Chapter 11
Animal Remains from the New Philadelphia Site (11PK455), Pike County, Illinois: 2008-2011 Seasons

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As part of the ongoing interdisciplinary investigations of the New Philadelphia town site, assemblages of animal remains are subjected to detailed analyses so as to provide information on the animals that were exploited by the former site inhabitants, patterns of refuse disposal, and the natural habitats that were formerly present in the greater community. In order to acquire an understanding of the archaeological resources at New Philadelphia, as well as the families that formerly resided there, attention is routinely given to the regions of origin of these families to learn if differences in the animals consumed by the various households are due, at least in part, to the geographical backgrounds of the families and their retention of regional foodways (Martin and Martin 2010a; Martin and Martin 2010b).[4]

When families from different areas and backgrounds settled at New Philadelphia, did environmental setting, local markets, and subsistence practices of other households in the community influence changes in preferred animal species and foodways in general? If so, how long was necessary for such changes to occur? In contrast, is there a homogenous pattern for foodways at New Philadelphia, and has this pattern always been the same? These questions emphasize that family backgrounds such as region of origin and ethnicity should not be seen as imposing rigid choices. "Ethnic identities are not a given, and their fluidity can affect archaeological interpretations. Ethnic groups are not static, nor are they neatly defined and segmented into predetermined groups" (Shackel 2010:67). During the course of fieldwork during the 2008, 2010, and 2011 field seasons, excavations on four lots in Blocks 3, 7, and 13 yielded faunal assemblages from which to address these topics for different areas of the site.

Methods

Animal remains from the New Philadelphia site were examined at the Illinois State Museum's Research and Collections Center in Springfield, where an extensive collection of modern

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vertebrate skeletons and freshwater mussel shells are available for reference. Information for each identified specimen and each lot of unidentified specimens was entered on tags that were printed on acid-free, archive-quality paper. Specimens and accompanying tags were placed within 2 mil. or 4 mil. polyethylene zipper bags. Included on the specimen tags is information on archaeological provenience, animal taxon represented, anatomical element, side, portion of element, condition of epiphyseal closure (if present), completeness, weight of the specimen in grams, natural modifications (e.g., carnivore- and/or rodent-gnawing), and cultural modifications (e.g., burning and cut marks). Standard lengths of fish were estimated for each identified fish bone by referring to bones from modern fish of known size in the reference collection. Single specimen counts were tallied in the case of refitted broken specimens as well as rejoined epiphyses and shafts. All information was then entered into Excel computer files in order to facilitate the analysis.

Summary calculations are presented in tables and include the number of identified specimens (NISP), minimum number of individuals (MNI) per taxon, total weight of specimens per taxon in grams, and biomass (in kg) for each taxon. Scientific and common names for animals follow the Integrated Taxonomic Information System (ITIS) website (Integrated Taxonomic Information Systems (ITIS) 2007). Estimates of MNI were calculated from individual features (maximum distinction approach (Grayson 1973), assuming specimens from one individual do not occur in multiple features or other contexts), and from the spatial or temporal component at large (minimum distinction approach [Grayson 1973], assuming specimens from one individual could occur in multiple contemporaneous features or other contexts) based on element, symmetry, element portion, and biological age or body size. Biomass estimates were derived from allometric scaling (Reitz, et al. 1987). As described by Reitz and Scarry (Reitz and Scarry 1985:18), "the weight of the archaeological bone is used in an allometric formula [see Reitz and Scarry 1985:67] to predict the quantity of biomass for the skeletal mass recovered rather than the total original weight of the individual animal represented by the recovered bone." This approach avoids the problem of basing meat estimates on MNI and determining whether the meat from entire animals was consumed at the site from which the archaeological sample was acquired. Despite the problems inherent in the various techniques used to estimate biomass and usable or edible meat, the interpretive value of such measures are the *relative* importance of the various taxa rather than the *absolute* quantities.

For historical sites, perhaps as significant as identifying various species in a faunal assemblage is distinguishing skeletal portions for the larger mammals from which meat was procured. Different meat preferences among individual persons and social groups, different values of various animals and secondary butchering units, changes in butchering practices over time, and differences in butchering practices between rural and urban settings can contribute to interpretations of socioeconomic status and prosperity. These topics have been discussed by various authors (e.g., Hattori and Kosta 1990; Price 1985; Rothschild and Balkwill 1993; Schulz and Gust 1983). The large mammal remains recovered were tabulated by skeletal portion for each species.

Block 13, Lots 3 and 4

Squire and Louisa McWorter resided on these lots beginning in the middle of the nineteenth century. Following Squire's death in 1854, his widow Louisa stayed on until her death in 1883, when Louisa's daughter Lucy and her family took over residency in the house until early in the twentieth century. By 1930 Vergil Burdick owned the house and rented it until it was destroyed by fire in 1937. In addition to a large density of artifacts (especially nails and flat glass) being found here during the walkover surveys in 2002 and 2003 (Gwaltney 2004), geophysical surveys revealed several soil anomalies (Hargrave 2006). Anomaly A12 in Lot 4 was initially investigated in 2005 and found to be part of a house foundation that was designated as Feature 12. The entire foundation was exposed in 2010, and a five-foot wide trench was excavated from east to west across the southern portion of the structure in 2011 (see Chapter 8, "Research on Block 13, Lot 4," this report). Anomaly A25 in Lot 3 was also explored in 2010 and was determined to be the location of an abandoned well that was filled in with rocks. Because detailed analyses are currently in progress on the artifacts from these various contexts, a precise assessment of the faunal assemblage by temporal period, household, or family is beyond the scope of this technical report. Hopefully, some of the findings reported here will be addressed by future studies.

More than 1,000 animal remains were recovered from the excavations on Lots 3 and 4 with just over 75% by count (72.3% by weight) coming from Feature 12 (Table 11.1). A total of 32 animal taxa were identified from these contexts with 27 of all taxa being associated with the cellar fill. Table 11.2 presents a listing of all animal remains by taxa for Block 13, and Tables 11.3-11.6 show the species composition for each context on Block 13 (i.e., within and outside of Feature 12 in Lot 4 and within and outside of Feature 40 in Lot 3). Table 11.7 presents the skeletal portions of the large mammals that were recovered from these contexts.

Aside from cut marks produced by butchering animal carcasses, the most conspicuous modification to animal remains at New Philadelphia is the result of exposure to fire. Whereas a simplistic interpretation of burned animal remains traditionally involved cooking, many other activities may have been involved (see Lyman 1993:384-392). More likely, fragmentary bones and/or teeth that range from slightly discolored (i.e., superficially exposed to heat or fire), blackened (i.e., charred from direct exposure to fire), or calcined (i.e., burned white and nearly completely incinerated) reflect animal remains that were either purposely deposited in a fire as a form of refuse disposal, or were incidentally exposed to a catastrophic burning event such as a house fire. A total of 151 specimens from Block 13 (14% of the total) were either burned (i.e., slightly discolored or charred) (N = 83) or calcined (N = 68). Most of the burned/calcined specimens were associated with Feature 12 where 141 (77 burned, 64 calcined) were tallied (17.3% of the total NSP from Feature 12). Only five burned or calcined specimens were recovered from Lot 4 outside of Feature 12 (3.8% of that subsample), and only five burned/calcined specimens occurred on Lot 3 outside of Feature 40 (4.2% of that subsample). No burned or calcined bones were present among the 13 specimens recovered from Feature 40.

Table 11.1
Sample sizes of animal remains from Block 13, Lots 3 and 4

	NSP[1]	NISP[2]	NSP Wt (g)	NISP Wt (g)	Number of Taxa[3]	Total Biomass (kg)	Biomass from Identified Taxa (kg)
Feature 12 cellar in Lot 4	819	344	2,215.2	1,791.9	28	29.151	22.430
Lot 4 outside cellar	131	66	674.9	582.8	12	10.164	8.571
Feature 40 well in Lot 3	13	10	29.0	27.5	4	.535	.493
Lot 3 outside well	120	45	146.2	66.3	12	2.515	1.064
Totals	1,083	465	3,065.3	2,468.5	33	42.365	32.558
% Identified		42.9		80.5			76.9

[1] Total number of specimens.
[2] Number of identified specimens; i.e., specimens identified more precisely than class (Mammals, Birds, etc.).
[3] Number of animal taxa identified for each listed context. Note: the value given for "Totals" is not the sum of the numbers of taxa shown for each individual context; rather, a total of 33 taxa were identified from all contexts in Lots 3 and 4.

Mammals

Mammals contributed the largest number of specimens, both by count and by weight, and species diversity is greatest for this class. Mammal bones and teeth account for 65.2% of all specimens by count and 89.6% by specimen weight (Table 11.2). The significance of this class to the overall subsistence pattern is indicated by the finding that the minimum number of individuals for mammals (from 31 to 44 individuals; 47.7-53.7% of the total Block 13 MNI) contributed just over 95% of the total estimated biomass from all identified taxa. For each of the four contexts in Block 13, bones and teeth from swine outnumber those from cattle, but due to the larger size of cattle specimens, biomass estimates for beef is greater than for pork. Altogether, swine and cattle account for 86% of the biomass calculated from Block 13 with cattle contributing 61.1% and swine 24.9%.

Table 11.2
Species composition of animal remains from Block 13, Lots 3 and 4

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**705**	**31-44**	**2,745.0**	**40.294**
Opossum, *Didelphis virginiana*	12	1-2	10.6	.231
Eastern mole, *Scalopus aquaticus*	16	2	1.3	–
Eastern cottontail, *Sylvilagus floridanus*	36	4-5	24.9	.495

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
Fox squirrel, *Sciurus niger*	3	1-2	1.2	.033
Tree squirrel sp., *Sciurus* sp.	2	(1)	.4	.012
White-footed/Deer mouse, *Peromyscus* sp.	1	1	<.1	–
Norway rat, *Rattus norvegicus*	9	3	2.6	–
Vole sp., *Microtus* sp.	1	1	.1	–
Domestic cat, *Felis catus*	11	3	12.0	–
cf. Gray wolf, *Canis* cf. *lupus*	1	1	20.4	–
Dog/Coyote, *Canis* sp.	1	1	.2	–
Mink, *Mustela vison*	2	1	1.1	.029
Striped skunk, *Mephitis mephitis*	1	1	.2	–
Swine, *Sus scrofa*	132	5-9	539.4	8.114
cf. White-tailed deer, *Odocoileus virginianus*	1	1	4.0	.092
Deer family, Cervidae	1[3]	–	3.5	–
Cattle, *Bos taurus*	42	3-6	1,445.5	19.890
Sheep, *Ovis aeries*	2	(1)	34.5	.637
Sheep/goat, *Ovis/Capra*	18	3	84.8	1.492
Unidentified very large mammal	5	–	56.7	1.034
Unidentified large mammal	204[3]	–	392.1	6.245
Unidentified medium/large mammal	153	–	97.3	1.717
Unidentified medium mammal	29	–	10.4	.222
Unidentified small/medium mammal	14	–	1.2	.031
Unidentified small mammal	8	–	.6	.020
CLASS: BIRDS	**226**	**17-21**	**103.3**	**1.561**
Canada goose, *Branta Canadensis*	2	1	2.3	.044
Large duck sp., Subfamily Anatinae	1	1	.2	.005
Medium duck sp., Subfamily Anatinae	1	1	.8	.017
Domestic chicken, *Gallus gallus*	108	11-15	74.1	1.046
Turkey, *Meleagris gallopavo*	6	1	2.1	.040
Northern bobwhite, *Colinus virginianus*	1	1	.1	.003
Chicken/grouse sp., Family Phasianidae	5	–	1.7	.033
Small perching bird, Order Passeriformes	1	1	<.1	–
Unidentified large bird	2	–	2.4	.048
Unidentified medium/large bird	4	–	.8	.018
Unidentified medium bird	92	–	18.5	.300
Unidentified small bird	3	–	.3	.007
CLASS: AMPHIBIANS	**7**	**4**	**.7**	**–**
Toad sp., *Bufo* sp.	2	2	.1	–
Frog sp., *Rana* sp.	5	2	.6	–
CLASS: REPTILES	**1**	**1**	**.9**	**.029**
Snapping turtle, *Chelydra serpentina*	1	1	.9	.029
CLASS: FISH	**91**	**6**	**26.4**	**.481**
Bowfin, *Amia calva*	1	1	.3	.012
cf. Black bullhead, *Ameiurus* cf. *melas*	1	1	.5	.010
Buffalo sp., *Ictiobus* sp.	25	4	17.2	.294
Unidentified fish	64	–	8.4	.165

