ZOOARCHAEOLOGICAL REMAINS FROM THE 1998 FEWKES SITE EXCAVATIONS, WILLIAMSON COUNTY, TENNESSEE

Tanya M. Peres

The Fewkes site faunal assemblage, excavated as part of a Phase III data recovery project for the Tennessee Department of Transportation in 1998, was analyzed and evaluated in light of its potential to provide significant information about Middle Mississippian subsistence practices and environmental conditions of the area during the time of occupation. Specific goals of the analysis included: (1) defining the subsistence strategies and practices of the people that inhabited the site; (2) determining the relationship of the site to the surrounding ecological habitats; and (3) determining the seasonality of the site. Additionally, the Fewkes faunal assemblage was compared to animal exploitation practices as outlined for the Cumberland River drainage model of Mississippian period sites. The results of the analysis of selected contexts are presented here.

The Fewkes site (40WM1) is a Mississippian period mound complex and associated town located along the headwaters of the Harpeth River in Williamson County, Tennessee (Figure 1). Although mentioned by Joseph Jones (1876) as "the Boiling Springs site," the first well-documented archaeological investigations were conducted in October 1920 by William Edward Myer under the auspices of the Smithsonian Institution. As noted by Myer (1928:559), "at the request of many citizens of Tennessee this site was named the Fewkes Group in honor of J. Walter Fewkes, Chief of the Bureau of American Ethnology, who had visited it and recognized its possibilities a few months before." Although Myer died from a heart attack prior to completing the final report, his colleague and friend John Swanton completed editing of his archaeological reports on the Fewkes (40WM1) and Gordontown (40DV6) sites (Smith 2008). These reports were published posthumously by the Bureau of American Ethnology as *Two Prehistoric Villages in Middle Tennessee* (Myer 1928:557-613).

In 1996, proposed improvements by the Tennessee Department of Transportation to State Route 441 (Moore's Lane) from Liberty Road to State Route 252 (Wilson Pike) initiated a series of archaeological survey and excavation projects (DuVall & Associates, Inc. 1996, 1997a, 1997b). The portion of the site discussed here is located on the west side of Moore's Lane and was excavated during the 1998 Phase III data recovery project (Figure 2). The core of the mound complex on the east side of Moore's Lane was acquired in 2003 by the City of Brentwood and is now preserved as part of Primm Park, a city historic park (Smith and Hogan 2004). A large faunal assemblage (ca. 200 kg) was generated from the 1998 excavations, portions of which were analyzed by the author.[1] A total of 57 lots were analyzed, including those from 1/4-in hardware mesh, heavy fraction flotation, and piece-plotted specimens recovered from excavation blocks and units, features, and general recovery. Analyzed samples yielded a total NISP of 37,297 vertebrate and invertebrate specimens (ca. 35 kg).

The Fewkes site faunal assemblage was analyzed and evaluated in light of its

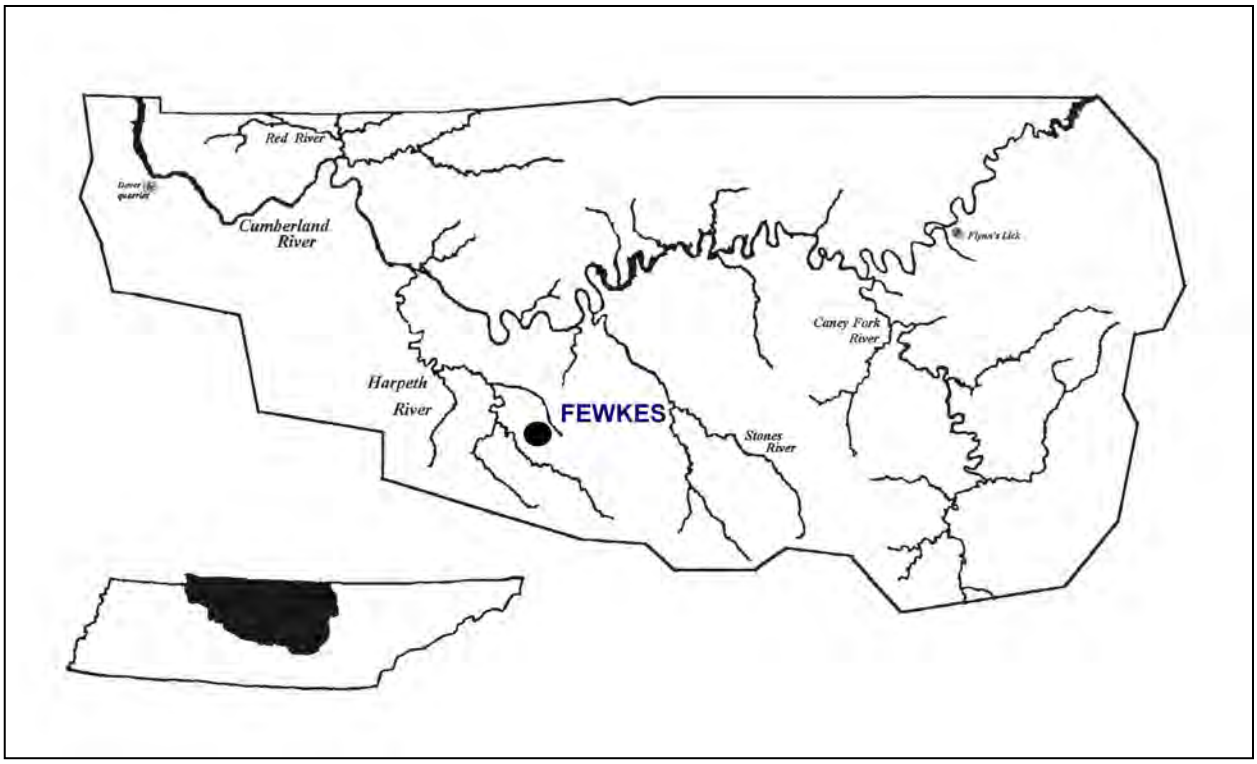

FIGURE 1. Location of Fewkes site.

potential to provide information about Mississippian subsistence practices and environmental conditions of the site vicinity (Peres 2002, 2004). Unfortunately, detailed descriptive information on the excavation units and stratigraphy is not available.[2] As a result, while the entire analyzed assemblage is summarized, the present discussion will focus on faunal remains recovered from selected features where more detailed context information is available.

Zooarchaeological Methods

The identification and analysis of the faunal remains were performed using the Zooarchaeological Comparative Collection housed at the University of Kentucky's William S. Webb Museum of Anthropology (WSWMA). Standard zooarchaeological procedures were used in this analysis following Reitz and Wing (2008). Any evidence of use-wear, thermal alteration, modification, or butchering was recorded, as were weights and Number of Individual Specimens (NISP). All primary and secondary data were entered into a Microsoft® ACCESS database.

The Archaeofaunal Assemblage

The total analyzed assemblage from the Fewkes site consists of 37,297 specimens weighing 35,027.72 g (Table 1). Vertebrate faunal remains comprise 37,271 specimens (34,968.17 g). Invertebrate faunal remains include 26 specimens (59.55 g). Approximately 28% of the faunal assemblage was recovered from general excavation units, and is discussed in detail elsewhere (Peres 2004). Faunal samples associated with 23 Mississippian component features were analyzed. Contextual data are available for only seven features (Features 1, 55, 184, 185, 722, 817, and 847) and the

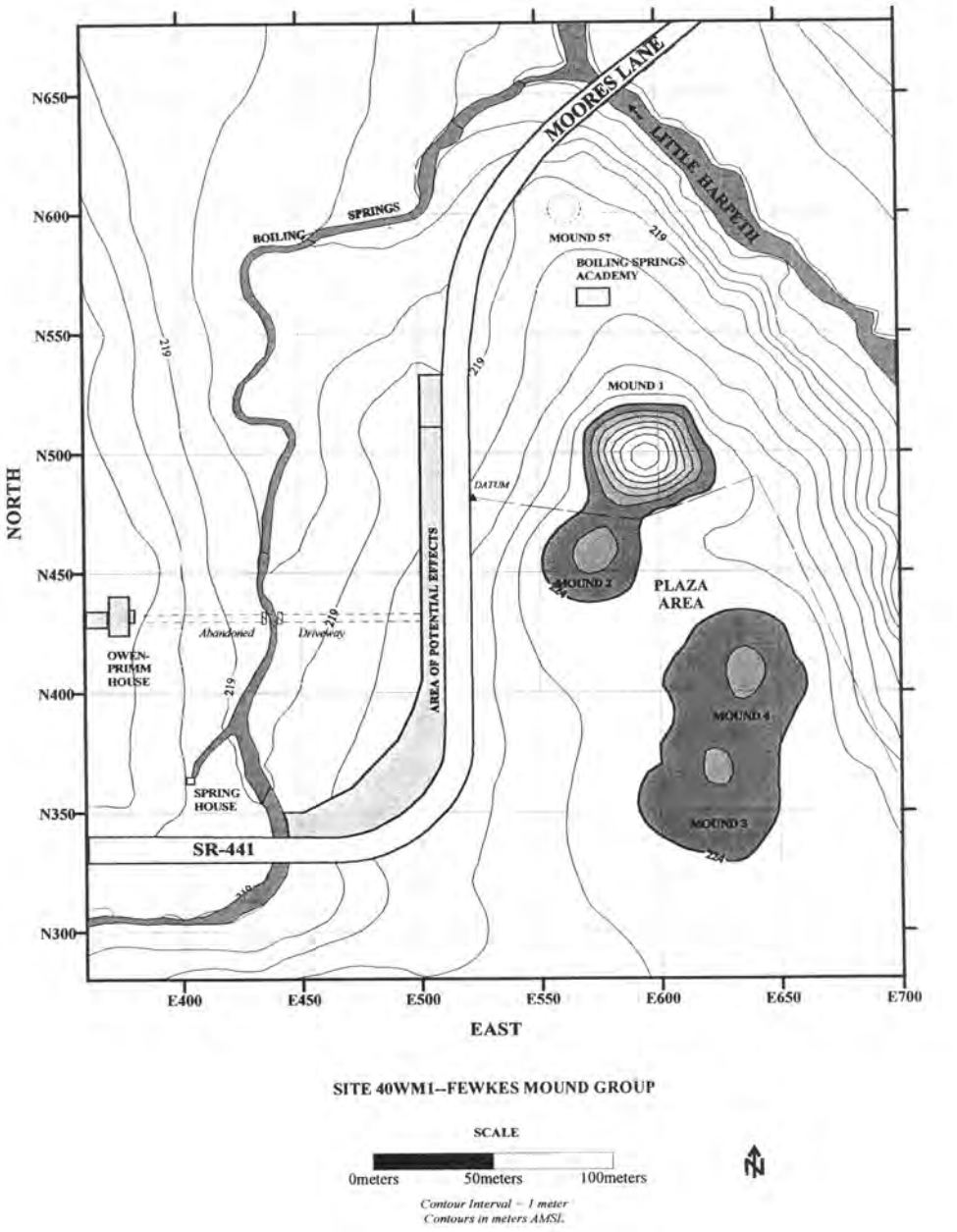

FIGURE 2. Location of 1998 excavations on the west side of Moores Lane (*Source: project records on file, Tennessee Division of Archaeology*).

present discussion is limited largely to these contexts (Figure 3).

