

ANALYSIS OF FAUNAL REMAINS FROM THE POSEY SITE (18CH281)

David B. Landon
Department of Social Sciences
Michigan Technological University

Andrea Shapiro
Archaeobiology Laboratory
Smithsonian Institution

Submitted to Maryland Historical Trust
Office of Archeology, Jefferson Patterson Park and Museum

Table of Contents

List of Figures	ii
List of Tables	ii
Introduction	1
Materials and Methods	2
Results	3
Discussion	15
References	18
Catalogue	20

List of Figures

Figure 1	Tool marked bone specimens	6
Figure 2	Ganoid scales of gar (<i>Lepisosteus</i> spp.)	6
Figure 3	Turtle bone and shell specimens	8
Figure 4	Deer body part representation	13
Figure 5	Proportional composition of the assemblage by biomass	16

List of Tables

Table 1	Bone modifications in the collection	4
Table 2	Basic assemblage composition	4
Table 3	Taxonomic representation	9
Table 4	Mammal skeletal part representation	12

Introduction

This report describes and interprets a collection of faunal remains from the Posey Site (18CH281) in Charles County, Maryland. In 1996, archaeologists from the Jefferson Patterson Park and Museum excavated more than 500 shovel test pits and 37 1.5 x 1.5 meter test excavation units to delimit site boundaries and determine the integrity and significance of the site. These excavations recovered a large artifact collection and approximately 4000 faunal remains. This report covers a subset of the total collection, comprising 3459 specimens from selected excavation lots. The lots selected for analysis are concentrated in the central core area of the site, with the material from the outlying shovel tests excluded. Shell beads, shell bead blanks, and worked shell, all of which were recovered at the site, are not included in this analysis. This report is not intended to stand entirely alone, but is written as a supplement to the overall site report (Harmon 1996), providing a more detailed analysis of the faunal collection.

The artifact assemblage suggests the site is a single component Native American occupation, dating from 1650–1700 (Harmon 1996). The artifacts further suggest that the site's occupants both manufactured goods for trade and reprocessed material acquired through trade (Harmon 1996). Given these interpretations, one initial goal of the faunal analysis was to assess the relative representation of introduced domestic animals relative to indigenous taxa. Tracking the spread and use of European domestic animal is another way of interpreting the interaction between Native Americans and colonists. Diet and related foodways practices tend to be conservative elements of culture, and assessing patterns of dietary change can provide insight into the patterns of cultural change that occurred. Contrary to the preliminary interpretation (Harmon 1996), some specimens in the collection are from domestic pig, an introduced animal. However, the overwhelming majority of the collection is comprised of indigenous taxa.

A secondary and interrelated goal was to assess the potential of this highly fragmented collection to provide useful information. Virtually all of the bone specimens

are from the plow-zone, and all are extremely small. The analytical value of this type of material is debated; not all researchers consider faunal remains from plow-zone contexts worthy of detailed analysis. In this instance, preliminary inspection of the faunal assemblage suggested that there was identifiable material in the collection and that analysis would prove fruitful. While the bone specimens are highly fragmented, many of them are otherwise well preserved. This analysis provides new information about Native American subsistence practices during a period of colonial expansion into Maryland. As a result, we believe this project demonstrates that plow-zone collections can have analytical value. Analysis decisions must be based on a case-specific assessment of the material recovered.

Materials and Methods

We identified and recorded the faunal specimens in the Archaeobiology Laboratory of the Smithsonian Institution. We sorted each lot as a group, and recorded information about the specimens on a printed spreadsheet. The information on spreadsheets was entered into a Statview® database, and printed out to form the catalogue (a complete catalogue is appended). We made taxonomic identifications using the comparative osteological collections of the Archaeobiology Laboratory and printed reference manuals (Gilbert 1980; Olsen 1964, 1968; Sobolik and Steele 1996). We used size categories for mammal remains that could not be specifically identified: 1) small—smaller than a rabbit; 2) medium—rabbit to pig; 3) large—small cattle and larger. A subset of the collection, primarily fish remains, was pulled during the analysis and later identified by Steve Atkins in the Zooarchaeology Laboratory at Colonial Williamsburg. His assistance is gratefully acknowledged.

In addition to taxonomic category we recorded the skeletal part and skeletal portion in a system modified after Gifford and Crader (1977; see catalogue cover for details). Whenever possible we also recorded the proximal/anterior fusion state, the

distal/posterior fusion state, and the symmetry. We looked specifically for four different types of modification: 1) burning; 2) tool marks; 3) rodent gnawing; 4) carnivore gnawing. Criteria for recognizing and distinguishing these marks are detailed in existing literature (see for example Fisher 1995). We weighed each group of bones, and recorded any additional comments in an unrestricted format. Finally, we noted any identified deer bones on a line drawing of a deer skeleton (modified from Hemler 1987, Fig. 4).

We used the Statview database to generate the summary data tables. Most of the data in the summary tables are relatively straight forward and come from simple calculations. However, two of the measures reported in Table 3, the minimum number of individuals (MNI) and biomass require some further description. The MNI is the best estimate of the minimum number of individual animals required to account for all of the skeletal specimens in an assemblage. For example, this collection contains two left deer calcanei, thus at least two deer are represented in the assemblage. We used all possible information on size, age and morphology when calculating the MNIs, and considered the entire assemblage as a single unit. Biomass figures are generated from the allometric relationship between skeletal weight and body weight that exists in many animals. As such, this measure provides a conservative means of translating bone weights into biomass weights to provide one means of assessing the relative dietary importance of different taxa. We used the formula and constants developed by Reitz and her colleagues (reported in Reitz 1987, and detailed in Figure 5). We did not calculate MNIs or biomass estimates for any of the invertebrates. There is good evidence for shell working to manufacture beads at the site, and it is likely that the bead manufacturers collected shells for this purpose.

Results

The modifications observed on the specimens in the assemblage are detailed in Table 1. The only significant modification is burning, with more than 25% of the

Table 1. Modifications observed in the assemblage.

Modification	N	% of NISP
Burned	962	27.8
Tool marked	3	0.1
Rodent gnawed	0	0.0
Carnivore gnawed	5	0.1

Note: NISP is the number of specimens in the collection.

Table 2. Basic assemblage composition.

Category	NISP	%	WT(g)	%	Average weight (g)
Identified mammal	211	6.1	134.3	13.1	0.64
Unidentified mammal	252	7.3	112.5	11.0	0.45
Total mammal	463	13.4	246.8	24.1	0.53
Identified bird	1	0.0	0.1	0.0	0.10
Unidentified bird	22	0.6	4.7	0.5	0.21
Total bird	23	0.7	4.8	0.5	0.21
Identified fish	219	6.3	19.1	1.9	0.09
Unidentified fish	50	1.4	3.6	0.4	0.07
Total fish	269	7.8	22.7	2.2	0.08
Identified turtle	25	0.7	20.5	2.0	0.82
Unidentified turtle	307	8.9	66.0	6.5	0.21
Total turtle	332	9.6	86.5	8.5	0.26
Unid. vertebrate	1642	47.5	309.9	30.3	0.19
Identified bivalve	156	4.5	241.2	23.6	1.55
Unidentified bivalve	561	16.2	105.0	10.3	0.19
Total bivalve	717	20.7	346.2	33.9	0.48
Other invertebrates	13	0.4	5.8	0.6	0.45
TOTAL	3459	100.0	1022.7	100.0	0.30

Note: NISP is the number of specimens.

specimens burned. In the absence of evidence for natural fires, burned bone fragments generally are interpreted as evidence of human action in assemblage formation, with bone scraps either purposefully or accidentally incorporated into fires. Only three specimens had identifiable tool marks, and only five had recognizable carnivore gnaw marks.

We examined the tool marked bones quite closely in hopes of distinguishing marks made by metal tools from marks made by stone tools. Recognizing the use of metal tools for butchery or bone working by Native Americans is one potential way to assess the spread and effect of European goods. Unfortunately, the small number of tool marked specimens makes this difficult. Two of the specimens are large enough to see the tool marks clearly (Figure 1). In both these instances the tool marks could be from either stone or metal tools, though the shape and profile of the cut mark on the medium mammal long bone shaft makes it look more like a metal tool mark. Future studies of additional faunal material from the Posey Site or similar sites could add to our understanding of butchery practices and the use of metal versus stone tools.

By far the most significant modification to the specimens is fragmentation. All of the specimens are very small, and most are extensively fragmented. It is not possible to tell whether this fragmentation took place before or after the remains were deposited. It is likely that a significant amount of fragmentation is the result of post-depositional plowing, which has been shown to fracture and reduce the size of faunal remains (Lyman and O'Brien 1987). Table 2 presents an overview of the basic composition of the assemblage by specimen counts (NISP) and weights. Specimen weight can be used as an indirect proxy for fragment size. In this instance, the very small average fragment weights testify to the extremely small size of all of the specimens. Only the identified bivalve shells average more than one gram in weight. Identified specimens tend to weigh more, on average, than unidentified specimens. The only exception to this pattern is birds, and this is likely a function of the very small sample size.

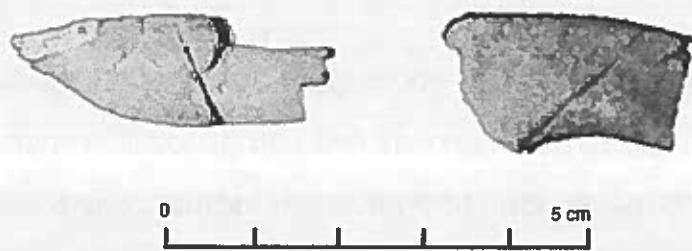


Figure 1. Bone specimens with tool marks. Left: medium mammal long bone shaft, Lot#43. Right: deer coronoid process, Lot#70. These marks appear to be from metal tools. Note the small size of both fragments, two of the largest specimens in the collection.