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
UNIDENTIFIED VERTEBRATA	**33**	**–**	**2.4**	**–**
CLASS: BIVALVES	**20**	**7**	**186.6**	**–**
Threeridge, *Amblema plicata*	2	1	86.6	–
Ebonyshell, *Fusconaia ebena*	1	1	71.1	–
Unidentified freshwater mussel	7	–	5.7	–
Ark sp., Family Arcidae	1	1	.8	–
Cockle sp., Family Cardiidae	9	4	22.4	–
Grand Totals	1,083	66-83	3,065.3	42.365
Totals, Identified below class	465		2,468.5	32.558
Percentage identified below class	42.9		80.5	76.9

[1] Number of identified specimens.
[2] Minimum number of individuals presented as a range with lower values (i.e., MNI_{min}) calculated for the site as a whole without regard to lot or feature associations, and the higher values (MNI_{max}) calculated by assuming that specimens associated with Feature 12 and Lot 4 are from individuals that are distinct from individuals that contributed specimens associated with Feature 40 and Lot 3.
[3] One antler (Cervidae) and six bone cutlery handle scale fragments.

Table 11.3

Species composition of animal remains from the cellar (Feature 12) in Block 13, Lot 4

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**465**	**20**	**1,904.5**	**27.198**
Opossum, *Didelphis virginiana*	10	1	8.7	.184
Eastern cottontail, *Sylvilagus floridanus*	34	4	21.7	.420
Tree squirrel sp., *Sciurus* sp.	2	1	.4	.012
Norway rat, *Rattus norvegicus*	6	2	1.8	–
White-footed/deer mouse, *Peromyscus* sp.	1	1	<.1	–
Domestic cat, *Felis catus*	5	2	.8	–
cf. Grey wolf, *Canis* cf. *lupus*	1	1	20.4	–
Swine, *Sus scrofa*	81	4	417.5	6.006
cf. White-tailed deer, *Odocoileus virginianus*	1	1	4.0	.092
Deer family, Cervidae	1[3]	–	3.5	–
Cattle, *Bos taurus*	23	2	927.8	12.322
Sheep, *Ovis aeries*	2	1	34.5	.637
Sheep/goat, *Ovis/Capra*	16	–	75.8	1.293
Unidentified very large mammal	3	–	50.4	.896
Unidentified large mammal	111[3]	–	249.9	3.689
Unidentified medium/large mammal	125	–	83.2	1.406
Unidentified medium mammal	25	–	9.8	.205
Unidentified small/medium mammal	11	–	.8	.022
Unidentified small mammal	7	–	.5	.014
CLASS: BIRDS	**207**	**17**	**98.0**	**1.455**

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
Canada goose, *Branta canadensis*	2	1	2.3	.044
Large duck sp., Subfamily Anatinae	1	1	.2	.005
Medium duck sp., Subfamily Anatinae	1	1	.8	.017
Domestic chicken, *Gallus gallus*	100	11	71.1	.989
Turkey, *Meleagris gallopavo*	6	1	2.1	.040
Northern bobwhite, *Colinus virginianus*	1	1	.1	.003
Chicken/grouse sp., Subfamily Phasianinae	4	–	1.7	.033
Small perching bird, Order Passeriformes	1	1	<.1	–
Unidentified large bird	1	–	1.9	.037
Unidentified medium/large bird	3	–	.5	.011
Unidentified medium bird	84	–	17.0	.269
Unidentified small bird	3	–	.3	.007
CLASS: AMPHIBIANS	**6**	**3**	**.6**	**–**
Toad sp., *Bufo* sp.	1	1	<.1	–
Frog sp., *Rana* sp.	5	2	.6	–
CLASS: REPTILES	**1**	**1**	**.9**	**.029**
Snapping turtle, *Chelydra serpentina*	1	1	.9	.029
CLASS: FISH	**90**	**6**	**26.1**	**.469**
Bowfin, *Amia calva*	1	1	.3	.012
cf. Black bullhead, *Ameiurus* cf. *melas*	1	1	.5	.010
Buffalo sp., *Ictiobus* sp.	24	4	16.9	.282
Unidentified fish	64	–	8.4	.165
UNIDENTIFIED VERTEBRATA	**33**	**–**	**2.4**	**–**
CLASS: BIVALVES	**17**	**5**	**182.7**	**–**
Threeridge, *Amblema plicata*	2	1	86.6	–
Ebonyshell, *Fusconaia ebena*	1	1	71.1	–
Unidentified freshwater mussel	5	–	5.2	–
Ark sp., Family Arcidae	1	1	.8	–
Cockle sp., Family Cardiidae	8	2	19.0	–
Grand Totals	819	52	2,215.2	29.151
Totals, Identified below class	344	52	1,791.9	22.430
Percentage identified below class	42.0		80.9	76.9

[1] Number of identified specimens.
[2] Minimum number of individuals.
[3] One antler (Cervidae) and six bone cutlery handle scale fragments.

Table 11.4

Species composition of animal remains from Block 13, Lot 4, outside of cellar (Feature 12)

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**115**	**11**	**670.4**	**10.078**
Eastern mole, *Scalopus aquaticus*	2	1	.4	–
Eastern cottontail, *Sylvilagus floridanus*	2	1	3.2	.075
Fox squirrel, *Sciurus niger*	2	1	.9	.024
Norway rat, *Rattus norvegicus*	3	2	.8	–
Vole sp., *Microtus* sp.	1	1	.1	–
Mink, *Mustela vison*	2	1	1.1	.029
Swine, *Sus scrofa*	30	2	99.3	1.649
Cattle, *Bos taurus*	14	2	473.8	6.730
Unidentified large mammal	45[3]	–	84.2	1.422
Unidentified medium/large mammal	10	–	6.0	.132
Unidentified medium mammal	3	–	.5	.014
Unidentified small mammal	1	–	.1	.003
CLASS: BIRDS	**13**	**4**	**3.9**	**.074**
Domestic chicken, *Gallus gallus*	7	3	2.8	.052
Chicken/grouse sp., Subfamily Phasianinae	1	1	<.1	–
Unidentified medium bird	5	–	1.1	.022
CLASS: AMPHIBIANS	**1**	**1**	**.1**	**–**
American toad, *Bufo americanus*	1	1	.1	–
CLASS: FISH	**1**	**1**	**.3**	**.012**
Buffalo sp., *Ictiobus* sp.	1	1	.3	.012
CLASS: BIVALVES	**1**	**1**	**.2**	**–**
Unidentified freshwater mussel	1	1	.2	–
Totals	131	18	674.9	10.164
Totals, Identified below class	66	18	582.8	8.571
Percentage identified below class	50.4		86.4	84.3

[1] Number of identified specimens.
[2] Minimum number of individuals.
[3] Includes one bone cutlery handle scale fragment.

Table 11.5

Species composition of animal remains from well (Feature 40) in Block 13, Lot 3

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**13**	**5**	**29.0**	**.535**
Domestic cat, *Felis catus*	3	1	4.4	–
Swine, *Sus scrofa*	4	2	4.7	.106
Cattle, *Bos taurus*	2	1	11.0	.228
Sheep/goat, *Ovis/Capra*	1	1	7.4	.159
Unidentified large mammal	1	–	.6	.017
Unidentified medium/large mammal	1	–	.8	.022
Unidentified medium mammal	1	–	.1	.003
Grand Totals	13	5	29.0	.535
Totals, Identified below class	10	5	27.5	.493
Percentage identified below class	76.9		94.8	92.1

[1] Number of identified specimens.
[2] Minimum number of individuals.

Table 11.6

Species composition of animal remains from Block 13, Lot 3, outside the well (Feature 40)

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**112**	**9**	**141.1**	**2.483**
Eastern mole, *Scalopus aquaticus*	14	1	.9	–
Opossum, *Didelphis virginiana*	2	1	1.9	.047
Fox squirrel, *Sciurus niger*	1	1	.3	.009
Striped skunk, *Mephitis mephitis*	1	1	.2	–
Domestic cat, *Felis catus*	3	1	6.8	–
Dog/coyote, *Canis* sp.	1	1	.2	–
Swine, *Sus scrofa*	17	1	17.9	.353
Cattle, *Bos taurus*	3	1	32.9	.610
Sheep/goat, *Ovis/Capra*	1	1	1.6	.040
Unidentified very large mammal	2	–	6.3	.138
Unidentified large mammal	47	–	64.4	1.117
Unidentified medium/large mammal	17	–	7.3	.157
Unidentified small/medium mammal	2	–	.3	.009
Unidentified small mammal	1	–	.1	.003
CLASS: BIRDS	**6**	**2**	**1.4**	**.032**
Domestic chicken, *Gallus gallus*	1	1	.2	.005
Unidentified large bird	1	1	.5	.011
Unidentified medium/large bird	1	–	.3	.007

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
Unidentified medium bird	3	–	.4	.009
CLASS: BIVALVES	**2**	**2**	**3.7**	**–**
Unidentified freshwater mussel	1[3]	1	.3	–
Cockle sp., Family Cardiidae	1	1	3.4	–
Grand Totals	120	13	146.2	2.515
Totals, Identified below class	45	11	66.3	1.064
Percentage identified below class	37.5		45.3	42.3

[1] Number of identified specimens.
[2] Minimum number of individuals.
[3] One button made from freshwater mussel shell.

For all contexts within Block 13, a minimum of five individual swine can be calculated. At least one juvenile was identified from a radius and third metacarpal, both from Feature 12. The cellar was also the source of three bones (humerus, radius, and femur) from an older subadult individual. A minimum of three mature individuals are represented alternately by three right upper canine teeth (one each in Feature 12, Lot 4 outside of Feature 12, and Lot 3 outside of Feature 40), three right lower second molars (one in Feature 12 and two from Lot 4 outside of Feature 12), and three right distal humeri (one from Feature 12 and two from Lot 4 outside of Feature 12). Alternately, if one considers each of these four contexts separately and assumes that bones or teeth from a single individual could not occur in more than one context, then the MNI for swine expands to nine (Table 11.2). Isolated teeth dominate the Block 13 swine remains overall, as well as within each of the four contexts, and seven of eight cranial fragments occur in Lot 4 (four from within the cellar) (Table 11.7). The remaining swine specimens are from other skeletal portions with feet, ribs, and vertebrae being best represented, especially in the cellar.

Modifications from butchering and other processing activities are present in the form of a sawed proximal ulna (Feature 12), a chopped lumbar vertebra lateral spine (Feature 12), and a chopped dorsal portion of a rib (outside of Feature 12). Knife cuts were observed on four specimens: distal scapula, rib, and distal femur shaft from Feature 12 and a second metacarpal from outside of Feature 12. Pork appears to be a locally-raised commodity in addition to being locally consumed. According to Juliet Walker, "The new settlers [at New Philadelphia] discovered quite early that hogs could be raised without any expense except for a few breeders with which to start. Hogs weighing from 60 to 100 pounds usually sold for $1.00 to $1.50 per head" (Walker 1983:87).

