of this area may well apply to the entire site.

Site 3SE66, or at least the site area investigated here, does not meet Davis' criteria and is not considered significant for the following reasons:

- 1) The site has no integrity. All artifacts are contained within an 11 cm thick, disturbed AP horizon where prehistoric artifacts are intermixed with late dating historic period objects.
- 2) There is no evidence of undisturbed subsurface deposits or intact cultural features.
- 3) There is no evidence of preserved floral remains. Faunal remains, with the possible exception of two mussel valves, were not identified. The mussel shells may or may not be associated with the prehistoric occupation of the site. Because of the absence of undisturbed site deposits, it is unlikely that faunal remains exist.
- 4) Although artifacts are common at 3SE66, the assemblage is dominated by production debitage and formal tools are rare. More than 50% of those recovered were typed.

It is doubtful whether additional information, beyond that presented in this report, can ever be recovered from the site. Site 3SE66, or at least that portion found in National Park Service lands, can not be used to address salient research questions proposed in the State Plan and is not considered eligible for nomination to the National Register of Historic Places.

CONCLUSIONS AND RECOMMENDATIONS

In spite of intensive surface survey and test excavation, only 37 historic period artifacts were recovered during this investigation. In the absence of structural remains, these objects are interpreted as sheet trash from the adjacent river access road or from a transitory occupation such as the Missouri and Northern Arkansas Railroad construction camp of 1902. Because of excessive disturbance of site deposits, however, historic remains within the proposed trailhead site exhibit no integrity and are not considered significant.

In contrast to the paucity of historic period objects, 1,487 prehistoric artifacts were collected as a result of this investigation. These remains belong to 3SE66, a previously documented site on the Buffalo River terrace at Gilbert. Artifacts recovered during the fieldwork indicate that 3SE66 is a semi-permanent or seasonally occupied habitation site that probably contains multiple components from the Early Archaic through the Late Archaic culture periods (ca. 8000 B.C. to 1000 B.C). Site activities reflected include hunting/carcass processing, woodworking, tool maintenance, and most notably, lithic workshop activity. The preponderance of broken preforms and lithic debris at 3SE66 is attributed to the sustained exploitation of expansive gravel bars on nearby Buffalo River. Comparatively, 3SE66 exhibits more workshop activity than contemporary upland habitation sites. Based on available information, however, it cannot be determined whether 3SE66 is distinct from other Archaic bottomland sites. Because gravel bars are non-randomly distributed, it may be inferred that variation in floodplain site location and composition will be evident. It is suggested that chert-bearing gravel deposits played an important role in lithic resource acquisition and settlement structure throughout area prehistory. Future investigations encountering floodplain sites should test this hypothesis.

Site 3SE66 is not considered significant. All artifacts are intermixed in a disturbed 11 cm thick AP horizon. The integrity and research potential of the site has been compromised to such an extent that significance criteria proposed in the State Operating Plan for Northwest Arkansas Study Unit 6 are not met. Therefore, site 3SE66 fails to meet the minimum criteria for inclusion in the National Register of Historic Places. Of course, this investigation has not assessed the potential of the entire site and while these conclusions may well apply to the remainder of 3SE66, they are only pertinent to the 254 square meters of site area owned by the National Park Service.

Archeological clearance is recommended for construction of the proposed Gilbert Trailhead. Since further investigation would probably not yield additional information on either historic events or prehistoric occupation, this archeological investigation should adequately mitigate project impacts on the cultural resource. Additional data retrieval is unnecessary. If construction activities reveal cultural resources undetected by this

investigation, however, work must be temporarily stopped to permit an additional determination of significance.

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APPENDIX 1

Previous Investigations at Buffalo National River

1. Archeological Inventory of the Buffalo National River by Daniel Wolfman (1974).
2. Survey of Prehistoric Cultural Materials of Certain Areas Within Buffalo National River, Arkansas by Robert G. Campbell (1975).
3. Archeological Reconnaissance Survey of Selected Special Use Areas, Buffalo National River, Arkansas by Bruce Panowski (1977).
4. Archeological Assessment of the Buffalo National River by Daniel Wolfman (1979).
5. Archeological Investigations of the Proposed Pruitt and Tyler Bend Development Areas, Buffalo National River, Arkansas by Jim Bradford (1979).
6. Archeological Investigations of Selected Proposed Primitive Campgrounds, Buffalo National River, Arkansas by Jim Bradford (1979).
7. Archeological Investigations of the Lost Valley, Steel Creek, and Buffalo Point Development Areas by James E. Bradford (1979).
8. An Archeological Survey of the Proposed Buffalo River Trail, Hemmed-In Hollow, Ponca Area, Newton County, Arkansas and a Reconnaissance of the Henderson Farm Historic Site by Robert D. Jones and Skip Abernathy (1979).
9. Archeological Investigations of 3NW287 by Michael Sierzchula (1981).
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14. Report on Emergency Excavations of Two Features at 3NW539, Boxley Valley, Buffalo National River by W. Frederick Limp (1985).
15. Carver Bridge: Cultural Resources Survey of a Proposed Campground Facility at Carver Bridge, Buffalo National River, Newton County, Arkansas by Timothy C. Klinger and Kathleen A. Hinkle (1986).
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17. Archeological Testing at the Elk Track Site (3NW205) and the Webb Branch Site (3NW206), Buffalo National River, Arkansas by Ishmael Williams, Randall L. Guending, and W. Frederick Limp (1986).
18. Archeological Survey of the Proposed Tyler Bend Access Road, Buffalo National River, Searcy County, Arkansas by Roger E. Coleman (1987).
19. Archeological Significance Testing at Sites 3NW16 and 3NW41 Near Carver Bridge, Newton County, Arkansas in the Buffalo National River by Michael C. Sierzchula and Robert H. Lafferty III (1987).
20. Tyler Bend: National Register Assessment of 3SE64, 3SE95, 3SE150, and 3SE188 Within the Proposed Tyler Bend Development Area, Buffalo National River, Searcy County, Arkansas by Timothy Klinger and Lawrence L. Ayers (1987).
21. Tyler Bend II: National Register Assessment of 3SE150 Within the Proposed Tyler Bend Development Area, Buffalo National River, Searcy County, Arkansas by Timothy C. Klinger and Lawrence L. Ayers (1987).
22. Archeological Survey of 649 Acres in the Boxley Valley, Buffalo National River, Newton County, Arkansas by Jill-Karen Yakubik, Herschel A. Franks, Susan C. Vehik, and J. Douglas Heffington (1988).
23. Tracks in Time: Archeology at the Elk Track Site (3NW205) and the Webb Branch Site 3NW206, Erbie Campground Project, Buffalo National River, Newton County, Arkansas by Robert H. Lafferty III, Neal H. Lopinot, Margaret J. Guccione, Lawrence G. Santeford, Michael C. Sierzchula, Susan L. Scott, Kathryn A. King, Kathleen M. Hess, and Linda Scott Cummings (1988).