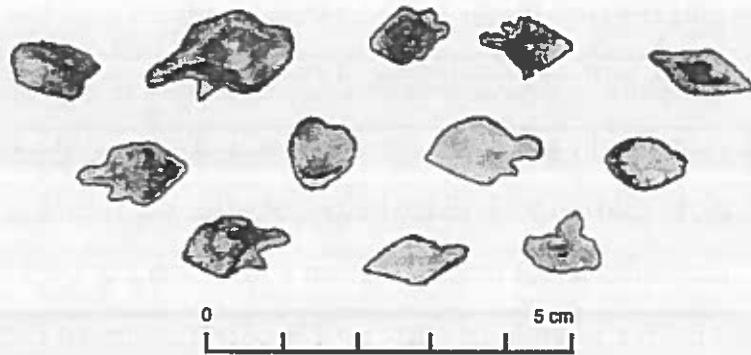


Figure 2. A Sample of gar (*Lepisosteus* sp.) scales, Lot#43. These scales are durable, readily identifiable, and well represented in the collection.

The degree of fragmentation strongly influences many aspects of assemblage patterning. Specific skeletal parts of different taxa tend to have a certain minimum identifiable size (Lyman and O'Brien 1987). Small dense skeletal parts that resist fragmentation will survive to be recovered and identified. Skeletal parts that retain diagnostic attributes when fragmented will be disproportionately represented in a collection, while parts that lose diagnostic attributes when fragmented will be underrepresented or even disappear. This process can affect both relative taxonomic representation and skeletal part representation of an individual animal.

Some of these effects are visible in Table 2. For example, more than 80% of the fish bones in the collection were identified. However, the vast majority of the identified fish remains are gar scales (Figure 2). These scales are small, very dense, and survive fragmentation and other destructive forces well. They are also very distinctive and easily recognized. Thus the very high proportion of identified fish bones is a direct result of the types of fish parts present and their ability to withstand fragmentation with diagnostic attributes intact. By contrast, less than 8% of the turtle remains were identified. Many of the "unidentified" turtle remains are small shell fragments. Tiny fragments of turtle shell are easily identified as turtle shell, even when they lack diagnostic attributes for a more specific identification. We identified species for only a few fragments of turtle shell, and these are the largest fragments (Figure 3). Perhaps the clearest indication of the high degree of fragmentation is the very large proportion of "unidentified vertebrate" specimens; almost half the collection by fragment count, and 30% by weight. Large proportions of unidentified fragments are generally indicative of taphonomic attrition, in this case primarily the effects of fragmentation.

Table 3 presents a more detailed breakdown of taxonomic representation. Several points are clear. The collection includes a range of mammals, fish, turtles, and shellfish, with very few birds included. These animals represent a mix of terrestrial, freshwater,

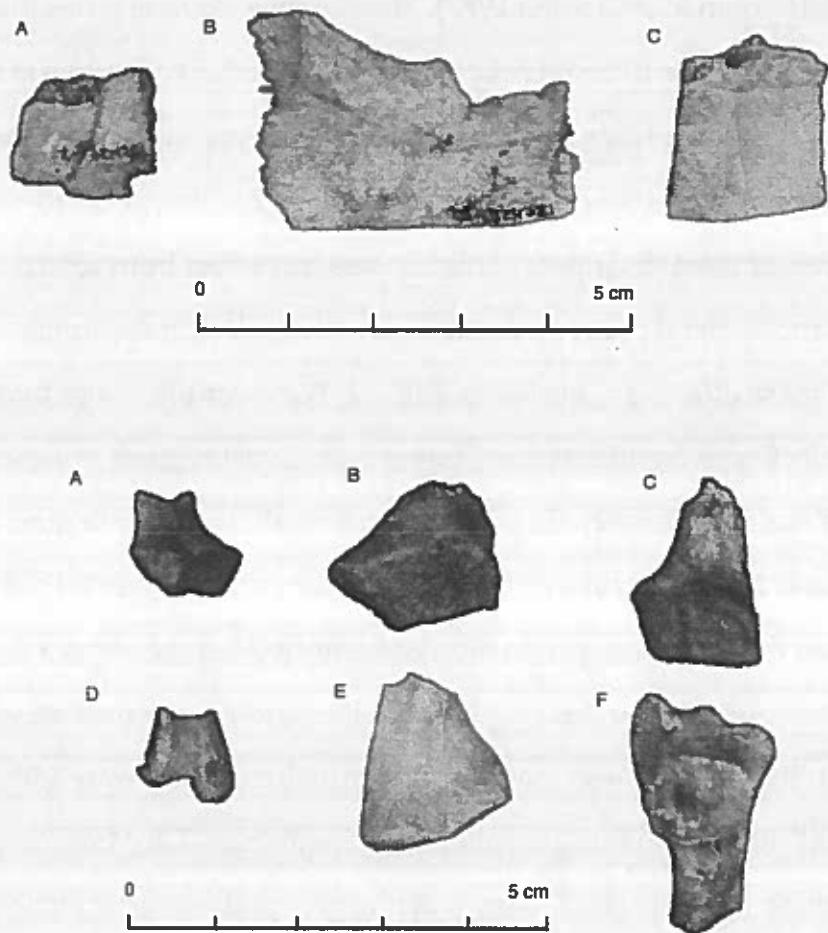


Figure 3. Turtle shell and bone fragments.
Top: shell fragments. A) Box Turtle, Lot#71; B) Snapping Turtle, Lot#72;
C) Painted Turtle, Lot#45.
Bottom: Snapping Turtle bones. A) right ischium, Lot#45; B) left pubis,
Lot#71; C) left ilium Lot#44; D) left tibia, Lot#45; E) right ulna, Lot#44;
F) right scapula, Lot#44.

Table 3. Taxonomic representation.

Category	Scientific Name	NISP	%	WT(g)	%	MNI	%	BM (kg)	%
Vertebrates									
Pig	<i>Sus scrofa</i>	5	0.1	2.4	0.2	1	4.8	0.06	1.0
Deer	<i>Odocoileus virginiana</i>	73	2.1	61.9	6.1	2	9.5	1.08	19.3
Probable Mink	<i>cf. Mustela vison</i>	1	0.0	0.3	0.0	1	4.8	0.01	0.2
Small Carnivore		1	0.0	0.1	0.0			0.00	0.1
Raccoon	<i>Procyon lotor</i>	1	0.0	0.3	0.0	1	4.8	0.01	0.2
Squirrel	<i>Sciurus spp.</i>	1	0.0	0.1	0.0	1	4.8	0.00	0.1
Muskat	<i>Ondatra zibethicus</i>	7	0.2	4.2	0.4	1	4.8	0.10	1.7
Small Mammal		18	0.5	4.3	0.4			0.10	1.7
Medium Mammal		104	3.0	60.7	5.9			1.06	18.9
Unid. Mammal		252	7.3	112.5	11.0			1.84	33.0
Duck	Cygninae	1	0.0	0.1	0.0	1	4.8	0.00	0.0
Unid. Bird		22	0.6	4.7	0.5			0.08	1.5
Gar	<i>Lepisosteus spp.</i>	193	5.6	16.0	1.6	1	4.8	0.28	5.0
White Perch	<i>Morone americana</i>	18	0.5	1.8	0.2	5	23.8	0.04	0.8
Sucker	Castomidae	1	0.0	0.1	0.0	1	4.8	0.00	0.1
Freshwater Catfish	Ictaluridae	7	0.2	1.2	0.1	1	4.8	0.02	0.4
Unid. Fish		50	1.4	3.6	0.4			0.08	1.5
Snapping Turtle	<i>Chelydra serpentina</i>	22	0.6	19.0	1.9	3	14.3	0.23	4.1
Box Turtle	<i>Terrapene carolina</i>	1	0.0	0.5	0.0	1	4.8	0.02	0.4
Painted Turtle	<i>Chrysemys picta</i>	1	0.0	0.9	0.1	1	4.8	0.03	0.5
Box or Wood Turtle	Emydidae	1	0.0	0.1	0.0			0.01	0.1
Unid. Turtle		307	8.9	66.0	6.5			0.52	9.4
Unid. Vertebrate		1642	47.5	309.9	30.3				
Invertebrates									
Oyster		48	1.4	119.0	11.6				
Clam		93	2.7	118.0	11.5				
Mussel		15	0.4	4.2	0.4				
Unid. Bivalve		561	16.2	105.0	10.3				
Gastropod		7	0.2	4.4	0.4				
Crab		6	0.2	1.4	0.1				
TOTAL		3459	100.0	1022.7	100.0	21	100.0	5.59	99.9

Note: NISP is the number of identified specimens, MNI is the minimum number of individuals, BM (kg) is the biomass in kilograms.

and estuarine resources. Deer, squirrel, raccoon, and box turtle are primarily terrestrial. Mink, muskrat, snapping turtle and painted turtle inhabit freshwater or estuarine environments. The fully aquatic animals include species that prefer fresher water, such as gar, freshwater catfish, and sucker, as well as species that prefer saltier water such as clam, oyster, and crab (Miller 1984: 128-136). Most of the taxa represented would have been available in the immediate vicinity of the site, on Mattawoman Neck, or in and around Mattawoman Creek to the south and the Potomac River to the north. The faunal assemblage recovered in the 1985 excavations is basically similar, though it included specimens from two additional species—turkey and black bear (Harmon 1996).

The only non-indigenous species present is pig, represented in the collection by five tooth fragments (Table 4). The presence of these specimens raises some important questions about how this assemblage was formed. In particular, does the presence of these pig teeth imply that the inhabitants of the site ate pigs? If so, how were the pigs acquired? Strictly speaking, the inherently mixed nature of plow-zone contexts makes it impossible to use contextual information alone to identify the origin of faunal remains. It is possible that the pig teeth are present due to post-occupation deposition during cultivation. For that matter, it is also possible that other remains are the result of post-occupation deposition. For example, skeletal parts incorporated into the assemblage after natural deaths of animals. Overall, the uniform degree of fragmentation, the high proportion of burned bones, and the presence of even a small number of tool marked bones suggests that the bulk of the material is the result of human action and was deposited before the period of active cultivation. The pig teeth have no attributes (color, modifications, degree of fragmentation) that obviously distinguish them from the rest of the specimens.