Cattle remains are less frequent but more noticeable due to their typically larger size. Similar to swine, cattle specimens are far more abundant in Lot 4, especially in Feature 12. A minimum of three individuals for Block 13 was calculated on the basis of two left distal humeri (one from Feature 12 and one outside Feature 12), two left distal tibiae (two from Feature 12, one having an open epiphysis and the other having a fused epiphysis), plus a radius midshaft from a much younger calf that was recovered from Lot 4 outside the cellar. This MNI swells to six if separate

contexts are included as a criterion. Unlike swine, sawed cattle bones are much more frequent with a total of 14 (2 humeri, an ulna, a sacrum, an ilium, 2 femurs, 4 tibiae, a proximal metatarsal, and 2 ribs) along with a chopped rib. Also dissimilar to swine, all skeletal portions of cattle are present, although cranial fragments and isolated teeth are underrepresented (Table 11.7).

Table 11.7

Skeletal portions of swine, cattle, and sheep/goat by feature from Block 13, Lots 3 and 4 (values are NISP)

	Lot 4, Feature 12		Lot 4, Misc.		Lot 3, Feature 40		Lot 3, Misc.		Block 13 Totals	
	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%
SWINE										
Cranial fragments	4	4.9	3	10.0	0	–	1	5.9	8	6.1
Isolated teeth	25	30.9	18	60.0	2	50.0	14	82.4	59	44.7
Proximal forequarter	9	11.1	2	6.7	0	–	1	5.9	12	9.1
Vertebrae	9	11.1	1	3.3	0	–	0	–	10	7.6
Ribs	12	14.8	1	3.3	2	50.0	1	5.9	16	12.1
Innominate bone	1	1.3	0	–	0	–	0	–	1	.8
Proximal hindquarter	5	6.2	2	6.7	0	–	0	–	7	5.3
Feet	16	19.8	3	10.0	0	–	0	–	19	14.4
	81	100.1	30	100.0	4	100.0	17	100.1	132	100.1
CATTLE										
Cranial fragments	0	–	0	–	0	–	0	–	0	–
Isolated teeth	1	4.4	1	7.1	0	–	1	33.3	3	7.1
Proximal forequarter	3	13.0	3	21.4	1	50.0	2	66.7	9	21.4
Vertebrae	3	13.0	1	7.1	1	50.0	0	–	5	11.9
Ribs	5	21.7	1	7.1	0	–	0	–	6	14.3
Innominate bone	1	4.4	0	–	0	–	0	–	1	2.4
Proximal hindquarter	7	30.4	3	21.4	0	–	0	–	10	23.8
Feet	3	13.0	5	35.7	0	–	0	–	8	19.0
	23	99.9	14	99.8	2	100.0	3	100.0	42	99.9
SHEEP/GOAT										
Cranial fragments	0	–	0	–	0	–	0	–	0	–
Isolated teeth	0	–	0	–	0	–	0	–	0	–
Proximal forequarter	2	11.1	0	–	0	–	0	–	2	10.0
Vertebrae	4	22.2	0	–	0	–	1	100.0	5	25.0
Ribs	6	33.3	0	–	0	–	0	–	6	30.0
Innominate bone	2	11.1	0	–	1	100.0	0	–	3	15.0
Proximal hindquarter	0	–	0	–	0	–	0	–	0	–
Feet	4	22.2	0	–	0	–	0	–	4	20.0

	Lot 4, Feature 12		Lot 4, Misc.		Lot 3, Feature 40		Lot 3, Misc.		Block 13 Totals	
	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%
	18	99.9	0	–	1	100.0	1	100.0	20	100.0

Except for the isolated teeth and seven phalanges, the cattle specimens from Block 13 seem to be primarily table refuse reflecting the consumption of beef. However, historical sources relate that cattle were also being raised by New Philadelphia residents. "Pike County's terrain encouraged cattle raising because about two-thirds of the county consisted of prairie. All farmers need for stock raising was to provide salt for cattle and keep them from straying" (Walker 1983:86). Especially pertinent for Block 13, according to the 1855 Illinois State Census, Squire McWorter had livestock valued at $1,000.00, the highest value of all New Philadelphia residents. Cattle remained important for the local economy as indicated by the *Barry Adage* newspaper in 1873 when Solomon McWorter drove "one hundred head of fat cattle" several miles west to the railroad depot at Barry from where they were shipped for sale (Fennell 2010:152).

Remains of sheep and/or goat are surprisingly well represented in Block 13, especially in the cellar of Louisa McWorter's house where they occurred scattered throughout Levels B1 through B7. Two bones diagnostic of sheep (Zeder and Lapham 2010) – a distal humerus and a nearly complete metatarsal – were recovered from the upper levels of Feature 12. Although not distinguishable between sheep and goat, a minimum of three individuals are represented by fragments of the acetabulum portion of three left pelves that were associated with the cellar (Levels B3 and B5) and the upper level of the well (Feature 40) on Lot 3. Fragments of ribs and vertebrae are most abundant, followed by foot bones (one metatarsal and three phalanges) (Table 11.7). Cranial fragments, isolated teeth, and bones from the proximal hindquarters are entirely absent. The only noticeable butchering marks occur on a lumbar vertebra and a rib that were chopped and a rib that has knife-cuts. Sheep and/or goat remains were previously reported from five other contexts at New Philadelphia, the most (six specimens) coming from Feature 14 in Block 8, Lot 2 where residents had Northern tradition backgrounds (Martin and Martin 2010b:92). Although mutton was not the meat of choice for families of any of the three regional backgrounds at New Philadelphia, the opening of a mill in Barry by 1850 apparently encouraged Hadley Township farmers to raise sheep for their wool (Martin and Martin 2010a:81).

Bones from at least three individual domestic cats were recovered from three contexts on Block 13. Five bones from the cellar (Levels B2 and B3) are from one kitten (right humerus, femur, and tibia) and one subadult (right distal humerus and right proximal ulna). Three specimens found in the well are from one or more adults and consist of a right auditory bulla and fragments of a left radius and left ulna. EU 15 and 16, outside the well in Lot 3, contained fragments of a left pelvis, left femur, and left tibia, all from adult individual(s). Although only one cat bone (from Feature 14 in Block 8, Lot 2) was previously reported for earlier excavations (T. Martin and C. Martin 2010b:94), numerous cat bones were recovered from excavations on Block 7, Lot 1 and from Block 3, Lot 4 (see later sections of this chapter).

Considering the domestic contexts of Louisa McWorter's property on Block 13, the occurrence of numerous wild animals was unexpected. Among the wild mammals are small and medium-sized rodents as well as a marsupial, artiodactyl, and carnivores. Remains of eastern mole, white-footed or deer mouse, and vole are probably intrusive. Mole bones are from non-feature contexts in Block 4 (mandible and humerus from outside the cellar) and Block 3 (postcranial bones in EU 15 and a sternum from EU 13, both outside the well). The mouse bone is an ulna from

Level B2 in Feature 12, and the vole specimen is a mandible from EU 10 outside of Feature 12. Nine specimens of Norway rat, all occurring in Lot 4, are from at least three individuals as indicated by three left mandibles (two from outside the cellar and one from Level B1 within Feature 12). Norway rats were introduced to North America by European settlers, and colonies of the dreaded Old World rodents became established in both urban and rural areas since they thrive on foods that humans discard as well as on foods kept in storage for livestock (Hoffmeister 1989:253). Not merely a coincidence, the presence of Norway rats undoubtedly accounts for the domestic cat bones found on Block 13, as well as elsewhere at New Philadelphia.

Ten of twelve opossum specimens came from the cellar fill (Levels B1, B3, B5, and B6), but all twelve could conceivably come from the same adult individual. A probable second individual is represented by a left tibia shaft from EU 12 and a left distal humerus shaft from EU 16, both outside of the well on Lot 3. A knife cut mark is present on a left proximal radius in Feature 12 (EU 6, Level B1), which suggests that the meat and/or the hide were purposely processed.

The dorsal portion of a left rib from Feature 12 (EU 13, Level B2) was tentatively identified as white-tailed deer and constitutes the only identified bone from the species at Block 13. A portion of an antler, either from deer or elk, that had been modified into a scale for a knife handle (see Dunning 2000: 35, 36) was recovered from deep in the Feature 12 cellar fill (Level B5 in EU 5). White-tailed deer was previously found in Features 1, 13, and 14 (Martin and Martin 2010b). In some areas of Illinois, deer were hunted in such large numbers by American settlers that many local populations were extirpated shortly after the middle of the nineteenth century (Hoffmeister 1989:31).

The presence of tree squirrel and eastern cottontail remains is reminiscent of an Upland South dietary pattern, as noted previously for Feature 1 on Block 9, Lot 5, the household attributed to Kezia Clark or someone else with a similar Upland South regional background. From 1870 until the 1880s, Kezia Clark lived in the same household with her daughter Louisa on Block 13, Lot 4 (Martin and Martin 2010b:87-92). For Block 13, a total of 36 eastern cottontail bones and teeth were recovered, and all were from Lot 4, with all but two specimens being associated with Feature 12. A minimum of four individuals are represented by four left pelves (one with a knife cut mark) and four right femurs from Feature 12. The two bones from outside Feature 12 (a right ilium and right proximal tibia) could conceivably represent a fifth individual for the assemblage. A pelvis from Lot 3 along with an ulna and tibia from Lot 4 are diagnostic of the fox squirrel due to their relatively larger size in contrast to the gray squirrel (*Sciurus carolinensis*). A proximal radius (from Level B3) and a lower incisor (from Level B6) from Feature 12 were not identified more specifically than the genus *Sciurus*. Eastern cottontail, tree squirrel, and opossum were also present among the faunal refuse in Feature 1 where smaller wild game provided supplements to pork and poultry as part of an Upland South dietary pattern.

Four carnivores also contribute to the species diversity in Block 13. One individual mink is represented in Lot 4 by a left proximal femur from EU 9, Level A1 and a left distal tibia from EU 7, Level A1, both specimens being outside of Feature 12. Although mink were probably available locally, the valuable furbearer would have most likely been trapped along Kaiser Creek or some

other permanent source of water where they would prey on many kinds of aquatic animals including muskrat, fish, crayfish, and waterfowl (Hoffmeister 1989:296). A striped skunk is indicated solely by a tooth (right lower first molar) that was recovered from EU 2 in Lot 3 during the 2005 field season. A dog or coyote was identified from a molariform tooth fragment that was found in EU 11 in Lot 3. Most interesting is a right proximal ulna with knife-cut marks from a gray wolf that was associated with Feature 12 (EU 15, Level B4). Occasionally referred to as "sharks of the prairie," gray wolves posed a major problem for frontier settlers because they preyed on livestock (Jones 2002:8). Bounties were established in many areas across Illinois, and the animal's pelt was used as proof of the kill so as to collect the financial reward. *The Pike County Democrat* newspaper in nearby Pittsfield printed the following account in 1864.

> Cyrus Holmes, living near Pittsfield, on last Monday made a quite respectable wolf haul. While clearing up a piece of land he heard while in proximity to an old tree, what conceived to be sundry pups whining. He thereupon proceeded to cut the tree down and found eight wolf pups – eyes not yet open – snugly ensconced in its hollow. He subsequently brought them to town and received five dollars for the scalp of each one, being aggregate $40. This, we consider, a very good day's work in the wolf business. (Pike County Democrat 1864)

Confusion exists when historical accounts refer to gray wolves, timber wolves, prairie wolves, and coyotes, and whether these narratives actually refer to the gray wolf (*Canis lupus*) or coyote (*Canis latrans*) (Hoffmeister 1989:32-33). A fragmentary gray wolf maxilla with third incisor, fourth premolar, and first molar was identified from the Squire site (11MS2244) in Madison County, an early-nineteenth-century homestead in the American Bottom (Martin and Brand 2010). The exceptionally large size of specimens from the Squire site and Feature 12 at New Philadelphia, as well as verification of identifications by comparison to gray wolf reference skeletons at the Illinois State Museum, attest to the presence of gray wolves and the threat they posed to settlers' livestock.