Feature 1

Feature 1 was a deep "shaft," interpreted during the excavations as having been filled with domestic refuse (Merrill Dicks, personal communication, 2004). Diagnostic ceramics place this feature in the Thruston phase (ca. A.D. 1250-1450). This feature was morphologically unique out of the 350 features excavated during this project. During excavation, a dog skeleton was observed in the feature fill, but there was no evidence to suggest that the feature was a formal burial. Additionally, the feature fill appears to have been deposited rapidly and intentionally (Merrill Dicks, personal

communication, 2003).

A total of 516 vertebrate and invertebrate specimens (91.76 g) were recovered from Feature 1. The identifiable taxa include: opossum, dog, black bear, deer, squirrels, hispid cotton rat, eastern box turtle, snakes, and bivalves (Table 2). Of these specimens, 74 exhibit heat alteration, two are modified, and three are immature. The total MNI for Feature 1 is 10. The estimated biomass for all of the faunal remains in Feature 1 is 14.14 kg (Table 2).

Faunal remains in this feature are unusual compared to other features analyzed as part of this project. A nearly complete post-cranial male dog skeleton was recovered, including the baculum. All of the recovered dog elements appear to belong to the same individual, and none of them show signs of intentional alteration or trauma. Of additional interest is the absence of cranial elements. Analysis of the dog remains by Brian Worthington (2007) indicate the dog was approximately 19% complete, and represents an 18 to 24 month adult male falling within the range of variation for southeastern Mississippian dogs. The specimen was analyzed further by Lacey Fleming as part of an undergraduate research project, yielding a live weight estimate of approximately 5.78 kilograms (12.7 pounds) at the time of death (Fleming 2006). Additionally, the lumbar vertebrae exhibited gently warped dorsal spinous processes, a pathology that may indicate this animal had carried a load on its lower back for a good portion of its life (Fleming 2006).

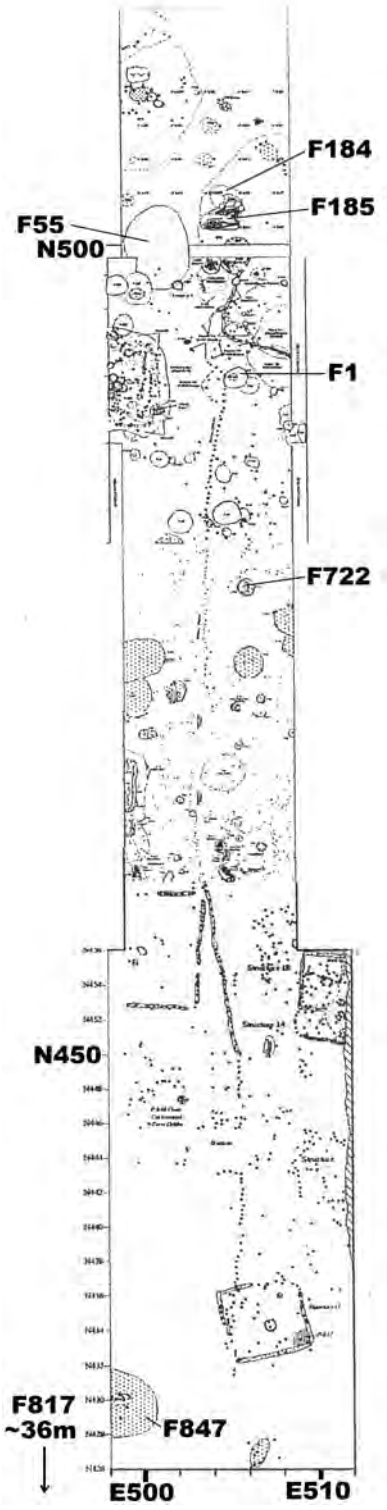

FIGURE 3. Location of features discussed in the text. Note that Feature 817 is located outside the mapped area (*adapted from project records on file, Tennessee Division of Archaeology*).

TABLE 1. Summary of Total Analyzed Faunal Assemblage.

Taxon	Common Names	NISP		Bone Weight		MNI		Biomass	
		Qty.	%	g	%	Total	%	kg	%
Vertebrata	vertebrates	5190	13.92	862.42	2.46	0		0	0.00
Mammalia	mammals	23878	64.02	9753.76	27.85	0	0.00	102.39	27.82
Mammalia,, large	large mammals	1015	2.72	2893.76	8 26	0	0.00	34.30	9.32
Mammalia, medium to large	medium to large mammals	197	0.53	173.72	0 50	0	0.00	2.73	0.74
Mammalia, medium	medium mammals	496	1.33	428.40	1 22	0	0.00	6.15	1.67
Mammalia, small to medium	small to medium mammals	31	0.08	17.54	0.05	0	0.00	0.35	0.09
Mammalia, small	small mammals	546	1.46	144.89	0.41	0	0.00	2.32	0.63
Didelphidae	American opossums	1	0.00	1.02	0.00	0	0.00	0.03	0.01
Didelphis virginiana	opossum	24	0.06	31.79	0.09	3	1.96	0.59	0.16
Parascalops breweri	hairy-tailed mole	3	0.01	1.26	0.00	1	0.65	0.03	0.01
Carnivora	carnivores	1	0.00	0.49	0.00	0	0.00	0.01	0.00
Canidae	dog family	49	0.13	62.06	0 18	2	1.31	1.08	0.29
Canis familiaris	domestic dog	105	0.28	226.05	0.65	2	1.31	3.46	0.94
Canis latrans	coyote	2	0.01	19.52	0.06	1	0.65	0.38	0.10
Canis sp.	dog, wolf, coyote	1	0.00	4.6	0.01	0	0.00	0.10	0.03
Urocyon cinereoargenteus	gray fox	5	0.01	9.12	0.03	1	0.65	0.19	0.05
Urocyon sp.	fox	1	0.00	1.13	0.00	0	0.00	0.03	0.01
Mephitis mephitis	striped skunk	2	0.01	2.57	0.01	1	0.65	0.06	0.02
Procyon lotor	raccoon	20	0.05	20.12	0.06	2	1.31	0.39	0.11
Ursidae	bears	2	0.01	31.51	0.09	0	0.00	0.59	0.16
Ursus americanus	black bear	44	0.12	1394.18	3 98	2	1.31	17.78	4.83
Sus scrofa	pig	2	0.01	42.87	0 12	1	0.65	0.77	0.21
Cervidae	deer, elk, wapiti	21	0.06	734.40	2 10	0	0.00	9.98	2.71
Cervus canadensis	elk	7	0.02	411.29	1 17	3	1.96	5.93	1.61
cf. *Cervus canadensis*	elk	2	0.01	33.66	0 10	0	0.00	0.62	0.17
Odocoileus virginianus	white-tailed deer	1571	4.21	14707.95	41.99	36	23.53	148.18	40.26
cf. *Odocoileus virginianus*	white-tailed deer	2	0.01	26.05	0.07	0	0.00	0.49	0.13
Bovidae	sheep, bison, cattle	1	0.00	102.69	0 29	1	0.65	1.70	0.46
Rodentia[1]	rodents	31	0.08	6.33	0.02	0	0.00	0.14	0.04
Sciuridae	squirrel family	7	0.02	2.09	0.01	0	0.00	0.05	0.01
Marmota monax	groundhog	3	0.01	5.25	0.01	1	0.65	0.12	0.03
Sciurus spp.	squirrels	30	0.08	9.86	0.03	1	0.65	0.21	0.06
Sciurus carolinensis	eastern gray squirrel	15	0.04	8.81	0.03	2	1.31	0.19	0.05
Sciurus carolinensis/niger	eastern gray or fox squirrel	260	0.70	84.78	0 24	18	11.76	1.43	0.39
Sciurus niger	fox squirrel	78	0.21	30.67	0.09	5	3.27	0.57	0.16
Glaucomys volans	southern flying squirrel	3	0.01	0.37	0.00	3	1.96	0.01	0.00
Cricetidae	rat and vole family	16	0.04	1.56	0.00	1	0.65	0.04	0.01
Peromyscus leucopus	white-footed/wood mouse	1	0.00	0.03	0.00	1	0.65	0.00	0.00
Sigmodon hispidus	hispid cotton rat	17	0.05	1.61	0.00	3	1.96	0.04	0.01
Leporidae	rabbit family	2	0.01	1.50	0.00	0	0.00	0.04	0.01
Sylivilagus floridanus	eastern cottontail rabbit	92	0.25	39.44	0 11	5	3.27	0.72	0.20
Aves	birds	857	2.30	415.98	1 19	0	0.00	4.94	1.34
Aves, small	small birds	32	0.09	4.85	0.01	0	0.00	0.09	0.02
Aves, small to medium	small to medium birds	2	0.01	0.68	0.00	0	0.00	0.01	0.00
Branta canadensis	Canada goose	2	0.01	2.97	0.01	1	0.65	0.05	0.01
Buteo jamaicensis	red-tailed hawk	13	0.03	37.68	0 11	3	1.96	0.55	0.15
cf. *Buteo jamaicensis*	red-tailed hawk	1	0.00	0.07	0.00	0	0.00	0.00	0.00
Colinus virginianus	bobwhite	9	0.02	2.16	0.01	2	1.31	0.04	0.01
Meleagris gallopavo	turkey	440	1.18	1127.36	3 22	16	10.46	12.23	3.32
Reptilia	reptiles	1	0.00	0.10	0.00	0	0.00	0.00	0.00
Testudines	turtles	877	2.35	294.11	0.84	0	0.00	1.43	0.39
Kinosternidae	mud and musk turtle family	62	0.17	18.10	0.05	1	0.65	0.22	0.06
Emydidae	water and box turtle family	66	0.18	43.80	0 13	0	0.00	0.40	0.11
Terrapene carolina	eastern box turtle	559	1.50	529.24	1 51	15	9.80	2.11	0.57
Chrysemys floridana	cooter	1	0.00	1.94	0.01	1	0.65	0.05	0.01
Chrysemys picta picta	painted turtle	6	0.02	5.50	0.02	1	0.65	0.10	0.03
Chrysemys scripta	pond slider	1	0.00	1.03	0.00	1	0.65	0.03	0.01
Chrysemys spp.	sliders and cooters	10	0.03	16.01	0.05	0	0.00	0.20	0.06
Trionyx ferox	softshell turtle	2	0.01	0.72	0.00	1	0.65	0.03	0.01
Squamata	lizards, snakes	1	0.00	0.20	0.00	0	0.00	0.00	0.00
Serpentes	snakes	207	0.56	35.28	0 10	0	0.00	0.09	0.02
Crotalidae	rattlesnake/pit viper family	29	0.08	19.06	0.05	1	0.65	0.00	0.00
Rana/Bufo sp.	frogs and toads	1	0.00	0.06	0.00	1	0.65	0.00	0.00

TABLE 1 (*continued*). Summary of Total Analyzed Faunal Assemblage.