If we assume that the site's inhabitants did deposit the pig teeth and did consume some pork, it raises the question of how it was acquired. Different interpretations have specific implications for understanding Native American cultural practices in the face of

colonial settlement. One possibility is that enough colonists' pigs had escaped that a feral animal population was established, and that the site's occupants hunted these feral animals like any other wild animal. A second possibility is that live pigs or preserved pork served as one more colonial trade item. Another possibility is that the pigs were captured or stolen from a colonial farm, as apparently occurred in St. Mary's County in the 1660s (Harmon 1996). Finally, it remains possible that someone at the site was raising domestic pigs. This last scenario clearly has markedly different implications about patterns of cultural interaction between Native Americans and colonists than does the vision of a hunted feral animal. The very small number of pig tooth specimens, the absence of any identified post-cranial remains, and dominant representation of indigenous taxa shows that raising domestic animals was not an important activity of the site's residents. However, it is difficult to make a case for any of the other interpretations.

In terms of the relative representation of different taxa, deer, snapping turtle, white perch, gar, and muskrat are the best represented vertebrates. Together these taxa constitute almost 60% of the identified animals (by MNI) and 30% of the total biomass. Although gar dominates the assemblage by simple specimen counts, most of these are scales, and could all be from a single animal. Deer, white perch, and snapping turtle are represented by more than one individual. By any measure we would estimate deer meat was the single most important component of the diet, over 19% of the total vertebrate biomass. The category "medium mammal" likely contains many small fragments of deer bone as well, though it could contain some pig bone fragments or remains of other taxa.

Deer, muskrat, and snapping turtle are represented by the widest range of skeletal parts (Table 4; Figures 3, 4). The categories small and medium mammal contain primarily cranial, rib, vertebral, and long bone shaft fragments, all skeletal parts that are notoriously difficult to identify to a specific taxa. Muskrat and deer are represented by both cranial and post-cranial (from the body) skeletal parts. All of the other identified mammals—pig, mink, raccoon, and squirrel—are represented only by individual teeth.

Table 4. Mammal skeletal part representation by specimen counts.

Skeletal Part	Deer	Classification					TOTAL
		Pig	Muskrat	Small	Medium		
cranium	2	-	1	3	5	11	
mandible	3	-	2	1	2	8	
loose teeth	34	5	-	-	-	39	
cervical vertebra	-	-	-	-	-	0	
thoracic vertebra	-	-	-	-	-	0	
lumbar vertebra	-	-	-	-	-	0	
sacrum	1	-	-	-	-	1	
caudal vertebra	-	-	2	1	-	3	
vertebra, unid.	1	-	-	8	7	16	
rib	1	-	-	1	2	4	
scapula	-	-	-	-	-	0	
humerus	1	-	1	-	-	2	
radius	1	-	-	-	-	1	
ulna	1	-	1	-	-	2	
carpal	1	-	-	-	-	1	
metacarpal	-	-	-	-	-	0	
phalanges	9	-	-	-	-	9	
pelvis	1	-	-	-	-	1	
femur	-	-	-	1	-	1	
patella	-	-	-	-	-	0	
tibia	1	-	-	-	-	1	
fibula	-	-	-	-	-	0	
tarsal	8	-	-	-	-	8	
metatarsal	3	-	-	-	-	3	
long bone	-	-	-	1	82	83	
other	5	-	-	2	6	13	
TOTAL	73	5	7	18	104	207	

Note: mink, raccoon, and squirrel are each represented by a single tooth.

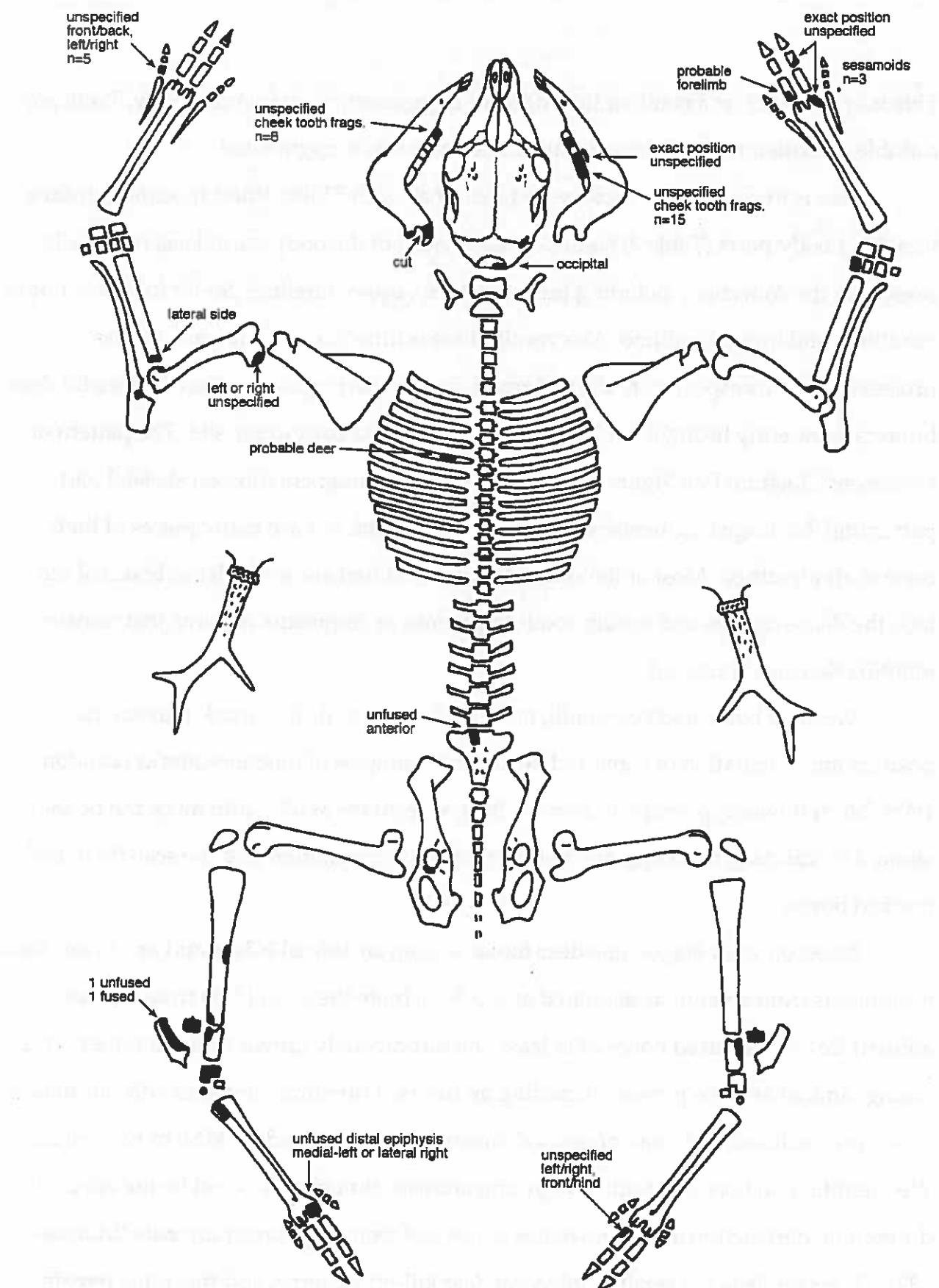


Figure 4. Deer skeletal part representation. Shaded areas are bone specimens present. Modified from Helmer (1987, Fig. 4).

This is at least in part a result of the effects of fragmentation on identifiability. Teeth are durable and often retain diagnostic attributes even when fragmented.

Deer is by far the best represented mammal, with 73 identified specimens from a variety of body parts (Table 4; Figure 4). All regions of the body are at least minimally present in the collection, including the head, torso, upper forelimb, lower forelimb, upper hindlimb, and lower hindlimb. As a result, there is little basis to interpret carcass processing and transport from the pattern of skeletal part representation. Successful deer hunters apparently brought a full range of skeletal parts back to the site. The pattern of specimens illustrated on Figure 4 shows the effects of fragmentation on skeletal part patterning. No large fragments of deer bone are present, nor are many pieces of limb bone shaft identified. Most of the skeletal parts identified are small dense bones of the feet, the dense carpal and tarsals, tooth fragments, or fragments of joints that remain identifiable when fractured.

One deer bone, a left coronoid, had a tool mark on it. This mark mirrors the position and orientation of some archaeological examples of butchery marks (Landon 1996: 70), and was apparently to remove the jaw from the skull. Little more can be said about deer carcass processing due to the extreme fragmentation and the scarcity of tool marked bones.

Based on wear stages, one deer molar is from an animal \geq 3 yrs and one lower third premolar is from an animal estimated at 3–3.5 yrs (note these could be from the same animal). Several unfused bones of at least one incompletely grown (though not extremely young) animal are also present, including an unfused proximal humerus and calcaneous. Based on one fused and one unfused calcaneous we determined an MNI of two animals. We identified no bones or teeth very young animals, though this could be the effect of differential destruction of the less dense bones and teeth of younger animals (Munson 1991). The sample is too small to interpret deer kill-off patterns, and this topic remains worthy of future research. Additional information about deer ages could potentially

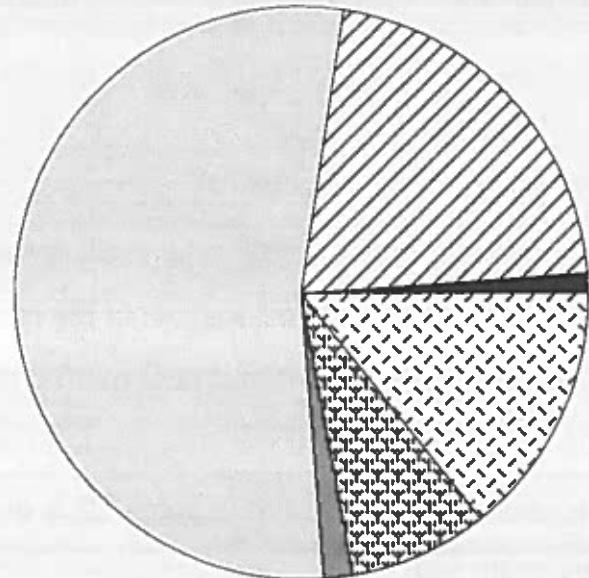
provide important information about the effects of hunting pressure on deer populations, and the effects of colonial expansion on Native American hunting practices.