Mammal Bone Artifacts

In addition to the previously noted cutlery handle scale that was made from antler, nine of the unidentified large mammal bones in the assemblage were also fragments of bones that were modified to form the scales for cutlery handles. Except for a specimen from EU 17, Level A1 in Lot 4, the rest were all associated with Feature 12. One was found in EU 14, Level B4, the rest occurred in EU 15 in Level 1 (3 specimens) and Level 5 (4 specimens). Whereas eight of the scales were plain or stained, one scale was wedge-shaped and very ornate having diagonal-incising along the central zone and finely-spaced cross-hatches along both edges (see Dunning 2000:36, [Figure 13, middle illustration]).

Birds

Avian remains account for 20.9% of the total Block 13 assemblage by count and 3.4% by weight

with 91.6% of all bird remains being associated with the cellar fill (Feature 12). The minimum of 17 to 21 individuals contributed only 3.6% of the total biomass from identified taxa. Bones from domestic chickens constitute 86.4% of the identified bird bones from Block 13, with nearly 93% coming from Feature 12. A minimum of eleven individuals consist of at least six adults (as indicated by left distal radii), three subadults (based on three right humeri and three left radii), and two juveniles (represented by two right tarsometatarsi). When assuming that chicken bones found in other contexts represent unique individuals, the MNI can be expanded to 15. Six turkey specimens, all foot bones, were also identified, all coming from EU 14 (Levels B1 and B2) in Feature 12. Five bones (including a coracoid from a juvenile) could not be positively identified and are attributed to the family Phasianidae, which also includes domestic chicken, greater prairie-chicken, and turkey. A wild gallinaceous bird, the northern bobwhite was also identified from Feature 12 as represented by a right distal ulna in Level B3 of EU 15. This small, nonmigratory quail prefers brush, hedgerows, grassy fields, and pastures (Bohlen 1989:57) and is still present in the area of the site. Bobwhite was previously recovered at New Philadelphia from Block 9, Lot 5, the property associated with Kezia Clark, and greater prairie chicken was present in Feature 7 in Block 4, Lot 1 (Martin and Martin 2010b:89-90, 97).

Waterfowl are represented by four bones from three species, and all are associated with Feature 12. The anterior portion of a synsacrum and a scapula from Canada goose were recovered from EU 15, Levels B1 and B2. The proximal portion of a first phalanx (diget two) from a large duck was found in Level B1 of EU 16, and a left coracoid from a medium-sized duck was recovered from Level B5 of EU 14. Waterfowl remains were also present elsewhere at New Philadelphia in Features 1, 3, and 14 (Martin and Martin 2010b). A premaxillary from Level B2 of EU 6 was identified as a small passerine songbird.

Poultry was ubiquitous in the diets of people from the North, Midland, and the Upland South. According to the 1880 U.S. Agricultural Census, Louisa McWorter owned 20 yard poultry and 21 other poultry (United States Bureau of the Census 1880). According to Walker (1983:88), “It was not uncommon for farmers’ wives to raise three or four hundred fowls, beside geese, ducks, and turkeys, in a season.”

Reptiles and Amphibians

The left tibia from a medium-sized snapping turtle was recovered from EU 14 (Level B4) in Feature 12. Two toads are represented by left tibio-fibulae, one from EU 14 (Level B3) in Feature 12 and the second outside Feature 12 in EU 10. Two frogs were associated with Feature 12, four bones occurring together in Level B2 in EU 15, and a second individual from Level A1 in EU 12. A frog tibio-fibula in EU 15 exhibits remodeling along the mid-shaft where it had experienced a fracture. Although the frog may have avoided predation in the wild after suffering the injury, it is difficult to avoid speculating that someone kept it as a pet, thus allowing the leg to heal. Whereas terrestrial toads may be incidental inclusions in the archaeological deposits, frogs and snapping turtles would not naturally occur in Block 13 so far away from water, and thus must have been transported there.

Fish

A total of 91 fish bones were encountered, and all but one were associated with Feature 12. Aside from part of a right cleithrum from a bullhead (probably black bullhead in the 24 ≤ 32 cm-size class) and a cranial fragment from a bowfin, all of the identified fish bones are from buffalo, a genus of suckers that were formerly important in the commercial fishery in the Illinois and Mississippi Rivers until surpassed by carp (*Cyprinus carpio*), which were introduced from Europe during the 1880s (Pflieger 1975:127, 178; Smith 1979:147). Nineteen of the 25 buffalo specimens are ribs, three are from vertebrae, and the only cranial bones consist of two opercula and a scapula. The MNI for buffalo include one each in the 40 ≤ 48, 48 ≤ 56, 56 ≤ 64, and 64 ≤ 72 cm-size classes. The unidentified fish remains consist mainly of small fragments of ribs, rays, and spines along with pieces of broken cranial elements. Based on previous excavations, fish remains are not abundant anywhere at New Philadelphia, but where they were recovered, the taxa include buffalo, channel catfish (*Ictalurus punctatus*), yellow bullhead (*Ameiurus natalis*), sunfish (Centrarchidae), and freshwater drum (*Aplodinotus grunniens*) (Martin and Martin 2010b).

Bivalves

Twenty mollusk shells (all bivalves) were found in three of the contexts on Block 13. Ten of the shells are from freshwater mussels with the only identified species coming from Feature 12. The Ebonyshell is restricted to large rivers, such as the Illinois and Mississippi, where they occur in sand and gravel substrates. The Threeridge is more widespread and common throughout the Midwest and is present in small to large rivers(Cummings and Mayer 1992:40, 42). Neither of the more complete shells have modifications suggestive of how they were utilized at New Philadelphia, but one of the unidentified mussel shell fragments from EU 3 in Lot 3 (outside of Feature 40) was made into a clothing button. Freshwater mussels from the Mississippi and Illinois Rivers became the raw material for "pearl buttons" beginning in the late 1880s (Parmalee 1967:1-4) Freshwater mussel shells (mostly unidentified fragments) have been recovered from all of the New Philadelphia features that have been previously analyzed, but why mussel shells were collected and how they were used is uncertain (Martin and Martin 2010b).

Ten shells are from marine taxa. A small (2 cm long), whole right valve from Feature 12, EU 16, Level B1, has radial sculpture, a straight hinge line with numerous small teeth, and a grooved interior along the shell's margins. The shell is from the family Arcidae and most strongly resembles a Ponderous Ark (*Noetis ponderosa*) or Incongruous Ark (*Anadara brasiliana*), but is half the size. These shells occur along the South Atlantic and Gulf coasts (Rehder 1981:671-672). The other nine marine shells fragments are examples of cockle shells (family Cardiidae) with some of these resembling the Giant Atlantic Cockle (*Dinocardium robustum*), shells that commonly occur on beaches along the South Atlantic Coast (Rehder 1981:748-749). Eight of these shell fragments were recovered on Lot 4 from Level B1 in Feature 12 in EU 14, EU 15 (6 fragments), and EU 16. One shell was found in isolation on Lot 3 in EU 2, Level A1. Coincidently, examples of ark and cockle shells were also encountered in Block 8, Lot 5, outside

of Feature 1, and an ark shell was also found in Feature 14 on Block 8, Lot 2 (Martin and Martin 2010b:90, 94).

Discussion

The history of Block 13, Lots 3 and 4, within the community of New Philadelphia is most closely associated with Louisa McWorter, the daughter of Kezia Clark, wife of Squire McWorter, daughter-in-law of Free Frank, and mother of Lucy Jane McWorter McKinney, Squire McWorter, Jr., George W. McWorter, William McWorter, and Eliza Ann McWorter. Louisa McWorter resided on Block 13 until her death in 1883. She was followed by Lucy Jane McKinney and her husband James McKinney who occupied a house until 1896 when Lucy died. James McKinney and his second wife Lucy then lived at the house until his death in 1910 when the property reverted back to Louisa's sons and their children. The property was purchased by Virgil Burdick in 1930 and the house was rented out until a fire destroyed the structure in 1937 (Martin 2012). Whereas detailed analysis of artifacts, stratigraphy, and history of the cellar (Feature 12) on Block 13, Lot 4 is ongoing, the faunal assemblage from Block 13 cannot be attributed to any specific household or family. Diagnostic artifacts from the filled-in cellar, however, do not indicate significant amounts of refuse from occupations postdating the 1890s. Thus, even though the final capping of the cellar would not have occurred until after the house burned in the late 1930s, the sediments within the southern portion of the cellar seem to reflect occupations and activities from the second half of the nineteenth century. Viewed in this light, Feature 12 may provide insights into the lifeways of Louisa McWorter's family.

There are aspects of the Block 13 faunal assemblage that suggest that local environmental setting, economic status, and market conditions in Pike County influenced choices as to which species of livestock to raise, and these conditions would have influenced basic foodways. For example, swine remains in Block 13 are more numerous than cattle remains, a finding that is consistent with an Upland South dietary pattern. Skeletal portions of skulls, isolated teeth, and feet, as well as the presence of immature individuals suggests that swine were being raised on (or close to) Block 13. Contrary to this, however, beef is more prevalent than pork at Block 13 in terms of biomass.

An examination of the faunal assemblage from Feature 12 with respect to stratigraphy may indicate some interesting temporal trends, even though the amount of time that lapsed is unknown. Figure 11.1 shows that swine remains are consistently more numerous than either cattle or sheep/goat remains from Level B6 up through Level B1. Cattle remains are especially numerous in Level B1, with 43.5% of all cattle remains from Feature 12 occurring in this upper level. There is a consistent presence of sheep/goat bones throughout all levels of Feature 12, and similar to cattle, an increase in Level B1. Chicken bones are present in all levels below the plow zone with nearly 40% of the chicken bones occurring in Level B3. Stratigraphic occurrences of other categories of animal remains are illustrated in Figure 11.2 where fish share with chicken a peak in Level B3. Based on archaeological sites in southern Illinois, wild game species are often important supplements to an Upland South diet. When the occurrence of opossum, cottontail, squirrel, turkey, bobwhite, goose, and ducks are tallied together by level, we see Level A1 in the

plow zone contributes the greatest number (due to an abundance of cottontail bones) with fewer than ten specimens per level in Levels B1 through B6. Marine and freshwater bivalve shells occur in four levels, but are most numerous in Level B1. Ultimately, the significance of these trends will depend on temporal insights provided by diagnostic artifacts from Feature 12.