Taxon	Common Name	NISP		Bone weight		MNI		Biomass	
		Qty	%	g	%	Total	%	kg	%
Osteichthyes	bony fish	243	0.65	42.62	0.12	0	0.00	0.62	0.17
Lepisosteus sp.	gars	3	0.01	0.30	0.00	1	0.65	0.01	0.00
Amia calva	bowfish	5	0.01	0.81	0.00	1	0.65	0.02	0.01
Catostomidae	sucker family	2	0.01	0.30	0.00	0	0.00	0.01	0.00
Moxostoma sp.	redhorse	4	0.01	1.12	0.00	1	0.65	0.03	0.01
Ictaluridae	catfish family	2	0.01	0.49	0.00	0	0.00	0.02	0.00
Ictalurus sp.	catfish	5	0.01	2.24	0.01	0	0.00	0.06	0.02
Ictalurus punctatus	channel catfish	18	0.05	3.45	0.01	1	0.65	0.08	0.02
Centrarchidae	sunfish/bluegill family	4	0.01	0.51	0.00	0	0.00	0.02	0.00
Micropterus salmoides	bigmouth bass	1	0.00	0.62	0.00	1	0.65	0.02	0.01
Micropterus sp.	bass	1	0.00	0.05	0.00	0	0.00	0.00	0.00
Aplodinotus grunniens	freshwater drum	30	0.08	27.68	0.08	1	0.65	0.43	0.12
Invertebrata	invertebrates	2	0.01	0.60	0.00	0	0.00	0.00	0.00
Mollusca	mollusks	2	0.01	1.01	0.00	0	0.00	0.00	0.00
Gastropoda	gastropods	4	0.01	0.55	0.00	4	2.61	0.00	0.00
Campeloma sp.	campeloma	1	0.00	0.06	0.00	1	0.65	0.00	0.00
Bivalvia	bivalves	15	0.04	20.71	0.06	0	0.00	0.00	0.00
Elliptio crassidens	elephantear	1	0.00	30.60	0.09	1	0.65	0.00	0.00
cf. *Pleurobema cordatum*	Ohio pigtoe	1	0.00	6.02	0.02	1	0.65	0.00	0.00
Identified[2]		3669	9.84	19929.76	56.90	149	97.39	212.54	57.74
Unidentified		33628	90.16	15097.96	43.10	4	2.61	155.55	42.26
Totals		37297	100.00	35027.72	100.00	153	100.00	368.09	100.00

[1] - Taxa that are considered commensural
[2] - Faunal specimens identified to Family, *Genus*, and *species*

In addition, elements identified as two individual bears were documented in this feature. One of the bears is an immature individual represented by nearly half of the rear portion of the cranium. The adult bear is represented by a longbone fragment and a right shaft and distal epiphysis of a humerus. The tip of the distal portion of the humerus has been burnt.

The uniqueness of the feature morphology, as well as the presence of a post-cranial male dog and two partial bears (one juvenile and one adult), suggests that this feature was not filled with "typical household refuse." Dicks notes that the dog skeleton appeared to have been deposited haphazardly during rapid filling of the feature, unlike many prehistoric dogs that have been formally buried (Merrill Dicks to Tanya Peres, letter, 2004).

Feature 1 is located within a complex of features including a palisade line, sheet midden, and burned structural elements (Figure 3). Unfortunately, the temporal and functional relationship of these features remains unclear.

Feature 55

Feature 55 is a very large (5.5 m x 5.2 m) circular, basin-shaped pit, with a maximum depth of 85 cm that may represent a borrow pit eventually filled with domestic refuse (Merrill Dicks to Tanya Peres, letter, April 30, 2002). The feature is located on the exterior of the identified palisade and appears to date to about A.D. 1150 (Dowd phase), approximately 100 years earlier than most of the investigated features (Merrill Dicks to Tanya Peres, letter, April 30, 2002).

In Feature 55, a total of 12,374 vertebrate and invertebrate specimens were recovered, weighing 10,307.62 g (Table 3; Figure 3). The identifiable taxa in Feature 55 include: opossum, hairy-tailed mole, gray fox, black bear, raccoon, elk, deer, squirrels, hispid cotton rat, eastern cottontail rabbit, red-tailed hawk, bobwhite, turkey, mud/musk turtle, pond slider, eastern box turtle, bowfin, redhorses, and channel catfish. Of these

TABLE 2. Summary of Faunal Remains from Feature 1.

Taxon	NISP	%	Weight (g)	%	Biomass (kg)	%	Heat Alt.	%	Mod.	%	Im-mature	%	MNI	%
Vertebrata	4	0 78	0 99	0 11	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Total Vertebrata	4	0 78	0 99	0 11	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Mammalia	378	73 26	143 83	15 77	2 30	16 39	70	94 59	0	0 00	0	0 00	0	0 00
Mammalia, medium	6	1 16	5 03	0 55	0 11	0 80	0	0 00	0	0 00	0	0 00	0	0 00
Mammalia, small	8	1 55	4 00	0 44	0 09	0 65	0	0 00	0	0 00	0	0 00	0	0 00
Didelphis virginiana	2	0 39	5 49	0 60	0 12	0 87	0	0 00	0	0 00	1	33 33	2	20 00
Canidae	1	0 19	0 23	0 03	0 01	0 05	1	1 35	0	0 00	0	0 00	1	10 00
Canis familiaris	87	16 86	197 03	21 61	3 06	21 76	0	0 00	0	0 00	0	0 00	1	10 00
Ursus americanus	3	0 58	339 20	37 20	4 98	35 48	1	1 35	0	0 00	1	33 33	1	10 00
Odocoileus virginianus	14	2 71	204 78	22 46	3 16	22 53	0	0 00	2	100 00	1	33 33	2	20 00
Sciuridae	1	0 19	0 19	0 02	0 01	0 04	1	1 35	0	0 00	0	0 00	1	10 00
Sigmodon hispidus	1	0 19	0 13	0 01	0 00	0 03	0	0 00	0	0 00	0	0 00	1	10 00
Total Mammalia	501	97 09	899 88	98 70	13 85	97 94	73	98 65	2	100 00	3	100 00	9	90 00
Aves	3	0 58	3 74	0 41	0 07	0 48	0	0 00	0	0 00	0	0 00	0	0 00
Total Aves	3	0 58	3 74	0 41	0 07	0 48	0	0 00	0	0 00	0	0 00	0	0 00
Testudines	2	0 39	0 66	0 07	0 02	0 17	1	1 35	0	0 00	0	0 00	0	0 00
Terrapene carolina	1	0 19	4 13	0 45	0 08	0 58	0	0 00	0	0 00	0	0 00	1	10 00
Serpentes	2	0 39	0 29	0 03	0 01	0 10	0	0 00	0	0 00	0	0 00	1	10 00
Total Reptilia	5	0 97	08	0 56	0 12	0 85	1	1 35	0	0 00	0	0 00	1	10 00
Osteichthyes	2	0 39	0 22	0 02	0 01	0 06	0	0 00	0	0 00	0	0 00	0	0 00
Total Osteichthyes	2	0 39	0 22	0 02	0 01	0 06	0	0 00	0	0 00	0	0 00	0	0 00
Total Vertebrata	515	99 81	909 91	99 80	14 04	100 00	74	100 00	2	100 00	3	100 00	10	100 00
Bivalvia	1	0 19	1 85	0 20	0	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Total Invertebrata	1	0 19	1 85	0 20	0	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Total Assemblage	516	100 00	911 76	100 00	14 04	100 00	74	100 00	2	100 00	3	100 00	10	100 00

specimens, 76 exhibit heat alteration, 21 are modified, and 93 are immature. The total MNI for Feature 55 is 60. The estimated biomass for all of the faunal remains in Feature 55 is 119.55 kg (Table 3).

White-tailed deer are represented by both adult and juvenile individuals, as well as cranial and post-cranial elements. The identified deer elements from this feature do not appear to be skewed towards meatier portions of the body, suggesting that at least the deer represented in this feature were domestic food refuse, and not ritual or feasting refuse. There are also numerous (*n*=216) bone flakes from large mammal and deer, which are portions of longbone shafts and potentially represent the end process of marrow extraction. The presence of immature and mature deer, coupled with the presence of both cranial and post-cranial portions of the skeleton, suggests that deer were butchered on-site, and that marrow was potentially extracted from the longbones to aid in food preservation.

A large mammal bone recovered from Feature 55 yielded a radiocarbon age of 760±40 B.P. (Beta-148190). This date yields ranges of A.D. 1230-1280 (one-σ) and A.D. 1190-1290 (two-σ) when calibrated with the program CALIB 6.01

TABLE 3. Summary of Faunal Remains from Feature 55.