Discussion

The high degree of fragmentation of the faunal specimens places some limitations on this analysis, yet several points do emerge clearly. Overall, the assemblage contains a wide range of species representing many of the resources in the rich environment of the Chesapeake bay estuary—fish, shellfish, aquatic and land turtles, terrestrial mammals, and semi-aquatic mammals. The variety of animals suggests a diversified subsistence strategy of hunting, fishing, and collecting. Only the many birds of the Chesapeake estuary are missing from the collection.

If we use biomass estimates as a proxy for dietary composition, wild mammals (especially deer) are most important in the diet, followed by turtles and fish (Figure 5). This is probably accurate in a general sense, but it remains a rather incomplete image. The entire collection yielded a total estimated biomass of less than 6 kilograms. Further, it is likely that the dietary importance of different animals varied with the seasons. There are few clear seasonal indicators in this collection, though white perch probably was most readily available near the site during spring spawning. Occupation of the site during other seasons of the year cannot be either supported or rejected.

In many ways the faunal collection from this post-contact Native American site is quite similar to collections from earlier prehistoric sites in the region, including some along the Patuxent River. Researchers have analyzed faunal collections from the Woodland Period Stearns Site (18CV175), Patterson Site (18CV65), and the Patuxent Point Site (18CV271) (Dukes 1993; Whyte 1991). Despite differences in the size and date of these collections they share many similarities with the Posey Site collection. A broad range of aquatic and terrestrial animals is present, again suggesting a diversified subsistence strategy. Turtles and fish are well represented, while birds are poorly represented. In all



- | | |
|----------------------|----------|
| ■ Domestic mammal | ■ Bird |
| ▨ Wild mammal | ▨ Fish |
| □ Unspecified mammal | ▨ Turtle |

Figure 5. Proportional composition of the assemblage by biomass.
 $\text{Biomass (kg)} = a * \text{Bone Weight (kg)}^b$, with a and b as constants.

Category	a	b
Mammal	13.18	0.90
Bird	10.96	0.91
Alligator	8.13	0.89
Turtle	3.24	0.67
Snake	14.79	1.01
Osteichthyes	7.94	0.81
Siluriformes	14.13	0.95
Perciformes	8.51	0.83
Serranidae	32.36	1.08
Carangidae	16.98	0.88
Sparidae	9.12	0.92
Sciaenidae	6.46	0.74

Note: Biomass constants derived from Reitz (1987; Appendix 1).

cases deer bones are numerous, and deer likely represents the single most important source of meat. All three of the prehistoric assemblages even contain small numbers of bones from introduced European species, in these cases clearly intrusive. Overall, few characteristics of the Posey Site assemblage differentiate it from earlier pre-contact assemblages along the Patuxent.

By contrast, there is no way we could confuse the Posey Site assemblage with that of a colonial farm of the same period, even one in the identical environment. By the second half of seventeenth century, the importance of wild animals in the diet of Chesapeake colonists was decreasing (Miller 1984). Farms had become successfully established, the initial period of most intense use of wild animals for food had passed, and the proportion of domestic animal meat in the diet was climbing. The similarity of the Posey Site assemblage to earlier Native American assemblages, and its strong differences from assemblages of European colonists, shows the continuation of fundamentally traditional subsistence practices, even with the influx of colonial settlers and European trade goods.

This is not to deny the effects of colonial expansion of Native American socio-economic and subsistence systems, but simply to state that these effects are not clearly visible in this faunal collection. Several aspects of the collection provide subtle hints at some possible aspects of Native American cultural change. If the people at the site hunted wild pigs for food, or otherwise acquired pork through trade, this very minor dietary change would nonetheless show one way European domestic animals influenced traditional subsistence practices. Similarly, if metal tool augmented traditional tools in butchery and bone working we could recognize another aspect of cultural change. Both these points are quite equivocal in this assemblage, and full answers to these questions remains a task for future research.

REFERENCES

Dukes, J. A.

- 1993 Vertebrate Fauna from Prehistoric Components at the Patuxent Point Site (18CV271), Maryland. Ms. report on file at Jefferson Patterson Park and Museum, St. Leonard, Maryland.

Fisher, J. W., Jr.

- 1995 Bone Surface Modifications in Zooarchaeology. *Journal of Archaeological Method and Theory* 2(1):7-68.

Gifford, D. P. and D. C. Crader

- 1977 A Computer Coding System for Archaeological Faunal Remains. *American Antiquity* 42(2):225-238.

Gilbert, M.

- 1980 *Mammalian Osteology*. Modern Printing Company, Laramie, Wyoming.

Harmon, J. M.

- 1996 Archaeological Investigations at the Posey Site (18CH281) and 18CH282, Indian Head Division, Naval Surface Warfare Center, Charles County, Maryland. Ms. report on file at Jefferson Patterson Park and Museum, St. Leonard, Maryland.

Helmer, D.

- 1987 *Fiches Descriptives pour les Relevés D'Ensemble Osseux Animaux Fiches D'Ostéologie Animale Pour L'Archéologie Serie B: Mammifères*. Centre de Recherches Archéologiques du CNRS, Valbonne.

Landon, D. B.

- 1996 *Feeding Colonial Boston: A Zooarchaeological Study*. Historical Archaeology 30(1). Society for Historical Archaeology, California, Pennsylvania.

Lyman, R. L. and M. J. O'Brien

- 1987 Plow-Zone Zooarchaeology: Fragmentation and Identifiability. *Journal of Field Archaeology* 14:493-498.

Miller, H. M.

- 1984 *Colonization and Subsistence Change on the 17th Century Chesapeake Frontier*. Ph.D. thesis, Michigan State University.

Munson, P. J.

- 1991 Mortality Profiles of White-Tailed Deer from Archaeological Sites in Eastern North America: Selective Hunting or Taphonomy? In *Beamers, Bobwhites, and Blue-Points: Tributes to the Career of Paul W. Parmalee*, edited by J. R. Purdue, W. E. Klippel and B. W. Styles, pp. 137-151. Scientific Papers, Vol. 23. Illinois State Museum, Springfield.

Olsen, S. J.

- 1964 *Mammal Remains from Archaeological Sites* Papers of the Peabody Museum of Archaeology and Ethnology 56 (1). Peabody Museum, Cambridge, Massachusetts.
- 1968 *Fish, Amphibian, and Reptile Remains from Archaeological Sites* Peabody Museum Papers in Archaeology and Ethnology 56 (2). Peabody Museum, Cambridge, Massachusetts.

Reitz, E. J.

- 1987 *Preliminary Analysis of Vertebrate Remains from the Calvert Site in Annapolis, Maryland, and a Comparison with Vertebrate Remains from Sites in South Carolina, Georgia, and Jamaica*. Calvert Interim Report No. 6. Historic Annapolis, Annapolis.

Sobolik, K. D. and D. G. Steele

- 1996 *A Turtle Atlas to Facilitate Archaeological Identifications*. Mammoth Site of Hot Springs in conjunction with the Office of Research and Public Services, University of Maine, Hot Springs.

Whyte, T. R.

- 1991 Archaeofaunal Remains from Sites 18CV65 and 18CV175 on the Patuxent River, Calvert County, Maryland. Ms. report on file at Jefferson Patterson Park and Museum, St. Leonard, Maryland.

CATALOGUE

The following pages contain a complete catalogue of the specimens in the Posey Site collection. The catalogue is a Statview database. Each of the sixteen columns contains information about the specimens listed in a single row. Each column is detailed below.

- Lot# is the lot number.
- PROV is the provenience number and strata letter (ex., 27879A)
- QTY is the number of fragments included in individual record.
- C is taxonomic class. Mammal, Bird, Fish, Reptile, Amphibian, Pelecypod (bivalve shells), Gastropod (snails), Unidentified, Vertebrate, Other.
- TAXON is the most specific taxonomic identification possible. This can be a family name, genus and species name, common name, or a size.

Size Categories (used for mammals)

Small. Smaller than a rabbit.
Medium. Rabbit to pig.
Large. Larger than large pig.

- BP is body part, modified after Gifford and Crader (1977). *Italics are parts unique to birds.*
 1. CRA=cranial
 2. MAXT=maxilla with teeth
 3. DEN=dentary
 4. DENT=dentary with teeth
 5. TTH=loose tooth (specify tooth if possible in comments column)
 6. ATL=atlas
 7. AXI=axis
 8. CER=cervical vertebra
 9. THO
 10. LUM=lumber vertebra
 11. SYN=*synsacrum*
 12. SAC=sacrum
 13. CAU=caudal vertebra
 14. VRT=unspecified vertebra
 15. RIB=rib
 16. SCP=scapula
 17. COR=*coracoid*
 18. FUR=*furcula*
 19. STE=sternum
 20. HUM=humerus
 21. RAD=radius

- 22. ULN=ulna
- 23. CAR=carpal
- 24. CMC=*carpometacarpus*
- 25. MC=metacarpal
- 26. PHA1=first phalanx
- 27. PHA2=second phalanx
- 28. PHA3=third phalanx
- 29. PHAA=anterior phalanx
- 30. PHAP=posterior phalanx
- 31. PHA=unspecified phalanx
- 32. PEL=pelvis
- 33. INN=innominate
- 34. ACE=acetabulum
- 35. ILM=ilium
- 36. ISC=ischium
- 37. PUB=pubis
- 38. FEM=femur
- 39. PAT=patella
- 40. TIB=tibia
- 41. TBT=*tibiotarsus*
- 42. FIB=fibula
- 43. TAR=tarsal
- 44. TMT=*tarsometatarsus*
- 45. MT=metatarsal
- 46. LBN=unspecified long bone
- 47. NID=not identified
- 48. OTH=other
- 49. SHL=shell
- 50. SLH=shell with hinge portion present (bivalves)
- 51. MET=unspecified metapodial
- 52. COS=costal cartilage
- 53. POD=podial, unspecified
- 54. SES=sesamoid
- 55. SCL=scale
- 56. CLAW=claw
- POR is portion, modified after Gifford and Crader (1977).
 - 1. fr=fragment not otherwise specified
 - 2. sh=shaft
 - 3. co=complete
 - 4. ant=anterior
 - 5. mid=middle or central
 - 6. pos=posterior
 - 7. inf=inferior
 - 8. sup=superior
 - 9. hfl=half-longitudinal
 - 10. px=proximal end

- 11. psh=proximal plus partial shaft
- 12. pse=proximal shaft minus epiphysis
- 13. cp=complete shaft/bone and proximal end
- 14. cs=complete shaft
- 15. cd=complete shaft/bone and distal end
- 16. ds=distal end
- 17. dsh=distal end and partial shaft
- 18. dse=distal shaft minus epiphysis
- PF is proximal/anterior fusion state.
F=fused,
U=unfused,
E= epiphyseal line,
- DF is distal/posterior fusion state.
- SYM is symmetry.
L=left,
R=right,
A=axial,
- BN is the number of burned specimens.
- #W/BT is the number of fragments with identifiable tool marks.
- RD is the number of fragments with rodent gnaw marks.
- CN is the number of fragments with carnivore gnaw marks.
- WT g is the weight of the specimens in grams.
- Comments contains any additional comments about the specimens. Includes any surface discoloration (iron or copper contact), more specific identification, notes on mends and other information. Also, wear stages of teeth, sex of animals, or age estimates for animals where possible.