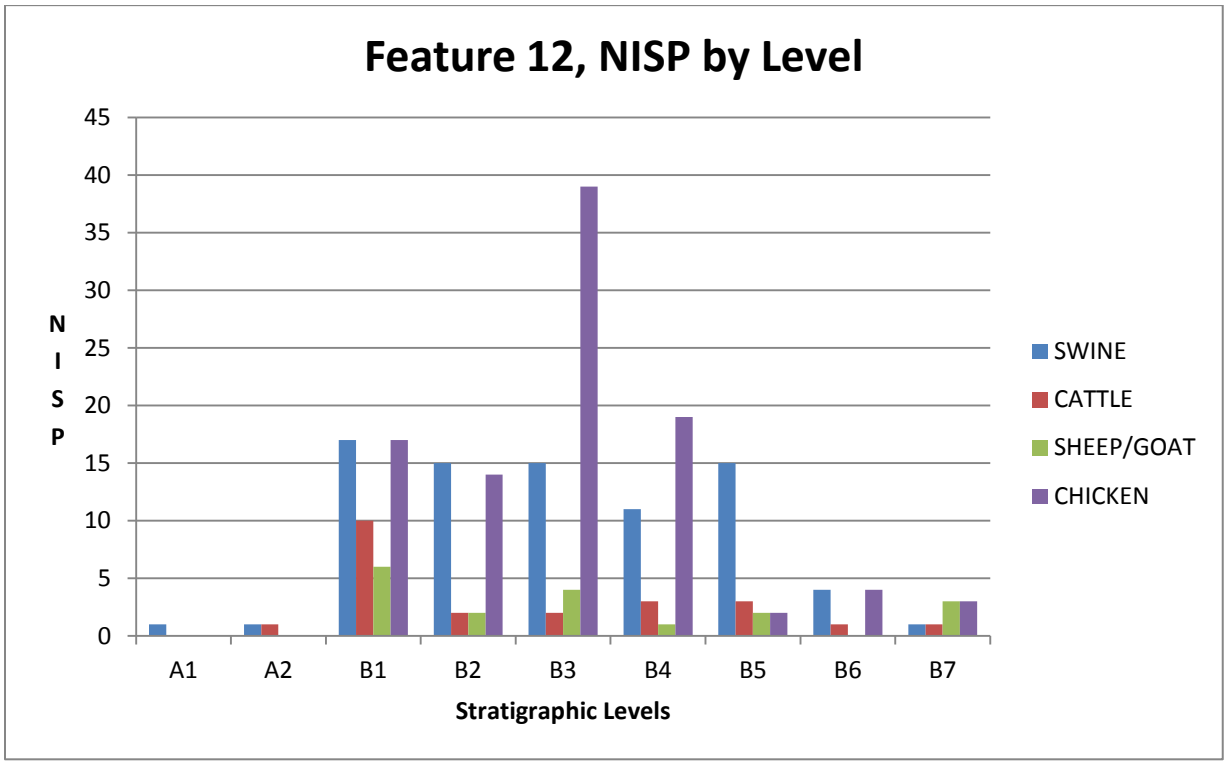

Figure 11.1. *Stratigraphic occurrence of large domesticated mammals and chicken in Feature 12 by number of identified specimens (NISP).*

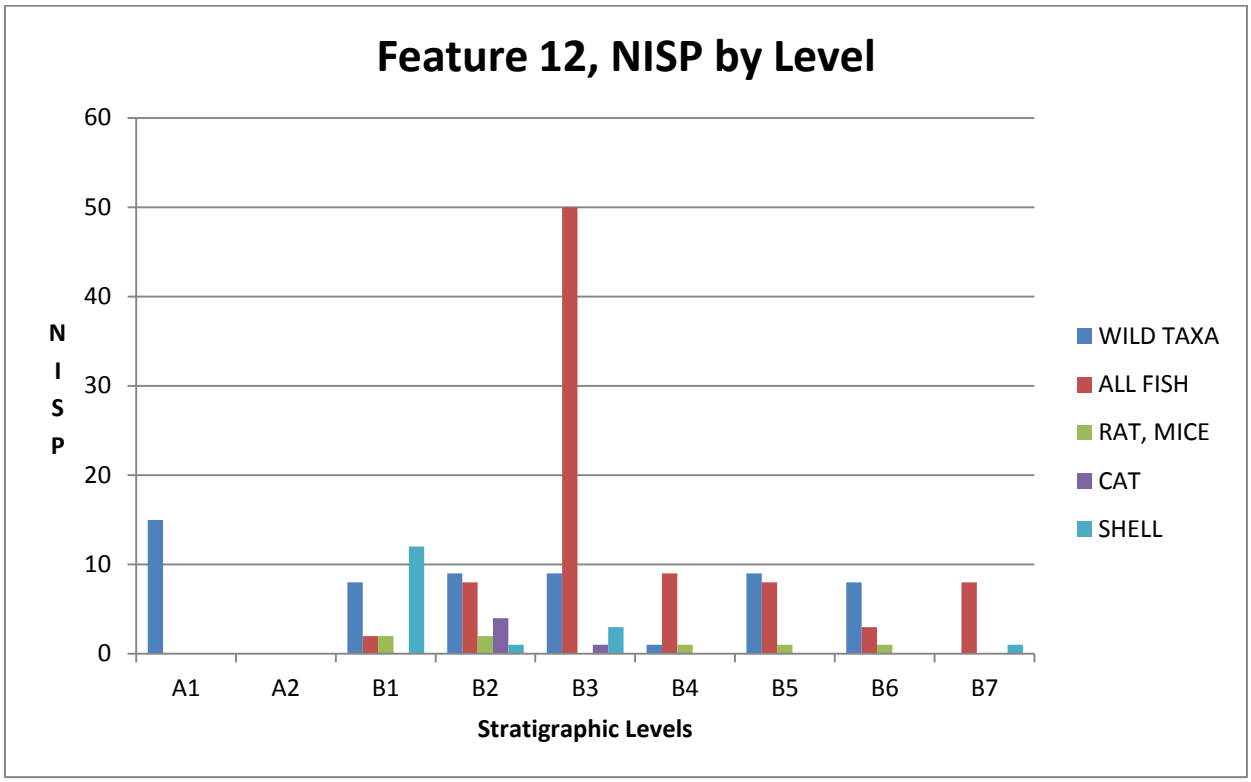

Figure 11.2. *Stratigraphic occurrence of miscellaneous animal remains in Feature 12 by number of identified specimens (NISP).*

Block 3, Lot 4

Activities on this lot in 2008 signify a return to the area southwest of a lime slacking pit (Feature 2) that was discovered in 2004. The initial geophysical survey in this lot failed to reveal any significant soil anomalies, probably due to extremely dry conditions, and excavation of EU 1, 2, and 7 were likewise disappointing. Another attempt at geophysical coverage by Hargrave during the last week of May in 2008 benefitted from heavy precipitation earlier that spring. As a result, promising new anomalies were revealed both by the magnetic survey (A31 and A 32) and the electrical resistivity survey (A50-53). Subsequent excavations by Team Z revealed Feature 28, a refuse pit or portion of a filled-in cellar in EU 8, 10, and 12. Team Y excavated several units to the east and discovered a fieldstone foundation base (Feature 31) that may represent the base of a brick chimney. Adjacent to Feature 31 are builder's trenches and foundation fill to the west (Feature 38) and to the east (Feature 39). Temporally diagnostic artifacts from Feature 28 (including a U.S. Presidential campaign button for William Jennings Bryan and numerous bottles) indicate refuse associated with the late-nineteenth through early-twentieth century. The broken window glass, nails, metal fragments, mortar, and small ceramic sherds in the fill associated with Feature 31 do not provide a precise temporal span of occupation or abandonment. These features and refuse may be attributed to the Welbourne or Venicombe families who occupied this lot during

the early part of the twentieth century.

A grand total of 803 animal remains were recovered during the excavations, 73.5% of the collection being associated with Feature 28 (Table 11.8), 14.2% coming from builders' trenches adjacent to Feature 31 (Table 11.9), and 12.3% from non-feature contexts (Table 11.10).

Table 11.8

Species composition of animal remains from Feature 28 in Block 3, Lot 4

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**524**	**17**	**966.2**	**10.499**
Opossum, *Didelphis virginiana*	5	1	4.8	.108
Eastern cottontail, *Sylvilagus floridanus*	21	2	16.2	.323
Fox squirrel, *Sciurus niger*	3	1	.9	.024
Tree squirrel sp., *Sciurus* sp.	5	1	1.0	.026
Old World rat, *Rattus* sp.	1	1	.3	–
Unidentified small rodent, Cricetidae	1	1	<.1	–
Domestic cat, *Felis catus*	265	5	292.1	–
Striped skunk, *Mephitis mephitis*	9	1	13.8	–
Swine, *Sus scrofa*	24	2	147.0	2.347
Cattle, *Bos taurus*	8	1	375.0	5.453
Sheep, *Ovis aeries*	1	1	47.1	.843
Sheep/goat, *Ovis/Capra*	6	–	25.3	.482
Unidentified very large mammal	1	–	6.6	.144
Unidentified large mammal	7	–	6.9	.150
Unidentified medium/large mammal	21	–	13.6	.276
Unidentified medium mammal	132	–	14.5	.292
Unidentified small/medium mammal	5	–	.4	.012
Unidentified small mammal	9	–	.7	.019
CLASS: BIRDS	**43**	**8**	**28.4**	**.460**
Domestic chicken, *Gallus gallus*	27	7	21.4	.332
Turkey, *Meleagris gallopavo*	2	1	4.1	.074
Unidentified medium bird	14	–	2.9	.054
CLASS: AMPHIBIANS	**1**	**1**	**.1**	**–**
American toad, *Bufo americanus*	1	1	.1	–
CLASS: FISH	**3**	**1**	**.4**	**.012**
Yellow bullhead, *Ameiurus nebulosus*	1	1	.2	.004
Unidentified fish	2	–	.2	.008
UNIDENTIFIED VERTEBRATA	17	–	1.8	–
CLASS: BIVALVES	**2**	**2**	**1.2**	**–**
Unidentified freshwater mussel	2	2	1.2	–
Grand Totals	590	29	998.1	10.971
Totals, Identified below class	380	27	949.3	10.016

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
Percentage identified below class	64.4		95.1	91.3

[1] Number of identified specimens.
[2] Minimum number of individuals.

Table 11.9

Species composition of animal remains associated with Feature 31 in Block 3, Lot 4

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**51**	**6**	**84.5**	**1.678**
Fox squirrel, *Sciurus niger*	2	1	1.4	.036
Tree squirrel sp., *Sciurus* sp.	2	–	.7	.019
Swine, *Sus scrofa*	13	2	43.2	.780
cf. White-tailed deer, *Odocoileus virginianus*	1	1	1.2	.031
Cattle, *Bos Taurus*	2	1	2.5	.060
Sheep/goat, *Ovis/Capra*	1	1	6.9	.150
Sheep/goat/deer, *Ovis/Capra/Odocoileus*	2	–	6.1	.134
Unidentified large mammal	13	–	15.0	.301
Unidentified medium/large mammal	13	–	6.8	.148
Unidentified medium mammal	2	–	.7	.019
CLASS: BIRDS	**16**	**3**	**15.8**	**.136**
Domestic chicken, *Gallus gallus*	11	3	7.2	.123
Unidentified medium bird	5	–	.6	.013
Unidentified bird eggshell fragments	–	–	8.0	–
CLASS: FISH	**42**	**4**	**17.9**	**.321**
Buffalo sp., *Ictiobus* sp.	25	4	15.9	.269
Unidentified fish	17	–	2.0	.052
UNIDENTIFIED VERTEBRATA	5	–	.7	–
Grand Totals	114	13	118.9	2.135
Totals, Identified below class	59	13	85.1	1.602
Percentage identified below class	51.8		71.6	75.0

[1] Number of identified specimens.
[2] Minimum number of individuals.

Mammals

The single, most-prevalent mammal in Feature 28 is domestic cat. Adult and subadult cats are represented by 219 specimens (MNI = 3, based on 3 crania, 3 left mandibles, 3 left humeri [2 with

open proximal epiphyses, 1 with closed proximal epiphysis], and four other elements), and 46 specimens are from juveniles (MNI = 2, based on 2 right crania with deciduous teeth and four other anatomical elements from at least two individuals). A sixth individual is represented by a left femur from a juvenile cat that was found in EU 10, stratigraphically above Feature 28 (Table 11.10). Individuals include nearly whole internments and partial skeletons. Some articulated individuals were apparently disturbed during the later addition of refuse and soil fill.