Taxon	NISP	%	Weight (g)	%	Biomass (kg)	%	Heat Alt.	%	Mod.	%	Unfused	%	MNI	%
Vertebrata	1616	13 06	371 33	3 60	0	0 00	10	13 16	0	0 00	0	0 00	0	0 00
Mammalia	7709	62 30	2738 06	26 56	32 64	27 30	4	5 26	3	17 65	16	17 20	0	0 00
Mammalia, large	388	3 14	852 08	8 27	11 41	9 55	31	40 79	1	5 88	15	16 13	0	0 00
Mammalia, large-medium	139	1 12	56 67	0 55	1 00	0 83	0	0 00	0	0 00	0	0 00	0	0 00
Mammalia, medium	216	1 75	105 93	1 03	1 75	1 46	12	15 79	0	0 00	4	4 30	0	0 00
Mammalia, small	89	0 72	16 06	0 16	0 32	0 27	0	0 00	0	0 00	5	5 38	0	0 00
Didelphis virginiana	3	0 02	0 89	0 01	0 02	0 02	0	0 00	0	0 00	0	0 00	1	2 00
Parascalops breweri	2	0 02	0 93	0 01	0 02	0 02	0	0 00	0	0 00	0	0 00	1	2 00
Canidae	18	0 15	34 23	0 33	0 63	0 53	0	0 00	0	0 00	2	2 15	0	0 00
Canis sp	1	0 01	4 6	0 04	0 10	0 09	0	0 00	0	0 00	0	0 00	1	2 00
Urocyon cinereoargenteus	3	0 02	5 4	0 05	0 12	0 10	0	0 00	0	0 00	0	0 00	1	2 00
Procyon lotor	1	0 01	0 14	0 00	0 00	0 00	0	0 00	0	0 00	0	0 00	1	2 00
Ursus americanus	3	0 02	58 46	0 57	1 02	0 86	0	0 00	0	0 00	0	0 00	1	2 00
Cervus canadensis	5	0 04	343 46	3 33	5 04	4 21	0	0 00	0	0 00	1	1 08	2	4 00
Odocoileus virginianus	538	4 35	4505 21	43 71	51 09	42 74	1	1 32	12	70 59	34	36 56	5	10 00
Sciurus spp	254	2 05	82 72	0 80	1 40	1 17	0	0 00	0	0 00	9	9 68	10	20 00
Cricetidae	1	0 01	0 01	0 00	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Sigmodon hispidus	4	0 03	0 52	0 01	0 01	0 01	0	0 00	0	0 00	0	0 00	2	4 00
Sylivilagus floridanus	47	0 38	21 59	0 21	0 42	0 35	0	0 00	0	0 00	1	1 08	7	14 00
Aves	514	4 15	262 67	2 55	3 25	2 72	10	13 16	0	0 00	0	0 00	0	0 00
Aves, small	32	0 26	4 85	0 05	0 09	0 07	0	0 00	0	0 00	0	0 00	0	0 00
Buteo jamaicensis	11	0 09	35 29	0 34	0 52	0 44	0	0 00	0	0 00	0	0 00	2	4 00
Colinus virginianus	9	0 07	2 16	0 02	0 04	0 03	0	0 00	0	0 00	0	0 00	2	4 00
Meleagris gallopavo	291	2 35	582 35	5 65	6 70	5 61	0	0 00	0	0 00	6	6 45	6	12 00
Testudines	189	1 53	67 34	0 65	0 53	0 44	5	6 58	0	0 00	0	0 00	0	0 00
Kinosternidae	2	0 02	1 05	0 01	0 03	0 03	0	0 00	0	0 00	0	0 00	1	2 00
Emydidae	10	0 08	10 68	0 10	0 15	0 13	0	0 00	0	0 00	0	0 00	0	0 00
Terrapene carolina	123	0 99	114 62	1 11	0 76	0 63	3	3 95	1	5 88	0	0 00	1	2 00
Chrysemys scripta	1	0 01	1 03	0 01	0 03	0 03	0	0 00	0	0 00	0	0 00	1	2 00
Serpentes	81	0 65	12 86	0 12	0 18	0 15	0	0 00	0	0 00	0	0 00	1	2 00
Osteichthyes	60	0 48	8 79	0 09	0 17	0 14	0	0 00	0	0 00	0	0 00	0	0 00
Amia calva	2	0 02	0 21	0 00	0 01	0 01	0	0 00	0	0 00	0	0 00	1	2 00
Catostomidae	1	0 01	0 08	0 00	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Moxostoma sp	4	0 03	1 12	0 01	0 03	0 03	0	0 00	0	0 00	0	0 00	1	2 00
Ictalurus sp	2	0 02	0 66	0 01	0 02	0 02	0	0 00	0	0 00	0	0 00	0	0 00
Ictalurus punctatus	3	0 02	0 58	0 01	0 02	0 02	0	0 00	0	0 00	0	0 00	1	2 00
Mollusca	1	0 01	0 07	0 00	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Bivalvia	1	0 01	2 92	0 03	0 00	0 00	0	0 00	0	0 00	0	0 00	1	2 00
Total	12374	100 00	10307 62	100 00	119 55	100 00	76	1	17	1	93	1	50	100 00

(Stuiver and Reimer 1993) using the calibration dataset INTCAL09 (Reimer et al. 2009). Dicks notes that the faunal remains recovered from Feature 55 might represent domestic refuse from the occupation of Structure 21, but the relationship between these two features is unclear at this time (Merrill Dicks to Tanya Peres, letter, April 30, 2002).

Feature 184

Feature 184 is associated with Burial 4, Burial 6, and Feature 185 (described below). This feature is part of the upper fill sequence that surrounded Feature 185, and the upper part of the burial pit (Merrill Dicks to Tanya Peres, letter, 2004). In Feature 184, a total of 4,046 vertebrate and invertebrate specimens were recovered, weighing 2,623.74 g (Table 4). Identifiable taxa in Feature 184 include: opossum, coyote, raccoon, deer, gray squirrel, white-footed/wood mouse, cottontail rabbit, red-tailed hawk, turkey, mud/musk turtle, box turtle, snakes, bowfin, catfish, bass, and freshwater drum. Of these specimens, 146 exhibit heat alteration, 11 are modified, and 35 are immature. The total MNI for Feature 184 is 31. The estimated biomass for all of the faunal remains in Feature 184 is 32.82 kg (Table 4).

TABLE 4. Summary of Faunal Remains from Feature 184.

Taxon	NISP	%	Weight (g)	%	Biomass (kg)	%	Heat Alt.	%	Mod.	%	Im-mature	%	MNI	%
Vertebrata	2326	57 49	205 77	7 84	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Total Vertebrata	2326	57 49	205 77	7 84	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Mammalia	768	18 98	219 43	8 36	3 37	8 42	130	89 04	1	9 09	0	0 00	0	0 00
Mammalia, large	162	4 00	415 03	15 82	5 97	14 95	4	2 74	1	9 09	7	20 00	0	0 00
Mammalia, medium	187	4 62	167 02	6 37	2 63	6 59	0	0 00	1	9 09	2	5 71	0	0 00
Mammalia, small	27	0 67	3 42	0 13	0 08	0 20	0	0 00	0	0 00	3	8 57	0	0 00
Didelphis virginiana	2	0 05	3 51	0 13	0 08	0 20	0	0 00	0	0 00	0	0 00	2	6 45
Canis latrans spp	2	0 05	19 52	0 74	0 38	0 95	0	0 00	1	9 09	0	0 00	1	3 23
Procyon lotor	9	0 22	6 13	0 23	0 13	0 34	0	0 00	0	0 00	0	0 00	2	6 45
Odocoileus virginianus	134	3 31	1353 68	51 59	17 31	43 33	2	1 37	0	0 00	19	54 29	8	25 81
Sciurus niger	14	0 35	3 75	0 14	0 09	0 22	0	0 00	0	0 00	2	5 71	3	9 68
Peromyscus leucopus	1	0 02	0 03	0 00	0 00	0 00	0	0 00	0	0 00	0	0 00	1	3 23
Sylivilagus floridanus	17	0 42	5 29	0 20	0 12	0 29	0	0 00	0	0 00	0	0 00	2	6 45
Total Mammalia	1323	32 70	2196 81	83 73	30 17	75 50	136	93 15	4	36 36	33	94 29	19	61 29
Aves	51	1 26	33 53	1 28	0 50	1 25	0	0 00	0	0 00	0	0 00	0	0 00
Buteo jamaicensis	1	0 02	2 12	0 08	0 04	0 10	0	0 00	0	0 00	0	0 00	1	3 23
Meleagris gallopavo	12	0 30	38 02	1 45	0 56	1 40	0	0 00	2	18 18	0	0 00	2	6 45
Total Aves	64	1 58	73 67	2 81	1 10	2 75	0	0 00	2	18 18	0	0 00	3	9 68
Testudines	130	3 21	33 88	1 29	0 34	0 84	4	2 74	2	18 18	0	0 00	0	0 00
Kinosternidae	2	0 05	0 62	0 02	0 02	0 06	0	0 00	0	0 00	0	0 00	1	3 23
Emydidae	6	0 15	3 12	0 12	0 07	0 17	0	0 00	1	9 09	0	0 00	0	0 00
Chrysemys picta picta	5	0 12	3 94	0 15	0 08	0 20	0	0 00	0	0 00	0	0 00	1	3 23
Terrapene carolina	117	2 89	86 91	3 31	0 63	1 58	4	2 74	2	18 18	2	5 71	2	6 45
Serpentes	12	0 30	1 72	0 07	0 05	0 11	1	0 68	0	0 00	0	0 00	1	3 23
Total Reptilia	272	6 72	130 19	4 96	1 18	2 95	9	6 16	5	45 45	2	5 71	5	16 13
Osteichthyes	32	0 79	6 05	0 23	0 13	0 32	0	0 00	0	0 00	0	0 00	0	0 00
Amia calva	1	0 02	0 09	0 00	0 00	0 01	0	0 00	0	0 00	0	0 00	1	3 23
Ictalurus punctatus	13	0 32	1 50	0 06	0 04	0 10	1	0 68	0	0 00	0	0 00	1	3 23
Micropterus salmoides	1	0 02	0 62	0 02	0 02	0 05	0	0 00	0	0 00	0	0 00	1	3 23
Aplodinotus grunniens	14	0 35	9 04	0 34	0 18	0 44	0	0 00	0	0 00	0	0 00	1	3 23
Total Osteichthyes	61	1 51	17 30	0 66	0 37	0 92	1	0 68	0	0 00	0	0 00	4	12 90
Total Vertebrata	4046	100 00	2623 74	100 00	32 82	100 00	146	100 00	11	100 00	35	100 00	31	100 00
Total Assemblage	4046	100 00	2623 74	100 00	32 82	100 00	146	100 00	11	100 00	35	100 00	31	100 00

The deer are represented by both adult and juvenile individuals, as well as cranial and post-cranial elements. As in Feature 55, the identified deer elements in this assemblage do not appear to be skewed towards meatier portions of the deer, suggesting that the deer represented in this feature assemblage are also domestic food refuse, and not ritual or feasting refuse. Additionally, two of the taxa identified in this assemblage are not considered typical food species. These taxa include red-tailed hawk and coyote. The contemporaneous Rutherford-Kizer site (40SU15) yielded numerous faunal remains, but none were identified as either of these two taxa (Breitburg and Moore 2001). The coyote identified at Fewkes is represented by both the left and right mandible. The right mandible had five cut marks on the ascending ramus. The red-tailed hawk is represented by a left tibiotarsus. The role that these two taxa played in the diet, daily life, or ritual life of the Fewkes' inhabitants warrants further exploration.