LOT#	PROV	QNTY	CLASS	TAXON	BP	POR	PxF	DsF	SyM	BN	#W/BT	FD	CN	WT(g)	Comments
1	73	28253A	1	Mammal	Mustelid, cf. mink	MAXT	mid		L					.3	up4, large mink, male?
2	55	27120A	1	Mammal	Sus scrofa	TTH	fr			1				.7	lower molar
3	74	28063A	1	Mammal	Sus scrofa	TTH	fr							.4	molar frag
4	73	28253A	1	Mammal	Sus scrofa	TTH	fr							.6	molar
5	47	28260A	2	Mammal	Sus scrofa	TTH	fr							.7	lower M, upper I
6	45	28071A	1	Mammal	Sciurus sp.	TTH	fr							.1	upper incisor
7	45	28071A	1	Mammal	small CRA pos			L						.1	occipital condyle
8	44	28086A	2	Mammal	small CRA									.2	
9	45	28071A	1	Mammal	small DEN									.1	
10	44	28086A	1	Mammal	small CAU									.1	unfused
11	44	28086A	4	Mammal	small VRT									1.0	
12	45	28071A	2	Mammal	small VRT									.4	
13	76	28065A	1	Mammal	small VRT			A						.3	
14	46	28257A	1	Mammal	small VRT									.5	
15	71	28443A	1	Mammal	small RIB	mid								.1	
16	79	27687A	1	Mammal	small FEM	ds				1				.5	
17	48	28449A	1	Mammal	small LBN	sh								.5	
18	46	28257A	2	Mammal	small POD	fr								.5	
19	79	27687A	1	Mammal	medium CRA	fr				A	1			.7	
20	75	28064A	2	Mammal	medium CRA									4.6	
21	43	27879A	1	Mammal	medium CRA									.5	
22	58	29011A	1	Mammal	medium CRA									.9	
23	46	28257A	1	Mammal	medium DEN									.4	
24	58	29011A	1	Mammal	medium DEN									.1	
25	48	28449A	1	Mammal	medium VRT									1.0	
26	44	28086A	1	Mammal	medium VRT									.2	unfused centrum epiphysis
27	43	27879A	2	Mammal	medium VRT									1.0	
28	46	28257A	3	Mammal	medium VRT					1				1.2	
29	80	27688A	1	Mammal	medium RIB	mid								1.3	
30	57	28254A	1	Mammal	medium RIB					1				.1	
31	55	27120A	5	Mammal	medium LBN	sh				2				2.0	
32	70	28442A	15	Mammal	medium LBN	sh					8			7.0	
33	73	28253A	6	Mammal	medium LBN	sh					5			3.6	
34	76	28065A	4	Mammal	medium LBN	sh					4			2.0	
35	48	28449A	11	Mammal	medium LBN	sh					9			5.8	
36	79	27687A	8	Mammal	medium LBN	sh					7			4.2	
37	46	28257A	15	Mammal	medium LBN	sh					8			5.3	
38	78	27875A	7	Mammal	medium LBN	sh					5			1	3.6
39	72	28252A	3	Mammal	medium LBN	sh					1			2.1	
40	80	27688A	6	Mammal	medium LBN	sh					3			2.6	
41	43	27879A	2	Mammal	medium LBN	sh					1	1		3.0	
42	43	27879A	3	Mammal	medium NID									3.4	
43	47	28260A	3	Mammal	medium NID									4.1	
44	45	28071A	1	Mammal	Otocoleus v.	CRA	fr							.5	petrous frag?

LOT#	PROV	QNTY	CLASS	TAXON	BP	POR	PxF	DsF	SYM	BN	#W/BT	HD	CN	WT(g)	Comments
45	48	28449A	1	Mammal	Odocoileus v.	CRA	pos	•	R	•	1	2.0	occipital condyle		
46	55	27120A	1	Mammal	Odocoileus v.	DEN	fr	•	•	1	•	.6	cf id		
47	45	28071A	1	Mammal	Odocoileus v.	DEN	pos	•	L	•	•	.4	mandibular hinge		
48	70	28442A	1	Mammal	Odocoileus v.	DEN	pos	•	1	•	•	1.5	coronoid, poss. metal bt tool		
49	48	28449A	2	Mammal	Odocoileus v.	TTH	fr	•	•	•	•	.6	cheek teeth		
50	79	27687A	2	Mammal	Odocoileus v.	TTH	fr	•	•	•	•	.3	cf id		
51	70	28442A	4	Mammal	Odocoileus v.	TTH	fr	•	2	•	•	1.0			
52	74	28063A	2	Mammal	Odocoileus v.	TTH	fr	•	1	•	•	.5			
53	80	27688A	1	Mammal	Odocoileus v.	TTH	fr	•	•	•	•	.4	molar, ≥ 3 yrs.		
54	55	27120A	1	Mammal	Odocoileus v.	TTH	fr	•	•	•	•	.3			
55	47	28260A	4	Mammal	Odocoileus v.	TTH	fr	•	A	•	•	1.2			
56	56	29392A	1	Mammal	Odocoileus v.	TTH	fr	•	1	•	•	.4	tooth indet		
57	76	28065A	1	Mammal	Odocoileus v.	TTH	fr	•	•	•	•	.3	molar		
58	79	27687A	2	Mammal	Odocoileus v.	TTH	fr	•	•	•	•	.3	cheek tooth		
59	71	28443A	1	Mammal	Odocoileus v.	TTH	fr	•	R	•	•	.5	LP3, age 3-3.5 yrs.		
60	73	28253A	1	Mammal	Odocoileus v.	TTH	pos	•	•	•	•	.3			
61	75	28064A	1	Mammal	Odocoileus v.	TTH	•	•	•	•	•	.1			
62	75	28064A	2	Mammal	Odocoileus v.	TTH	•	•	•	•	•	.6	molars		
63	43	27879A	3	Mammal	Odocoileus v.	TTH	•	•	•	•	•	.7	cheek tooth frags		
64	44	28086A	3	Mammal	Odocoileus v.	TTH	•	•	•	•	•	.8	cheek teeth frags		
65	45	28071A	2	Mammal	Odocoileus v.	TTH	•	•	•	•	•	.5	cheek teeth frags.		
66	43	27879A	1	Mammal	Odocoileus v.	TTH	•	•	R	•	•	.6	cheek tooth		
67	46	28257A	1	Mammal	Odocoileus v.	SAC	hil	U	A	•	•	1	2.5		
68	45	28071A	1	Mammal	Odocoileus v.	VFT	•	•	•	•	•	.4	centrum epiphysis		
69	78	27875A	1	Mammal	Odocoileus v.	RIB	sup	•	L	1	•	.9			
70	70	28442A	1	Mammal	Odocoileus v.	HUM	px	U	•	•	1	1.9	cf. id		
71	80	27688A	1	Mammal	Odocoileus v.	FAD	px	F	•	L	1	1.4	lateral side of epiphysis		
72	74	28063A	1	Mammal	Odocoileus v.	ULN	mid	•	L	1	•	.7			
73	46	28257A	1	Mammal	Odocoileus v.	CAR	fr	•	R	•	•	.8			
74	46	28257A	1	Mammal	Odocoileus v.	PHA1	px	F	•	•	•	.6	probably fore, III or IV		
75	78	27875A	1	Mammal	Odocoileus v.	PHA1	px	F	U	1	•	1.0			
76	43	27879A	1	Mammal	Odocoileus v.	PHA1	ds	•	U	1	•	.5	vestigial		
77	48	28449A	1	Mammal	Odocoileus v.	PHA1	ds	•	F	•	•	.2	II or V		
78	79	27687A	1	Mammal	Odocoileus v.	PHA1	ds	•	•	•	•	.2	II or V		
79	46	28257A	1	Mammal	Odocoileus v.	PHA1	ds	•	F	•	•	.3	II or V		
80	55	27120A	1	Mammal	Odocoileus v.	PHA2	px	F	•	1	•	.6			
81	45	28071A	1	Mammal	Odocoileus v.	PHA3	ds	•	•	1	•	.1			
82	72	28252A	1	Mammal	Odocoileus v.	FHA	pse	U	•	•	•	.1	II or V		
83	74	28063A	1	Mammal	Odocoileus v.	ACE	fr	•	L	1	•	.6	adult		
84	48	28449A	1	Mammal	Odocoileus v.	TIB	ds	•	F	•	•	.8			
85	72	28252A	1	Mammal	Odocoileus v.	TAR	fr	•	L	1	•	3.4	astragalus		
86	47	28260A	1	Mammal	Odocoileus v.	TAR	co	•	L	1	•	1.2	os malleolus		
87	45	28071A	1	Mammal	Odocoileus v.	TAR	co	•	L	1	•	.1	1st tarsal		
88	72	28252A	1	Mammal	Odocoileus v.	TAR	co	•	R	•	•	1.3	os malleolus		