Table 11.10

Species composition of animal remains from non-feature contexts in Block 3, Lot 4 (2008 excavations)

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**66**	**7**	**380.1**	**5.953**
Fox squirrel, *Sciurus niger*	1	1	.2	.006
Tree squirrel sp., *Sciurus* sp.	1	–	.8	.022
Vole sp., *Microtus* sp.	1	1	.1	–
Domestic cat, *Felis catus*	1	1	.7	–
Swine, *Sus scrofa*	13	2	26.3	.499
Cattle, *Bos taurus*	6	1	313.2	4.637
Sheep/goat, *Ovis/Capra*	4	1	6.6	.144
Unidentified large mammal	12	–	13.3	.270
Unidentified medium/large mammal	25	–	18.5	.363
Unidentified medium mammal	2	–	.4	.012
CLASS: BIRDS	**19**	**3**	**11.7**	**.331**
Domestic chicken, *Gallus gallus*	12	2	10.3	.170
Turkey, *Meleagris gallopavo*	1	1	.7	.148
Unidentified medium bird	6	–	.6	.013
Unidentified bird eggshell fragments	–	–	.1	–
CLASS: FISH	**2**	**1**	**.8**	**.028**
Buffalo sp., *Ictiobus* sp.	1	1	.6	.020
Unidentified fish	1	–	.2	.008
UNIDENTIFIED VERTEBRATA	1	–	<.1	–
CLASS: BIVALVES	**10**	**4**	**36.1**	**–**
Threeridge, *Amblema plicata*	1	1	5.4	–
Wabash pigtoe, *Fusconaia flava*	1	1	6.5	–
cf. Washboard, *Megalonaias nervosa*	1	1	8.4	–
Unidentified freshwater mussel	7	1	15.8	–
CLASS: GASTROPODS	**1**	**1**	**1.9**	**–**
Grand Totals	99	15	430.6	6.312
Totals, Identified below class	44	14	379.8	5.646
Percentage identified below class	44.1		88.2	89.4

[1] Number of identified specimens.
[2] Minimum number of individuals.

Three mature cat bones are noteworthy for their pathologies. The right and left mandibles of one individual have anomalies on each horizontal ramus. The right mandible has an old abscess in the space of the third premolar; a receding and undulating alveolar rim on the medial surface in the area of the third premolar; a receding and perialveolar rim around the canine on the lateral surface; and porosity on the anterior surface adjacent to the symphysis, suggestive of periostitis (Dennis Lawler, pers. comm.; see Figure 11.3). The left mandible is more severely swollen in the area of the fourth premolar and first molar, especially on the medial surface, and there is a cavernous space for the roots of the fourth premolar and first molar (although the first molar survived in place). A callus in the molar area indicates a healed fracture of the horizontal ramus, and porosity on the anterior surface is consistent with the periostitis on the right mandible (Figure 11.4). A left tibia exhibits a traumatic injury where the bone was severely fractured and displaced laterally, one-third of the way above its distal end, followed by remodeling, shortening, and curvature of the bone, along with absorption of part of the distal fibula (Figure 11.5). All three of these bones were encountered in EU 8, Level C2. Although the context of several individual cats buried in household refuse and building debris (five of the bones burned black) would suggest that the cats were retained as "barn cats" or animals whose function was to control rodent populations, this may simply reveal how these animals were disposed of after death, but not how they were considered when they were alive (Thomas 2005:97). The survival of the individual with the infected mandibles and fractured and healed left hind leg implies that someone cared and protected this individual in the same way that one would care for a favorite pet.

Figure 11.3. *Right mandible of domestic cat from Feature 28 exhibiting an old abscess in the space of the third premolar; top left, lateral view; bottom left, medial view (Photograph by Doug Carr, Illinois State Museum).*

Figure 11.4. *Left mandible of domestic cat from Feature 28 exhibiting a healed fracture along the ascending ramus with missing fourth premolar and first molar; top left, lateral view; bottom left, medial view (Photograph by Doug Carr).*

Figure 11.5. *Domestic cat left tibia from Feature 28 exhibiting severe healed trauma on the distal end; anterior view on left; posterior view on right (Photograph by Doug Carr).*

Excluding cat, identified mammal remains account for 56.7% of all specimens by count and 91.6% by specimen weight for the three contexts in Block 3, Lot 4. The significance of this class to the overall subsistence pattern is indicated by the finding that the minimum number of individuals for mammals (22, excluding cats; 45.8% of the total MNI) contributed 91.6% of the total estimated biomass from all identified taxa. Similar to Block 13, swine remains are more plentiful than cattle, but biomass estimates for beef is nearly three times greater than for pork. Altogether, swine and cattle account for nearly 80% of the biomass calculated from Block 3 with cattle contributing 58.8% and swine 21%.

At least six individual swine are present in Block 3, Lot 4. Considered separately, Feature 28, Feature 31, and the non-feature contexts each have a minimum of one adult and one subadult (as indicated by the same anatomical elements having both fused and unfused epiphyses in the same context). Alternately, if one assumes that the refuse in these three areas are contemporaneous, then the MNI for swine is only two. Overall, foot bones make up 42% of the swine specimens on Block 3 (Table 11.11) with the cranial fragments and isolated teeth contributing 32%. Butchering and processing is indicated by a sawed distal third or fourth metapodial in Feature 28; a chopped rib and ilium in Feature 28 and a chopped lumbar vertebra in Feature 31; and an ilium from a subadult in Feature 31 with knife cuts.

Table 11.11

Skeletal portions of swine, cattle, and sheep/goat by feature from Block 3, Lot 4, 2008 excavations (values are NISP)

	Feature 28		Feature 31		Misc. Non-feature contexts		Block 3, Lot 4 Totals	
	NISP	%	NISP	%	NISP	%	NISP	%
SWINE								
Cranial fragments	2	8.3	0	–	1	7.7	3	6.0
Isolated teeth	2	8.3	5	38.5	6	46.2	13	26.0
Proximal forequarter	0	–	0	–	0	–	0	–
Vertebrae	1	4.2	2	15.4	0	–	3	6.0
Ribs	1	4.2	1	7.7	2	15.4	4	8.0
Innominate bone	1	4.2	1	7.7	0	–	2	4.0
Proximal hindquarter	1	4.2	1	7.7	2	15.4	4	8.0
Feet	16	66.7	3	23.1	2	15.4	21	42.0
Totals	24	100.1	13	100.1	13	100.1	50	100.0
CATTLE								
Cranial fragments	0	–	0	–	2	33.3	2	12.5
Isolated teeth	2	25.0	2	100.0	0	–	4	25.0
Proximal forequarter	1	12.5	0	–	0	–	1	6.3
Vertebrae	0	–	0	–	2	33.3	2	12.5
Ribs	0	–	0	–	2	33.3	2	12.5
Innominate bone	0	–	0	–	0	–	0	–
Proximal hindquarter	0	–	0	–	0	–	0	–
Feet	5	62.5	0	–	0	–	5	31.3
Totals	8	100.0	2	100.0	6	99.9	16	100.1
SHEEP/GOAT								

	Feature 28		Feature 31		Misc. Non-feature contexts		Block 3, Lot 4 Totals	
	NISP	%	NISP	%	NISP	%	NISP	%
Cranial fragments	0	–	0	–	0	–	0	–
Isolated teeth	0	–	0	–	2	50.0	2	14.3
Proximal forequarter	0	11.1	0	–	1	25.0	1	7.1
Vertebrae	1	22.2	1	33.3	0	–	2	14.3
Ribs	1	33.3	2	66.6	1	25.0	4	28.6
Innominate bone	1	11.1	0	–	0	–	1	7.1
Proximal hindquarter	1	–	0	–	0	–	1	7.1
Feet	3	22.2	0	–	0	–	3	21.4
Totals	7	99.9	3	99.9	4	100.0	14	99.9

If Features 28 and 31 and the non-feature contexts are considered separately, the cattle remains from Block 3, Lot 4 represent a minimum of three individuals. If assumed to be contemporaneous, the 16 cattle remains could have all come from the same individual. Foot bones, isolated teeth, and cranial fragments are present along with ribs, vertebrae, and proximal forequarter (Table 11.11). The most conspicuous cattle specimens consist of the greater portion of a left distal radius and ulna (sawed on the proximal end) along with four left carpal bones that were found in Feature 28, and a right mandible with worn teeth (fourth premolar through third molar) in EU 13 that was chopped at its anterior end. Other butchering marks include a chopped dorsal portion of a rib in EU 11 and a sawed thoracic vertebra in EU 15.

An assortment of sheep and/or goat remains were also encountered in Block 3, Lot 4 where they were most abundant in Feature 28. The only anatomical part not represented is the cranium (Table 11.11). A right distal tibia from Feature 28 is the only bone that is diagnostic of sheep. Although a minimum of one individual is calculated for each of the three contexts, all sheep/goat remains considered together without regard to feature association could represent only one individual. The only butchering marks are a sawed ischium from Feature 28 and a chopped radius shaft fragment from the balk between EU 11 and 13 (non-feature context). The sheep/goat specimens constitute nearly 11% of the biomass from identified mammals and 10.2% of the biomass from all identified vertebrate animal remains at Block 3, Lot 4. Albeit sheep and goat were occasionally consumed for their meat at New Philadelphia, their presence probably owes primarily to the use of their wool (Martin and Martin 2010a:81)

Remains of several wild mammals were also discovered among the animal remains in this part of the site. A small fragment of a thoracic vertebra (articular process on the posterior portion of the dorsal spine) from Feature 31 was tentatively identified as white-tailed deer. Two rib fragments from this same feature could not be confidently distinguished between deer and sheep or goat. The absence of any other bones or teeth from deer in either Feature 28 or 31 leads us to be conservative in the identifications of a species when dealing with sparse and fragmentary specimens.

In addition to the burial of several individual domestic cats in Feature 28, three other small and medium-sized mammals may have been disposed of in a similar manner. Several bones from one

individual striped skunk occurred together in EU 8. These include a fragmentary cranium, left and right mandibles, atlas and axis cervical vertebrae, right distal scapula, left distal humerus, and right ilium. Bones from at least two individual eastern cottontails were found in EU 8 (left cranial frontal bone, a calcined anterior portion of a left mandible, and a whole metacarpal) and EU 10 (maxilla with teeth, right distal scapula, left humerus, left proximal ulna, 2 right pelves [2 individuals], right proximal and distal femur [two individuals, based on size differences], left proximal tibia, a lumbar vertebra, a sacrum, and 7 whole and partial metapodials). One individual opossum is represented by five vertebrae that were found in EU 8 (1 cervical, 2 thoracic, and 1 lumbar) and EU 11 (an atlas vertebra).

Fourteen squirrel bones (six of which could be identified as fox squirrel) occurred in Feature 28 (two individuals), Feature 31 (one individual), and in non-feature contexts (EU 9 and EU 16). Noteworthy among the fox squirrel bones in Feature 28 are a right proximal ulna and a right distal tibia, both of which exhibit knife-cuts.

Perhaps a testament to the hunting prowess of the domestic cats, only one Old World rat bone (a left femur) was recovered from Feature 28. The only other rodent specimen in Feature 28 is a fragment of a small rodent (vole or mouse?) incisor tooth. A vole mandible was found in the plow zone of EU 10 above Feature 28.

Birds

Restricted to only two species, bird remains account for 11% of the identified specimens from the most recent excavations in Block 3, Lot 4 by count and 3.1% by weight. Turkey occurs in Features 28 (a sternum fragment and the mid-shaft of a right tarsometatarsus, with spur) and in non-feature contexts (a whole proximal phalanx of the foot from EU 8, outside and north of Feature 28). Domestic chicken bones came from adults, subadults, and juveniles in both features and in non-feature contexts. Feature 28 contributed 17 bones from adults (MNI = 2), five bones from subadults (MNI = 3), and five bones from juveniles (MNI = 2). Feature 31 chicken bones consisted of nine bones from adults (MNI = 1, including one fibula from a post mold [Feature 29] in EU 9 that was associated with Feature 31), one from subadult, and one from a juvenile. Chicken bones from non-feature contexts consist of ten from adults (MNI = 1) and two from subadults (MNI = 1). No cut marks were observed on any of the bird bones (identified or unidentified). Eggshell fragments, most likely from chicken eggs, were recovered from Feature 31 (EU 11 and 13) and outside of Feature 31 in EU 11.