Feature 185

Feature 185 is a small hearth-like feature positioned over the burial of a young adult male (20-35 years old; Tennessee Division of Archaeology, NAGPRA Inventory 1015). The individual was extended and buried with two greenstone celts at the feet. Additionally, a second adult male (35-50 years of age), tightly flexed and missing the skull, C1 and C2, was recovered from a corner of the grave (Merrill Dicks to Tanya Peres, letter, 2004; Tennessee Division of Archaeology NAGPRA Inventory 1010). The hearth feature could have been created as part of the burial ritual, and may even be evidence of "feasting." The artifacts in this burial suggest a date range of ca. A.D. 1250 to 1450 which is compatible with the most intensive occupation of the site (Merrill Dicks to Tanya Peres, letter, 2004).

In Feature 185, a total of 371 vertebrate and invertebrate specimens were recovered, weighing 936.34 g (Table 5). The identifiable taxa in Feature 185 include: opossum, black bear, deer, squirrels, turkey, box turtle, and freshwater drum. Of these specimens, 29 exhibit heat alteration, six are modified, and nine are immature. The total MNI for Feature 185 is 10. The estimated biomass for all of the faunal remains analyzed from Feature 185 is 14.18 kg (Table 5).

The nature of Feature 185 suggests the possibility of feasting at this specific location. Feasting is usually studied archaeologically as an event hosted by elites in their competition for status

TABLE 5. Summary of Faunal Remains from Feature 185.

Taxon	NISP	%	Weight (g)	%	Biomass (kg)	%	Heat Alt.	%	Mod.	%	Im-mature	%	MNI	%
Vertebrata* no count	0	0 00	11 65	1 24	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Total Vertebrata	0	0 00	11 65	1 24	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Mammalia	178	47 98	41 66	4 45	0 75	5 32	19	65 52	2	33 33	5	55 56	0	0 00
Mammalia, large	84	22 64	106 41	11 36	1 76	12 38	4	13 79	2	33 33	1	11 11	0	0 00
Mammalia, medium-large	29	7 82	73 35	7 83	1 26	8 86	3	10 34	0	0 00	0	0 00	0	0 00
Mammalia, small-medium	21	5 66	15,05	1 61	0 30	2 13	0	0 00	0	0 00	1	11 11	0	0 00
Didelphis virginiana	1	0 27	0 74	0 08	0 02	0 14	0	0 00	0	0 00	1	11 11	1	10 00
Ursus americanus	1	0 27	23 31	2 49	0 45	3 16	0	0 00	0	0 00	0	0 00	1	10 00
Cervidae	1	0 27	88 14	9 41	1 48	10 45	0	0 00	0	0 00	0	0 00	1	10 00
Odocoileus virginianus	34	9 16	554 95	59 27	7 76	54 73	2	6 90	2	33 33	1	11 11	3	30 00
Sciurus spp	1	0 27	0 19	0 02	0 01	0 04	1	3 45	0	0 00	0	0 00	1	10 00
Total Mammalia	350	94 34	903 80	96 52	13 78	93 21	29	100 00	6	100 00	9	100 00	7	70 00
Aves	2	0 54	2 40	0 26	0 05	0 32	0	0 00	0	0 00	0	0 00	0	0 00
Meleagris gallopavo	4	1 08	4 25	0 45	0 08	0 54	0	0 00	0	0 00	0	0 00	1	10 00
Total Aves	6	1 62	6 65	0 71	0 12	0 82	0	0 00	0	0 00	0	0 00	1	10 00
Testudines	5	1 35	1 29	0 14	0 04	0 26	0	0 00	0	0 00	0	0 00	0	0 00
Terrapene carolina	3	0 81	1 63	0 17	0 04	0 31	0	0 00	0	0 00	0	0 00	1	10 00
Total Reptilia	8	2 16	2 92	0 31	0 08	0 55	0	0 00	0	0 00	0	0 00	1	10 00
Osteichthyes	2	0 54	0 25	0 03	0 01	0 07	0	0 00	0	0 00	0	0 00	0	0 00
Aplodinotus grunniens	2	0 54	4 15	0 44	0 09	0 66	0	0 00	0	0 00	0	0 00	1	10 00
Total Osteichthyes	4	1 08	4 40	0 47	0 10	0 70	0	0 00	0	0 00	0	0 00	1	10 00
Total Vertebrata	368	99 19	929 42	99 26	14 18	100 00	29	100 00	6	100 00	9	100 00	10	100 00
Bivalvia	3	0 81	6 92	0 74	0	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Total Invertebrata	3	0 81	6 92	0 74	0	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Total Assemblage	371	100 00	936 34	100 00	14 18	100 00	29	100 00	6	100 00	9	100 00	10	100 00

(VanDerwarker 1999). Often studies of faunal remains in conjunction with feasting look at taxonomic diversity and body-part distribution of deer, the largest vertebrate species recovered in abundance in the southeastern United States (Kelly 2001). If the Feature 185 faunal assemblage does represent a feast in relationship to a burial ceremony, would the same expectations apply? Since this feature is associated with burials, and thus a death ritual, any associated feast would not necessarily have been linked to competition for status, rather it likely would have been to mourn the dead and/or to reinforce the individual's status, if applicable. While black bear is thought to play a major role in the diet of the Middle Cumberland Mississippian people (Breitburg 1998; Breitburg and Moore 2001), it is not equally represented in all features or test units at the Fewkes site, as are other taxa, namely white-tailed deer. In the case of Feature 185, it seems likely that the inclusion of bear in the feature fill suggests that the assemblage represents an extraordinary meal or dietary event.

The topic of feasting is difficult to address using faunal remains alone. Multiple lines of evidence, comprised of ceramics, floral, lithics, and other artifacts, are necessary to answer such a complex question. Data from the analysis of other artifact classes are needed to shed light on the nature and function of the Feature 185 deposit.

Feature 722

Feature 722 was a large deposit of ash and charcoal located within Feature 723 (Merrill Dicks to Tanya Peres, letter, April 30, 2002). Dicks noted that this appeared to be an informal hearth-like pit that intruded into Feature 723, which was a basin-shaped pit. In Feature 722, a total of 154 vertebrate specimens were recovered, weighing 73.65 g (Table 6). The identifiable taxa in Feature 722 include: opossum, bear, cotton rat, and box turtle. Of these 154 specimens, 27 exhibit heat alteration, none are modified, and all are from adult individuals. The total MNI for Feature 722 is six. The estimated biomass for all of the faunal remains in Feature 722 is 1.39 kg (Table 6).

Feature 817

Feature 817 was a large, circular, shallow, basin-shaped pit (Merrill Dicks to Tanya Peres, letter, April 30, 2002). A

TABLE 6. Summary of Faunal Remains from Feature 722.

Taxon	NISP	%	Weight	%	Biomass	%	MNI	%
Vertebrata	76	49.35	1.46	1.98	0.00	0.00	0	0.00
Mammalia	65	42.21	18.31	24.86	0.36	25.96	0	0.00
Mammalia, large	1	0.65	7.02	9.53	0.15	10.95	0	0.00
Didelphis virginiana	1	0.65	0.85	1.15	0.02	1.64	1	16.67
Ursus americanus	1	0.65	44.40	60.29	0.80	57.61	1	16.67
Cervidae	1	0.65	0.70	0.95	0.02	1.38	1	16.67
Sigmodon hispidus	4	2.60	0.16	0.22	0.01	0.36	1	16.67
Terrapene carolina	2	1.30	0.56	0.76	0.02	1.55	1	16.67
Osteichthyes	3	1.95	0.19	0.26	0.01	0.55	1	16.67
Total	154	100.00	73.65	100.00	1.39	100.00	6	100.00

sample from this feature returned a radiocarbon age of 750±40 B.P. (Beta-148193). This date yields ranges of A.D. 1230-1280 (one-σ) and A.D. 1210-1380 (two-σ) when calibrated with the program CALIB 6.01 (Stuiver and Reimer 1993) using the calibration dataset INTCAL09 (Reimer et al 2009). The feature is part of a cluster of large, shallow pits that were identified in this area. The palisade line bisects this cluster of features, and few domestic structures were identified in this area (Merrill Dicks to Tanya Peres, letter, April 30, 2002). The original function of this feature has not been determined, but Dicks suggests that refuse disposal was not the primary function (Merrill Dicks to Tanya Peres, letter, April 30, 2002).

In Feature 817, a total of 2,955 vertebrate and invertebrate specimens were recovered, weighing 3,079.58 g (Table 7). The identifiable taxa in Feature 817 include: opossum, striped skunk, bear, deer, fox squirrel, hispid cotton rat, mud/musk turtle, pond slider, box turtle, pit vipers, bowfin, channel catfish, elephant ear, and Ohio pigtoe. Of these specimens, 789 exhibit heat alteration, none are modified, and one is immature. The total MNI for Feature 817 is 26. The

TABLE 7. Summary of Faunal Remains from Feature 817.

Taxon	NISP	%	Weight	%	Biomass	%	MNI	%
Vertebrata	633	21.42	45.12	1.47	0.00	0.00	0	0.00
Mammalia	1967	66.57	1811.76	58.83	22.51	58.78	0	0.00
Didelphis virginiana	1	0.03	2.06	0.07	0.05	0.13	1	3.57
Mephitis mephitis	1	0.03	1.26	0.04	0.03	0.08	1	3.57
Ursus americanus	1	0.03	89.86	2.92	1.51	3.94	1	3.57
Odocoileus virginianus	82	2.77	933.28	30.31	12.39	32.35	2	7.14
Sciurus niger	23	0.78	10.52	0.34	0.22	0.57	1	3.57
Cricetidae	1	0.03	0.07	0.00	0.00	0.01	0	0.00
Sigmodon hispidus	2	0.07	0.22	0.01	0.01	0.02	1	3.57
Aves	2	0.07	0.26	0.01	0.01	0.02	1	3.57
Testudines	61	2.06	27.53	0.89	0.29	0.76	0	0.00
Kinosternidae	42	1.42	14.10	0.46	0.19	0.49	1	3.57
Emydidae	3	0.10	7.37	0.24	0.12	0.31	0	0.00
Terrapene carolina	45	1.52	62.89	2.04	0.51	1.32	1	3.57
Chrysemys picta picta	1	0.03	1.56	0.05	0.04	0.11	1	3.57
Serpentes	19	0.64	2.77	0.09	0.06	0.16	0	0.00
Crotalidae	27	0.91	17.33	0.56	0.21	0.56	1	3.57
Osteichthyes	27	0.91	4.14	0.13	0.09	0.24	0	0.00
Amia calva	2	0.07	0.51	0.02	0.02	0.04	1	3.57
Ictalurus punctatus	1	0.03	1.21	0.04	0.03	0.09	11	39.29
Centrarchidae	1	0.03	0.06	0.00	0.00	0.01	1	3.57
Mollusca	1	0.03	0.94	0.03	0.00	0.00	0	0.00
Gastropoda	4	0.14	0.55	0.02	0.00	0.00	1	3.57
Bivalvia	6	0.20	7.59	0.25	0.00	0.00	0	0.00
Elliptio crassidens	1	0.03	30.60	0.99	0.00	0.00	1	3.57
cf. *Pleurobema cordatum*	1	0.03	6.02	0.20	0.00	0.00	1	3.57
Total	2955	100.00	3079.58	100.00	38.29	100.00	28	100.00

estimated biomass for all of the faunal remains recovered from Feature 817 is 38.29 kg (Table 7). The taxa represented in this feature assemblage are likely remains of domestic food refuse. These taxa are typical of the general diet of the occupants of the Fewkes site. Feature 817 may not have originally been dug for use as a refuse pit. However, the faunal assemblage composition, location of the feature within a cluster of similarly shaped and used features, and the cluster's location away from domestic structures, suggests that its terminal use was as a refuse pit.