	LOT#	PROV	QNTY	CLASS	Taxon	BP	POR	PxF	Dsf	Sym	BN	#W/BT	FD	CN	WT(g)	Comments
89	58	29011A	1	Mammal	Odocoileus v.	TAR	psh	•	•	•	•	1	9.1			
90	75	28064A	1	Mammal	Odocoileus v.	TAR	dse	U	•	L	•	•	4.6			
91	45	28071A	1	Mammal	Odocoileus v.	TAR	•	•	L	•	•	•	1.1	naviculo-cuboid		
92	57	28254A	1	Mammal	Odocoileus v.	TAR	•	•	R	•	•	•	6.2	astragalus		
93	74	28063A	1	Mammal	Odocoileus v.	MT	px	•	L	1	•	•	1.9			
94	80	27688A	1	Mammal	Odocoileus v.	MT	ds	•	•	•	•	•	2.5			
95	77	27874A	1	Mammal	Odocoileus v.	MT	•	•	•	•	•	•	.9			
96	48	28449A	1	Mammal	Odocoileus v.	MET	ds	•	•	1	•	•	•	5. epiphysis frag		
97	70	28442A	1	Mammal	Odocoileus v.	SES	fr	•	•	1	•	•	.4			
98	45	28071A	2	Mammal	Odocoileus v.	SES	•	•	•	•	•	•	.3	1 whole		
99	44	28086A	1	Mammal	Odocoileus v.	SES	•	•	•	•	•	•	.1			
100	47	28260A	1	Mammal	carnivore, small in...	TH	•	•	•	•	•	•	.1			
101	75	28064A	1	Mammal	Procyon lotor	TH	co	•	•	R	•	•	.3	lower M3		
102	77	27874A	1	Mammal	Ondatara zibethicus	MAXT	mid	•	•	R	•	•	.6	upper right cheek tooth		
103	44	28086A	1	Mammal	Ondatara zibethicus	DENT	•	•	L	•	•	•	.7			
104	43	27879A	1	Mammal	Ondatara zibethicus	DENT	•	•	R	•	•	•	2.0			
105	70	28442A	1	Mammal	Ondatara zibethicus	CAU	•	•	•	1	•	•	.2	cf. Id		
106	43	27879A	1	Mammal	Ondatara zibethicus	CAU	•	•	•	•	•	•	.1			
107	45	28071A	1	Mammal	Ondatara zibethicus	HUM	px	U	•	L	1	•	.4			
108	79	27688A	1	Mammal	Ondatara zibethicus	ULN	px	•	•	L	•	•	.2			
109	77	27874A	2	Mammal	unidentified	CRA	•	•	•	•	•	•	.4			
110	48	28449A	1	Mammal	unidentified	CRA	•	•	•	•	•	•	.4			
111	45	28071A	1	Mammal	unidentified	CRA	•	•	•	•	•	•	.3	sutures on edge		
112	70	28442A	1	Mammal	unidentified	TH	fr	•	•	1	•	•	.1			
113	43	27879A	1	Mammal	unidentified	TH	•	•	•	•	•	•	.1	mandibular cheek tooth		
114	58	29011A	16	Mammal	unidentified	LBN	sh	•	•	14	•	•	5.0	.4.1g burned, .9g unburned		
115	71	28443A	4	Mammal	unidentified	LBN	sh	•	•	1	•	•	.2.9	.5g burned, 2.4g unburned		
116	75	28064A	20	Mammal	unidentified	LBN	sh	•	•	13	•	•	.6.6	.4.1g burned, 2.5g unburned		
117	59	27123A	1	Mammal	unidentified	LBN	sh	•	•	1	•	•	.6			
118	53	25805A	1	Mammal	unidentified	NID	•	•	•	1	•	•	.4			
119	51	22610A	1	Mammal	unidentified	NID	•	•	•	1	•	•	.1			
120	58	29011A	9	Mammal	unidentified	NID	•	•	7	•	•	•	2.6	.2.2g burned, .4g unburned		
121	78	27875A	3	Mammal	unidentified	NID	•	•	•	•	•	•	1.9			
122	55	27120A	5	Mammal	unidentified	NID	•	•	3	•	•	•	4.6			
123	57	28254A	3	Mammal	unidentified	NID	•	•	2	•	•	•	.6			
124	44	28086A	17	Mammal	unidentified	NID	•	•	5	•	•	•	6.1	3.9g burned		
125	43	27879A	14	Mammal	unidentified	NID	•	•	3	•	•	•	6.0	.2.2g unburned		
126	73	28253A	3	Mammal	unidentified	NID	•	•	•	•	•	•	2.2			
127	71	28443A	7	Mammal	unidentified	NID	•	•	4	•	•	•	2.0	.8g burned, 1.2g unburned		
128	77	27874A	14	Mammal	unidentified	NID	•	•	3	•	•	•	7.0	1.5g burned, 5.5g unburned		
129	80	27688A	7	Mammal	unidentified	NID	•	•	2	•	•	•	2.8			
130	74	28083A	7	Mammal	unidentified	NID	•	•	2	•	•	•	3.5			
131	59	27123A	12	Mammal	unidentified	NID	•	•	12	•	•	•	3.0			
132	72	28252A	6	Mammal	unidentified	NID	•	•	•	•	•	•	2.5			

LOT#	PROV	QNTY	CLASS	TAXON	BP	POR	PxF	DsF	SyM	BN	#WBT	PD	CN	WT(g)	Comments
133	72	28252A	4	Mammal	unidentified	NID	.	.	4	.	.	.	.	1.8	
134	62	28268A	2	Mammal	unidentified	NID	.	.	•	•	.	.	.	.6	
135	79	27687A	6	Mammal	unidentified	NID	.	.	4	.	.	.	.	3.7	
136	56	29392A	1	Mammal	unidentified	NID	.	.	1	.	.	.	.	.1	
137	75	28064A	6	Mammal	unidentified	NID	.	.	2	.	.	.	.	2.2	1.1g burned, 1.1g unburned
138	48	28449A	7	Mammal	unidentified	NID	.	.	•	•	.	.	.	3.7	
139	70	28442A	11	Mammal	unidentified	NID	.	.	6	.	.	.	.	5.7	
140	48	28449A	6	Mammal	unidentified	NID	.	.	6	.	.	.	.	3.1	
141	45	28071A	22	Mammal	unidentified	NID	.	.	11	.	.	.	.	13.8	5.8g unburned, 8g burned
142	47	28260A	31	Mammal	unidentified	NID	.	.	11	1	.	.	.	16.1	shear
143	79	27687A	1	Bird	unidentified	CRA	A	.	.	.	.	.	.	.1	quadrate
144	44	28086A	1	Bird	unidentified	COR	fr	.	.	.	.	.	.	.1	sternal facet
145	43	27879A	1	Bird	unidentified	COR	•	.	•	•	.	.	.	.1	
146	80	27688A	1	Bird	unidentified	PHA	px	.	1	.	.	.	.	.1	
147	43	27879A	1	Bird	unidentified	PHA	•	.	•	•	.	.	.	.1	
148	75	28064A	3	Bird	unidentified	LBN	sh	.	•	•	.	.	.	.7	
149	78	27875A	2	Bird	unidentified	LBN	sh	.	•	•	.	.	.	.6	
150	76	28065A	1	Bird	unidentified	LBN	sh	.	1	.	.	.	.	.6	
151	45	28071A	2	Bird	unidentified	LBN	•	.	•	•	.	.	.	.1	
152	48	28449A	1	Bird	unidentified	NID	•	.	•	•	.	.	.	.4	
153	43	27879A	3	Bird	unidentified	NID	•	.	•	•	.	.	.	.7	
154	47	28260A	3	Bird	unidentified	NID	•	.	•	•	.	.	.	.8	
155	70	28442A	2	Bird	unidentified	NID	•	.	•	•	.	.	.	.3	1 cranial
156	72	28252A	1	Bird	Cygninae	FUR	ant	.	•	•	•	•	.	.1	unid duck, small mallard size
157	80	27688A	1	Fish	unidentified	VRT	•	.	•	•	•	•	.	.1	
158	48	28449A	1	Fish	unidentified	VRT	•	.	•	•	•	•	.	.1	
159	79	27687A	4	Fish	unidentified	VRT	•	.	•	•	•	•	.	.4	
160	43	27879A	7	Fish	unidentified	VRT	•	.	•	•	•	•	.	.5	
161	74	28063A	2	Fish	unidentified	VRT	•	.	•	•	•	•	.	.2	
162	44	28086A	2	Fish	unidentified	VRT	•	.	•	•	•	•	.	.2	
163	78	27875A	2	Fish	unidentified	VRT	•	.	•	•	•	•	.	.1	
164	58	29011A	1	Fish	unidentified	VRT	•	.	•	•	•	•	.	.1	
165	77	27874A	2	Fish	unidentified	VRT	•	.	•	•	•	•	.	.1	
166	71	28443A	1	Fish	unidentified	VRT	•	.	•	•	•	•	.	.1	
167	72	28252A	4	Fish	unidentified	NID	•	.	•	•	•	•	.	.3	
171	43	27879A	11	Fish	unidentified	SCL	•	.	•	•	•	•	.	.6	
168	47	28260A	5	Fish	Lepisosteus sp.	CRA	•	.	•	•	•	•	.	.1	
169	70	28442A	5	Fish	Lepisosteus sp.	CRA	•	.	•	•	•	•	.	.5	
173	44	28086A	2	Fish	Lepisosteus sp.	CRA	•	.	•	•	•	•	.	.1	1 parashoploid
174	45	28071A	3	Fish	Lepisosteus sp.	CRA	•	.	•	•	•	•	.	.2	
175	43	27879A	3	Fish	Lepisosteus sp.	CRA	•	.	•	•	•	•	.	.4	2 mend
176	71	28443A	2	Fish	Lepisosteus sp.	CRA	•	.	1	•	•	•	.		