Amphibians

The only amphibian specimens in the assemblage is a left ilium from an American toad that was found in Feature 28 (EU 8, Level C1).

Fish

Forty-seven fish bones were found on block 3, Lot 4, most of which were associated with Feature 31. Only two species were identified with buffalo contributing 26 of the 27 identified fish bones. Four individual buffalo in Feature 31 consist of 20 bones from at least two individuals (indicated by two left cleithra) in the 40 $\leq$ 48 cm-size class. Other elements include right cleithrum, right supercleithrum, left postcleithrum, right scapula, branchial, 6 vertebrae, and 7 ribs and spines. A left first pectoral ray was from an individual in the 48 $\leq$ 56 cm-size class, and four ribs were from a buffalo that was 64 $\leq$ 72 cm long. One buffalo vertebra was identified from the balk between EU 11 and 13, and it is comparable to an individual in the 48 $\leq$ 56 cm-size class. The only identified fish from Feature 28 is a left pectoral spine from a yellow bullhead (16 $\leq$ 24 cm standard length). The unidentified fish bones from Feature 28, 31, and the plow zone of EU 13 are mainly nondiagnostic fragments of ribs, rays, and spines.

Bivalves and Gastropods

Freshwater mussel shells occurred mostly in plow zone contexts in EU 9, 10, and 11, the exceptions being two specimens from Feature 28 and one from EU 8 that could not be identified to species. The identified shells consist of incomplete specimens of a right valve of a Threeridge (EU 8), right valve of a Wabash Pigtoe (EU 11), and a right lateral hinge tentatively attributed to Washboard (EU 12). Consistent with most other freshwater mussel shells that have been recovered at New Philadelphia, these three species would have been available in both the Illinois and Mississippi Rivers as well as some of the major tributaries and backwaters (Cummings and Mayer 1992). A medium-sized aquatic gastropod was found in the plow zone of EU 16.

Bone Artifacts

Three mammal specimens were modified into artifacts. Two bone cutlery handle scale fragments were found in the plow zone above Feature 31 in EU 9 and EU 13. Both are plain without incisions or other decorations. Another bone artifact is a small, polished fragment of a uniformly flattened bone, 1.9 mm thick, with two partial recessed, circular dots. The specimen is reminiscent of a gaming piece or die and was found in the plow zone of EU 16, west of Feature 31. An unidentified shaft fragment from a medium-sized bird is highly polished, but its function is unknown. It was recovered from the lower part of the plow zone in EU 8 in the vicinity of Feature 28.

Modifications

Alterations to animal remains from Feature 28, Feature 31, and from non-feature contexts were relatively minor. Only eleven bones exhibited rodent-gnawing: seven in Feature 28, two in

Feature 31, and two from outside of features. Carnivore damage was recorded only twice for Feature 28 and once for non-feature areas. Feature 28 has nine bones that were burned black and two that were calcined (= 1.9% of the collection that was exposed to fire). For Feature 31, only two specimens were burned black and four that were calcined (= 5.3%). For all other areas, one bone was burned black and seven were calcined (= 8.1%).

Discussion

The faunal assemblages that resulted from the 2008 excavations of Features 28 and 31 and the areas immediately adjacent to these deposits furnished a complex dataset that may eventually inform us about the residential history and lifeways for Lot 4 in Block 3. Whereas the table refuse and butchering waste provide information on the relative importance of beef, pork, mutton, and fowl for the early years of the twentieth century, the presence of at least six individual domestic cats along with partly articulated burials of species such as striped skunk, and opossum may offer additional insights into how people lived and coped with pests and intruding wildlife. Similar to other households, fish from the Illinois and/or Mississippi Rivers, especially buffalo, were consumed and seemingly preferred over other species that were available. Squirrels, eastern cottontails, and other local wild animals were also hunted as a way to offer variety to the diet. Unfortunately, we do not know whose refuse was used to fill in this deep pit or cellar that we have designated as Feature 28, nor do we know how it is related – functionally or temporally – to the nearby Feature 31, which we have tentatively identified as an old chimney base. Although the Welbourne and Venicombe families, both having ties to England, are associated with this lot, much more information is needed on these families and others who may have ties to this portion of New Philadelphia during the late-nineteenth and early-twentieth century.

Block 7, Lot 1

In 2004, EU 2 was excavated in the southeastern part of Lot 1 in Block 7. This work confirmed the presence of a building foundation that has been attributed to the mid-twentieth century "Betsy House." A tax ledger book from 1845, however, suggests that an older structure may have been present on the lot. In 2008, investigations resumed with the excavation of three additional units (EU 3, 4, and 5). Feature 33 was revealed as a clay cap above Feature 34 in EU 3. Together these features contained artifacts as early as the 1840s, but a circa 1860 military button was associated with the earliest date of abandonment of the structure and the placement of a dark organic fill on top of the foundation. Elsewhere in these units, artifacts dating well into the twentieth century have been recovered. Accompanying these complex building, occupation, and abandonment episodes is a faunal assemblage of 284 animal remains. Although the total faunal assemblage is fairly evenly distributed among the three excavation units by count, more than 60% by weight was associated with EU 5 (Table 11.12). In terms of stratigraphy, more than one-third of the animal remains by count were recovered from the plow zone, but this constitutes nearly three-quarters of the faunal assemblage by specimen weight. The species composition for all

animal remains recovered from EU 3, 4, and 5 is presented in Table 11.13. Less than 8% of the animal specimens by specimen count are associated with Features 33 and 34 in EU 4 and 5, and this accounts for less than 1% of all animal remains from the three units by weight (Table 11.14). Although two units were excavated on this lot in 2004, the only animal specimen encountered was a small shaft fragment (weight of 0.1 g) from either a medium-sized mammal or a large bird that was found in the plow zone of EU 1.

Table 11.12
Sample sizes of animal remains from Block 7, Lot 1, by EU, feature, and stratigraphic levels

	NSP[1]	% NSP	NSP Wt (g)	% By Wt
Excavation Unit/Features				
EU 3	81	28.5	68.2	10.4
EU 4	89	31.3	180.5	27.5
EU 5	93	32.7	404.8	61.6
Feature 33	1	.4	2.6	.4
Feature 34	20	7.0	1.0	.2
Totals	284	99.9	657.1	100.1
Stratigraphic Levels/Features				
Levels A1-A4 (Plowzone)	102	35.9	487.9	74.3
Levels B1-B4	156	54.9	159.9	24.3
Level C1	5	1.8	5.7	.9
Feature 33	1	.4	2.6	.4
Feature 34	20	7.0	1.0	.2
Totals	284	100.0	657.1	100.1

[1]Number of specimens.

Mammals

Consistent with other areas at New Philadelphia, mammals dominate the Block 7 faunal assemblage by contributing 80.2% of the identified specimens by count and 92.8% by specimen weight (Table 11.13). Mammals constitute 71.4% of the MNI and 92.6% of the biomass calculated from identified taxa. Also similar to Blocks 3 and 13, swine specimens are more numerous than cattle but apparently were secondary to beef in terms of biomass.

Table 11.13

Species composition of animal remains from EU 3, 4, and 5 in Block 7, Lot 1

	NISP[1]	MNI[2]	NISP Wt (g)	Biomass (kg)
CLASS: MAMMALS	**205**	**25**	**607.4**	**9.128**
Opossum, *Didelphis virginiana*	2	1	1.3	.033
Eastern cottontail, *Sylvilagus floridanus*	32	5	26.0	.494
Fox squirrel, *Sciurus niger*	3	1	2.2	.053
Tree squirrel sp., *Sciurus* sp.	3	2	.8	.022
Norway rat, *Rattus norvegicus*	14	4	5.3	–
House mouse, *Mus musculus*	2	2	<.1	–
Vole sp., *Microtus* sp.	2	1	.1	–
Small Rodent, Cricetidae	11	(2)	<.1	–
Domestic cat, *Felis catus*	28	4	20.5	–
Swine, *Sus scrofa*	23	3	104.0	1.719
Cattle, *Bos taurus*	8	1	395.7	5.723
Sheep, *Ovis aeries*	1	1	14.6	.294
Sheep/goat, *Ovis/Capra*	1	–	2.4	.058
Unidentified very large mammal	1	–	5.8	.128
Unidentified large mammal	9	–	12.8	.261
Unidentified medium/large mammal	24	–	12.0	.246
Unidentified medium mammal	10	–	2.6	.062
Unidentified small/medium mammal	13	–	1.0	.026
Unidentified small mammal	18	–	.3	.009
CLASS: BIRDS	**35**	**7**	**45.2**	**.691**
Canada goose, *Branta canadensis*	2	1	5.6	.098
Domestic chicken, *Gallus gallus*	25	4	38.0	.559
Turkey, *Meleagris gallopavo*	1	1	.3	.007
American woodcock, *Scolopax minor*	1	1	.2	.005
Unidentified medium bird	6	–	1.1	.022
Eggshell fragments	–	–	<.1	–
CLASS: AMPHIBIANS	**2**	**2**	**.4**	**–**
Toad sp., *Bufo* sp.	1	1	.2	–
Frog sp., *Rana* sp.	1	1	.2	–
CLASS: REPTILES	**1**	**1**	**<.1**	**–**
Non-venomous snake, Colubridae	1	1	<.1	–
CLASS: FISH	**2**	**1**	**.3**	**.011**
Unidentified fish	2	1	.3	.011
UNIDENTIFIED VERTEBRATA	39	–	3.8	–
Grand Totals	284	36	657.1	9.830
Totals, Identified below class	162	35	617.4	9.065
Percentage identified below class	57.0		94.0	92.2

[1] Number of identified specimens. [2] Minimum number of individuals.

Table 11.14

Species composition of animal remains from Features 33 and 34 in Block 7, Lot 1[1]

	NISP[2]	MNI[3]	NISP Wt (g)
CLASS: MAMMALS	**15**	**4**	**3.5**
Eastern cottontail, *Sylvilagus floridanus*	1	1	.1
Vole sp., *Microtus* sp.	1	1	<.1
Small Rodent, Cricetidae	5	–	<.1
Domestic cat, *Felis catus*	1	1	.3
Cattle, *Bos taurus*	1[3]	1	2.6
Unidentified medium mammal	5	–	.3
Unidentified small mammal	2	–	.2
CLASS: BIRDS	**–**	**–**	**<.1**
Eggshell fragments	–	–	<.1
CLASS: REPTILES	**1**	**1**	**<.1**
Non-venomous snake, Colubridae	**1**	**1**	**<.1**
CLASS: FISH	**1**	**1**	**.1**
Unidentified fish	1	1	.1
UNIDENTIFIED VERTEBRATA	**4**	**–**	**<.1**
Grand Totals	21	6	3.6

[1] The only animal specimen from Feature 33 is a fragment of a cattle sacrum; all other animal remains are from Feature 34.
[2] Number of identified specimens.
[3] Minimum number of individuals.

The swine specimens in this collection reflect a minimum of three individuals, based on the presence of specimens representing at least one adult (20 specimens), one subadult (two specimens – a right distal humerus shaft and a left ilium acetabulum fragment), and one juvenile (one rib). Whereas isolated teeth and ribs are the most numerous skeletal portions, the swine collection is unusual for the complete absence of foot bones (Table 11.15). Sawed margins are present on a thoracic vertebra dorsal spine and a fibula shaft. Rodent damage was noted on a left proximal ulna, a right ulna mid-shaft, and a right tibia mid-shaft, and a fibula shaft was chewed on by a carnivore.