Feature 847

This feature was an extremely large pit, similar to Feature 55. Like Feature 55, it may have originated as a borrow pit and was later filled with domestic refuse. Feature 847 also included Burial 19, an adult male (25-40 years of age), buried on his side in a flexed position (Merrill Dicks to Tanya Peres, letter, April 30, 2002; Tennessee Division of Archaeology NAGPRA Inventory 1035). This feature was located on the exterior of the palisade near several domestic structures. Associated diagnostic artifacts suggest a Thruston phase affiliation (ca. A.D. 1250-1450).

In Feature 847, a total of 445 vertebrate specimens were recovered, weighing 1,221.37 g (Table 8). The identifiable taxa in Feature 847 are: opossum, bear, deer, squirrels, foxes, groundhog, red-tailed hawk, turkey, painted turtle/cooter, box turtle, and snakes. Of these specimens, six exhibit heat alteration, 12 are modified, and seven are immature. The total MNI for Feature 847 is 24. The estimated biomass for all of the faunal remains from Feature 847 is 16.51 kg (Table 8).

The faunal remains recovered from Feature 847 may be associated with

TABLE 8. Summary of Faunal Remains from Feature 847.

Taxon	NISP	%	Weight (g)	%	Biomass (kg)	%	Heat Alt.	%	Mod.	%	Im-mature	%	MNI	%
Vertebrata	170	38 20	56 01	4 59	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Total Vertebrata	170	38 20	56 01	4 59	0 00	0 00	0	0 00	0	0 00	0	0 00	0	0 00
Mammalia	111	24 94	290 75	23 81	4 34	0 26	2	33 33	4	33 33	1	14 29	0	0 00
Canidae	2	0 45	2 04	0 17	0 05	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Didelphis virginiana	1	0 22	2 05	0 17	0 05	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Ursus americanus	11	2 47	77 35	6 33	1 32	0 08	0	0 00	0	0 00	0	0 00	1	4 17
Odocoileus virginianus	52	11 69	606 46	49 65	8 40	0 51	2	33 33	8	66 67	6	85 71	5	20 83
Sciurus spp	5	1 12	2 69	0 22	0 06	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Urocyon spp	1	0 22	1 13	0 09	0 03	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Marmota monax	2	0 45	2 06	0 17	0 05	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Total Mammalia	185	41 57	984 53	80 61	14 30	0 87	4	66 67	12	100 00	7	100 00	11	45 83
Aves	12	2 70	12 57	1 03	0 02	0 01	1	16 67	0	0 00	0	0 00	0	0 00
Buteo jamaicensis	1	0 22	0 27	0 02	0 01	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Meleagris gallopavo	16	3 60	79 05	6 47	1 09	0 07	1	16 67	0	0 00	0	0 00	3	12 50
Total Aves	29	6 52	91 89	7 52	1 30	0 08	2	33 3	0	0 00	0	0 00	4	16 67
Testudines	7	1 57	8 79	0 72	0 14	0 01	0	0 00	0	0 00	0	0 00	0	0 00
Kinosternidae	1	0 22	0 22	0 02	0 01	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Chrysemys spp	10	2 25	16 01	1 31	0 20	0 01	0	0 00	0	0 00	0	0 00	1	4 17
Terrapene carolina	40	8 99	62 02	5 08	0 50	0 03	0	0 00	0	0 00	0	0 00	5	20 83
Serpentes	1	0 22	0 28	0 02	0 01	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Total Reptilia	59	13 26	87 32	7 15	0 87	0 05	0	0 00	0	0 00	0	0 00	8	33 33
Osteichthyes	2	0 45	1 62	0 13	0 04	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Total Osteichthyes	2	0 45	1 62	0 13	0 04	0 00	0	0 00	0	0 00	0	0 00	1	4 17
Total Vertebrata	445	100 00	1221 37	99 87	16 51	100 00	6	100 00	12	100 00	7	100 00	24	95 83
Total Assemblage	445	100 00	1221 37	99 87	16 51	100 00	6	100 00	12	100 00	7	100 00	24	95 83

Burial 19. If so, then it is possible that these remains are a result of feasting associated with the burial. As this feature is associated with a burial, and thus a death ritual, any associated feast may not have been linked to competition for status, rather it may have been to mourn the dead, and/or reinforce the deceased individual's status. In the case of Feature 847, the inclusion of bear and red-tailed hawk in the assemblage suggests an out-of-the-ordinary meal.

Evidence of Butchering

In the Fewkes faunal assemblage, there are 146 bones that exhibit signs of butchering. Fifty-eight indeterminate mammal bones show evidence of cut marks (15 are from large mammals). Deer account for the remaining 69 bones with cut marks, including: two astragali, four calcanei, one phalange, six metapodials, five metacarpals, and one generally identified as a metapodial. This suggests the cutting and removal of the feet during processing. One antler specimen also shows signs of cutting. The presence of cut marks on one atlas, one cervical vertebra and three mandible fragments as well as one portion of the ascending ramus indicates the removal and processing of the head. Cut marks on one femur indicate the removal of flesh or the disarticulation of the skeleton. Four right, two left and one indeterminately-sided tibia specimens also show signs of cutting. Further, the distal end of two tibiae, two right tibia shafts and one left shaft also display signs of cutting. The cut marks on the tibiae indicate possible disarticulation of the lower hind limbs. Cut marks on the distal portions of six humeri, the proximal portion of five humeri, and the shaft of one humerus indicates de-fleshing or disarticulation of the forelimbs. In addition, cut marks on one right and one left radius, as well as three right distal radii and three proximal radii, three right ulna, one left ulna, and one indeterminately sided ulna indicates that the forelimbs may have been disarticulated at the "elbow." Other elements displaying cut marks are two scapulae, one spinous process, one rib and three innominates Other mammals displaying cut marks include a coyote mandible, right tibia of an opossum, and distal tibia of a gray fox.

Representing the class of Aves is the turkey, with cut marks on one right and one left tibiotarsus. The eastern box turtle elements displaying cut marks include one carapace specimen and two marginal specimens.

In addition to cut marks, other documented evidence of butchering includes "bone flakes." These specimens are defined as pieces that come from long bone shafts of large mammals (i.e., humerus, radius, femur, tibia, metapodial), lack articular ends, and are less than half the circumference of the original element (Brain 1981). Brain (1981:10) states "long bones will generally have been smashed to extract marrow, resulting in characteristic bone fragments." Often marrow or "bone grease" is perceived as a food item that is used mainly in times of stress. These periods might occur when the animals themselves are in poor physical condition (Speth and Spielmann 1983). However, ethnographic evidence from the Plains Indians shows that grease was used as an ingredient in pemmican, a mixture of dried lean meat and melted fat, often marrow (Brink 1997; Webster's Dictionary 1986:868). Pemmican played a large role in food storage and trade. Thus, evidence of marrow extraction does not necessarily indicate that a population was under nutritional stress. The bone flakes

(*n*=575) in this assemblage likely represent evidence of marrow extraction, which is often the last stage in the butchering process, as it is quite destructive. Bone flakes were identified from mammal, medium-to-large mammal, large mammal, and deer. However, at this time, the data do not allow for unequivocal conclusions regarding the use of bone marrow at the Fewkes site.

Modified Bone

Within this portion of the Fewkes site assemblage, there were 146 bone specimens that were modified, and an additional 3,233 specimens that were heat altered. Two Cervidae antlers, weighing 8.79 g, were identified as "tools." The distal end of an ulna, weighing 19.62 g, was modified into a shape that is commonly called an awl (Figure 4). Two Mammalia metapodials were identified as culturally modified fishhooks (Figure 5). A total of five bone pins (the use of "pin" here relates to form, as is not meant to imply any function) were found in the Fewkes assemblage, all of which were modified from indeterminate Mammalia (Figures 6 and 7). One of the bone pins exhibited polishing and striations toward the cut ends. Another indeterminate Mammalia specimen had been modified with a serrated tip. Seven of the specimens appeared to have red ochre applied to their surfaces. Three specimens were identified as exhibiting polish.

FIGURE 4. Distal ulna modified into an "awl."

FIGURE 5. Bone fishhook.

Species Biomass and Habitat Preference

A discussion of the most significant taxa, according to biomass estimates, and the habitats of the taxa, will aid in developing a deeper understanding of the environment in which the prehistoric people of the Fewkes site inhabited and exploited animals. The Fewkes site is located in the Central Basin physiographic region of Tennessee. The Central Basin is described as an elliptical

FIGURE 6. Bone "pin."