LOT#	PROV	QNTY	CLASS	TAXON	BP	POR	PxF	Dsf	SYM	BN	#W/BT	RD	CN	WT(g)	Comments
177	77	27874A	1	Fish	Lepisosteus sp.	CRA	•	•	A	•	•	•	•	.1	
178	70	28442A	2	Fish	Lepisosteus sp.	OTH	•	•	•	1	•	•	•	.2	1 cranial, 1 scale
179	43	27879A	91	Fish	Lepisosteus sp.	SCL	•	•	•	•	1	•	•	.75	
180	77	27874A	5	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.6	
181	45	28071A	10	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.6	
182	80	27688A	5	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.4	
183	46	28257A	11	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.7	
184	79	27687A	5	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.3	
185	57	28254A	1	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.1	2 frags mend
186	44	28086A	20	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.19	
187	47	28260A	2	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.1	
188	59	27123A	2	Fish	Lepisosteus sp.	SCL	•	•	•	2	•	•	•	.1	
189	74	28063A	5	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.3	
190	76	28065A	9	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.7	
191	78	27875A	5	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.3	
192	71	28443A	3	Fish	Lepisosteus sp.	SCL	•	•	•	1	•	•	•	.4	
193	75	28064A	4	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.3	
194	72	28252A	2	Fish	Lepisosteus sp.	SCL	•	•	•	•	•	•	•	.2	ganoid scales
195	43	27879A	1	Fish	Castomidae	CRA	•	•	•	L	•	•	•	.1	infrapharyngeal
196	58	29011A	1	Fish	Ictaluridae	CRA	•	•	A	•	•	•	•	.3	basioccipital
197	44	28086A	1	Fish	Ictaluridae	CRA	•	•	L	•	•	•	•	.2	quadrate
198	44	28086A	1	Fish	Ictaluridae	MAXT	•	•	L	•	•	•	•	.1	
199	43	27879A	1	Fish	Ictaluridae	DEN	•	•	L	•	•	•	•	.2	first pterygiophore
200	43	27879A	1	Fish	Ictaluridae	OTH	•	•	L	•	•	•	•	.1	suprasphenoid
201	43	27879A	1	Fish	Ictaluridae	OTH	•	•	L	•	•	•	•	.1	parasphenoid
202	43	27879A	1	Fish	Ictaluridae	OTH	•	•	L	•	•	•	•	.1	basioccipital
203	77	27874A	1	Fish	Morone americana	CRA	•	•	A	•	•	•	•	.3	
204	74	28063A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.2	ololith
205	45	28071A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.1	preopercular
206	43	27879A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.1	basipterygium
207	80	27688A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.2	hyomandibular
208	44	28086A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.1	basipterygium
209	43	27879A	2	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.1	hyomandibular
210	43	27879A	3	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.2	ololith
211	43	27879A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.1	ololith
212	70	28442A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.1	ololith
213	43	27879A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.1	interopercular
214	43	27879A	1	Fish	Morone americana	OTH	•	•	L	•	•	•	•	.1	opercular
215	43	27879A	1	Fish	Morone americana	OTH	•	•	L	•	•	•	•	.1	epihyal
216	43	27879A	1	Fish	Morone americana	OTH	•	•	R	•	•	•	•	.1	ceratohyal
217	79	27687A	1	Reptile	Eymidae	FEM	•	•	R	•	•	•	•	.2	ololith
218	43	27879A	1	Reptile	Eymidae	px	•	•	L	•	•	•	•	.1	painted turtle size
219	71	28443A	1	Reptile	Terrapene carolina	SHL	•	•	R	•	•	•	•	.5	
220	45	28071A	1	Reptile	Chrysemys picta	SHL	•	•	R	•	•	•	•	.9	

LOT#	PROV	QNTY	CLASS	Taxon	BP	POR	PxF	DsF	SYM	BN	#W/BT	FD	CN	WT(g)	Comments
221	46	28257A	1	Reptile	<i>Chelydra serpentina</i>	V/RT	•	•	•	•	•	•	•	.9	
222	58	29011A	1	Reptile	<i>Chelydra serpentina</i>	V/RT	•	•	•	1	•	•	•	1.2	
223	73	28253A	1	Reptile	<i>Chelydra serpentina</i>	SCP	sh	•	•	•	•	•	•	.5	
224	44	28086A	1	Reptile	<i>Chelydra serpentina</i>	SCP	•	•	R	•	•	3.0	unfused		
225	72	28252A	1	Reptile	<i>Chelydra serpentina</i>	SCP	•	•	•	•	•	2.7			
226	44	28086A	1	Reptile	<i>Chelydra serpentina</i>	ULN	sh	U	U	R	•	•	.9		
227	75	28064A	1	Reptile	<i>Chelydra serpentina</i>	PHA2	co	•	•	•	•	•	•	.3	
228	44	28086A	1	Reptile	<i>Chelydra serpentina</i>	PHA3	co	•	•	•	•	•	•	.6 huge adult	
229	44	28086A	2	Reptile	<i>Chelydra serpentina</i>	PHA	co	•	•	•	•	•	•	.5	
230	78	27875A	3	Reptile	<i>Chelydra serpentina</i>	PHA	co	•	•	•	•	•	•	.4	1 pha3, 2 indet.
231	48	28449A	1	Reptile	<i>Chelydra serpentina</i>	PHA	•	•	•	•	•	•	•	.3	
232	44	28086A	1	Reptile	<i>Chelydra serpentina</i>	ILM	•	•	L	•	•	1.7	unfused		
233	47	28260A	1	Reptile	<i>Chelydra serpentina</i>	ISG	fr	•	R	•	•	•	.4		
234	71	28443A	1	Reptile	<i>Chelydra serpentina</i>	PUB	px	U	•	L	•	•	1.6		
235	45	28071A	1	Reptile	<i>Chelydra serpentina</i>	FEM	ds	•	U	R	1	•	.3	small young turtle	
236	45	28071A	1	Reptile	<i>Chelydra serpentina</i>	TIB	ds	•	•	L	•	•	.3		
237	72	28252A	1	Reptile	<i>Chelydra serpentina</i>	OTH	•	•	•	•	•	•	.5		
238	45	28071A	1	Reptile	<i>Chelydra serpentina</i>	OTH	•	•	•	•	•	•	.2		
239	72	28252A	1	Reptile	<i>Chelydra serpentina</i>	SHL	•	•	•	•	•	•	2.7		
240	79	27687A	1	Reptile	turtle	fr	•	A	•	•	•	•	.1		
241	44	28086A	2	Reptile	turtle	V/RT	•	•	•	•	•	•	1	1 complete	
242	78	27875A	1	Reptile	turtle	V/RT	•	•	•	•	•	•	.1		
243	77	27874A	1	Reptile	turtle	V/RT	•	•	A	•	•	•	.1		
244	43	27879A	1	Reptile	turtle	V/RT	•	•	•	•	•	•	.1		
245	74	28063A	1	Reptile	turtle	V/RT	•	•	A	•	•	•	.3		
246	80	27688A	1	Reptile	turtle	V/RT	•	•	•	•	•	•	.1		
247	43	27879A	1	Reptile	turtle	V/RT	•	•	•	•	•	•	.6		
248	73	28253A	1	Reptile	turtle	LBN	fr	•	•	•	•	•	.9	femur or humerus	
249	47	28260A	2	Reptile	turtle	LBN	fr	•	•	•	•	•	.4		
250	70	28442A	1	Reptile	turtle	LBN	sh	•	•	•	•	•	.4		
251	48	28449A	1	Reptile	turtle	LBN	sh	•	•	1	•	•	.2		
252	45	28071A	5	Reptile	turtle	LBN	sh	•	•	•	•	•	1.8		
253	72	28252A	1	Reptile	turtle	LBN	•	•	1	•	•	•	.6		
254	78	27875A	1	Reptile	turtle	LBN	•	•	1	•	•	•	.2		
255	44	28086A	1	Reptile	turtle	NID	•	•	•	•	•	•	.1		
256	77	27874A	3	Reptile	turtle	SHL	fr	•	•	•	•	•	.5		
257	76	28065A	6	Reptile	turtle	SHL	fr	•	•	2	•	•	1.7		
258	55	27120A	3	Reptile	turtle	SHL	fr	•	•	•	•	•	.4		
259	47	28260A	14	Reptile	turtle	SHL	•	•	•	•	•	•	2.7		
260	79	27687A	14	Reptile	turtle	SHL	•	•	1	•	•	•	2.1		
261	60	27126A	1	Reptile	turtle	SHL	•	•	1	•	•	•	.1		
262	57	28254A	1	Reptile	turtle	SHL	•	•	2	•	•	•	3.5		
263	74	28063A	10	Reptile	turtle	SHL	•	•	2	•	•	•	2.5		
264	71	28443A	11	Reptile	turtle	SHL	•	•	1	•	•	•			