Only eight cattle remains and two sheep/goat specimens were associated with the structure on Block 7, Lot 1, and these represent a minimum of one individual each. Although mostly food refuse with a sawed and chopped rib, a chopped sacrum fragment, and a chopped right ilium, butchering waste of cattle is also indicated by a molar tooth fragment and three foot bones. A right whole metatarsal with subtle knife cuts along the medial shaft surface (proximal end and mid-shaft) is present along two first phalanges, one of which articulated with the metatarsal. A left distal sheep humerus is also present along with the acetabulum portion of a left ischium from either sheep or goat.

Table 11.15
Skeletal portions of swine, cattle, and sheep/goat from Block 7, Lot 1
(values are NISP)

	NISP	%
SWINE		
Cranial fragments	1	4.3
Isolated teeth	6	26.1
Proximal forequarter	4	17.4
Vertebrae	2	8.7
Ribs	5	21.7
Innominate bone	1	4.3
Proximal hindquarter	4	17.4
Feet	0	--
Totals	23	100.1
CATTLE		
Cranial fragments	0	–
Isolated teeth	1	12.5
Proximal forequarter	0	--
Vertebrae	2	25.0
Ribs	1	12.5
Innominate bone	1	12.5
Proximal hindquarter	0	–
Feet	3	37.5
Totals	8	100.0
SHEEP/GOAT		
Cranial fragments	0	–
Isolated teeth	0	–
Proximal forequarter	1	50.0
Vertebrae	0	--
Ribs	0	--
Innominate bone	1	50.0
Proximal hindquarter	0	–
Feet	0	--
Totals	2	100.0

Remains of at least four individual domestic cats were encountered. A minimum of one adult is represented by ten bones (including long bones with fused epiphyses) from EU 3, consisting of right mandible, two thoracic vertebrae, two ribs (one from Feature 34), left second metacarpal, right fourth metacarpal, left distal fibula, right calcaneus, and left third metatarsal. Nine bones from a minimum of two subadult cats came from EU 4 and 5, as indicated by one right tibia with open proximal epiphysis and fused distal epiphysis, and a second, smaller right tibia having open epiphyses on both proximal and distal ends. Other subadult bones (as attested to by smaller size and long bones with open epiphyses) include right scapula, right ulna, right second metacarpal, two lumbar vertebrae, left second metatarsal, and right third metatarsal. Eight bones from at least

one juvenile (i.e., kitten) were recovered from EU 5 (right scapula, two fragments of a right humerus, left humerus, left pelvis, right and left femur, and right distal tibia) and one bone (right proximal ulna) from EU 3. The left distal humerus has a severe enlargement on the proximal end of the shaft, thinning of the cortex, and filling of the large medullary cavity with porous material, suggesting chronic bacterial or fungal granulomatous osteomyelitis (Figure 11.6; Dennis Lawler, pers. comm.).

Figure 11.6. *Left distal humerus of a domestic cat kitten from EU 5 exhibiting chronic infection at the proximal end; anterior view on left; posterior view on right (Photograph by Dennis Lawler).*

Several species of wild mammals were also identified. Most abundant are bones of eastern cottontail, at least five individuals are estimated on the basis of right pelves. Norway rat bones are also numerous, a minimum of four individuals calculated from right femurs. Six tree squirrel bones were recovered, three of which could be identified as fox squirrel. At least three individual squirrels are indicated by left humeri. Two opossum cranial bones (right nasal and left zygomatic) were found below the plow zone in EU 3. Fifteen small rodent remains include a minimum of one vole (cranium and mandible) and two house mice (two right mandibles). The unidentified small rodent specimens have an MNI of two based on the presence of right humeri and right tibiae.

Birds

The identified avian remains from Block 7 are dominated by domestic chicken. A minimum of three individuals are accounted for by left humeri and at least one additional large individual

chicken can be added due to the presence of eight bones characteristic of a large chicken. Small eggshell fragments were recovered in two soil samples and are consistent with the impression that chickens were being raised for their eggs as well as for their meat. Three additional species include Canada goose (right ulna and right carpometacarpal), turkey (left proximal fibula), and woodcock (right tarsometatarsus).

Miscellaneous Taxa

Specimens originating from animals other than mammals and birds are rare in the Block 7 faunal collection. Only two fish bones were found: a hypural (caudal bone) from Feature 34 and fragment of a rib, ray, or spine from the plow zone of EU 4. A vertebra from a non-venomous snake was identified from Feature 34. Amphibian bones include a tibio-fibula from a toad and a right humerus from a frog, both of which were recovered from the plow zone of EU 5.

Bone Artifacts

Two bone artifacts were found in the plow zone of EU 5. Both are cutlery handle scale fragments made from large mammal bone. One is only 3.4 mm thick with a highly polished surface and no decorations or incisions. The other scale is 7.0 mm thick, not as finely finished, and from a heavy-duty knife or tool.

Modifications

Cultural modifications on the Block 7 faunal assemblage consists of six sawed specimens, three chopped, and two with knife cut marks. A total of 15 bones had been gnawed by rodents, and only two by carnivores. Exposure to fire is apparent on only two specimens (= 0.7% of the assemblage), both of which are calcined.

Discussion

The 2008 faunal assemblage from Block 7, Lot 1 may span from the early 1840s until the mid-twentieth century during which time the lot may have had as many as five different residents. Despite the relatively small sample, the collection has a surprising diversity of species of mammals and birds. Not only are swine, cattle, sheep and chicken present, but local wild species include eastern cottontail, fox squirrel, and opossum. Given the wild species, the underrepresentation of fish is somewhat surprising. Skeletal portions of cattle and swine suggest that butchering waste was discarded on the site in addition to table refuse. The abundance of Norway rat remains may reflect animals that inhabited an abandoned structure.

Conclusions

This report on the faunal assemblages from within Blocks 3, 7, and 13 at the New Philadelphia town site contributes additional insights on foodways and refuse disposal patterns for the former residents of the community that was established by Free Frank McWorter and inhabited by his descendants as well as other families that relocated to the community from the Northeast, Mid-Atlantic Coast, and Upland South regions. We have strived to present data in a consistent format to enable and encourage comparative analyses for all areas of the site where excavations have occurred (see Martin and Martin 2010b) , as well as to other sites in the region (e.g., Martin and Brand 2010) . Additional significance of our faunal analyses will be realized when more detailed artifact analyses and historical studies are carried out for these lots. Hopefully, for example, the temporal dimension of our studies will eventually be refined so that subsistence patterns can be perceived at least in terms of early, middle, and late phases of New Philadelphia's history. In addition to foodways, the discovery of bones from potential pets and commensal species contributes to an appreciation of various animals' roles at the site. Recognition of pathologies and modifications to animal remains provides additional insights on behaviors and attitudes of former site residents.

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References Cited

Bohlen, H. David
1989 *The Birds of Illinois*. Bloomington: Indiana University Press.

Cummings, Kevin S., and Christine A. Mayer
1992 *Field Guide to Freshwater Mussels of the Midwest*. Volume Manual 5. Champaign: Illinois Natural History Survey.

Dunning, Phil
2000 Composite Table Cutlery from 1700 to 1930. In *Studies in Material Culture Research*. K. Karklins, ed., pp. 32-45. Uniontown, PA: Society for Historical Archaeology.

Fennell, Christopher C.
2010 Damaging Detours: Routes, Racism, and New Philadelphia. *Historical Archaeology* 44(1):138-154.

Grayson, Donald K.
1973 On the Methodology of Faunal Analysis. *American Antiquity* 39:432-439.

Gwaltney, Tom
2004 New Philadelphia Project Pedestrian Survey: Final Report and Catalog. arGIS Consultants, LLC.

Hargrave, Michael
2006 Geophysical Investigations at the New Philadelphia Site Pike County, Illinois. U.S. Army Engineer Research and Development Center, Construction Engineering Research Laboratory.

Hattori, Eugene M., and Jerre L. Kosta
1990 Packed Pork and Other Foodstuffs from the California Gold Rush. In *The Hoff Store Site and Gold Rush Merchandise from San Francisco, California*. A.G. Pastron and E.M. Hattori, eds. Special Publication Series, No. 7. Pleasant Hill, CA: Society for Historical Archaeology.

Hoffmeister, Donald F.
1989 *Mammals of Illinois*. Champaign: University of Illinois Press.

Integrated Taxonomic Information Systems (ITIS)
2007 Integrated Taxonomic Information Systems. http://www.itis.gov

Jones, Karen
2002 *Wolf Mountains: A History of Wolves along the Great Divide*. Calgary: University of Calgary Press.

Lyman, R. Lee
1993 *Vertebrate Taphonomy*. Cambridge, UK: Cambridge University Press.

Martin, Claire Fuller
2012 Louisa Clark McWorter and the House on Block 13, unpublished manuscript on file, Illinois State Museum, Springfield.

Martin, Claire Fuller, and Terrance J. Martin
2010a Agriculture and Regionalism at New Philadelphia. *Historical Archaeology* 44(1):72-84.

Martin, Terrance J., and Erin Brand
2010 Animal Remains from the Squire Site (11MS2244), an Early 19th-Century Homestead in the American Bottom. Archaeological Research Center of St. Louis, Inc.

Martin, Terrance J., and Claire Fuller Martin
2010b Courtly, Careful, Thrifty: Subsistence and Regional Origin at New Philadelphia. *Historical Archaeology* 44(1):85-101.

Parmalee, Paul W.
1967 *The Fresh-Water Mussels of Illinois*. Volume VIII. Springfield: Illinois State Museum.

Pflieger, William L.
1975 *The Fishes of Missouri*. Jefferson City: Missouri Department of Conservation,

Pike County Democrat
1864 Wolf Scalps. *Pike County Democrat*, Pittsfield (April 21, 1864): 3.

Price, Cynthia R.
1985 Patters of Cultural Behavior and Intra-Site Distributions of Faunal Remains at the Widow Harris Site. *Historical Archaeology* 19:40-56.

Rehder, Harald A.
1981 *National Audubon Society Field Guide to North American Seashells*. New York : Alfred A. Knopf, Inc.

Reitz, Elizabeth J., et al.
1987 Application of Allometry to Zooarchaeology. *American Antiquity* 52(2):304-317.

Reitz, Elizabeth J., and C. Margaret Scarry
1985 *Reconstructing Historic Subsistence with and Example from Sixteenth-Century Spanish Florida*. Glassboro, NJ: Society for Historical Archaeology.

Rothschild, Nan A., and Darlene Balkwill
1993 The Meaning of Change in Urban Faunal Deposits. *Historical Archaeology* 27(2):71-89.

Schulz, Peter D., and Sherri M. Gust
1983 Faunal Remains and Social Status in 19th Century Sacramento. *Historical Archaeology* 17(1):44-53.

Shackel, Paul A.
2010 Identity and Collective Action in a Multiracial Community. *Historical Archaeology* 44(1):58-71.

Smith, Philip W.
1979 *The Fishes of Illinois*. Champaign: University of Illinois Press.

Thomas, Richard
2005 Perceptions Versus Reality: Changing Attitudes Towards Pets in Medieval and Post-Medieval England. In *Just Skin and Bones? New Perspectives on Human-Animal Relationships in the Historical Past*. A. Pluskowski, ed. Oxford, UK: BAR International Series 1410.

United States Bureau of the Census (USBC)
1880 Tenth Census of the United States, 1880. National Archives and Records Administration.

Walker, Juliet E. K.
1983 *Free Frank: A Black Pioneer on the Antebellum Frontier*. Lexington: University Press of Kentucky.

Zeder, Melinda A., and Heather A. Lapham
2010 Assessing the Reliability of Criteria Used to Identify Postcranial Bones in Sheep, *Ovis*, and Goats, *Capra*. *Journal of Archaeological Science* 37:2887-2905.

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