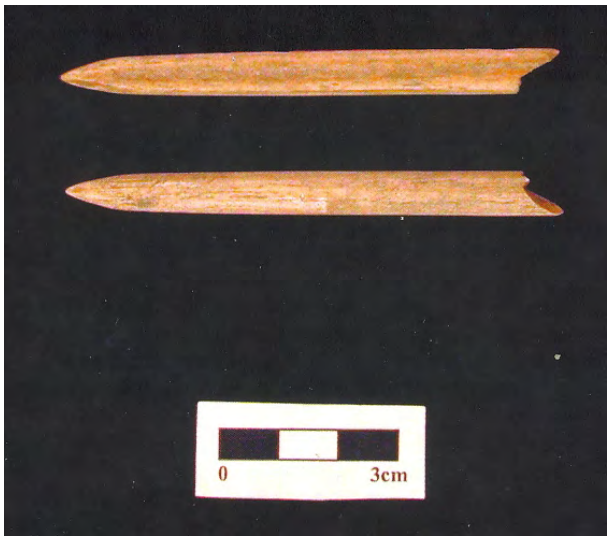

FIGURE 7. Bone "pins."

depression surrounded by the Highland Rim (Miller 1974:5). The majority of the Central Basin, including the Fewkes site, is located in the Western Mesophytic Forest Region (Braun 1950). This type of forest includes an upland climax community of oak, hickory, tulip tree, beech, and chestnut. Middle Tennessee, where the Fewkes site is located, is situated within the Carolinian Biotic Province, characterized by a rich and diverse fauna (Dice 1943). Some mammals native to this province include white-tailed deer, elk, black bear, mountain lion, gray wolf, raccoon, bobcat, fox, mink, otter, skunk, weasel, muskrat, woodchuck, squirrel, eastern cottontail rabbit, and opossum. Some of the avian taxa native to this province include: eagle, hawk, owl, turkey, quail, passenger pigeon, goose, duck, mallard, and teal. Other animals such as numerous species of snake, frog, turtles, fish, and molluscs, are also native to this province.

Biomass estimates for each identifiable taxon are presented in Table 1. Biomass estimates were not calculated for the invertebrates, as comparative data from modern reference specimens are not available, nor for those taxa considered commensal. However, habitat information for each of the identified invertebrate species will be presented.

The white-tailed deer (*Odocoileus virginianus* and cf. *O. virginianus*) comprises 69.95% of the biomass, thus making it the most important meat source at the site. The black bear (8.36%), turkey (5.75%), and elk (*Cervus canadensis* and cf. *C. canadensis*; 3.08%) are the other important meat sources after deer in terms of overall biomass. The eastern box turtle comprises 0.99% of the total identified taxa biomass estimates. All other identified taxa, with the exception of the dog (1.63%), have biomass estimates of less than 1% each. However, it is unclear if dogs were used as food at this site. The low numbers of fish may be due to a preservational or sampling bias, or fish may not have played a large role in the subsistence strategies of the site inhabitants. The combined identified fish taxa at the Fewkes site comprise less than 1% of the biomass estimates (Table 1). Thus, it appears that the inhabitants of the Fewkes site ate mainly deer, followed by bear, turkey, and elk. Lesser amounts of small and medium mammals (i.e., squirrels, skunk, raccoon, foxes, etc.), birds (goose, hawk, bobwhite), turtles (box, cooter, painted, etc.), snakes, fish, and mollusks were also included in the diet.

Animals that thrive along the forest edge or in open forest were the largest contributors to the animal biomass of the Fewkes faunal assemblage. These animals include deer, elk, squirrels, woodchuck, eastern cottontail rabbit, turkey, red-tailed hawk, and Canada goose. These animals comprise nearly 81% of the estimated biomass of the identified taxa.

Taxa procured in rugged forested upland and/or denser wooded areas also contributed significantly to the biomass of the site. These animals include black bear, opossum, box turtle, and snakes. These animals contributed nearly 10% to the estimated biomass of the identified taxa. Additionally, a number of taxa were procured from aquatic and semi-aquatic habitats. These animals include mud and musk turtles, water and box turtles, cooter, painted turtle, pond slider, sliders and cooters, softshell turtle, frogs and toads, gar, bowfin, suckers, redhorse, catfish, channel catfish, sunfish/bluegills, largemouth bass, bass, and drumfish. These taxa comprised nearly 2% of the estimated biomass of the identified taxa. The two molluscs identified in this assemblage do not have calculated biomass estimates, as comparative data from modern reference specimens are not available.

Seasonality

Prehistoric people adjust to the seasonal availability of foodstuffs through storage (salting, drying, pemmican, earthen pits, etc.), re-directing their focus to other locally available taxa, and/or changing their locale to exploit resources abundant elsewhere. Typically, zooarch-aeologists use the presence of animals identified in an assemblage to infer the season(s) that people occupied the area (assuming these animals were procured at a time of year when they were abundantly available locally). For instance, the southern population of the Canada goose spends the summer in northern North America and migrates south to the United States in winter (Lutz and Dewey 2002). Thus, a zooarchae-ologist would infer that the presence of Canada goose at a prehistoric archaeological site in the Southeastern United States indicates a winter occupation of the site. In the absence of data pertaining to other seasonal indicators (i.e., epiphyseal fusion, antler development, medullary bone, and incremental growth), the presence of the most abundant species will be used to infer season(s) of occupation at the Fewkes site.

The main taxa identified in this assemblage, based on biomass estimates consist of deer (148.18 kg), black bear (17.78 kg), turkey (12.23 kg), elk (5.93 kg), and eastern box turtle (2.11kg). Most of these animals could have been taken throughout the year. The deer have a small home range of less than one km^2, and do not have a pattern of seasonal migration (Senseman 2002). Elk have a larger home range of over 1500 km^2 (600 square miles) and migrate to higher elevations in the summer (Senseman 2002). The turkey is a non-migratory bird that is found throughout the southeast. The eastern box turtle has a small home range of 230 meters (250 yds) or less in diameter, which often overlaps with other individuals of the same species (Niedzielski 2002). The black bear is considered an efficient hibernator, even in the southeast (Rogers 1992). The home ranges of black bears vary from 3-10 km (2-6 miles) for adult females to 11-24 km (7-15 miles) for adult males (Rogers 1992).

A number of these animals would have been drawn to the types of environments that are a direct result of land clearing for agriculture. Deer, turkey, rabbit, and squirrel thrive in forest-edge environments, especially those created by humans during the process of forest clearing for arable land. Today, animals that survived well in forest-edge environments are commonly drawn to fields of cultivated crops or house-gardens to feed; this likely happened prehistorically, too. Since humans could easily acquire these animals, they concentrated their hunting efforts on them, and these taxa became the main contributors to the biomass of the site (Linares 1976). In addition, having a known supply of protein resources may have reduced the seasonality and scheduling of resource procurement (Linares 1976). This idea of "garden hunting" may very well apply to the Fewkes site and other Mississippian sites around the southeast.

Species Diversity and Equitability

The values for species diversity (number of different taxa represented in a sample) and equitability (evenness of the number of individuals of a given taxa) at the Fewkes site were calculated using both the MNI and biomass estimates for the vertebrate faunal assemblage (Table 9). The diversity and equitability values, based on MNI, were calculated using vertebrates only, then using both vertebrates and invertebrates (Table 9). Based on the MNI estimates of the vertebrates only, the species diversity (H') for this sample is 0.656, and the equitability (V') is 0.421. These numbers show that there is an uneven distribution of taxa in the Fewkes faunal assemblage. Based on MNI estimates for both the vertebrates and invertebrates, the species diversity (H') is 0.698, and the equitability (V') is 0.433, nearly the same as for the vertebrates alone. When biomass estimates of the vertebrates is used instead of MNI estimates (biomass figures for invertebrates were not calculated), the Fewkes sample is diverse in the number of taxa present (H'=0.829), however the equitability (V') is low (0.531). Thus, the biomass of this assemblage is dominated by a few taxa.

TABLE 9. Species Diversity (H') and Equitability (V') for the Fewkes Site Faunal Assemblage.

Vertebrates Only	**H'**	**V'**
MNI	0.656	0.421
Biomass	0.829	0.531
Combined Vertebrates and Invertebrates	**H'**	**V'**
MNI	0.698	0.433
Identified Taxa Only	**H'**	**V'**
MNI	1.244	0.771
Biomass	0.581	0.372

When the diversity and equitability are calculated for only those taxa considered identifiable (those identified to Family, *Genus*, and *species*; see Table 1), the results show that, in terms of biomass, the diversity (H'=0.581) and equitability (V=0.372) are both low (Table 9). This low diversity and equitability is due to the fact that deer dominate the biomass, and thus were the largest source of meat at Fewkes. In terms of MNI, the diversity (H'=1.244) is low to moderate, and the equitability (V'=0.771) is moderate. The low diversity is due to the fact that deer comprise the majority of the assemblage. The moderate equitability is due to the fact that four of the 39 identified taxa have significantly higher MNI values. Simply stated, while the deer dominates (MNI=36), several other taxa have higher than average MNI values (squirrels,

MNI=18; turkey, MNI=16; box turtle, MNI=15).

Observations on the Fewkes Site Faunal Assemblage

At the Fewkes site, the majority of the identifiable faunal assemblage is comprised of white-tailed deer. Other large mammals represented are elk and bear, however both occur in lesser quantities. Turkey and eastern box turtle comprise a relatively large percentage of the assemblage. Aquatic and semi-aquatic species are also present in this assemblage, however in smaller numbers. Thus, the occupants of the Fewkes site likely subsisted heavily on white-tailed deer, and occasionally consumed bear, turkey, elk, and box turtle. This underlying subsistence structure was supplemented with the other taxa identified in the sample. The species diversity and equitability numbers also support this argument. Animals that are represented in the sample in any quantity to speak of (deer, bear, elk, box turtle, turkey, and squirrels) are all locally available and thrive in Middle Tennessee. None of the animals represented in the assemblage can be considered "exotic" or non-local to the area.

Evidence of butchering suggests that post-cranial deer skeletons were disarticulated and defleshed prior to cooking and consumption. Potential evidence for pemmican (a mixture of dried lean meat and melted fat, often marrow) manufacture is seen in the high occurrence of "bone flakes" (*n*=575) in this assemblage. Bone flakes may have resulted from the intentional extraction of marrow for either direct consumption or as use in the manufacture of pemmican. Modified bone specimens (*n*=146) in the sample consist of two cervid antlers and an ulna awl, two fishhooks constructed from mammal metapodials, five bone pins/points, a mammal bone that had been modified to have a serrated tip, and three polished specimens. The bone "points" were likely utilitarian items that served many functions, thus a single function is not assigned here. Additionally, ten specimens had cut marks on them, seven had red ochre applied to their surfaces, and 3,233 have been heat altered.

The features identified at the Fewkes site are associated with the Mississippian occupation of the site. Of the seven features, three are associated with burials. These three features (Features 184, 185, 847) are not any more taxonomically diverse than the other four features (Features 1, 55, 722, 817). However, the three associated with burials had at least one "special" or "unusual" species represented, such as bear, red-tailed hawk, or coyote. Are the assemblages from the three burial-associated features representative of feasting episodes? What about the features that are not directly associated with burials, but contain "unusual" taxa or groupings of taxa? These are intriguing questions to be sure. However, only additional data from the analyses of other artifact classes will permit definitive conclusions regarding the presence of feasting.