LOT#	PROV	QNTY	CLASS	TAXON	BP	POR	PxF	DsF	SyM	BN	#W/BT	FD	CN	WT(g)	Comments
265	59	27123A	3	Reptile	turtle	SH-L				3				1.0	
266	73	28253A	8	Reptile	turtle	SH-L				2				1.6	
267	68	27695A	3	Reptile	turtle	SH-L				2				.6	
268	45	28071A	39	Reptile	turtle	SH-L				15				7.0	5.3g unburned, 2.6 burned
269	56	29392A	1	Reptile	turtle	SH-L				1				.1	
270	72	28252A	11	Reptile	turtle	SH-L				1				1.6	
271	58	29011A	4	Reptile	turtle	SH-L				1				1.2	
272	43	27879A	11	Reptile	turtle	SH-L				1				2.6	
273	48	28449A	14	Reptile	turtle	SH-L				2				2.5	
274	75	28064A	23	Reptile	turtle	SH-L				11				4.7	2.0g burned, 2.7g unburned
275	80	27688A	12	Reptile	turtle	SH-L				2				2.4	
276	70	28442A	25	Reptile	turtle	SH-L				3				6.3	
277	44	28086A	22	Reptile	turtle	SH-L				1				4.0	
278	78	27875A	22	Reptile	turtle	SH-L				5				4.6	
279	46	28257A	24	Reptile	turtle	SH-L				2				5.7	
280	74	28063A	27	Pelecypod	unidentified	SH-L				1				6.8	
281	46	28257A	29	Pelecypod	unidentified	SH-L				1				4.8	
282	55	27120A	17	Pelecypod	unidentified	SH-L				1				3.7	
283	80	27688A	17	Pelecypod	unidentified	SH-L				1				2.8	
284	76	28065A	48	Pelecypod	unidentified	SH-L				1				7.9	
285	70	28442A	40	Pelecypod	unidentified	SH-L				1				6.5	
286	75	28064A	46	Pelecypod	unidentified	SH-L				1				5.4	
287	73	28253A	26	Pelecypod	unidentified	SH-L				1				4.6	
288	77	27874A	20	Pelecypod	unidentified	SH-L				1				4.7	
289	79	27687A	14	Pelecypod	unidentified	SH-L				1				4.3	
290	72	28252A	49	Pelecypod	unidentified	SH-L				1				6.9	
291	60	27126A	3	Pelecypod	unidentified	SH-L				1				.4	
292	53	25805A	1	Pelecypod	unidentified	SH-L				1				.3	
293	43	27879A	89	Pelecypod	unidentified	SH-L				1				9.5	
294	62	28268A	1	Pelecypod	unidentified	SH-L				1				.1	
295	57	28254A	16	Pelecypod	unidentified	SH-L				1				1.1	
296	47	28260A	31	Pelecypod	unidentified	SH-L				1				10.8	
297	59	27123A	4	Pelecypod	unidentified	SH-L				1				.4	
298	71	28443A	24	Pelecypod	unidentified	SH-L				1				4.5	
299	48	28449A	24	Pelecypod	unidentified	SH-L				1				7.8	
300	56	29392A	1	Pelecypod	unidentified	SH-L				1				.1	
301	45	28071A	34	Pelecypod	unidentified	SH-L				1				11.6	
302	73	28253A	4	Pelecypod	oyster	SH-L				1				4.5	
303	47	28260A	1	Pelecypod	oyster	SH-L				1				3.8	
304	71	28443A	1	Pelecypod	oyster	SH-L				1				2.2	
305	56	29392A	2	Pelecypod	oyster	SH-L				1				2.2	
306	76	28065A	3	Pelecypod	oyster	SH-L				1				9.8	
307	59	27123A	1	Pelecypod	oyster	SH-L				1				1.0	
308	48	28449A	3	Pelecypod	oyster	SH-L				1				22.5	

	LOT#	PROV	QNTY	CLASS	TAXON	BP	POR	PxF	DsF	SYM	BN	#W/BT	RD	CN	WT(g)	Comments
309	72	28252A	4	Pelecyopod	oyster	SHL									4.2	
310	45	28071A	9	Pelecyopod	oyster	SHL									7.2	
311	43	27879A	3	Pelecyopod	oyster	SHL									10.7	
312	75	28064A	2	Pelecyopod	oyster	SHL									2.7	
313	70	28442A	7	Pelecyopod	oyster	SHL									17.5	
314	80	27688A	2	Pelecyopod	oyster	SHL									1.3	
315	55	27120A	4	Pelecyopod	oyster	SHL									8.0	
316	45	28071A	2	Pelecyopod	oyster	SLH									21.4	
317	46	28257A	2	Pelecyopod	clam	SHL	fr								6.6	
318	57	28254A	9	Pelecyopod	clam	SHL									2.8	
319	48	28449A	2	Pelecyopod	clam	SHL									4.2	
320	59	27123A	2	Pelecyopod	clam	SHL									3.8	
321	74	28063A	3	Pelecyopod	clam	SHL									5.6	
322	47	28260A	2	Pelecyopod	clam	SHL									2.8	
323	70	28442A	7	Pelecyopod	clam	SHL									5.1	
324	43	27879A	18	Pelecyopod	clam	SHL									22.5	
325	75	28064A	14	Pelecyopod	clam	SHL									20.5	
326	73	28253A	4	Pelecyopod	clam	SHL									3.2	
327	71	28443A	13	Pelecyopod	clam	SHL									10.4	
328	60	27126A	2	Pelecyopod	clam	SHL									2.8	
329	72	28252A	5	Pelecyopod	clam	SHL									4.3	
330	55	27120A	2	Pelecyopod	clam	SHL									1.3	
331	77	27874A	1	Pelecyopod	clam	SHL									2.9	
332	45	28071A	3	Pelecyopod	clam	SHL									13.6	
333	76	28065A	4	Pelecyopod	clam	SHL									5.6	
334	43	27879A	14	Pelecyopod	mussel	SHL									3.3	
335	48	28449A	1	Pelecyopod	mussel	SHL									.9	
336	46	28257A	1	Gastropod	unidentified	SHL	fr								1.0	
337	72	28252A	1	Gastropod	unidentified	SHL	fr								.5	
338	77	27874A	1	Gastropod	unidentified	SHL	co								1.6	
339	47	28260A	1	Gastropod	unidentified	SHL									.8	
340	43	27879A	1	Gastropod	unidentified	SHL									.1	
341	75	28064A	1	Gastropod	unidentified	SHL									.1	
342	76	28065A	1	Gastropod	unidentified	SHL									.3	
343	75	28064A	1	UNID	unidentified	NID									.1	
344	43	27879A	1	Other	crab	NID									.1	
345	43	27879A	3	Other	crab	CLAW									.8	
346	44	28086A	1	Other	crab	CLAW									.1	
347	52	22615A	1	Other	crab	CLAW									.4	3 frags mend
348	45	28071A	1	Vertebrate	small	VFT									.1	
349	59	27123A	1	Vertebrate	unidentified	VFT									.1	
350	47	28260A	4	Vertebrate	unidentified	VFT									1.2	
351	70	28442A	3	Vertebrate	unidentified	FHA	fr								.6	small mammal or bird
352	45	28071A	96	Vertebrate	unidentified	NID									19.6	7g unburned, 13.8g burned

LOT#	PROV	QNTY	CLASS	Taxon	BP	PQR	BN	#W/BT	RD	CN	WT(g)	Comments
353	43	27879A	153	Vertebrate	unidentified	NID	•	48	•	•	28.3	19g unburned
354	66	27887C	3	Vertebrate	unidentified	NID	•	•	•	•	2.4	
355	63	28268A	4	Vertebrate	unidentified	NID	•	4	•	•	.6	
356	46	28257A	66	Vertebrate	unidentified	NID	•	•	•	•	10.5	
357	80	27688A	21	Vertebrate	unidentified	NID	•	•	•	•	3.3	
358	80	27688A	38	Vertebrate	unidentified	NID	•	•	•	•	6.8	
359	72	28252A	31	Vertebrate	unidentified	NID	•	31	•	•	5.0	
360	74	28063A	57	Vertebrate	unidentified	NID	•	57	•	•	10.1	
361	74	28063A	55	Vertebrate	unidentified	NID	•	•	•	•	8.2	
362	73	28253A	20	Vertebrate	unidentified	NID	•	20	•	•	5.0	
363	73	28253A	22	Vertebrate	unidentified	NID	•	•	•	•	4.2	
364	72	28252A	22	Vertebrate	unidentified	NID	•	•	•	•	2.6	
365	71	28443A	14	Vertebrate	unidentified	NID	•	7	•	•	2.9	1.1g burned, 1.8g unburned
366	79	27687A	54	Vertebrate	unidentified	NID	•	54	•	•	9.3	
367	79	27687A	59	Vertebrate	unidentified	NID	•	•	•	•	8.8	
368	47	28260A	95	Vertebrate	unidentified	NID	•	95	•	•	18.1	
369	47	28260A	140	Vertebrate	unidentified	NID	•	•	•	•	23.8	
370	48	28449A	12	Vertebrate	unidentified	NID	•	12	•	•	1.9	
371	70	28442A	113	Vertebrate	unidentified	NID	•	•	•	•	19.5	
372	70	28442A	51	Vertebrate	unidentified	NID	•	51	•	•	9.1	
373	56	29392A	4	Vertebrate	unidentified	NID	•	4	•	•	2.1	
374	76	28065A	17	Vertebrate	unidentified	NID	•	•	•	•	4.2	
375	55	27120A	18	Vertebrate	unidentified	NID	•	•	•	•	4.1	
376	58	29011A	12	Vertebrate	unidentified	NID	•	6	•	•	2.2	.9g burned, 1.3g unburned
377	44	28086A	89	Vertebrate	unidentified	NID	•	41	•	•	21.7	10.3g burned, 11.4g unburned
378	64	27887A	2	Vertebrate	unidentified	NID	•	•	•	•	.1	
379	62	28268A	1	Vertebrate	unidentified	NID	•	•	•	•	.1	
380	62	28268A	1	Vertebrate	unidentified	NID	•	•	•	•	.1	
381	75	28064A	37	Vertebrate	unidentified	NID	•	19	•	•	6.6	3.2g burned, 3.4g unburned
382	76	28065A	7	Vertebrate	unidentified	NID	•	7	•	•	1.8	
383	77	27874A	33	Vertebrate	unidentified	NID	•	18	•	•	8.9	4.4g burned, 4.5g unburned
384	61	27129A	1	Vertebrate	unidentified	NID	•	•	•	•	.1	
385	78	27875A	42	Vertebrate	unidentified	NID	•	42	•	•	7.9	
386	46	28257A	19	Vertebrate	unidentified	NID	•	19	•	•	3.5	
387	68	27695A	2	Vertebrate	unidentified	NID	•	2	•	•	.9	
388	53	25805A	4	Vertebrate	unidentified	NID	•	4	•	•	.6	
389	48	28449A	85	Vertebrate	unidentified	NID	•	85	•	•	17.2	
390	59	27123A	6	Vertebrate	unidentified	NID	•	6	•	•	2.4	
391	55	27120A	13	Vertebrate	unidentified	NID	•	•	•	•	3.1	
392	48	28449A	69	Vertebrate	unidentified	NID	•	•	•	•	13.1	
393	78	27875A	44	Vertebrate	unidentified	NID	•	•	•	•	7.1	