Feature 1 was unusual both morpho-logically and compositionally. No burials were associated with this feature, however, two bears and one dog were identified in this assemblage. The assemblage composition of Feature 1 suggests that the fill was likely not everyday domestic refuse. How Feature 1 is related to the nearby sheet midden, the burned structure, and the palisade line is not known. Further analysis of other

artifact classes and features may be able to shed light on these relationships.

Feature 55 was the largest feature excavated out of 350 features. The deer represented in this feature assemblage are likely domestic food refuse, and not that of ritual or feasting activities. There are also numerous bone flakes from large mammal and deer, which possibly represent the end process of marrow extraction. The presence of immature and mature deer, cranial, post-cranial, post-cranial and meatier portions of the skeleton, suggests that deer were butchered on-site, and that marrow was extracted from the longbones to potentially aid in food preservation. The faunal remains recovered from Feature 55 might represent domestic refuse from Structure 21, but the relationship between these two features remains unclear.

Within the analyzed portion of the Fewkes site assemblage, there were 146 bone specimens that were modified, and an additional 3,233 specimens that were heat altered. Two Cervidae antlers and the proximal end of an ulna were identified as “tools.” Two Mammalia metapodials were identified as culturally modified fishhooks. A total of five bone pins were identified in the Fewkes assemblage. One of the bone pins exhibited polishing and striations toward the cut ends. Another indeterminate Mammalia specimen had been modified with a serrated tip. Seven of the specimens appeared to have red ochre applied to their surfaces. Three specimens were identified as exhibiting polish.

The largest contributors to the biomass estimates for Fewkes are those animals that thrive along the forest edge or in open forest. Other animals were procured in rugged forested upland and/or denser wooded areas, and contributed significantly to the biomass of the site. A number of aquatic and semi-aquatic taxa (vertebrates and invertebrates) are present at the Fewkes site; however, their biomass contributions are much smaller than animals from other environmental zones. A number of these animals would have been drawn to the types of environments that are a direct result of land clearing for agriculture. Deer, turkey, rabbit, and squirrel thrive in forest-edge environments, especially those created by humans during the process of forest clearing for arable land. Animals that survived well in forest-edge environments would have been drawn to fields of cultivated crops or house-gardens to feed. Since humans could easily acquire these animals, they concentrated their hunting efforts on them, and these taxa became the main contributors to the biomass of the site. Additionally, having a known supply of protein resources may have reduced the seasonality and scheduling of resource procurement for the occupants of the Fewkes site. It is likely that the Fewkes site was occupied year round, as evidenced by the vertebrate faunal remains.

Modeling Mississippian Subsistence Strategies in Middle Tennessee

The Fewkes site faunal assemblage is important because it allows us to draw conclusions about late prehistoric subsistence in Middle Tennessee at the site level. However, it is also important to place the Fewkes site into the larger picture by comparing the analyzed faunal assemblage with others from the region. The faunal assemblage analyzed from the Fewkes site is compared to animal exploitation practices as outlined for the Cumberland River drainage model of Mississippian period sites (Breitburg

1998; Breitburg and Moore 2001), as well as the model used to explain Mississippian period animal exploitation practices for the Mississippi River drainage (Smith 1974).

Bruce Smith (1974) proposed a model of animal exploitation strategies for sites along the Mississippi River drainage. Smith's first hypothesis is that these groups were selective in the animals they chose to kill and consume, and that this selection was uniform across sites. His analysis shows that the white-tailed deer, raccoon, and turkey were the most important terrestrial animals at these sites. Secondly, he suggests that the exploitation of animals by Middle Mississippi groups was seasonally oriented. There were two seasons of exploitation: a spring-summer season in which a number of fish species were taken, and a fall-winter season in which migratory waterfowl and numerous terrestrial species were taken. The white-tailed deer was the most important terrestrial species taken during the winter, followed by raccoon, turkey, and opossum. Smith notes that these animals were not taken *only* in the fall-winter, but that is when they were most heavily targeted. Third, Middle Mississippian groups concentrated on particular terrestrial animals, excluding other available animals. Smith found that for terrestrial animals exploited during the fall-winter months, white-tailed deer, raccoon, and turkey were selectively exploited to the near-exclusion of other terrestrial species taken during this season. Other small to medium mammals (i.e., opossum, squirrels, and rabbits) were consistently represented at Middle Mississippi sites, however, they were exploited in very low levels in relation to their availability.

Matthew Compton undertook a reanalysis of Smith's model for his dissertation research (2006). Using fine-screen samples from three sites (Upper Nodena, Parkin, Meador, all in Arkansas) as well as published and unpublished data from over 50 sites, Compton refined Smith's model of animal use in the Middle Mississippi Valley. Interestingly, his re-search demonstrated that Smith's 1974 assessment of animal-use still holds true, although the use of meat weight estimates biased the model towards the ranking of some large mammals (primarily elk and bear) as more important than other quantitative measures support (i.e., NISP, MNI). Additionally, this same technique favored the snapping turtle as more important than other reptiles. Using NISP, Compton shows that box and pond turtles are in fact more frequently represented. Compton's reanalysis indicates that spatial difference is more important than time (Compton 2006). Thus while plant use changes dramatically between the Woodland and Mississippian periods, animal use is consistent and varies by environmental location (the Eastern Lowlands vs. the Western Lowlands) (Compton 2006).

Alternatively, Emanuel Breitburg (1998) proposed a model of animal exploitation at Mississippian sites in the Middle Cumberland region of Tennessee. Breitburg's model defines the Middle Cumberland Mississippian animal-use pattern as related to subsistence, as one that is ecologically distinctive from contemporaneous sites along the Mississippi River. This model holds that the subsistence strategy practiced by the occupants of the Middle Cumberland River sites focused on large game mammals, specifically deer, elk, and bear, as well as turkey. Breitburg notes that the occupants of the Middle Cumberland sites relied less on migratory bird and fish

populations than their counterparts living in the Mississippi River drainage. Prior explanations for this distinct pattern of animal exploitation are based on the fact that many major prehistoric settlements are located at some distance from river floodplains, a postulated greater availability of elk and bear in the Highland Rim ecotone, and the greater distance to major migratory waterfowl flyways (Breitburg and Moore 2001:133).

At first look, the Fewkes site faunal assemblage fits Breitburg's model of animal use at Mississippian sites along the Middle Cumberland River. The overwhelming presence of deer, some elk and bear, along with turkey, small mammals, and eastern box turtle, suggests that the inhabitants of the Fewkes site were subsisting on animals that were locally procured on a non-seasonal basis. Some of the differences between the current interpretations and Breitburg's model are: (1) the current analysis interprets animal use in terms of NISP and MNI, in addition to biomass estimates; (2) close attention is paid to context of the animal remains as evidenced by the proximity of features to human burials, structures, etc., to allow for more complex interpretations of animal-use; and (3) the assemblage recovered and analyzed from the Fewkes site is much larger than those analyzed by Breitburg at the Gordontown and Rutherford-Kizer sites.

The faunal assemblage analyzed from the Fewkes site shows that white-tailed deer were the most important large mammals used (in terms of NISP, MNI, and biomass), as in Breitburg's model. However, bear and elk contribute less to the diet in terms of NISP and MNI than smaller animals such as turkey and eastern box turtle -- hence the importance of bear and elk to the general subsistence strategies of the Middle Cumberland Mississippian people may have been overstated. While the biomass (and indeed, the culturally subjective "edible meat yield") of bears may be large, the MNI estimates for bears in the published and unpublished literature for sites from this area are in the single digits (Table 10). We must examine the contexts from which bear and elk are recovered to make solid interpretations about their consumption.

TABLE 10. MNI Estimates of Black Bear and Elk in Middle Tennessee Mississippian Sites.

Site	Bear	Elk
Fewkes (40WM1)	2	3
Gordontown (40DV6)	2	1
Rutherford-Kizer (40SU15)	2	2
Brentwood Library (40WM210)	1	1

Recommendations for Future Zooarchaeological Work

In conclusion, I offer some recommendations for future zooarchaeological work in the region. The first recommendation addresses field sampling strategies for late prehistoric sites - I propose that column samples be taken from portions of sites containing middens. The entire column, a 50 cm x 50 cm corner of an excavation unit, should be removed in 5-cm levels and taken to the lab for processing by dry sieving and hand sorting. While more laborious in nature, column samples provide a wealth of environmental and subsistence data that cannot be gleaned from more conventional recovery methods (Peres 2001; Shaffer 1992; Wing and Quitmyer 1985).

Second, zooarchaeologists are encouraged to record the occurrence of "bone flakes" in assemblages so we may begin to understand the use of bone marrow prehistorically. Bone flakes are

those fragments of large mammal (i.e., deer, elk, bear) long bones that measure three-fourths or less of the total circumference of the diaphysis, and do not contain any portion of the epiphyses (Brain 1981). If these bone flakes do prove to be direct evidence of marrow extraction, as either subsequent direct consumption or as an ingredient in pemmican, we will gain a better understanding of food storage practices, particularly for meat.

Third, weight and growth data from modern comparative invertebrates are needed to be able to draw conclusions about their dietary role in late prehistory, season of capture, and the prehistoric environmental conditions that existed along the major river systems and tributaries in Tennessee.

Over time, the data from Fewkes and other Mississippian sites will produce a refinement of Breitburg's model of animal exploitation in the Middle Cumberland River area of Tennessee. By employing recovery methods that move beyond the current standard, re-analyzing existing collections in addition to those currently under excavation, basing interpretations on multiple lines of evidence, and continually asking new questions of our data we will be able to significantly contribute to the knowledge-base of Mississippian lifeways in the Middle Cumberland River area.

Notes:

[1] Tanya M. Peres and Michelle LeFebvre performed the zooarchaeological analysis for the majority of the assemblage. Data entry for this portion of the faunal assemblage was completed by laboratory assistants, Ms. LeFebvre and Dona Daugherty. Data tables were constructed by Alison Hadley, Andrea Howard, and Ms. LeFebvre. A portion of the assemblage was analyzed by University of Kentucky students enrolled in the ANT 580: Zooarchaeology course in the spring semester of 2004. These students were: James Breslin, Matt Byron, Alison Hadley, Sandy McDaniel, Olaf Jaime-Riveron, and Stephanie Jolly. These students were responsible for compiling and entering the data generated by their analyses, some of their data are included in the summary of Feature 55.

[2] Phase III data recovery was performed by staff of DuVall and Associates, Inc. on behalf of the Federal Highway Administration and Tennessee Department of Transportation (Contract Agreement E0237, Work Order 012, TDOT Project #94052-1517-04). At this time of this writing, a final report has not been submitted and no projected completion date is available.

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Tanya M. Peres
Department of Sociology and Anthropology
Middle Tennessee State University
Murfreesboro, Tennessee 37132-0001